



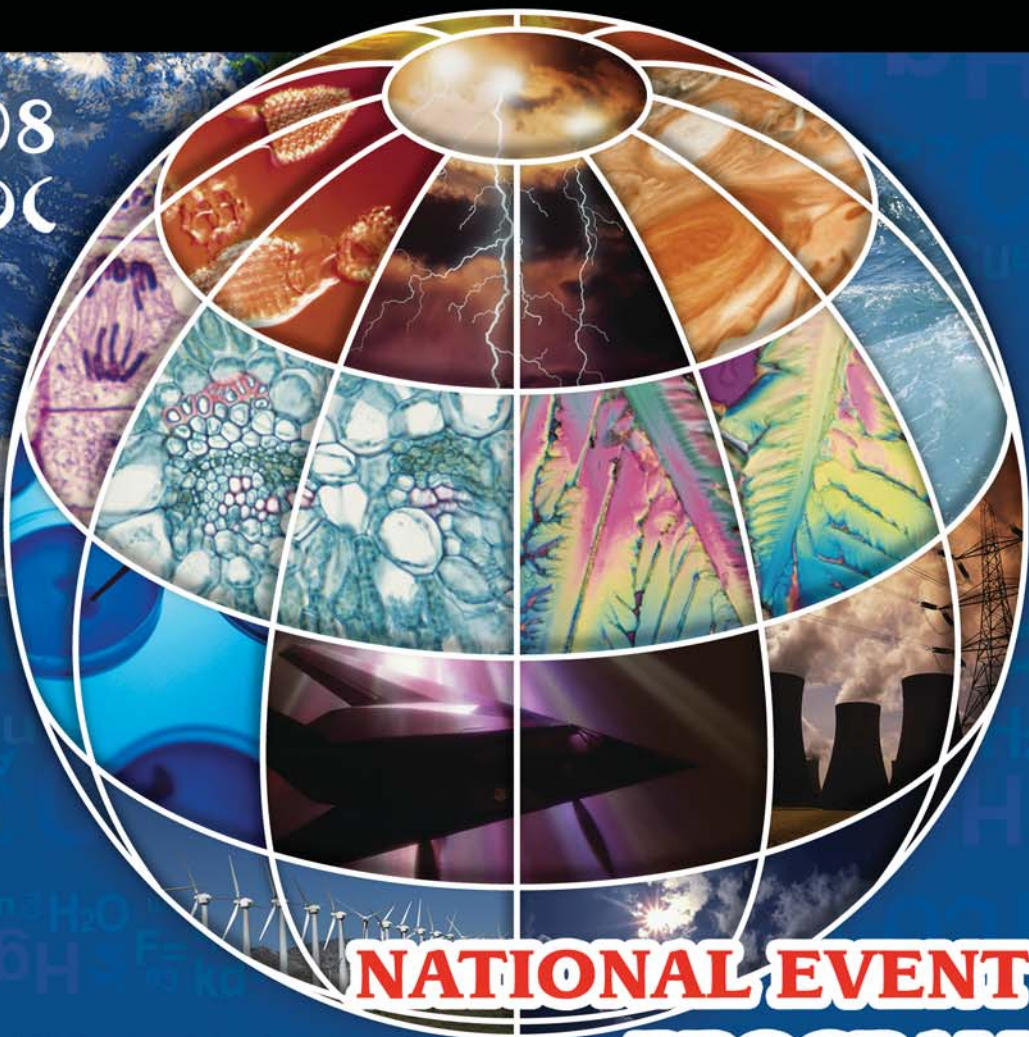
U.S. DEPARTMENT OF
ENERGY

NATIONAL SCIENCE BOWL®

for High School Students

Discoveries Changing the World

May 1-6, 2008
Washington, DC



**NATIONAL EVENT
PROGRAM**



Sprinkled throughout the 2008 National Science Bowl® program are many of the scientific discoveries highlighted in **The Science Channel's** series **100 Greatest Discoveries** hosted by Bill Nye. The Science Channel presented the big 100 in 9 episodes — Astronomy, Biology, Chemistry, Earth Science, Evolution, Genetics, Medicine, Physics — and ended with a wrap-up episode featuring the top 10 scientific discoveries. The show aired December 2004. To find out more, go to <http://science.discovery.com/>. The Science Channel is part of the Discovery Communication, LLC network.



Printed with soy ink on recycled paper




2008 National Science Bowl® for High School Students

Table of Contents

Guest Emcee.....	8
About the National Building Museum.....	9
National Science Bowl® Alumni Officials.....	10
Map of Regional Winning Teams.....	12
Schedule of Events.....	14

SCHOOL BIOGRAPHIES

A&M Consolidated High School, College Station, TX.....	22
Aberdeen Central High School, Aberdeen, SD.....	23
Acalanes High School, Lafayette, CA.....	24
Adlai E. Stevenson High School, Lincolnshire, IL.....	25
Albany High School, Albany, CA.....	26
Albuquerque Academy, Albuquerque, NM.....	27
Amarillo High School – Gold, Amarillo, TX.....	28
Bellevue East High School, Bellevue, NE.....	29
Biomedical STEP/Buffalo Prep, Buffalo, NY.....	30
Blue Valley West High School, Overland Park, KS.....	31
Brooklyn Technical High School, Brooklyn, NY.....	32
Brophy College Preparatory, Phoenix, AZ.....	33
Burnt Hills-Ballston Lake High School, Burnt Hills, NY.....	34
Cape Elizabeth High School, Cape Elizabeth, ME.....	35
Capital High School, Charleston, WV.....	36
Cedar Rapids Marion Home Schools, Cedar Rapids, IA.....	37
Chico High School, Chico, CA.....	38
Cole Valley Christian School, Meridian, ID.....	39
Dickinson High School, Dickinson, ND.....	40
Edinburg North High School, Edinburg, TX.....	41
Fairview High School, Boulder, CO.....	42
Glastonbury High School, Glastonbury, CT.....	43
High Technology High School, Lincroft, NJ.....	44
Homestead High School, Cupertino, CA.....	45
Huntsville High School, Huntsville, AR.....	46
Idaho Falls High School, Idaho Falls, ID.....	47
J. M. Hanks High School, El Paso, TX.....	48
Lafayette High School, Lafayette, LA.....	49
Lakeside High School, Evans, GA.....	50
Lexington High School, Lexington, MA.....	51
Marshfield High School, Marshfield, WI.....	52
Miami Palmetto Senior High School, Miami, FL.....	53
Mira Loma High School, Sacramento, CA.....	54



1832: The Cell Nucleus —
While studying an orchid,
botanist Robert Brown
identifies a structure within
the cells that he terms the
“nucleus.”

2008 National Science Bowl® for High School Students

Mississippi School for Mathematics and Science, Columbus, MS.....	55
Mountain View High School, Vancouver, WA	56
North Hollywood High School, North Hollywood, CA	57
Oak Park High School, Kansas City, MO	58
Oak Ridge High School, Oak Ridge, TN	59
Palm Harbor University High School, Palm Harbor, FL.....	60
Pueblo Centennial High School, Pueblo, CO.....	61
Pullman High School, Pullman, WA	62
Punahou School, Honolulu, HI	63
Renaissance High School, Detroit, MI.....	64
Saint John's School, San Juan, PR	65
Saint Mary's Hall School, San Antonio, TX.....	66
Santa Monica High School, Santa Monica, CA.....	67
School of Imaging & Information Technology at Edison, Rochester, NY.....	68
Skyview High School, Billings, MT	69
Soda Springs High School, Soda Springs, ID	70
St. Croix Educational Complex, Kingshills, VI	71
St. Paul Central High School, St. Paul, MN.....	72
Star Valley High School, Afton, WY.....	73
State College Area High School, State College, PA.....	74
Stockdale High School, Bakersfield, CA	75
Sycamore High School, Cincinnati, OH.....	76
Terre Haute South Vigo High School, Terre Haute, IN.....	77
Texas Academy of Mathematics and Science, Denton, TX.....	78
The Meadows School, Las Vegas, NV	79
The Preuss School UCSD, La Jolla, CA	80
The Randolph School, Huntsville, AL.....	81
Theodore Roosevelt High School, Chicago, IL.....	82
Thomas Downey High School, Modesto, CA	83
Thomas Jefferson High School for Science & Technology, Alexandria, VA	84
Walton High School, Marietta, GA	85
Walt Whitman High School, Bethesda, MD	86
William G. Enloe High School, Raleigh, NC	87
Woodrow Wilson Senior High School, Washington, DC	88

ACKNOWLEDGMENTS

U.S. Department of Energy	89
Regional Coordinators & Sponsors.....	91

1860s – 1870s: Periodic Table of the Elements — Dmitry Mendeleev realizes that if all of the 63 known elements are arranged in order of increasing atomic weight, their properties are repeated according to certain periodic cycles. He formulates the periodic table of the elements and predicts the existence of elements that have not yet been discovered. Three of those elements are found during his lifetime: gallium, scandium, and germanium.

— 70 —

но въ ней, мнѣ кажется, уже ясно выражается приближность въ ставленнаго мною начала ко всей совокупности элементовъ, пай которыхъ извѣстны съ достовѣрностію. На этотъ разъ я и желалъ преимущественно найти общую систему элементовъ. Вотъ этотъ опытъ:

			Ti=60	Zr=90	?=150.
			V=51	Nb=94	Ta=152.
			Cr=52	Mo=96	W=186.
			Mn=55	Rh=104,4	Pt=197,4
			Fe=56	Ni=104,4	Ir=196.
			Ni=59	Pd=106,6	Os=198.
			Co=58,4	Ag=108	Hg=200.
H=1	Be=9,4	Mg=24	Zn=65,4	Cd=112	
	B=11	Al=27,4	?=68	Ur=116	Am=197,7
	C=12	Si=28	?=70	Sr=118	
	N=14	P=31	As=75	Sb=122	Bi=210
	O=16	S=32	Se=79,4	Te=128?	
	F=19	Cl=35,5	Br=80	I=127	
Li=7	Na=23	K=39	Rb=85,4	Cs=133	Tl=204
		Ca=40	Sr=87,6	Ba=137	Pb=207.
		?=45	Co=92		
		YEr=56	La=94		
		YTi=60	Di=95		
		Th=75,6	Th=118?		

а почему приходится въ разныхъ рядахъ имѣть различное количество элементовъ, чего нѣтъ въ главныхъ числахъ предельной таблицы. Или не придется предполагать при составленіи системы очень много надобныхъ членовъ. То и другое ясно видно. Мнѣ кажется притомъ, наиболѣе естественнымъ составить таблицу по системѣ (предельная ось включена), но и воплотить для образованія по возможности надобныхъ результатовъ. Слѣдующіе рядъ элементовъ могутъ помѣсть то разнообразіе составленій, какое возможно при допущеніи сдѣланнаго начала, высказаннаго въ этой статьѣ.

Li	Na	K	Ca	Rb	Ag	Cs	—	Tl
7	23	39	40,4	85,4	108	133	—	204
Be	Mg	Ca	Zn	Sr	Cd	Ba	—	Pb
B	Al	—	—	—	—	—	—	BiP
C	Si	—	—	Zr	Sn	—	—	—
N	P	V	As	Nb	Sb	—	—	—
O	S	—	Se	—	Te	—	—	W
F	Cl	—	Br	—	J	—	—	—
19	35,5	39	80	104	127	160	190	220.



U.S. Department of Energy Δ 2008 National Science Bowl[®] Program
for High School Students

National Science Bowl[®] Alumni

Vincent C. Auyeung competed at National Science Bowl[®] in 1998 with the Arcadia High School team. He graduated with a degree in biology from Caltech (California) in 2005, and is now a third-year student in the Harvard – MIT M.D./Ph.D. program.

William Auyeung attended Arcadia High School in Arcadia, CA, and during that time, competed at the 2003 National Science Bowl[®] competition. He is currently a senior at Stanford University majoring in biological sciences and he will be graduating in June 2008. His plans are to enter into medical school to become a physician.

Jeff Daulton competed in National Science Bowl[®] as a member of the Centerville High School (Ohio) team in 2002 and 2003. While in high school, he performed turbine engine research at the Air Force Research Laboratory. He graduated from Ohio State University in 2007 with a B.S. in electrical engineering. During his time at Ohio State, he spent three years developing SiGe-based nanoelectronics. He currently works for the Advanced Devices branch of Cree, Inc. in Research Triangle Park, NC, on the development of microwave and power transistors in silicon carbide. In his spare time, he acts as a technical consultant for Georgia Tech's Signature Technology Laboratory.

Brian Farley participated in the 2001 National Science Bowl[®] as a member of the team from J.I. Case High School in Racine, WI. Since competing, he has completed a B.S. in biochemistry (graduation year 2005) at the University of Wisconsin – Madison, and is currently a third year doctoral candidate in the lab of Dr. Sean Ryder at the University of Massachusetts Medical School. His dissertation will be on recognition and regulation of maternally supplied mRNAs during early nematode embryogenesis.

Doug Fuller graduated from Ankeny High School in Ankeny, IA, in 1999, competing for the school at the 1999 National Science Bowl[®]. He attended Iowa State University in Ames, IA, earning his Bachelor's degree in computer science in 2002, followed by a Master's degree in 2005. While attending Iowa State, Doug worked at DOE's Ames Laboratory in the Scalable Computing Laboratory performing research in high-performance computing and computational science. Doug began his Ph.D. studies at the University of North Texas and plans to finish his studies at Arizona State University, where he currently manages the operations staff at the Fulton High Performance Computing Initiative.

Jenica Jacobi was on the Science Bowl team from Albuquerque Academy (New Mexico) in 1998. She earned a B.S. in biology and a B.A. in chemistry from the University of New Mexico in 2002. Jenica went on to complete her M.B.A., with a concentration in financial management, from the University of New Mexico Anderson Schools and her J.D. from the University of New Mexico School of Law, both in 2005. She is currently working as a real estate and business attorney in Rio Rancho, NM.

Dean Jens competed for Ankeny High School (Iowa) in the first three Science Bowls in 1991 – 1993; his team placed second in the region in 1991, but made it to the national tournament in 1992 and 1993, placing second in 1993. He then earned a Bachelor's degree in math and physics from the University of Chicago and a Master's in physics from Princeton University before leaving the academic world. He worked as a computer programmer in Chicago before moving to New York City, where he does mathematical modeling of financial markets to price over-the-counter derivatives.

Caine Jette graduated from Maui High School in Hawaii. Caine is currently a sophomore at the Massachusetts Institute of Technology on track to receive two S.B. degrees in physics and Earth, atmospheric, and planetary sciences. He is not the stereotypical MIT nerd though; he has spent his off-session time backpacking through Nicaragua, biking through and commercial fishing in Alaska, and shredding waves back home. He competed at NSB in 2005, and NOSB from 2003 – 2006.

Evan Kornacki attended James E. Taylor High School in Katy, TX, and competed in the 2006 National Science Bowl[®]. A junior in the College of Natural Sciences at the University of Texas at Austin, he will complete a Bachelor's degree in physics in May 2009. Mr. Kornacki hopes to develop and lead research programs in academia, at a private institute, or national laboratory after earning his doctorate in physics. His research focus is heavy-ion physics, and he has worked with the PHENIX collaboration at Brookhaven National Laboratory to study quark-gluon plasma and proton chirality.

Troy Kuersten attended Enterprise High School in Redding, CA, and was able to win the Regional Science Bowl in 2001, 2002, and 2003. He currently attends California Polytechnic State University, San Luis Obispo, where he is majoring in aerospace engineering and physics. He is set to graduate in December 2008.

Michael Lee attended Enterprise High School in Redding, CA and competed in the National Science Bowl[®] in 1997. He graduated from Loyola Marymount University with a B.S. in biology in 2001, and attended medical school at Western University, College of Osteopathic Medicine of the Pacific, receiving his D.O. in osteopathic medicine in 2007. He is currently employed as a resident physician by Midwestern University at Kingman Regional Medical Center.

U.S. Department of Energy Δ 2008 National Science Bowl[®] Program
for High School Students



JiSan Lopez attended Albuquerque Academy in New Mexico and participated in the 1998 National Science Bowl[®] competition. She earned a B.S. in biology from the University of New Mexico in 2002. JiSan completed her J.D. at the University of New Mexico School of Law and her M.B.A. with a concentration in management of technology at UNM's Anderson Schools of Management in 2005. During law school she clerked at Sandia National Laboratories in the Intellectual Property Center. JiSan is an attorney for the National Nuclear Security Administration (NNSA) and a participant in the NNSA's Future Leaders Program.

Gowtham Mahalingam attended National Science Bowl[®] in 2001 on the team from Phoenix Country Day School in Arizona. He graduated in 2005 from Carnegie Mellon University with a B.S. in biological sciences and minors in chemistry and computer science. After graduation, he spent two years as a research fellow at the National Institutes of Health (NIH) working in the Laboratory for Clinical Infectious Disease on projects concerning pathogenic human virii. He finished his fellowship at the NIH in August 2007 with two publications, and matriculated to a M.S. program at Johns Hopkins University, studying biotechnology and global health. He expects to graduate in August of 2008 and plans on attending medical school.

Adam Matthews competed in the National Science Bowl[®] with his team from Punahou High School, Honolulu, HI, in 1995 and 1997. He graduated from Harvard College with an A.B. in biochemical sciences, magna cum laude (2001). Adam received his Ph.D. in immunology from Harvard University in June 2007. He is currently a post-doctoral research fellow at MIT. In addition to several publications since graduating high school, Adam has done research with several National Science Foundation programs, received a Barry Goldwater Fellowship, and won a Howard Hughes Medical Institute Predoctoral Fellowship in biological sciences in 2001. In high school, he received the Bausch & Lomb Science Award, Tandy Technology Scholar, and Best in Category Award in Biochemistry at the Intel Science and Engineering Fair.

Robert McNeas attended Oak Ridge High School in Oak Ridge, TN, from 1988 - 1991. In his senior year (1990 - 1991), he competed in the first National Science Bowl[®]. He majored in physics and math at the University of North Carolina at Chapel Hill, graduating in 1995. After college, he spent a year abroad in Glasgow, Scotland as a Rotary International Ambassadorial Scholar. In 1996 he began his graduate studies in physics at the University of Texas at Austin. He was a member of the Weinberg Theory Group, where he studied theoretical high energy physics. His advisor was Willy Fischler and he finished his Ph.D. in 2002. The title of his dissertation was "String Theory, Holography, and UV-IR Mixing." His first postdoctoral research position was at the University of Michigan in Ann Arbor. He is currently a postdoctoral research associate at Brown University in Providence, RI.

Ana Catalina Posada attended Parkview High School in Lilburn, GA. She was lucky enough to participate in the NSB in 2000, 2001, 2002, and 2003. She received her Bachelor's of Science in biology from MIT in 2007. She is currently a graduate student at Dartmouth in molecular and cell biology. Her main research interests span microbiology from pathogen/host interactions to antibiotic resistance to environmental microbiology. Currently, she is carrying out research in community-acquired MRSA (methicillin-resistant *Staphylococcus aureus*) strains.

Raymond Waniska attended A&M Consolidated High School in Texas and competed in NSB in 2002. He graduated from Texas A&M University in May 2007 with a B.S. in physics and a minor in psychology. Raymond is currently pursuing his massage therapy license and hopes to starting teaching English in Japan through the JET program this August.

Jeremiah Way graduated from Fort Collins High School in Colorado in 1998. He attended Colorado State University, receiving a B.S. in chemical engineering in 2001 and a M.S. in chemical engineering in 2003, with a focus on Modeling Chemical Reactions in Stirred and Plug Flow Reactors. He currently works at Hach Company as a production engineer for Lab, Hydrolab, and MMI businesses. He previously worked as a process engineer for Intel Corporation, focusing on lithography.

Andrew Zellman competed with Johansen High School (Modesto, CA) in 2004 and as their captain in 2005. He is currently a junior at Whitworth University in Spokane, WA, pursuing a double major in mathematics and computer science. He is also working on a research project called WhitStream, a Data Stream Management System (DSMS), which is looking at ways to use punctuations to effectively query data coming from a nonterminating stream. His part of the project is currently trying to optimize query operators that would normally block data from continuing through the stream.

Matthew Zellman attended the National Science Bowl[®] in 2001 and 2002 with his team from Johansen High School in Modesto, CA. After studying electrical engineering and then bioengineering at Cal Poly, San Luis Obispo, he now attends UC Merced and is majoring in cognitive science. He is interested in developing new techniques to model complex systems, which he hopes will aid in the understanding of problems in ecology, economics, and cognitive studies.

Alabama

1. The Randolph School, Huntsville
— Alabama School of Math & Science

Arizona

2. Brophy College Preparatory, Phoenix
— WAPA - Desert Southwest

Arkansas

3. Huntsville High School, Huntsville
— University of Arkansas - Fort Smith

California

4. Acalanes High School, Lafayette
— Lawrence Berkeley National Laboratory
5. Albany High School, Albany
— Sandia National Laboratories - California
6. Chico High School, Chico
— City of Redding Electric Utility
7. Homestead High School, Cupertino
— Stanford Linear Accelerator Center
8. Mira Loma High School, Sacramento
— WAPA - Sierra Nevada Region
9. North Hollywood High School, North Hollywood
— Los Angeles Department of Water and Power
10. Santa Monica High School, Santa Monica
— Jet Propulsion Laboratory
11. Stockdale High School, Bakersfield
— California State University
12. The Preuss School UCSD, La Jolla
— NOBCChE San Diego
13. Thomas Downey High School, Modesto
— Modesto Irrigation District

Colorado

14. Fairview High School, Boulder
— WAPA - Rocky Mountain Region
15. Pueblo Centennial High School, Pueblo
— National Renewable Energy Laboratory

Connecticut

16. Glastonbury High School, Glastonbury
— University of Connecticut

District of Columbia

17. Woodrow Wilson Senior High School, Washington
— Howard University

Florida

18. Miami Palmetto Senior High School, Miami
— SHPE - Florida International University
19. Palm Harbor University High School, Palm Harbor
— Science Center of Pinellas County

Georgia

20. Lakeside High School, Evans
— Savannah River WSRP
21. Walton High School, Marietta
— Armstrong Atlantic State University

Hawaii

22. Punahou School, Honolulu
— Hawaii Science Bowl

Idaho

23. Cole Valley Christian School, Meridian
— Battelle Energy Alliance - Idaho
24. Idaho Falls High School, Idaho Falls
— Idaho National Laboratory
25. Soda Springs High School, Soda Springs
— U.S. Department of Energy - Idaho Operations Office

Illinois

26. Adlai E. Stevenson High School, Lincolnshire
— William Fremd High School
27. Theodore Roosevelt High School, Chicago
— SHPE Region 6 - Chicago Science Bowl

Indiana

28. Terre Haute South Vigo High School, Terre Haute
— Indiana State University

Iowa

29. Cedar Rapids Marion Home Schools, Cedar Rapids
— Ames Laboratory

Kansas

30. Blue Valley West High School, Overland Park
— Kansas City Plant

Louisiana

31. Lafayette High School, Lafayette
— Strategic Petroleum Reserve

Maine

32. Cape Elizabeth High School, Cape Elizabeth
— University of Southern Maine

Maryland

33. Walt Whitman High School, Bethesda
— Montgomery College

Massachusetts

34. Lexington High School, Lexington
— Boston University

Michigan

35. Renaissance High School, Detroit
— NOBCChE Midwest Region

Minnesota

36. St. Paul Central High School, St. Paul
— Minnesota Academy of Science

Mississippi

37. Mississippi School for Mathematics and Science, Columbus
— Mississippi University for Women

Missouri

38. Oak Park High School, Kansas City
— Kansas City Plant

Montana

39. Skyview High School, Billings
— WAPA - Billings

Nebraska

40. Bellevue East High School, Bellevue
— Natural Resources Conservation Service

Nevada

41. The Meadows School, Las Vegas
— National Nuclear Security Administration
— Nevada Operations Office

New Jersey

42. High Technology High School, Lincroft
— Princeton Plasma Physics Laboratory

New Mexico

43. Albuquerque Academy, Albuquerque
— Sandia National Laboratories - New Mexico

New York

44. Biomedical STEP/Bufalo Prep, Buffalo
— Monroe Community College
45. Brooklyn Technical High School, Brooklyn
— Brookhaven National Laboratory
46. Burnt Hills-Ballston Lake High School, Burnt Hills
— Knolls Atomic & General Electric Upstate New York
47. School of Imaging & Information Technology at Edison, Rochester
— NOBCChE Northeast Region

North Carolina

48. William G. Enloe High School, Raleigh
— North Carolina Central University

North Dakota

49. Dickinson High School, Dickinson
— WAPA - Bismarck

Ohio

50. Sycamore High School, Cincinnati
— U.S. DOE Environmental Management Consolidated Business Center

Pennsylvania

51. State College Area High School, State College
— National Energy Technology Laboratory
— Pittsburgh

Puerto Rico

52. Saint John's School, San Juan
— Society of Hispanic Professional Engineers
— University of Puerto Rico - Mayaguez

South Dakota

53. Aberdeen Central High School, Aberdeen
— WAPA - Huron

Tennessee

54. Oak Ridge High School, Oak Ridge
— Oak Ridge Institute for Science & Education

Texas

55. A&M Consolidated High School, College Station
— Texas A&M University
56. Amarillo High School - Gold, Amarillo
— B&W Pantex
57. Edinburg North High School, Edinburg
— University of Texas - Pan American
58. J. M. Hanks High School, El Paso
— SHPE New Mexico State University
59. Saint Mary's Hall School, San Antonio
— Texas San Antonio
60. Texas Academy of Mathematics and Science, Denton
— Texas Society of Hispanic Professional Engineers

U.S. Virgin Islands

61. St. Croix Educational Complex, Kingshill
— Virgin Islands Department of Education

Virginia

62. Thomas Jefferson High School for Science & Technology, Alexandria
— Thomas Jefferson National Accelerator Facility

Washington

63. Mountain View High School, Vancouver
— Bonneville Power Administration
64. Pullman High School, Pullman
— Pacific Northwest Site Office

West Virginia

65. Capital High School, Charleston
— National Energy Technology Laboratory
— Morgantown

Wisconsin

66. Marshfield High School, Marshfield
— Milwaukee School of Engineering

Wyoming

67. Star Valley High School, Afton
— Rocky Mountain Oilfield Testing Center

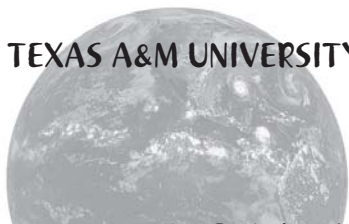
2008 National Science Bowl Teams & Participating Sites



2008 National Science Bowl® for High School Students

A&M Consolidated High School — College Station, Texas

TEXAS A&M UNIVERSITY



1930s: Earth's Inner Core —

In 1936, Inge Lehmann documents that some seismic waves from deep inside the Earth's core do not pass through, but are reflected back. It becomes clear that the Earth has an inner core consisting of a small, solid iron sphere that is surrounded by a thick outer core composed of liquid iron.



Left to right: Omar Masud, Alex Liu, Jeffrey Chen, Mengxiang Jiang, Rajeev Kinra, Kristen Jones (Coach)

Team Coach — **Kristen Jones** received a B.S. from South Dakota State University and an M.S. from Texas A&M University, both in the field of food science. She has been teaching chemistry at A&M Consolidated, the only public high school in College Station, TX, for 23 years. Mrs. Jones is very active in leading teacher workshops across the United States, mainly for AP Chemistry, teaching several hundred teachers each year. Some of her most recent awards include the 2002 American Chemistry Council Regional Catalyst Award, the 2001 Siemens Award for Advanced Placement, and the 2000 Outstanding Texas Science Teacher Award. Kristen is married with three children and enjoys genealogy, cooking, and reading.

Team Members — **Jeffrey Chen** is a senior. He enjoys both math and science, and is thus (obviously) a part of the Math and Science Club. He participates in competitions such as UIL (the Texas state interscholastic competitions), Science Bowl, and Ocean Bowl. He also plays both the cello and Ultimate Frisbee. **Mengxiang Jiang** is a junior. He was born in China and came to the United States when he was eight years old. His favorite subjects include chemistry, biology, and history. He is a member of the Math and Science Club, Business Professionals of America, Interact, and Interfaith Club. Although he has decided to be a scientist someday, he has not yet decided on a specific major, though probably chemistry or biology. His hobbies include video games, violin, and watching documentaries on TV. **Rajeev Kinra** is a sophomore. He was born and raised in College Station, TX. He took martial arts training until he was 11 and earned a black belt. Rajeev's favorite subjects are math, physics, and chemistry. He is a member of the Math and Science Club and Interact Club. Rajeev likes to play ping pong and chess. He also plays the violin. When he has free time, he plays Guitar Hero and Battlenet with his friends. Rajeev would like to major in chemical/biomedical engineering. Senior **Alex Liu** was born in 1990, in College Station, TX. Like 571 of his peers, he was incorporated into the public school system six years later, where he soon developed an interest for math and science. Outside of academics, Alex is active in orchestra, robotics, and his school newspaper, *The Roar*. He is also an avid AP test collector. **Omar Masud** is a junior. His favorite subject is orchestra, where he plays the cello. He participates in UIL math and science and is part of the National Honor Society. His interests include basketball and video games. He hopes to attend Texas A&M after high school and major in engineering.



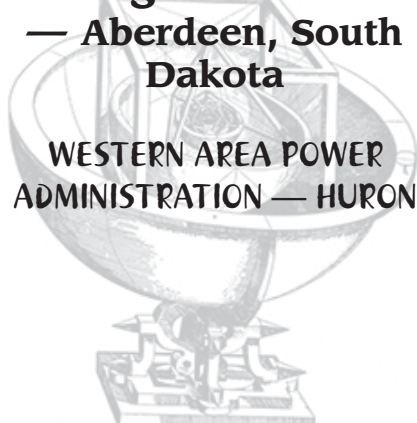
2008 National Science Bowl® for High School Students



Left to right: Jan Palmer (Coach), Ka Man Lee, John Boggs, Jordan Punt, Ryan Janish, Nick Reese; Not pictured: Charles Hermansen (Coach)

Aberdeen Central High School — Aberdeen, South Dakota

WESTERN AREA POWER
ADMINISTRATION — HURON



1605 – 1609: Johannes Kepler devises mathematical laws that successfully and accurately predict the motions of the planets in elliptical orbits.

Team Coach — **Charles Hermansen** graduated from Northern State University in 2002 with a degree in chemistry. Charles worked as a chemical coatings intern for Sherwin-Williams in 2001. He has been a teacher at Central High School for six years. He teaches AP Chemistry and physics. Charles chose to be a teacher so he could pass on his love of science to his students. He believes the three most important scientific discoveries are: the development of the periodic table, natural selection, and quantum mechanics. Charles enjoys spending time with his wife, Jill, and their three children, Jordan, Dustin, and Taryn.

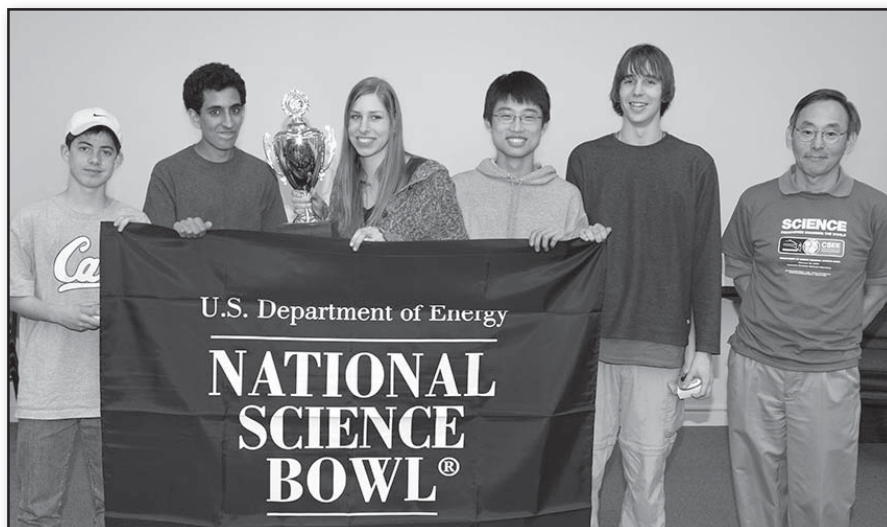
Team Members — **John Boggs** is a senior. He enjoys pretty much every part of life, but particularly the parts that involve tea, math, fires, being on belay, guitars, camping, learning, reading, tight-rope walking, chess, strategy, music, science, juggling, or sailing. John is involved in Student Congress, Environmental Club, National Honor Society, Boy Scouts, Quiz Bowl, and, of course, Science Bowl. After graduating from high school, John plans to attend the Massachusetts Institute of Technology where he intends to major in mathematics. **Ryan Janish** is a senior. He played on the football team and participated in the Science and Quiz Bowl Teams. His hobbies include playing the bass guitar, reading, hunting, and hanging out with friends. Ryan enjoys the study of physics, mathematics, Guitar Hero, and literature. He plans to attend the Massachusetts Institute of Technology, majoring in physics. **Ka Man (Karman) Lee** is a senior. She enjoys learning new languages, singing, creating webpages, Cantonese music, TV dramas, and just chilling with her friends. She is involved in Future Problem Solving, Environmental Club, Volunteer Works, and of course, Science Bowl. Karman is an officer of Keystone, which is a National Honor Society. Karman was born in Hong Kong, and she can understand four languages. She plans to major in biomedical engineering at the University of Minnesota — Twin Cities in the fall. **Jordan Punt** is a senior. He is involved in track and field, football, National Honor Society, Student Senate, and Science Bowl. He loves to run. Next year he will be attending the University of North Dakota and majoring in chemical engineering. His favorite subjects are calculus and chemistry. **Nick Reese** is in his senior year. His interests include reading, music, science, philosophy, drawing, and writing. He is involved in Science Bowl and Quiz Bowl. His favorite subjects are history, chemistry, and computer science. He plans to attend the University of South Dakota and will pursue a degree in either chemistry or English, with a minor in philosophy.

2008 National Science Bowl® for High School Students

Acalanes High School — Lafayette, California

LAWRENCE BERKELEY NATIONAL LABORATORY

1770s: Oxygen —
Joseph Priestley discovers oxygen; later, Antoine
Lavoisier clarifies the nature of elements.
Priestley produces oxygen in experiments and
describes its role in combustion and respiration.
Then, by dissolving fixed air in water, he invents
carbonated water. Priestley, oblivious to the
importance of his discovery, calls the new gas
"dephlogisticated air."



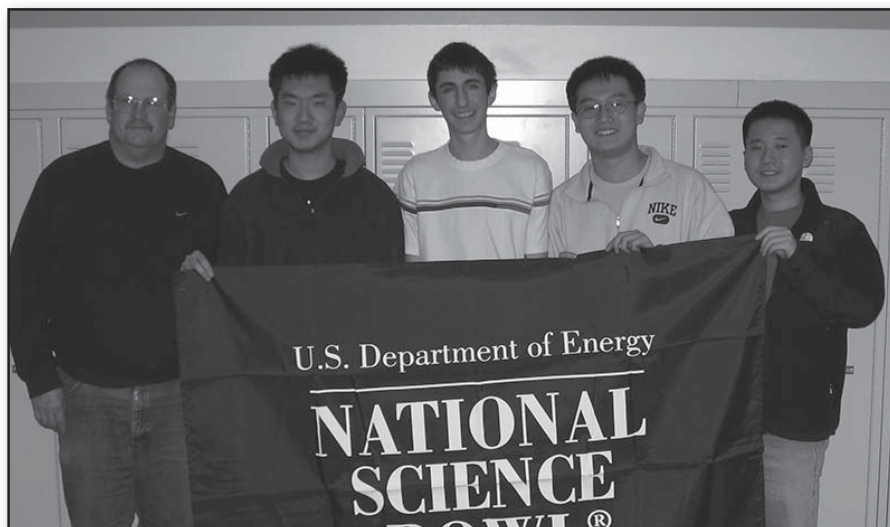
Left to right: Trevor Mooney, Gurbir Dhillon, Sophia Evans, Charles Cao, Peter Espe,
Steven Chu (Lab Director); Not pictured: Bruce Downing (Coach)

Team Coach — **Bruce Downing** has been a math, science, and computer science teacher for 25 years, the last 9 at Acalanes High School. Prior to that, he taught at Albany High School, with whom he won the 1993 National Science Bowl® Championship. While at Albany, he also worked a couple of summers as a teacher intern with Carl Pennypacker and the LBNL Astrophysics Department. In addition to Science Bowl, Bruce also runs the Math Club and coaches Boys' volleyball at Acalanes. Bruce earned his B.A. in mathematics at UC Berkeley and a second B.A. in environmental conservation from CU Boulder. Bruce's interests include travel, hiking, and preserving the environment. Bruce is married to attorney Suzanne Murphy; they have three children — Harmony, Michael, and Caitlin.

Team Members — **Charles Cao** is a sophomore. His interests and hobbies include reading, math, science, and sports. He is involved in orchestra and baseball. His favorite subjects are science and math. Charles volunteers at John Muir Hospital for three hours every week, and plans to attend Caltech and become a teacher someday. Charles plays both the piano and violin, and can juggle. Junior **Gurbir Dhillon** was born in the city of Fairfield, CA, in 1991. His family summarily moved to the city of Lafayette, wherein he has resided ever since. From his time in Springfield Elementary, to Stanley Intermediate, and finally to his current school, he has pursued a diverse range of interests and pursuits. Chief among them are running (around the year), music (particularly jazz), and such fringe competitive academia efforts, as, surprisingly, Science Bowl. His favorite sport, both on and off the field, is chess. **Peter Espe** is a junior. For college, he is considering a double major in English and physics. After college, he plans to work at a job of some description, preferably one that pays him money in exchange for his services. Peter's favorite book is *Moby Dick*, his favorite band is Queens of the Stone Age, and his favorite toy is the Slinky. He is currently attempting to build a guitar amp out of a box of Wheat Thins. Peter's hobbies include sailing, hiking, playing soccer, watching movies, and playing trombone. **Sophia Evans** is a senior. Her favorite hobby is music and she loves playing her violin and electric or acoustic guitar. She has completed the most advanced math courses her high school offers and, as a senior, continues to learn math at a local community college, taking Multi-Variable Calculus in fall semester and Differential Equations during spring semester. She is involved in many extracurricular activities, including Peer Tutoring, Academic Decathlon, and the school musical. She plans to attend a four-year university, pursuing a Bachelor's degree in math, science, or psychology, and then attend graduate school to get some sort of Doctorate. Currently she is interested in becoming a research scientist, a psychiatrist, or a surgeon. Sophomore **Trevor Mooney** likes physics and mathematics and esteems Einstein above all scientists, but youth has limited his physics knowledge to a disjointed collection of facts acquired from books solicited from his brother. Not coincidentally, he credits his older brother Connor, a physics major at Stanford, with his science involvement. Trevor plays basketball and follows professional and collegiate sports. His favorite book is Michael Lewis's *Moneyball*, about the Oakland A's. He considers *Moneyball* the perfect fusion of sports and intellect; as general manager of the A's, Billy Beane would employ statistical analysis to make his nemesis Yankees look stupid.



2008 National Science Bowl® for High School Students



Left to right: Bruce Fitzgerald (Coach), Donald Yang, Justin Kopinsky, Kevin Huang, Peter Shin

Adlai E. Stevenson High School — Lincolnshire, Illinois



WILLIAM FREM'D HIGH SCHOOL

1628: Blood Circulation —
William Harvey discovers that blood circulates
through the body and names the heart as the
organ responsible for pumping the blood. His
groundbreaking work, "Anatomical Essay on
the Motion of the Heart and Blood in Animals,"
published in 1628, lays the groundwork for
modern physiology.

Team Coach — **Bruce Fitzgerald** teaches chemistry at Stevenson High School north of Chicago. In years past, he has also taught Earth science, geography, and environmental science. Both his Bachelor's and Master's degrees come from Western Illinois University. He and his wife live in Zion, IL, with their four children. Summer keeps him busy with a full schedule of golf, fishing, gardening, and camping as well as the typical chores. In one more year, his recreational time will expand considerably as he will be retiring from teaching.

Team Members — **Kevin Huang**, a senior, was born in QingDao, China in 1990, and moved to this country during the second grade. Next year, he plans to attend either the University of Illinois or the University of Minnesota, majoring in a business related field. His hobbies are golf, badminton, and building computers. His home is Vernon Hills, IL, where he lives with his parents. Senior **Justin Kopinsky** was born in South Africa in 1990. He lives in Buffalo Grove, IL, with his parents, three sisters, and brother. His greatest interests are math, video games, and Ultimate Frisbee. His career plans will involve mathematics in some capacity. He is currently hoping to get into MIT. **Peter Shin**, a junior, was born in Seoul, Korea, in 1990. His family moved to the United States in 1999. His residence is Buffalo Grove, IL, with his parents and two younger brothers. His main hobby is playing the French horn. He is undecided on college or career plans. Junior **Donald Yang** was born in 1991 in Beijing, China. He has been in this country since 1994. His family lives in Lincolnshire, IL. His main hobby is playing violin. His career plans will be directed towards medical school where he would like to study ophthalmology.

2008 National Science Bowl® for High School Students

Albany High School — Albany, California

SANDIA NATIONAL
LABORATORIES —
CALIFORNIA

1609 – 1612: Jupiter Has Moons —
Galileo Galilei discovers that Jupiter has moons
like the Earth, proving that Copernicus, not
Ptolemy, is right. Copernicus believes that Earth
is not unique, but instead resembles the other
planets, all of which orbit the sun.



Left to right: Ben He, Jackie Quinn, Peggy Carlock (Coach), Ian Allen, Elise Cai, George Shan

Team Coach — **Peggy Carlock**, recipient of the American Chemical Society's Teacher of the Year, California Section and ACS Western Region, teaches AP Chemistry and has coached science and math teams her entire teaching career—Science Bowl since 1991. She completed her B.S., M.S., and Ph.D. at the University of California, Berkeley, where she was a National Science Foundation Fellow, a Spencer Foundation Fellow, and the last Ph.D. student of Glenn T. Seaborg, Nobel Laureate. She is no stranger to academic competitions, having competed on science and math teams as a teen. These no doubt influenced her decision to teach. She views stem cell research as having the unprecedented potential to alleviate considerable human suffering.

Team Members — **Ian Allen** is a senior. He completes his third and final year in Washington, DC, at the National Science Bowl®. He will attend the Fu Foundation of Engineering and Applied Science at Columbia this fall. His profound interest in uncovering the mysteries of the universe has driven him to explore much more than rigorous science courses in high school. In an internship at the Lawrence Berkeley National Laboratory, he was introduced to research that utilizes copper nanowires for heat-spreading devices. He holds the process of logic and reason to be the most fundamentally important tool a person can have and venerates science and mathematics as the most perfect application of that tool. He firmly believes that the world we have found ourselves in is so teeming with wonders that we should never cease to be amazed, just so long as we know where to look. **Elise Cai** is a junior. She has an avid love for science and playing the piano. She enjoys watching sporting events despite being blessed with zero athletic ability, and she thrives on competition, as evidenced by her participation in AIME (qualified three years), Science Bowl, the National Ocean Sciences Bowl®, and Math Team. She served as captain of the NOSB Otter Bowl as a sophomore and was a member of the first place Wind River Computing Systems Wonder Cup Team at Stanford this year. While she enjoys reading classical literature, her favorite author, unfortunately, uses the passive voice with obscene frequency. Senior **Jackie Quinn**, captain, is a three-year veteran of the National Science Bowl® and the Biology Olympiad. She is the first female to pilot all of the teams at Albany, and her teams essentially accomplished the equivalent of a Triple Crown in the Bay Area: first place at the Wind River Computing Systems Wonder Cup, first place in the Sandia Regional Science Bowl, and a tie for first place at the NOSB Otter Bowl. Jackie enjoys cross-country, track, and soccer. She is interested in studying bioengineering and aims for a career in research or medicine. While an intern in the Berkeley Drosophila Transcription Network Project at Lawrence Berkeley National Laboratory, she worked with a robot that injected DNA into fly embryos. Her biggest dilemma for now is deciding whether to accept MIT's or Harvard's offer to pursue her passions in science. **George Shan** is a junior. He has been hugely obsessed with math, having qualified in AIME's top one percent, Math Olympiad – USAMO (two years). He has exhausted the math course offerings at high school and was ready for a change, so he chose to compete in the US Physics Olympiad (quarter finalist) and the US-ACS Chemistry Olympiad (upcoming). In his final year at high school, he will turn his attention to all that awaits him in biology. In his spare time, he plays video and computer games while also attempting to dance.

2008 National Science Bowl® for High School Students



Left to right: Ben Scuderi, Ari Shaw-Faber, Ryan Johnson, Austin Hudson-LaPore; Not pictured: Jennifer Alford (Coach)

Albuquerque Academy — Albuquerque, New Mexico

SANDIA NATIONAL
LABORATORIES — NEW
MEXICO

1879: Cell Division —
Walther Flemming carefully observes that animal
cells divide in stages and calls the process mitosis.
Eduard Strasburger independently identifies a
similar process of cellular division in plant cells.


Team Coach — **Jennifer Alford** has been in the teaching profession for seven years after completing her education at Thomas Jefferson High School for Science and Technology, the College of William and Mary in Virginia, and the Pennsylvania State University. A chemist by education, she has also worked in a semiconductor research fabrication facility at the Sandia National Laboratories in Albuquerque, NM. Jennifer is committed to improving scientific literacy among her students, and enjoys playing soccer and swimming.

Team Members — **Austin Hudson-LaPore** is a sophomore who, of course, likes science, particularly chemistry, and also enjoys math and Spanish classes. Outside of school, he plays the cello and participates in the Science Olympiad and Quiz Bowl. He hopes to major in chemistry or engineering and become a professor or materials scientist. This will be his third trip to a National Science Bowl® competition. **Ryan Johnson** is a sophomore. He enjoys photography, painting, and going to dinner with friends. He also plays the piano, sings regularly, and hopes to major in architecture, urban planning, or industrial design at a big city college. He participates in Speech and Debate and volunteers at the Roadrunner Food Bank in Albuquerque. **Ben Scuderi** is a sophomore. His favorite subjects are science and history. He is the opinion editor of the school newspaper, *The Advocate*. Ben plans to go to college and study either computer science or chemistry. This is Ben's fifth year of Science Bowl, and his third time to the National event. **Ari Shaw-Faber** is a sophomore and was born in Albuquerque. Ari's favorite subjects are math, science, and history. Outside of school, he spends most of his time on technical theatre, mostly lighting. He has designed the lights for two short plays. Ari is a student senator at school, and he plans to major in economics in college. This is Ari's first time at the National Science Bowl® for high school students, although he went to the National Science Bowl® for middle school students twice.

2008 National Science Bowl® for High School Students

Amarillo High School – Gold — Amarillo, Texas

B&W PANTEX PLANT



1808: Atomic Theory — John Dalton provides a way of linking invisible atoms to measurable quantities like the volume of a gas or mass of a mineral. His atomic theory states that elements consist of tiny particles called atoms. Thus, a pure element consists of identical atoms, all with the same mass, and compounds consist of atoms of different elements combined together.



Left to right: Jessica Williams, Michael Stebbins, George Maliha, Michael Clark, P.J. Pronger, Shane Simmons (Coach)

Team Coach — **Shane Simmons** is a second year chemistry teacher at Amarillo High School. He graduated in 2005 from Texas A&M — Corpus Christi with a Bachelor's degree in molecular biology. He has a strong interest in biofuels, and he devotes time to biofuel research.

Team Members — **Michael Clark** is a junior. His love for math has steered him to pursue a math degree. He enjoys playing Dance Dance Revolution and Ultimate Frisbee. Currently a junior, **George Maliha** has been to the National Science Bowl® twice. He is secretary of the Junior Class and is president of Amarillo High School's International Club. He enjoys playing the piano and coin collecting. **Michael Stebbins** is a junior with plans to major in engineering at Texas A&M. He enjoys playing video games, playing bass, and is active in his church. **Jessica Williams** is a junior IB student. She is active in Math Club, JSA, and National Honor Society. She is also the vice president of the Key Club. She hopes to attend college and study engineering.

2008 National Science Bowl® for High School Students



Left to right: David Bossman (Coach), Friend Olsen, Ross DeVol, Nick Bigelow, Robert Meinders

Bellevue East High School — Bellevue, Nebraska

NATURAL RESOURCES CONSERVATION SERVICE

1953: Potential for Life Created — Graduate student Stanley Miller, combining the ideas of other scientists, reproduces the early atmosphere of Earth by creating a chamber containing only hydrogen, water, methane and ammonia. He boils the water and exposes the elements to an electric discharge like lightning, simulating Earth's early processes. After a week, Miller finds organic compounds have formed, including some amino acids, the "building blocks of life."

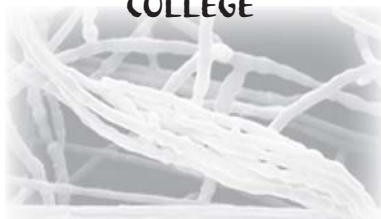
Team Coach — **David Bossman** attended Dana College in Blair, NE, and is currently working on his Master's degree from the University of Nebraska — Omaha. Oddly enough, he is an English teacher with an interest in science. He is the school's academic coach (all Quiz Bowls, Science Olympiad, Envirothon, etc.), and thus gets to work with these great kids in a variety of subjects and settings.

Team Members — **Ross DeVol**, a senior, has been extremely active in Bellevue East's award winning band — Band Council president and saxophone section leader. He has excelled in the Jazz band, Marching band, Pep band, and Varsity band. Besides those musical involvements, Ross has managed to be the president of East's National Honor Society chapter, member of the principal advisory committee, vice president of the Math Club, and vice president of the school's Book Club. As a competitor in Quiz Bowl, Knowledge Master, and Science Olympiad, Ross collected numerous awards. But perhaps most impressively, Ross scored a perfect 36 on the ACT (along with his twin brother Brian). Senior **Nick Bigelow** has been extremely involved with both the school's band and the school's academic program. He is a member of the Jazz band, Marching band, Pep band, and Varsity band. Nick also has been a four-year member of Bellevue East's Varsity Quiz Bowl and Knowledge Master's Team. As an integral member of the school's Science Olympiad Team, Nick has medaled in Write it Do it, Experimental Design, and Electric Car. He also helped the school's Envirothon team finish third in the state. Nick has taken every AP and Honor class Bellevue East has to offer and looks forward to his time at the University of Nebraska at Lincoln. **Friend Olsen**, a senior, has been an integral part of many academic teams at Bellevue East. Friend has proven himself as one of the best chess players in the state of Nebraska as the team leader of the school's Chess Team. Friend also has taken an affinity with the Latin language, having taken it for five years. However, as a member of East's Academic Decathlon, Science Olympiad, and Quiz Bowl Teams, Friend has really proven to be a competitor, winning numerous awards and medals in each. Friend is excited to gain more knowledge at the South Dakota School of Mines next year. Junior **Robert Meinders** has proven to be quite the force in the realm of Nebraska academic competitions. Robert's success in Academic Decathlon, Science Olympiad, and Math competitions has helped him reap numerous accolades. Robert's most success in these competitions has come through his efforts in Science Olympiad — Robert has won numerous state and regional competitions, but most impressively, Robert took third place in Bottle Rockets at the National Competition as an eighth grader. Besides all of these academic competitions, Robert finds time to maintain an arduous class schedule and fill his schedule with Concert, Jazz, and Marching band.

2008 National Science Bowl® for High School Students

Biomedical STEP/ Buffalo Prep — Buffalo, New York

MONROE COMMUNITY COLLEGE



1930: Genes Control Biochemical Events — George Beadle and Edward Tatum discover through experiments on *neurospora*, a bread mold, that genes are responsible for the production of enzymes. Their report is the genesis of the "one gene-one enzyme" concept.



Left to right: Bianca Coleman, Twigg Seymour (Coach), Candace Desta, Queenosob Hashi, Kerris Sease, Lesthia Isaacs

Team Coach — **Twigg Seymour** attended Buffalo State College and majored in environmental geo-science with a minor in chemistry. He was employed as a rubber and plastic chemist with the TRICO Corporation and later as an environmental chemist with Ecology and Environment, Inc. He taught Earth Science and Chemistry at the UB Upward Bound Program and taught chemistry and biology for the UB STEP Program. Presently, he tutors students of color at the Buffalo Prep Program and students from the UB Biomedical STEP Program. The research, discoveries, and achievements of George Washington Carver, Dr. Charles Drew, and Dr. Albert Einstein are the three he considers most influential in the area of science.

Team Members — **Bianca Coleman** is a senior at Nardin Academy. She is currently involved in the UB Biomedical STEP/ Buffalo Prep Program, Radical Math Club, Chemistry Club, Foreign Language Club, Student Council, captain of the bowling team, and track team at school. Bianca is a participant in the Alpha Kappa Alpha Internship Program, and the Girls 2 Women Mentoring Program at the Elim Christian Fellowship Church. She plans to attend college in the fall and major in forensic science and law. **Candace Desta** is a senior at Nichols School. She is a participant in the UB Biomedical STEP Program and Rising to Distinction Program at Buffalo Prep. Candace has participated in various extracurricular activities and community service such as SUMA, which is a club for diversity and multicultural awareness. Candace is a dancer/ choreographer. In her free time, she enjoys ballet, modern dance, yoga, drawing, and painting. Candace shared her thoughts on the Science Bowl as an opportunity to learn team work and leadership skills. **Queenosob Hashi** is currently a junior at City Honors School. Her extracurricular activities include Model UN, African dance, Youth Alive, and tennis. Queenosob is a participant in the UB Biomedical STEP Program and the Rising to Distinction Program at Buffalo Prep. In her community, she teaches Somali children how to read and write. In April 2008, she will be competing in the NAACP ACT-SO Competition in the categories of medicine, writing, and dance. Presently, she is doing cancer research in the lab at Roswell Park Cancer Institute. **Lesthia Isaacs** is a senior at City Honors School, aspiring for a future in medicine. She participates in Amnesty International, Students for Organ Donation Awareness Club, church choir, children's ministry, and is a violinist in Orchestra. Lesthia was featured in the 2006 – 2007 edition of *Who's Who Among American High School Students*. Lesthia is a participant of the UB Biomedical STEP Program and the Rising to Distinction component of Buffalo Prep. In the summer of 2007, she participated in a Summer Research Program at Roswell Park Cancer Institute. This project was presented and featured in the 2008 Winter Issue of *Roswellness* magazine. **Kerris Sease** is a senior at Nardin Academy. There she is an active member of the Orchestra, Science Team, Radical Math Club, and Rainbow Heritage Club. Kerris is a member and employee of the Teen Skills Initiative program at the Buffalo Museum of Science. During the past summer she participated in Alfred State's 48-hour science challenge. Currently she is a participant in the UB Biomedical STEP and Buffalo Prep Programs. In her spare time, she enjoys playing her flute, reading, drawing, and spending time with friends. Kerris plans on attending college and majoring in biology, physics, or mathematics.



2008 National Science Bowl® for High School Students



Left to right: Stephen Rong, Alex Geanes, Andrew Berggren, Riley Baird, Fern Bretch (Coach), Jon Henderson

Blue Valley West High School — Overland Park, Kansas



1920s – 1930s: Nuclear Forces — Alexander Fleming discovers penicillin, then Howard Florey and Boris Chain isolate and purify the compound, producing the first antibiotic. Fleming's discovery comes completely by accident when he notices that mold has killed a bacteria sample in a petri dish that is languishing under a pile in his lab's sink. Fleming isolates a sample of the mold and identifies it as *Penicillium notatum*. With controlled experimentation, Florey and Chain later find the compound cures mice with bacterial infections.

Team Coach — **Fern Bretch** graduated from Northwest Missouri State University as a math teacher turned chemistry teacher; she loves the application of math in science. During the summer, she enjoys traveling, reading, and being a Mom. Her opinion of the three most important discoveries are — DNA (discovery and mapping), combustion engine (internal and external), and electromagnetic radiation (which covers a whole spectrum of applications).

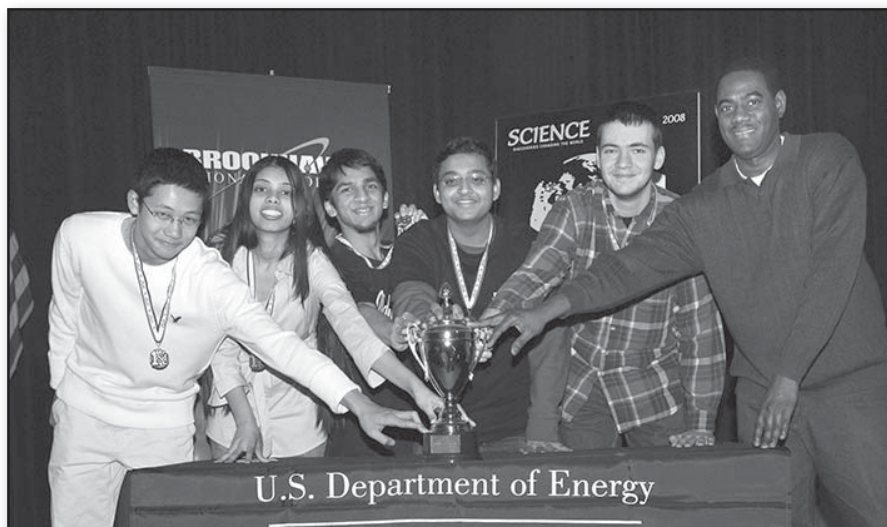
Team Members — Senior **Riley Baird** plays soccer in the fall and then joined Science Bowl as the physics anchor. He is interested in working with lasers and has looked into some research in that area. He will be going to Duke University next year and has been accepted into the School of Engineering. **Andrew Berggren** is a senior and this is his first year on the team. His strength is in biology and computers. He is also involved with Future Business Leaders of America and Teenage Republicans. In his spare time, he enjoys hanging out with friends, playing video games, making software programs, and designing Web sites. Andrew plans to attend Kansas State University next year and major in computer science. **Alex Geanes** is a senior involved with Robotics and is co-captain of the Science Knowledge Bowl Team. His main obsession outside of school seems to be cooking up chemistry stuff in the garage. He plans to study biochemistry. Senior **Jon Henderson** towers above the others in both his physical height and his knowledge of computers. He is co-captain of the Knowledge Bowl Team. He already takes computer classes at the college level and knows everything there is to know about aluminum and hydrogen bonding. **Stephen Rong** is a sophomore who has more science stuff in his head than most seniors. This is his second year on the team. Not sure what he plans on doing with all of that science knowledge, but when he opens his mouth, it just starts spilling out. He also is in the Robotics Club.

2008 National Science Bowl® for High School Students

Brooklyn Technical High School — Brooklyn, New York

BROOKHAVEN NATIONAL LABORATORY

1666: Universal Gravitation —
Isaac Newton comes to the conclusion that all
objects in the universe, from apples to planets,
exert gravitational attraction on each other.



Left to right: Alvin Zhang, Kamellia Saroop, Zaccariah Toaha, Najeeb Abdullah, Viktor Roytman, Louis Morgan (Coach)

Team Coach — **Louis Morgan** holds a B.S. degree in chemistry and zoology, along with a post-graduate diploma in science education from the University of the West Indies. He is currently pursuing his Masters in instructional technology. He has participated in the HHSI Bioinformatics Program at New York University for several years. He teaches Regents and AP Biology at his school. He rates the transistor, Internet, and the gene chip as the top scientific discoveries so far. He enjoys martial arts and outdoor activities.

Team Members — **Najeeb Abdullah** is a junior. He was born in Bangladesh and came to the United States at the age of seven. Over the past three years, Najeeb has participated in numerous extracurricular activities such as the Muslim Student Association, Model United Nations, and, of course, the Science Bowl Club. Over past summers, Najeeb has attended the STEM Program at City College of New York, studying physics and pre-calculus, and the CEYE Program at Mount Sinai School of Medicine, studying fruit fly genetics. After school, he volunteers at his local library in Astoria. Najeeb wishes to become a chemical engineer in the near future. To achieve this career goal, he hopes to attend Princeton University or Cooper Union for the Advancement of Science and Art. Senior **Viktor Roytman** is the captain of the Science Bowl team. His favorite subjects are all of the sciences, which explain his involvement in both the Science Bowl and Science Olympiad. He is the secretary of the school's Science Olympiad Club. He is ranked as one of the top 10 students in the Junior Class in Brooklyn Tech, according to average. His future is still undecided, but for now he plans on majoring in chemistry. In 2004, senior **Kamellia Saroop** entered Brooklyn Technical High School as a member of the "Academy of Science, Knowledge, Math, and Engineering" class and studied science research for two years. In addition to volunteering at The New York Public Library and The American Red Cross, Kamellia is currently active in the Oral History Club, Science Bowl Club, and Peer Mediation. Her achievements include the honor roll, the bronze medal in her school's freshman science fair, and induction into "Who's Who Among American High School Students." In the future, Kamellia aspires to major in finance to become an investment banker. Junior **Zaccariah Toaha** is a very unique high school student. While his favorite subjects are the sciences, he is well-rounded. He is taking three APs — Environmental Science, Calculus, and American History. He is the current president of the Muslim Student Association and the current vice president of the Science Bowl Club. In the future, he does not want to have a job in search of wealth but in search of passion. He believes that personal happiness is the most important thing to value in life. Junior **Alvin Zhang** is a typical high-school student. His favorite subject is science, which led him to join the Science Olympiad in sophomore year (which he continues to attend as the parliamentarian for the club). He then officially joined the Science Bowl and was inducted into the National Honor Society in his junior year. As for extracurricular activities unrelated to school, Alvin volunteers occasionally at a hospital. In the future, he wishes to apply to an engineering college and pursue a career in electrical, biochemical, or mechanical engineering.

2008 National Science Bowl® for High School Students



Left to right: Cheryl Lenox (Coach), Alexander Hristov, Andrew Weigel, Vinay Jayaram, Curran Bice, Jared Martin

Brophy College Preparatory — Phoenix, Arizona

WESTERN AREA POWER ADMINISTRATION — DESERT SOUTHWEST

1705 – 1758: Halley's Comet has a Predictable Orbit — Edmund Halley proves that comets orbit the sun like the planets and successfully predicts the return of Halley's Comet. He determines that comets seen in 1531 and 1607 are the same object following a 76-year orbit. Halley's prediction is proven in 1758 when the comet returns. Unfortunately, Halley had died in 1742, missing the momentous event.

Team Coach — **Cheryl Lenox** has been teaching science since 1983. She grew up in New Mexico and has attended two state colleges in Colorado, the University of Missouri — Columbia, Johns Hopkins University, and University of Arizona, where she got her most recent M.Ed. degree with an emphasis on teaching the gifted and talented. She currently teaches Honors and AP Biology and is the Science Department Chair. Outside of school, she spends most of her time working cattle, cutting horses, or flying to small towns with her husband in their airplane. She believes the most important scientific discoveries were the structure and function of DNA, the human genome, and how to make an aircraft fly. Her first time at the National Science Bowl® was in 2005 and she is returning with the younger brother of a student she coached then.

Team Members — **Curran Bice**, a junior, is interested in all sciences, especially physics. He used to participate on the school tennis team and has played the piano for nine years. His interests include research, music, and Chinese culture and language. Outside of his school's required volunteer work, he tutors other students at his school for his National Honor Society chapter. Curran was a Biology Olympiad semi-finalist and is a two-time gold medalist in the National Latin Exam. He is interested in pursuing medicine or biochemistry research. Senior **Alexander Hristov's** favorite science subjects are Earth science and astronomy. He is vice-president of Science Club, president of Knowledge Masters, and president of Spanish National Honor Society. He is an avid flamenco guitarist and jazz saxophonist. Last summer, he made it to the national stage of the National History Day competition for his paper on Charlie Parker. Later, he completed an internship in the Bulgarian Ministry of Environment and Water involving river microorganism analysis and environmental policy analysis. He has been accepted early to Georgetown University and is waiting on all of the Ivy League, his top choice being Harvard. He plans to major in economics and minor in government and astronomy. **Vinay Jayaram**, a junior, would be hard pressed to name a science he does not like, but has a special love for biology (having gotten to semifinals in the USABO two years). He also adores foreign languages, from Spanish to Japanese. While he is not studying for Science Bowl, he participates in Speech and Debate tournaments, doing both extemporaneous and impromptu speech. He studied karate for nine years and has been playing the piano for six years. He has not found his calling or his ideal college. Junior **Jared Martin** enjoys math and physics. In his spare time, he reads often and plays the trombone in the school band as well as in the Phoenix Youth Symphony. He volunteers with his school's chapter of Key Club and enjoys working in the community. He plans on getting a double degree in physics and music performance, completing graduate studies in physics, and becoming a theoretical physicist. His favorite scientist is Isaac Newton for opening so many doors in the fields of science and mathematics. **Andrew Weigel**, a senior, enjoys science, math, and music. He plays classical and jazz piano, violin, and marimba in his school's music ensembles, and recently played in the AMEA North Central Region Music Festival on viola. In addition to achieving two perfect scores on the National Latin Exam and receiving Brophy's Award for Intellectual Competency twice, Andrew is president of Science Bowl Club, master guesser of Knowledge Masters Club, maintains good status within NHS and Calc Club, and works as an intern at Barrow Neurological Institute. Although undecided, Andrew intends to attend college and begin a career in medical research.

2008 National Science Bowl® for High School Students

Burnt Hills- Ballston Lake High School — Burnt Hills, New York

KNOLLS ATOMIC & GENERAL
ELECTRIC UPSTATE NEW
YORK

1884: Sex Cells —

August Weismann identifies that sex cells must have divided differently to end up with only half of a chromosomal set. This very special division of sex cells is called meiosis. Weismann's experiments with reproduction in jellyfish lead him to the conclusion that variations in offspring result from the union of a substance from the parents. He refers to this substance as "germ plasm."



Left to right: Brian Watts (Coach), Thomas Martindale, Douglas McErlean, Emily Wexler, Samuel Wilson, Matthew Wolf, Mark Little (Senior Vice President and Director of the GE Global Research Center)

Team Coach — **Brian Watts** attended college at Binghamton University where he received his B.S., M.A., and M.A.T. in chemistry with an emphasis on inorganic chemistry. He has enjoyed being the coach of both the Science Olympiad and Science Bowl Teams for eight years. His biggest influence on becoming a teacher is his grandfather, Russell Watts, who taught him that with hard work anything can be achieved. Brian enjoys running and spending time with his wonderful wife, Melissa, and two children, Aidan and Ashlyn. The three most important discoveries in science are: the atom, the Periodic Table, and Silly Putty.

Team Members — **Douglas McErlean** is a junior. His favorite subjects are computer science and physics. He was the school winner of the AMC 12 in 10th grade, and was a co-winner of the Emma Willard Innovation Competition in 2007. Douglas is the co-captain of the Varsity swim team, rows with the first boat in Varsity crew, and plays the baritone horn with the school Concert band. Outside of school, Douglas is an avid swimmer and takes lessons in Tae Kwon Do sword art. In his spare time, he enjoys the trampoline and his dogs. **Emily Wexler** is a senior. Next year she will be attending SUNY Brockport and plans on majoring in athletic training and exercise physiology. She is a rugby player, so naturally she is a very competitive person. When she is not busy participating in science-based competitions, such as the Science Olympiad and Science Bowl, and rugby, she also enjoys running, snowboarding, and performing stand-up comedy at her school's coffee house. **Samuel Wilson** is a junior. Samuel has interests in many areas, greatest of which are reading, computer programming, mathematics, sports, and music. Samuel describes himself as a music aficionado. He loves to listen to classical music and also plays it on French horn, piano, and guitar. He is part of the school band, school orchestra, Science Club, and Boy Scouts. Samuel's favorite subjects are all disciplines of science, mathematics, and history. He plans to attend the University of Virginia and double major in computer science and chemistry. **Matthew Wolf** is a senior. He plans on majoring in chemistry in college and one day becoming a research scientist. He is an active member of Science Club and has participated in Science Olympiad several times. Matt has competed in six competitions involving his science research project, and has been named an Intel Science Talent Search Semi-finalist for 2008. Outside of the realm of science, he volunteers as a Saratoga Youth Court officer and has played on the school tennis team for four years. He enjoys reading both scientific literature and works of fiction and is interested in politics.




2008 National Science Bowl® for High School Students



Left to right: Bill Brewington (Coach), Anna Tranfaglia, Nick Whiteman, Caitlin Pomeroy, Charlie Governali, Libby Cummings

Cape Elizabeth High School — Cape Elizabeth, Maine

UNIVERSITY OF SOUTHERN MAINE



1811 onward: Atoms Combine into Molecules
— Italian chemist Amedeo Avogadro finds that
the atoms in elements combine to form molecules.
Avogadro proposes that equal volumes of gases under
equal conditions of temperature and pressure contain
equal numbers of molecules.

Team Coach — **Bill Brewington** has been teaching biology and life science electives at Cape Elizabeth High School for the past 17 years. His experiences teaching Southeast Asian refugee students in Hong Kong and the Philippines led to his career in education. Pursuing a degree in biology, he attended the University of Colorado, San Francisco State University, and Sonoma State University, and he has a Master's degree from the University of Southern Maine. He enjoys traveling, running, gardening, and Vietnamese food (among others!). Someday he hopes to teach internationally again, but for now, the coast of Maine with his wife and three kids is a great place to be!

Team Members — **Libby Cummings**, a senior, is left-handed and enjoys baking chocolate chip cookies, jumping in puddles when it rains, hip-hop music, speaking French, buying shoes, skiing as often as humanly possible, and traveling just about anywhere. Besides Science Team, she participates in Mock Trial, Model UN, Math Team, and an all-girls' choir. She is also the Valedictorian and president of the National Honor Society. Libby's favorite book is *Lolita* and her favorite movie is "Dodgeball." Someday, she hopes to help the world using science...and hopefully ride an elephant at some point too. Senior **Charlie Governali's** favorite subjects are physics and biology. He is a captain of the Science Team and serves as a student member on the town land trust. He loves birding and has been involved in numerous bird research and conservation projects. In addition, he enjoys alpine skiing, tennis, and hiking. He will be attending Dartmouth College in the fall. **Caitlin Pomeroy**, a junior, is an energetic blonde who enjoys invigorating exercise and chocolate-covered strawberries. She leads a busy and fulfilling life and among many other things, she enjoys dancing, baking, and getting to know new people. An adventurous girl, Caitlin plans to try skydiving, learn how to blow glass, and become a world famous tennis player. She also wants to travel to all parts of the world. **Anna Tranfaglia** is a senior; she is active in World Affairs Council, Interact, Math Team, and National Honor Society. She also enjoys running, hiking, and biking. Next year she plans to study biomedical engineering and political science or economics. Senior **Nick Whiteman**, 17, enjoys anything to do with science. He participates in the North Shore Science League and the Maine Science Olympiad, does sound design for the theatre program, and plays tennis. He is into digital photography, skiing, surfing, and trail biking; anything outdoors. He will be going to Tufts University in the fall.

2008 National Science Bowl® for High School Students

Capital High School — Charleston, West Virginia

NATIONAL ENERGY
TECHNOLOGY LABORATORY
— MORGANTOWN

1807 – 1810: Electricity Transforms
Chemicals — Humphry Davy finds that electricity
transforms chemicals. He uses an electric pile (an
early battery) to separate salts by a process now
known as electrolysis. With many batteries he is
able to separate elemental potassium and sodium
in calcium, strontium, barium, and magnesium.



Left to right: Joseph Stephenson, Megan Ross, Christian White, Samuel Smith, Garrett Maner, Peggy Snyder (Coach)

Team Coach — **Peggy Snyder** may be unique to the competition because she is not a science teacher. She received her Bachelor's and Master's degrees in music education from Marshall University. A teacher for 39 years, she was a recipient of the Time Warner Cable Crystal Apple National Teacher Award, and MTV Teacher of the Future Award, but lists having her team win the Regional Science Bowl two of the last three years as one of her greatest accomplishments. Her interests include cooking, reading, and boating with family and friends. Peggy and her husband, Jon, love to travel and watch their daughter, Anne Marie, dance in the Charleston Ballet.

Team Members — **Garrett Maner** is a senior and a National Merit Finalist who has been on the Quiz Bowl team for the past four years. He is also a member of the school's Marching, Concert, and Jazz bands, in which he plays the trombone, euphonium, tuba, bassoon, and cornet. He has participated in the All-County and All-State Bands as well as numerous invitational honor bands. Garrett has won awards in the fields of mathematics and science on the county and state levels, and has attended both the West Virginia Governor's School of the Arts and Governor's Honors Academy. He plans to study chemical engineering at West Virginia University next year and play in the band. **Megan Ross** is a senior and is enjoying her first year of Quiz Bowl. She was a member of Capital's first archery team, volunteers at community service sites such as Habitat for Humanity and a local women's shelter, and is in the process of setting up a local community service chapter with two other area teenagers. After she graduates, she plans to attend Marshall University and major in biology. **Samuel Smith**, captain of the team, is a senior and has participated in Science Bowl competitions for the past four years. He is involved in numerous academic activities, including Quiz Bowl and various mathematics competitions. Samuel is graduating at the top of his class and plans to study aerospace or computer engineering at a four-year university this fall as a National Merit Finalist. Samuel's passion is working with technology. He enjoys designing and writing computer software programs in Java, C++, C#, and PHP, as well as using the Linux operating system. **Joseph Stephenson** is a senior and a member of the National Honor Society. He has participated in Quiz Bowl and Science Bowl for four years. Joseph is a member of the cross-country team and is involved in several community service projects. He plans to attend West Virginia University Institute of Technology next year and study computer science and electrical engineering. Senior **Christian White** is a member of the National Honor Society, his church's youth group and drama group, the tennis team, and the cross-country team, and he tutors other students in anatomy on a weekly basis. His course load this year includes: AP Government, Dual Credit Biology, Calculus III, Music Appreciation, Anatomy II, Honors English, and Computer Science. He has taken AP Chemistry, Physics, World History, and United States History. This May, he will graduate with highest honors and will attend West Virginia University, where he plans to double major in aerospace and mechanical engineering.

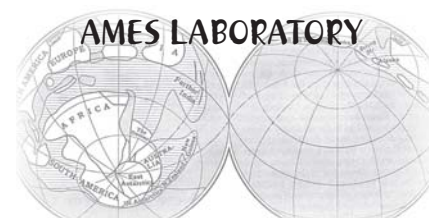


2008 National Science Bowl® for High School Students



Left to right, Front row: Alan Talmage, Sally Gaebler (Coach), Evan Gaebler; Back row: Andrew Baskerville, Edward Talmage, Leif Gaebler, Alex King (Ames Lab Director)

Cedar Rapids Marion Home Schools — Cedar Rapids, Iowa



1911: Continental Drift — Alfred Wegener proposes that all the continents in the world once formed a single, giant landmass that was eventually split apart in a process called “continental drift.” Wegener’s evidence consists of the “fit” of South America with Africa, fossil distribution, and geological similarities.

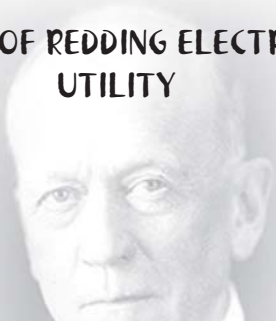
Team Coach — **Sally Gaebler** became a math major because a high school teacher said girls cannot do math. She earned a B.S. in math at the University of Washington; did graduate work in computer science at the University of Missouri — Rolla; and worked nine years in scientific computing, systems analysis, and user support. She has home-schooled for 22 years, has tutored math and test prep for 10 years, has coached math teams for 12 years, and has coached Science Bowl teams for 2 years. Sally enjoys being a wife and mom, hiking (particularly in the Pacific Northwest), writing songs and poetry, and listening to life stories.

Team Members — Junior **Andrew Baskerville** signed onto the team with an aptitude for science and a desire to save his peers from a humorless year. He will soon find himself at Nationals wondering how he got there — quite a change for an avid reader (Holmes will never die) who enjoys Civil Air Patrol, 4H, math, horses, young men’s Christian ministries, and using enormous and slightly obsolete words. So what will this home-grown, home-schooled, home-spun “homie” be doing in early May? Providing science answers AND comic relief to his overly stressed pals. **Evan Gaebler** is a junior. His favorite subjects are math and science. He has competed on a home school high school math team since sixth grade, and he especially likes Great Plains Math League competitions. Evan is an accomplished accordionist, and enjoys singing in a choir, volunteering at two assisted living facilities, and swimming. In his spare time, he draws (both freehand and on the computer) and occasionally paints. **Leif Gaebler**, a home-schooling senior, lives for math and physics (which he calls “math in disguise”). He taught himself both subjects well enough to achieve perfect scores on the SAT Math 2C and Physics Subject Tests and the AP Calculus BC exam, and he has taken top honors in national competitions in both subjects. Leif is currently dual-enrolled at Coe College, where he is taking upper-level classes in math and physics. When he goes to college for real, he plans to major in both subjects. He also enjoys figure-skating, playing the piano, and not writing essays. **Alan Talmage** is a freshman who enjoys math and science. He has participated in MathCounts, AMC, AIME, ARML, and Great Plains Math League, winning numerous math awards. He competes in Bible Quizzing and was the highest scorer on the 2007 World Bible Quizzing Association Finals first place team. Alan plays clarinet in the home school band. He also works at a piano rebuilding shop two afternoons a week. In the future, he plans to attend college in a math- or science-related field, but has not decided what subject he will study. The team captain, **Edward Talmage** is a senior who enjoys all his technical courses, especially computer science, in which he plans to major next year. Edward has won awards in many math competitions such as the GPML, ARML, AMC, AIME, USAMTS, and Who Wants to be a Mathematician. Edward is the trumpet section leader in the home school band, and also plays the tuba. As captain, he has led his Bible Quizzing Team to three large tournament victories in the last two years. Other activities include helping to organize a creative writing competition and produce a student movie.

2008 National Science Bowl® for High School Students

Chico High School — Chico, California

CITY OF REDDING ELECTRIC
UTILITY



1909: The Burgess Shale — Charles Walcott exposes a mother lode of Cambrian fossils high in the Canadian Rocky Mountains, providing a glimpse of what life was like on Earth more than 500 million years ago. He collects more than 65,000 specimens and classifies each, discovering that the fossils are ancestors of living animals.



Left to right: Gareth Fay, Tom Lampkin (Coach), Alex Brown, Jeana McKnight, Maggie Jones

Team Coach — **Tom Lampkin** graduated from California State University, Chico in 1975 with a Bachelor's degree in chemistry and a double minor in mathematics and biology. While attending grad school at Chico State, he was hired by his college professors to teach several sections of chemistry labs to undergraduate students. While teaching science labs at the college, he realized that he had a penchant for explaining scientific concepts and that he truly enjoyed working with young people. Tom eventually completed the teacher-training program at CSU, Chico with a physical science teaching credential in 1978. Before entering the teaching profession, he worked for the U.S. Forest Service, a dental alloy manufacturing company, and the airline industry. He has now been a chemistry/physics instructor at Chico High School for 20 years. According to "Lampdawg," the most important scientific discoveries in history are the Periodic Table of the Elements in chemistry and the Special and General Theories of Relativity in physics. His hobbies include hiking, stargazing, music, and sports such as golf and tennis. He also enjoys coaching in academic competitions.

Team Members — **Alex Brown**, a senior, is a relentless intellect who puts all his effort into any endeavor he takes on. Alex donates blood on a regular basis, teaches an armoring class at the local martial arts school, and has been a peer tutor for three years. In his free time, Alex studies medieval martial-arts, reads, and runs an armory, which creates and sells historically accurate plate and maille armor. Alex has suffered several personal blows of late, including a mother becoming deathly ill and a brother being diagnosed with cancer; through all this, Alex has maintained a 4.0+ GPA and a positive attitude. Senior **Gareth Fay** is an 18-year-old cynic with a nasty penchant for tactlessness, sarcasm, and obfuscation. A southerner by birth and upbringing, he currently resides in California, where he combines his love of science and engineering with his love of history in an attempt to recreate medieval siege engines in miniature, with realistic effects. He intends to obtain a pair of degrees, one in civil engineering, and one in mechanical engineering, before working as a demolition/deconstruction specialist. **Maggie Jones** is currently a sophomore. She enjoys chemistry, math, and creative writing. Some of her hobbies include horseback riding, reading, running, and ballroom dancing. This is her first year competing in the Science Bowl, and so far she has been delighted by it. She would like to attend MIT or Cal Tech, but also would be partial to attending UC Davis. Over the summer, she is hoping to go to the COSMOS 2008 program at UC Davis. She is hoping to major in either chemistry or math and minor in English or dance. Junior **Jeana McKnight** has been attending Chico High since the end of her freshmen year. Some activities she enjoys include reading and dancing. One of her favorite classes is chemistry, which she hopes to further pursue in college. She is hoping to major in forensic chemistry and eventually become a lab technician in a forensics lab. This is her first year competing in Science Bowl and she hopes to compete again next year. She hopes to further study math and science by attending classes at Chico State next year.

2008 National Science Bowl® for High School Students



Left to right: Lola Lynch (Coach), Adam Tucker, Morgen Ellis, Max Greenlee, Phillip Grafft, Tim Segert; Not pictured: Chris Barker

Cole Valley Christian School — Meridian, Idaho

BATTELLE ENERGY ALLIANCE — IDAHO



1960: Cracking the Genetic Code — Marshall Nirenberg leads the team that discovers the genetic code, showing that a sequence of three nucleotide bases (a codon) determines each of the 20 amino acids.

Team Coach — **Lola Lynch** teaches Human Anatomy and Physiology, Health, British Literature, World Literature, and Freshman English at Cole Valley Christian High School in Meridian, ID. She has been teaching for 21 years. Lola is the coach for the INL Quiz Team and the advisor for National Honor Society. She has studied biology, literature, and secondary education at Cedarville University and Northwest Nazarene University. Her primary interests include her family, teaching, reading, sewing, and gardening.

Team Members — **Chris Barker** is a senior and is completing his third year on the INL Scholastic Quiz Team. He has been active in student government throughout high school and currently serves as Student Body president. He has been recognized as a National Merit Finalist, and has served as a delegate to Idaho Boy's State and the Hugh O'Brien Leadership (HOBY) Conference. Chris has been an active participant in community service projects, including a two-week construction relief effort in Mississippi in the aftermath of Hurricane Katrina. Chris loves music, school dramas, producing movies, leading worship teams, and completing calculus problems at 1:00 a.m. He plans to major in mechanical engineering before pursuing a career in product design. **Phillip Grafft** is a junior. His hobbies include playing and writing music for the mandolin and violin, listening to music of all genres, and playing video games. Quiz team is his only extracurricular school activity, but he is an active participant at Common Ground, a small start-up church in Meridian. His favorite subjects include History and Human Anatomy and Physiology. He wants to study psychology and become a family counselor. Several scientific discoveries that have impacted his life are medical advances in treatment of diabetes and attention deficit disorder and recent improvements in educational response to a learning disability called dysgraphia. **Max Greenlee** is a senior. This is his second year as a part of the Idaho National Laboratory Quiz Team competition. He is also involved in National Honor Society. His favorite subject is literature and he enjoys movies and working on cars in his spare time. He plans to attend Boise State University next fall. **Tim Segert** is a senior and enjoys playing guitar, traveling, and watching films. He is a member of the National Honor Society, the worship teams at his church and school, and the INL Quiz Team. His favorite subjects are history and literature. He plans to attend Belmont University in Nashville and will major in guitar performance. One interesting fact about him is that he enjoys playing the computer game Minesweeper while working on homework. He thinks the most important scientific discoveries are the printing press, the automobile, and the electric guitar. **Adam Tucker** is a senior. His interests include guitar, math, science, reading, and doing things with computers. His favorite subjects are AP Calculus, Physics, and Web Development. He is choosing between Montana State University and Washington State University and majoring in computer engineering. He would then like to work with computers. Adam attended the State MathCounts competition in junior high. The three most important science discoveries to Adam are the invention of computers, the discovery of electricity, and the invention of the car.

2008 National Science Bowl® for High School Students

Dickinson High School — Dickinson, North Dakota

WESTERN AREA POWER ADMINISTRATION — BISMARCK

1842 – 1846: Anesthesia — Several scientists discover that certain chemicals can be used as anesthetics, making it possible to perform surgery without pain. The earliest experiments with anesthetic agents — nitrous oxide (laughing gas) and sulfuric ether — are performed mainly by 19th-century dentists.



Left to right: Jie Zhang, Seth Rummel, Lisa Holding Eagle (Coach), Tyler Swenson, Sara Anderson; Not pictured: Mike Malkowski

Team Coach — **Lisa Holding Eagle** earned her B.A. in chemistry from Jamestown (ND) College. She enjoys teaching science because it is an exciting and ever-changing area and gives her a chance to work with students to improve academic skills ranging from technology and math to communication. In her eyes, the Copernican revolution, Newton's invention of calculus, and the development of the quantum mechanical model of the atom have been some of the most exciting additions to the body of scientific knowledge. In addition to advising Science Club, she coaches cross-country and track and field.

Team Members — **Sara Anderson**, a senior, has been selected as a 2008 North Dakota State Scholar and as a Presidential Scholar Nominee. She is the historian for NHS, the Science Club secretary, and also participates in Spanish Club, Art Club, and Varsity tennis. She volunteers at soup kitchens and a local retirement home, is involved in Best Friends, and teaches Sunday School. In her free time, she likes to play piano and guitar. Sara hopes to attend a liberal arts college and go on to graduate school, entering into the fields of travel journalism or environmental studies. Junior **Mike Malkowski** enjoys classes that involve problem solving, such as math and physics, and also American history. He is on the honor roll and also participates in Varsity golf. In his free time, he likes to read. Mike plans to enter the field of robotic engineering after attending college at South Dakota School of Mines and Technology. **Seth Rummel**, a senior, has received the honor of being selected to the North Dakota Governor's School for Science. He is also the president of Science Club, Math Club, and TSA. He competes in many academic competitions including Science Olympiad, Knowledge Masters, Acalympics, TSA, and Speech. Drama and other activities benefit from Seth's expertise running the lights and sound for the DHS auditorium, and he also donates his time to school and community by doing the DHS Web page, Best Friends, and peer tutoring. Seth hopes to go into aerospace engineering and work for NASA. Junior **Tyler Swenson** enjoys studying many subjects, but especially science. He is a Siemens AP Scholar and has been selected to the North Dakota Governor's School for Science. He is the vice president of both Science Club and Math Club and also participates in hockey, track, cross-country, and a variety of academic competitions. The community benefits from the time he donates to the local hospital and to the public schools' gifted and talented program. Tyler hopes to major in math, physics, and chemistry, eventually pursuing a doctorate in organo-metallic and coordination chemistry. Senior **Jie Zhang** is involved in many aspects of student life at DHS. He is the vice president of TSA and has won numerous State TSA awards, including first places in Dragster and Flight, and second in Structural Engineering. He is also vice president of Math Club, a Student Council representative, and active in NHS, Science Club, Chess Club, and Acalympics. The community benefits from his volunteer work with the Salvation Army and Best Friends. Jie looks forward to combining his loves of math, art, and science in his studies of architecture at Penn State University.

2008 National Science Bowl® for High School Students



Left to right: Steven Garza, Pedro Vera, Michael Ortega, Bonifacio Salinas, Gilbert Lopez,
Not pictured: Julian Medrano (Coach)

Edinburg North High School — Edinburg, Texas

UNIVERSITY OF TEXAS — PAN AMERICAN

1687: Laws of Motion — Isaac Newton changes our understanding of the universe by formulating three laws to describe the movement of objects. 1) An object in motion remains in motion unless an external force is applied to it. 2) The relationship between an object's mass (m), its acceleration (a) and the applied force (F) is $F = ma$. 3) For every action there is an equal and opposite reaction.

Team Coach — **Julian Medrano** was born in Raymondville, TX, and graduated from Raymondville High School. He graduated with a B.S. from The University of Texas Pan American, and is currently an M.S. candidate in chemistry. He has been a teacher for 11 years. He is a science teacher because of his older sister who inspired him to teach in the subject he loves, which is the quest to explain “why” things occur. He has spent too much time in labs searching for answers. He thinks discovering penicillin, vaccinations, and the Internet are the greatest scientific discoveries. He enjoys reading and sports

Team Members — Senior **Steven Garza** grew up in a small town called Linn San Manuel after being born in McAllen, TX, in 1990. He was privileged enough to be raised by both parents with two brothers, all of whom supported Steven tremendously throughout all of his endeavors, however great or slight. He began school at Brewster Elementary and Middle School, and when he moved to Edinburg North High School, began to participate in a plethora of activities and excel academically. He now hopes to be accepted into Harvard, Stanford, or Brown, where he will study sociology. His career aspirations include teaching post-secondary education and becoming involved in politics either directly or as a political consultant. **Gilbert Lopez** is a senior. He will graduate in the top 5% of his class as an AP honors student. Gilbert is a second time national qualifier in Science Bowl and a regional qualifier in UIL Science and Math. Gilbert has plans to attend MIT after graduation. Junior **Michael Ortega** was born in Lynwood, CA, where he grew up. When he was 14, he moved to Edinburg, where he began his high school career. In his sophomore year, he played for the baseball team. Michael is a member of the National Honor Society and competed in the TCEA Robotics competition, which placed twelfth in the state of Texas. He also is a member of the D.I.R.T. Club. Michael participates in the University Interscholastic League (UIL), where he competes in Math, Science, Computer Science, and Calculator Applications. **Bonifacio Salinas**, a senior, was born in Edinburg, where he spent his early childhood. He then moved to Houston, where he received most of his elementary and middle school education. When he was 12, his family moved back to Edinburg. He now lives there with his complete family of two parents and five siblings. He is a member of the school band and the UIL Science, Math, and Number Sense teams. Junior **Pedro Vera** was born in Zacatecas, Mexico, where he grew up. At the age of 14, he immigrated to the United States to enter high school. He is the current Valedictorian of the junior class. He is the parliamentarian of the Student Council and is a member of the National Honor Society. He is also an AP Scholar with Honor upon completion of his sophomore year. He participates in University Scholastic League Mathematics, Number Sense, Science, and Computer Science, D.I.R.T. Club, and the Science Bowl.

2008 National Science Bowl® for High School Students

Fairview High School — Boulder, Colorado

WESTERN AREA POWER ADMINISTRATION — ROCKY MOUNTAIN REGION

1828: Synthesis of Urea — Friedrich Woehler accidentally synthesizes urea from inorganic materials, proving that substances made by living things can be reproduced with nonliving substances. Until 1828, it was believed that organic substances could only form with the help of the "vital force" present in animals and plants.



Left to right: Tammy Van Meter (Coach), Charles Xu, Norris Xu, Michael Zhuang, Karthik Rao, Marshall Carpenter

Team Coach — **Tammy Van Meter** has been coaching Science Bowl at Fairview High School for five years and loves every minute of it! Her undergraduate studies were in microbiology at Colorado State University and secondary education at Regis University, and her Master's is in ESL Education. She is passionate about sharing the highly relatable topics of biology with students, especially any new discoveries in the realm of genetics...but secretly also excited about news regarding particle physics. Her latest hobby is planning her late June wedding.

Team Members — Living the life of a hermit in the mountains near the small hippy town of Boulder, senior **Marshall Carpenter** studies quietly in the dark, only breaking to be periodically watered and turned towards the light. At twilight one evening, a science book caught fire and spoke to him. It told him of the bold task before him — that he must win the National Science Bowl®. Pledging his life to the task, Marshall burst forth from his cave and shouted, "Let my buzzers go!" Undaunted by obstacles, he plans to finish his senior year learning science and playing some Ultimate Frisbee in D.C. with his team. Freshman **Charles Xu** was born in Ithaca, NY, in 1992, later resided in Shanghai from 1994 – 96, and has lived in the Boulder area since then. He holds fast to his lifelong passion for physics and mathematics and intends to major in physics at an institution with a prestigious undergraduate program. He has three years left to decide which school and go on to work in whatever field of theoretical physics eventually interests him. Befitting this exceptionally broad cross-section of interests, Knowledge Bowl and Math Club round out his school-affiliated extracurricular activities. Outside of academia, he has practiced at a mixed-martial arts dojo for over six years and has obtained a black belt in Tae Kwon Do. Senior **Norris Xu** was born in Winnipeg, Canada. He has since traveled to many different cities with his family, some in Canada, and some in the United States. His favorite subjects include math, music, science, and computer science (though not in that order). Outside of school, Norris likes to play music, write computer programs, memorize random facts, play Frisbee, and sleep. **Michael Zhuang** is a junior who is participating in his third year of Science Bowl, and first year of National Science Bowl® competitions. Michael's favorite subject is off-period, but he thinks science classes are pretty cool too. He plays a variety of instruments, though none of them particularly well. He enjoys being a pretentious classical music nerd nonetheless. For Michael, sleeping until noon is a hobby that is all-too-often neglected in the face of trivial obligations such as, alas, "school" and "homework."



2008 National Science Bowl® for High School Students



Left to right: Alex Cole, Cassandra Deskus, Bryant Gordon, Katherine Discipio, Andy Xie;
Not pictured: Kevin Doyle (Coach)

Glastonbury High School — Glastonbury, Connecticut

UNIVERSITY OF CONNECTICUT

1915 – 1919: General Relativity — Albert Einstein unveils his theory of general relativity in which he proposes that mass warps both time and space, therefore large masses can bend light. The theory is proven in 1919 by astronomers using a solar eclipse as a test.

Team Coach — **Kevin Doyle** came to teaching following careers as an engineer, lawyer, and business executive. After graduating from the University of Connecticut with a B.S. in mechanical and materials engineering, he worked on the design of NASA's Hubble Space Telescope. Following an effort to make a living driving race cars, he attended Boston College Law School and practiced law for 20 years. He became a teacher because he loves sharing the excitement of science and because he believes excellence in science education is crucial in a healthy democracy. His hobbies are whitewater kayaking and skiing.

Team Members — **Alex Cole** is a sophomore with diverse interests. He loves playing clarinet and bass clarinet and regularly rehearses and performs in a variety of musical groups. Alex also likes to argue. He is on his school's Debate Team and has earned first and third place team trophies at two separate Varsity debates. Alex's favorite subject is math and he loves entering mathematics competitions. Alex expects that he will go into math, but is enjoying not having to worry too much about that kind of thing right now. **Cassandra (Cassie) Deskus** is a junior who is really into writing and mathematics. At school, she is a newspaper editor and writer, co-captain of Math Team, and treasurer of Drama Club. She enjoys reading, writing, being a ninja, eating, playing SET, sleeping (who does not?), and watching "That '70s Show" during her free time. Cassie is unsure of what she would like to do with her life, although she currently wants to pursue journalism and statistics. She is extremely excited for Science Bowl and would like to wish everyone tons of luck! **Katherine (Katie) Discipio** is a junior who finds great pleasure in studying the sciences. This will be her first appearance at the NSB. Her interests include chemistry, biology, and Latin. She is an avid member of Drama Club, Latin Club, Science Bowl, and the Latin Honor Society. Katie has recently participated in Chemistry Olympiad and the National Latin Exam. In her free time, she enjoys doing various science experiments and reading science books. She hopes to major in either biochemistry or molecular biology at Brown University. In the future, she sees herself receiving a Ph.D. and going on to teach and research biochemistry at a top university. **Bryant Gordon** is a sophomore. He plays baseball and basketball, and is a third degree black belt in Tae Kwon Do. He plans to go to the University of Connecticut to pursue a degree in engineering. In his free time, he plays his Wii, and his favorite games are Guitar Hero and Super Smash Bros Brawl. **Andy Xie** is a junior who started learning English less than six years ago. He enjoys playing chess, piano, and tennis in his free time. His favorite courses are statistics and physics. Andy participates in Math Team, Chess Club, and Science Bowl Club in school. He earned several awards in chess and piano. Andy volunteers every weekend teaching in a Chinese school. He wants to be either a math teacher or an ophthalmologist in the future.

2008 National Science Bowl® for High School Students

High Technology High School — Lincroft, New Jersey

PRINCETON PLASMA PHYSICS LABORATORY

15th century to the present: Tropical Biodiversity
— On sailing expeditions around the world, early European explorers notice that the tropics host a much greater variety of species. Answering why this is the case allows today's scientists to help protect life on Earth.

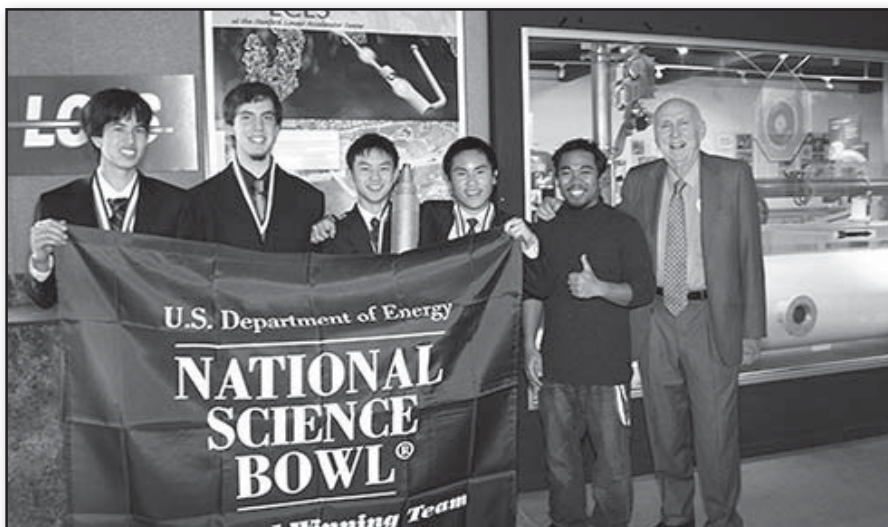


Left to right: Tom Jackson, Andrew Shum, Pamela MacNeill (Coach), Jake Robins, Moyukh Chatterjee

Team Coach — **Pamela MacNeill** attended Boston University School of Nursing, University of North Carolina, where she received a B.S. degree, and Monmouth University, where she received a B.A. and comprehensive science certification. She has been teaching AP Biology and Environmental Science for 14 years and has been a Mentorship Coordinator for 12 years. Substitute teaching convinced her that she wanted to be a full-time teacher. With her love of science, it was clear what area she wanted to specialize in. She thinks the most important scientific discoveries are: DNA, RNA as an enzyme and Nucleic Acid, and mapping of the human genome. Her hobbies include kayaking, hiking, and reading.

Team Members — **Moyukh Chatterjee**, a sophomore, enjoys math, science, and world history. He placed sixth individually in the NJ Biology Science League in 2007. He enjoys Academic Team, Model UN, and drama. In his spare time, he reads, plays guitar, and plays tennis. **Tom Jackson** is a senior who loves physics and math. He is the captain of the Academic Team and secretary of the Robotics Club. He is a National Merit Scholarship Finalist and the third place winner in the New York-wide National Vocabulary Championship. He is a member of the National Honor Society and helps maintain local parks as a member of his school's Environmental Club. Tom plans to go to a four-year university to pursue a degree in electrical engineering. He hopes to have a career as an electrical engineer. **Jake Robins** is a junior. This is his first year competing in the Science Bowl; the mental challenge and buzzing noises intrigue him. Jake belongs to the Chess Team and Science League (personally competing at the state level in the latter). He volunteers at his temple, conducts research, and recently founded HTHS's Ultimate Frisbee club. In his spare time, Jake enjoys bargaining with the devil for blues guitar lessons, playing with Schrodinger's cats, and violating entropic principles. In college, Jake plans to study physics, mathematics, or music theory. Senior **Andrew Shum**, whose first name has long since been forgotten, enjoys learning such varied subjects as biophysics, analysis, linguistics, and ancient world history. Andrew was recently named a semi-finalist in the Siemens Competition and the Intel Science Talent Search, and a quarterfinalist in the U.S. Physics Olympiad. Shum's hobbies include stealing old textbooks, watching entropy grow, and taking strolls in his bedroom. Andrew plans to continue his studies and research in physics at MIT.

2008 National Science Bowl® for High School Students



Left to right: Robert Nishihara, Drew Haven, Matt Pak, Aaron Wong, Christopher Nafrada (Coach), Martin Perl (1995 Nobel Laureate in Physics); Not pictured: David Doberne

Homestead High School — Cupertino, California

STANFORD LINEAR ACCELERATOR CENTER

1807 – 1873: Electromagnetism — Pioneering experiments uncover the relationship between electricity and magnetism and lead to a set of equations that express the basic laws governing them. One of those experiments unexpectedly yields results in a classroom. In 1820, Danish physicist Hans Christian Oersted is speaking to students about the possibility that electricity and magnetism are related. During the lecture, an experiment demonstrates the veracity of his theory in front of the whole class.

Team Coach — **Christopher Nafrada** began his teaching career 10 years ago at Homestead High School, teaching Chemistry Honors and Chemistry AP. He became fond of academic competition in high school, with science being his expertise on his Academic Bowl Team. Chris attained a B.A. in chemistry and an M.A. in natural science from San Jose State University, and will earn an M.A. in educational leadership this May. His passion for teaching chemistry was solidified when the late Dr. Glenn Seaborg shook his hand and signed his Periodic Table in 1998. When he is not teaching, he enjoys snowboarding and trying to golf.

Team Members — **David “Dayv” Doberne** is a senior. He is a native to California. He is extremely active in music, both as a composer and a performer. He plays French horn in the Homestead Wind Ensemble and Homestead Symphonic Orchestra, and plays saxophone in the Homestead Jazz Ensemble and California Youth Symphony. He holds principal chair in all four ensembles. As a composer, he often writes for winds, as he holds proficiency in many different instruments. During his free time, Dayv enjoys running, scrutinizing over music, and following professional Starcraft. Senior **Drew Haven** loves mathematics and computer science. President of his high school’s Math Competitions Team, he enjoys taking competitions and has qualified for USAMO. He went to Canada/USA Mathcamp, his true home, for the past two years and wants to return this summer. He is co-president of his school’s French National Honor Society, but he still finds time to play musicals on piano and train for his upcoming Tae Kwon Do black belt test in late May 2008. He wants to go to MIT and secretly wants to learn a few more languages, starting with ASL. **Robert Nishihara** is a junior. He participates in the school’s Science Bowl Team and Quiz Bowl Team. He is also the vice-president of the school’s Math Club and enjoys math competitions such as the Bay Area Mathematical Olympiad and the U.S.A. Mathematical Olympiad. In addition to mathematics and science, Robert loves history and literature. In his free time, he studies ancient civilizations and modern foreign policy. Among his favorite authors are William Shakespeare and John Steinbeck. Robert participates in a variety of athletic activities including capture the flag, Ultimate Frisbee, and rock climbing. Senior **Matt Pak** is the newest member to the Science Bowl Team. He loves music and is an avid member of the HHS Marching Band and Wind Ensemble. Science has always been his favorite academic subject and he plans to major in biochemistry, materials science and engineering, or chemical engineering. He also enjoys backpacking and airsofting. Matt is considering joining the Army through an ROTC program during college. Senior **Aaron Wong** dedicates his life to learning and his community. He is the president of the Quiz Bowl Team, and a member of the Math Team, Future Business Leaders of America, and the National Honor Society. Aaron also values a strong competitive spirit, and thus participates in the school cross-country and track and field teams. Last summer, he attended the Summer Science Program in Socorro, NM, as he has long been fascinated by the wonders of space and technology. Aaron has yet to decide where to attend college, but means to leave a mark wherever he goes.

2008 National Science Bowl® for High School Students

Huntsville High School — Huntsville, Arkansas

UNIVERSITY OF ARKANSAS
— FORT SMITH

1960s: RNA Conveys Genetic Information — A number of scientists discover ribonucleic acid, or RNA, a chemical found in the nucleus and cytoplasm of cells with a structure similar to DNA. They find that RNA plays an important role in protein synthesis and other chemical activities in the cell.



Left to right: Jason Doll, Claudia Richardson, Tristan Sokol, Ryan Watson, Kip Edgmon, Phillip Baker (Coach)

Team Coach — **Phillip Baker** is a 1982 graduate of the University of Arkansas with a degree in chemical engineering. He retired after 20 years as a chemical engineer and executive in the paper and chemical industries. The urgent need for qualified young technical people in industry was a major factor in the decision to begin a second career in teaching. Mr. Baker counts Newton, Maxwell, and Einstein as the most significant scientists in history because of the originality of their thinking and the impact of their findings on chemistry and physics. Mr. Baker's wife, Oteeka, is a second grade teacher and son, Aidan, is a sophomore in high school. He and his family also own and operate a small cattle ranch outside Huntsville.

Team Members — **Jason Doll** is a junior. He has been extensively involved in academic sports. His successes include Quiz Bowl JR High State Champion, appointed to all-state team, first place NEO Quiz Bowl tournament, first place 2007 and 2008 Northwest Arkansas Quiz Bowl tournament, first place and qualifying as MVP both times, three-time Economic Challenge State Challenge state champions, and 2008 Arkansas-Oklahoma Regional Science Bowl Champion. He is honored to represent the region at the national level. Senior **Kip Edgmon** was born in Berryville in 1989. Throughout his high school career he has been involved in many activities and clubs. Kip has been involved in football, baseball, Key Club, trapshooting, Harrrt, FFA, FBLA, National Honor Society, Economics Challenge, Science Bowl, and Quiz Bowl. Kip is planning on pursuing a career in chemical engineering. He plans to attend Southwest Baptist University in Missouri. After completing a pre-engineering program, he plans to transfer to the University of Science and Technology in Rolla, MO. **Claudia Richardson** is a senior. She has been very involved in academic teams throughout her high school career, such as the state championship finalist Quiz Bowl Team and the four-year defending champion Economics Challenge Team. She has attended several summer programs, including the Arkansas Youth Conservation Workshop and the Massachusetts Institute of Technology Women's Technology Program. Claudia is the president of National Honor Society, secretary of International Club, and secretary for the 2008 Class Council. Her hobbies include knitting, cooking, and playing Scrabble. Claudia has been accepted by Massachusetts Institute of Technology for fall attendance and is the recipient of a \$50,000 Honors College Fellowship at the University of Arkansas. She hopes to study chemical engineering. Junior **Tristan Sokol**, born in 1991, has been involved in academic competitions since the ninth grade. His accomplishments include State Junior High Quiz Bowl champion in ninth grade, winner of the National Council of Economic Education Student of the Year award for the past three years, and the state Quiz Bowl finals for this year. He is also involved in many school clubs including National Honor Society and he is treasurer of his Junior Class. Tristan is also very involved in the Boy Scouts of America and hopes to become an economist. **Ryan Watson**, a freshman, was born in 1992. He had participated in Science Bowl as a seventh grader and loved the competition. He is active in his class and is a representative of his Class Council. He plays Quiz Bowl and the Academic Challenge in Education (ACE) for the school team. Ryan's career choice for now is to be a chemical engineer. As a seventh grader, Ryan took the ACT and scored 21, which honored him with state recognition. Ryan likes to play sports, including golf, basketball, soccer, and tennis. He is also an avid Kansas City Chiefs fan and a Phil Mickelson fan.




2008 National Science Bowl® for High School Students



Left to right: Ron Hampton (Coach), Alex Kohn, Matt Dixon, Charles Hart, Ian Wilbanks, Casey Briggs, Jim DeAngelis (Coach), Barbara Nelson (Coach); Not pictured: Henry De Angeus (Coach)

Idaho Falls High School — Idaho Falls, Idaho

IDAHO NATIONAL LABORATORY



1960s: Plate Tectonics — The work of many scientists reveals that the Earth's surface is broken into several interconnected plates of rock. Earth's outermost layer, the lithosphere, is broken into at least seven large, rigid pieces. These plates are moving in different directions and at different speeds (about 1 to 4 inches per year) and are crashing together, pulling apart and sideswiping each other. All the action at plate boundaries produces phenomena such as mountains, volcanoes and earthquakes.

Team Coach — **Henry De Angeus** is currently the head of the Science Department at Idaho Falls High School. He teaches biology and zoology, and has taught for the past nine years. Mr. De Angeus also is an advisor to the Environmental Club and Junior Class. He has a B.S. in chemistry from St. John's University, DMD degree in dentistry from the University of Pennsylvania, M.S. ORF in biology from the University of Missouri — Kansas City, and a B.S. in biology education degree from Idaho State University. Mr. De Angeus also had a 25-year military career in the navy, eventually retiring as a captain, USN. His interests include gardening, cooking, back packing, and simply exploring the world and literature.

Team Members — **Casey Briggs** is a senior. He finds writing in the third person about himself to be a trite and antiquated form of self expression. He will go to a cheap, in-state school and major in philosophy, thus providing himself a conduit to continue being an unproductive member of society. His interests are trended toward nonacademic things. He is not involved in extracurricular activities save Scholastic Team. **Matt Dixon** is a junior. He has participated in numerous academic competitions in the past, such as National History Day, Future Problem Solving, MathCounts, and Lincoln-Douglas Debate. Many different subjects appeal to him, especially math and science. He is a member of his school's Chess Club, History Club, Future Problem Solving Club, French Club, and Renaissance Club, and is president of his school's branch of Key Club International. He also is a member of the National Honor Society and National Forensics League. Matt enjoys video games and some recreational computer programming. Although not especially musically inclined, he is prone to random bursts of song and dabbles in playing the didgeridoo. **Charles Hart** is a junior. His interests and hobbies include biology, reading, horticulture, strategy games, computers, and music. He participates in the high school Jazz band, Symphonic band, Marching band, Idaho Falls Symphony, Future Problem Solving, and National Junior Honor Society. His favorite subjects are zoology and history. He plans to attend college and obtain a Ph.D in zoology. After college, he would then like to work as a professor. Charles plays percussion, attended the National History Day national competition, and enjoys reading nonfiction books. **Alex Kohn** is a junior. He likes to read, play video games, tinker with computers, solve Rubik's cube, and spend time with his friends. He is interested in math, science, history, and philosophy. He is involved in his school's band, Honor Society, Robotics Club, and Scholastic Team. He hopes to attend either MIT or Harvey Mudd and acquire a dual major in math and chemistry. He attended the national MathCounts competition in 2005 and plays the trombone, piano, euphonium, and oboe. **Ian Wilbanks** is currently a senior. He enjoys palindromes and alliteration. He is interested in computers and math. He has found pleasure from games, both computer and role playing. His future plan is to do one of three things: conquer the world in four easy steps, become a computer fame designer, or obtain mind powers. He considers by far the three most important discoveries made by humanity to be the wheel, math, and electricity. Ian lived in Saudi Arabia in the beginning of his life, but now he is uniquely American, just like everyone else.

2008 National Science Bowl® for High School Students

J. M. Hanks High School — El Paso, Texas

SOCIETY OF HISPANIC PROFESSIONAL ENGINEERS — NEW MEXICO STATE UNIVERSITY

1850s: Chemical Structure — Friedrich Kekule figures out the chemical structure of benzene, bringing the study of molecular structure to the forefront of chemistry. He writes that after years of studying the nature of carbon-carbon bonds, he came up with the ring shape of the benzene molecule after dreaming of a snake seizing its own tail. The unusual structure solves the problem of how carbon atoms can bond with up to four other atoms at the same time.

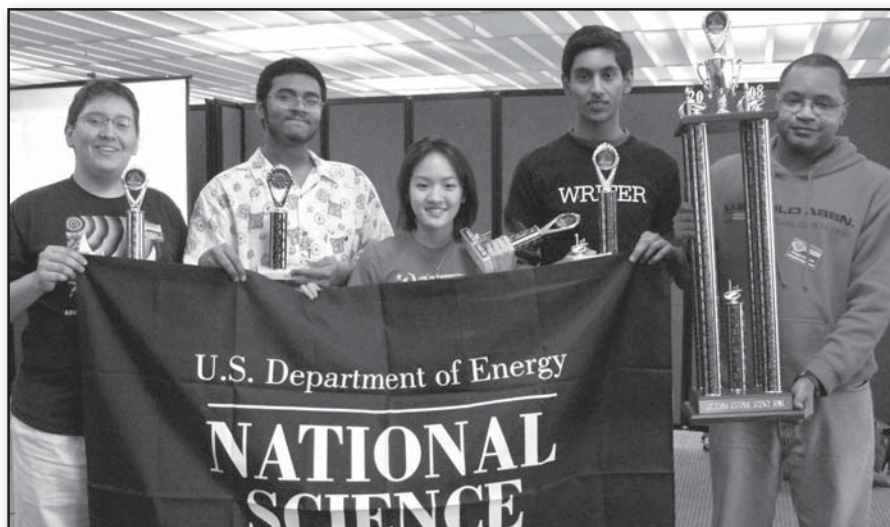


Left to right: Front row: Stephanie Myers, Anabel Castaneda, Ray Gonzalez, Jacob Warneke; Back row: Ismael Mendoza (SHPE Region III Vice President), Martha Castaneda, Edward Whatley (Coach), Gabriel Mendoza (El Paso area Science Bowl Coordinator)

Team Coach — **Edward Whatley** is originally from Rome, GA, and has been a resident of El Paso for the last 25 years. He graduated from Park University with a B.S. in social psychology and the University of Texas — El Paso with an M.Ed. in special education. He has had an opportunity to participate in numerous behavioral studies as a subject and a data collector. He hopes one day to do his own research in the field of autism. The three inventions he feels are most important are the cell phone, the discovery of fire, and the Nintendo Wii.

Team Members — **Anabel Castaneda** is a senior. She has been active in various clubs and organizations throughout her high school career. She has held leadership positions in most of these clubs, such as Debate, Mock Trial, FBLA, Chess, and Teen Volunteer Corp. Her interests lie in politics and communications. She is very concerned about the environment and helps the community through various services. The three scientific discoveries she feels have helped shape the future are — renewable resources, space travel, and stem cells. **Ray Gonzalez** is a senior. He has been a three-year letterman on the High Q team. He was recently selected as an AP Scholar with Distinction. Ray likes to do theoretical math for fun and he hopes to one day become a professional bowler. **Stephanie Myers** is a senior. She was born in 1990 in West Point, NY. She has been raised in El Paso for the past 14 years. She absolutely loves horses and aspires to become a veterinarian where she will work with horses and small animals. Stephanie has also been a volunteer for the Animal Rescue League of El Paso for the past five years. She is involved in NHS, High Q, Mock Trial, and Youth for Christ. Finally, Stephanie was recently accepted to the University of Notre Dame and plans to study biology. **Jacob Warneke** is a senior who has proven himself gifted in many areas, notably athletics and academics. Last year, Jacob was named an AP Scholar with Distinction and is currently set to be J.M. Hanks High's Valedictorian. Jacob was also a member of the wrestling and football teams for all four years in high school. His athletic career culminated in being named to the Texas First Team Academic All-State football team. He has also been involved in his community as a member of NHS and a volunteer at his church.

2008 National Science Bowl® for High School Students



Left to right: Philip McPeek, Venkatesh Thirumal, Lorraine Fei, Nabapallav Pal, Dwayne Edwards (Coach)

Lafayette High School — Lafayette, Louisiana

STRATEGIC PETROLEUM RESERVE

1800s: Germ Theory — French chemist Louis Pasteur finds that certain microbes are disease-causing agents. At the time, the origin of diseases such as cholera, anthrax and rabies is a mystery. Pasteur formulates a germ theory, postulating that these diseases and many others are caused by bacteria. Pasteur is called the "father of bacteriology" because his work leads to a new branch of scientific study.

Team Coach — **Dwayne Edwards** is a social studies teacher at Lafayette High School and the Quiz Bowl sponsor. He has been teaching for about 16 years and really loves history as a content area. He has really enjoyed his time as a sponsor of LHS's Quiz Bowl teams as they are very competitive and take pride in their performances. He attended the University of Louisiana at Lafayette, where he received a Bachelor's degree in 1991 followed by a Master's degree in gifted education in 1999. His hobbies include playing video games occasionally, watching sports with a particular emphasis on professional football, and reading in his spare time. As he is not a science teacher, he will refrain from commenting on scientific matters, but he is available to discuss important historical matters at any reasonable time.

Team Members — **Lorraine Fei** is a junior who plans to major in neuroscience or cognitive science in order to explore the boundary between the mind and the brain. Hopefully, she will be accepted into Brown University. She is a board member in the National Forensics League, president of Amnesty International, representative of Beta Club, treasurer in Habitat for Humanity, board member of French Club, vice-president of Philosophy Club, and a member of Quiz Bowl, Film Club, NHS, and the tennis team. Although she enjoys scientific involvement, she also holds a passion for the humanities, specifically literature and film. **Philip McPeek** is a junior. He is a section leader in the band and is heavily involved with numerous school ensembles. He also performs with community music groups such as the Lafayette Concert Band and the Acadian Wind Symphony, and was recently selected as the winner of the U.S. Air Force Band's 2008 Colonel George S. Howard Young Artist Competition. He is also actively involved in the Math Club, Science Club, Quiz Bowl Team, Beta Club, and NHS. He plans on attending college and majoring in music. **Nabapallav Pal** is a sophomore. His favorite subjects are chemistry and physics. All of his core courses are on a gifted level. He holds the offices of historian in Math Club, secretary in Key Club, and treasurer in Amnesty International. He actively participates on the school Debate team. Nabapallav volunteers frequently in the Lafayette community. He also plans to study pre-medicine and enter medical school. **Venkatesh Thirumal** is a senior planning to pursue a career in medicine and biomedical engineering. Immigrating to the U.S. four years ago, he has diligently worked his way up to the higher echelons of classes offered here. Currently, his scientific repertoire includes Physics II, Chemistry III, and Biology II, all Gifted. He is a member of various clubs, notable ones being Mu Alpha Theta, Beta Club, and National Honor Society, and has served as an officer in Science Olympiad and Anime Club. He has won numerous awards as part of the Math Club and Science Olympiad and was selected as a National Merit Commended Scholar. He volunteers at Our Lady of Lourdes.

2008 National Science Bowl® for High School Students

Lakeside High School — Evans, Georgia

SAVANNAH RIVER WSRC

1969 – 1997: Gamma-Ray Bursts —

The two-decade-long mystery of gamma-ray bursts is solved by a host of sophisticated ground-based and orbiting telescopes. Gamma-ray bursts are short-lived bursts of gamma-ray photons, which are the most energetic form of light and are associated with nuclear blasts. At least some of the bursts have now been linked with distant supernovae — explosions marking the deaths of especially massive stars.



Left to right: Zach Dromsky, Patrick Tynan, Jimmy Meixiong, Rosemary Song, Charlotte Smith (Coach), Ben Chan

Team Coach — **Charlotte Smith** enjoys working with young people and helping them to learn about the natural world. She has an undergraduate degree in zoology from the University of Georgia and a Master's degree in secondary science from the University of South Carolina. She has been teaching for about 26 years and has seen many important scientific discoveries in her time. Charlotte believes the three most important scientific discoveries are the advent of computer technology, advances in biotechnology and DNA research, and transplantation, since she has a daughter that received a five-organ transplant. Charlotte has worked in research in biochemistry at the Medical College of Georgia and has been involved in many summer field research projects, including studying prokaryotic life forms in hot springs in Nevada and California. This is the third National Science Bowl® Charlotte has attended with her students.

Team Members — **Ben Chan** is a senior. Although he has many hobbies, his main interests lie in music and science. He plays bassoon in the Lakeside Wind Ensemble, Augusta Symphony Youth Orchestra, and the Conservatory Youth Wind Symphony. He also plays piano whenever he can squeeze some practice in and has won several state piano competitions. He is still undecided about which college he will attend, but he is planning to major in either biochemistry or pre-medicine. **Zach Dromsky** is a junior who enjoys reading, swimming, and hiking. He is a member of the Lakeside swim team, Greater Augusta Swimming, and Boy Scouts of America, and he plays the trumpet in the Lakeside Marching band. He hopes to obtain a degree in physics and/or engineering in an undetermined field. **Jimmy Meixiong** is a junior. He is involved in many school activities, including Science Olympiad, Math Team, National Honor Society, and the Lakeside swim team. Swimming is a big passion of his and he swims year round for the Augusta Swim League. This is his first year competing in the Science Bowl and he is very excited to come to the National event. **Rosemary Song** is a senior. She enjoys biology and physics, but also spends time in a world outside of facts and numbers. While a member of her school's Science Olympiad Team and Mu Alpha Theta, Rosemary also spends time participating in community service activities with National Honor Society and volunteers time on Sundays to teach Chinese. Artistically, Rosemary is a ballerina and violinist, of sorts. Futuristically, she has no definite plans, but can see herself in the medical profession or saving the world in one small way or another. **Patrick Tynan** is a senior who has a great joy in learning about the sciences. His primary interests are in physics, math, and computer science; however, he enjoys some of the arts such as music and philosophy. Patrick is currently an active member of NHS, Science Bowl, the lacrosse team, and the Math League of Clutch. He has played on the football team for the past four years, played in the band for three years, and participated on the swim team for two years. Patrick volunteers for various organizations through NHS and has volunteered for Camp All-Stars during the summer. He also tutors his peers in math and science so perhaps they too can become a nerd like him. His future plans are to attend the Georgia Institute of Technology, study abroad in Azeroth, and major in electrical engineering.

2008 National Science Bowl® for High School Students



Left to right: Nicholas Gould (Coach), Sway Chen, Noah Arbesfeld, Joshua Leung, Stephen Xu, Christopher Teng

Lexington High School — Lexington, Massachusetts

BOSTON UNIVERSITY

1895: X-rays — Wilhelm Roentgen accidentally discovers X-rays as he conducts experiments with the radiation from cathode rays (electrons). He notices that the rays are able to penetrate opaque black paper wrapped around a cathode ray tube, causing a nearby table to glow with fluorescence. His discovery revolutionizes physics and medicine, earning him the first-ever Nobel Prize for physics in 1901.

Team Coaches — **David Colarusso** holds a B.A. from Cornell University and an M.Ed. from the Harvard Graduate School of Education. Last year, he taught abroad in Edinburgh, Scotland on a Fulbright teacher exchange. He was drawn to the teaching of physics because of his love for the subject. His professional time is split between teaching and working to leverage technology to improve collaborative endeavors such as the accumulation of knowledge and government. **Nicholas Gould** received a B.A. in mathematics and physics from Colgate University. After consulting for three years, he traded his cubicle for a classroom to pursue his passion for teaching. For the past six years, he has taught physics at Lexington High School while also coaching both the Science Bowl and Science Olympiad Teams. He attributes his passion for teaching to the influence of his parents and an enthusiastic college mathematics professor. Last summer, he worked at MIT Lincoln Laboratory on a Mars communication project. Nicholas considers the development of calculus, quantum mechanics, and DNA to be the three most important scientific discoveries. He enjoys tutoring, traveling, surfing, and playing music.

Team Members — Junior **Noah Arbesfeld** enjoys calculus, chemistry, and French. He is a captain of the Math Team and also is a member of the Debate Team. In addition to taking Jewish philosophy, literature, and history courses at Prozdor Hebrew High School, Noah also plays the saxophone and skis in his spare time. An avid math and astronomy student, Noah is a two-time USAMO participant, and attended the Math Olympiad Summer Program in 2006. Noah enjoys traveling, and spent his past summer in Israel touring the country, experiencing Israeli culture, and performing community service. **Sway Chen** is a senior and a co-captain of the Science Bowl Team. She is also a co-captain of the Math Team, vice-president of the Multi-cultural Club, and a member of the National Honor Society and honors orchestra. Sway was named an Intel semi-finalist this year for her research in electrochemistry, and she has competed in the USAMO, USNCO, and USAPhO. She is also a recipient of the M.A.S.S. Certificate of Academic Excellence. Her favorite subjects are math and science. Although she remains undecided about her college choices, she plans to major in applied math. **Joshua Leung**, a junior, is a member of the Science Bowl Team, the National Ocean Science Bowl® Team, the Math Team, the concert choir, and the National Honor Society. Josh participated on the track team as a sprinter and long jumper, but dropped track this year to practice for Science Bowl. During the past two summers, Josh has worked as an intern at the Museum of Science, Boston, designing and implementing educational activities as well as assisting visitors. His other interests include singing, computers, and hanging with friends. **Christopher Teng** is a junior, who participates in Science Bowl, National Ocean Science Bowl®, honors orchestra, and National Honor Society. He is a Varsity swimmer and runner, competing in the hurdles and triple jump. Outside of school, he plays cello and percussion in the Greater Boston Chinese Cultural Association's three Chinese music ensembles, teaches at his local Chinese School, volunteers at local hospitals, and is an active leader in his church youth group. Chris hopes to be a medical doctor in the future. **Stephen Xu** is a senior. In addition to being a member of the Science Bowl Team, he is also a co-captain of the Math Team and a cellist in the Youth Symphony Orchestra at the New England Conservatory. In the fall of this year, he will be attending MIT. His career goals are uncertain at the moment but he is eyeing the finance sector.

2008 National Science Bowl® for High School Students

Marshfield High School — Marshfield, Wisconsin

MILWAUKEE SCHOOL OF ENGINEERING

1998–2000: The Universe is Accelerating — Unexpectedly, astronomers find that instead of slowing down due to the pull of gravity, the expansion of the universe at great distances is accelerating. If these observations are correct and the trend continues, it will result in the inability to see other galaxies. A new theory of the end of the universe based on this finding has been called the “big rip.”



Left to right: Adam Denny, Seth Berger, Sam Balinghasay, Priya Pathak, Elisa Prebble, Paul Herder (Coach)

Team Coach — **Paul Herder** earned a degree in geology from the University of Wisconsin — Oshkosh. He has a Master's degree in education and is National Board Certified. Paul enjoys the challenge of teaching, loves learning, and strives to make a difference. He is inspired by the sacrifices and contributions of courageous thinkers like Galileo Galilei, Giordano Bruno, and Charles Darwin. All three were heroes in the battle against ignorance. Paul is an inventor, and he and his wife own and operate an Earth and Marine Science education supply company called Leave Only Bubbles (www.leaveonlybubbles.com). Paul especially enjoys watching his three children grow up.

Team Members — Senior **Sam Balinghasay** is coming back with power. He was last seen at National Science Bowl® as a freshman, where he accidentally made fun of a tour guide and somehow won the Civility Award. Sam is considering attending MIT in the fall to study math and economics, or maybe he will pick another major, like dance. At his high school, Sam is drum major of the Marching band and Senior Class president; however, this does not put him above a good game of Mafia or Boom Chicka Boom. If you want to play either, feel free to find him. **Seth Berger** is currently a freshman. He enjoys playing trumpet in the Marshfield band, reading both fiction and nonfiction literature, and playing golf, Frisbee golf, or board/card games in his leisure time. His favorite subject areas are math and science. He is currently a member of the National Ocean Sciences Bowl®, Science Olympiad, and JETS/TEAMS competitions as well. He looks forward to learning something new every day, whatever it may be. In the future, Seth hopes to go into a science or engineering career. **Adam Denny** is a senior who loves science, particularly the physical sciences. He is a National Merit Semi-finalist, and actively sings in several choirs. In addition to the National Science Bowl®, he participates in Skills USA and the National Ocean Sciences Bowl®. He has competed at the national level in both. This is the first year Adam is going to Nationals for Science Bowl, and he is so beside himself that he is referring to himself in the third person. Sophomore **Priya Pathak** was born in Nagpur, India. She has spent much of her life moving across continents, and she knows five languages. She last lived in Madurai, India, where she was president of her Jr. Jaycees organization. She moved to Marshfield as a freshman and now participates in HOSA, TEAMS, Science Olympiad, Ocean Bowl, and Science Bowl. She is also artistically inclined and spends a considerable amount of her time doodling. She is still undecided about her college plans, but will probably pursue a science major. **Elisa Prebble** is a sophomore. She enjoys the variety of classes offered at her school and has no particular favorite. Along with National Science Bowl®, Elisa is involved with Science Olympiad, HOSA, National Ocean Sciences Bowl®, German Club, and her school's Orchestra. Outside of school she plays the violin and piano, takes ballet lessons, and volunteers with the elderly and organizations such as the American Cancer Society. She also enjoys looking at, playing with, and taking care of her five turtles, and hopes to marry a sea turtle prince someday.

2008 National Science Bowl® for High School Students



Left to right: Dr. Suzie Kamons (Coach), Guillermo Gonzalez, Lucy Li, Jessica Santos, Joseph Moon, Fernando Miralles-Wilhelm (FIU, Regional Coordinator), Yuqiao Shen, Mysti Pasquale (SHPE)

Miami Palmetto Senior High School — Miami, Florida

SOCIETY OF HISPANIC
PROFESSIONAL ENGINEERS
— FLORIDA INTERNATIONAL
UNIVERSITY

1935: Ecosystem — Arthur George Tansley coins the term ecosystem and single-handedly bridges the biology in ecology with the physics, chemistry and other fields of science that describe the environment. An ecosystem is defined as a dynamic and complex whole that functions as an ecological unit.

Team Coach — **Dr. Susie Kamons** holds a B.S. from Carnegie-Mellon University, and both M.P.H. and Dr. P.H. degrees from Columbia University School of Public Health. She was a member of the faculty of Harvard University and Cornell Medical School, where her publications include seminal work in second-opinion pre-surgical screening. She has been a teacher for 17 years, and previously taught at FIU for eight years. In addition to NSB, she coaches a Chemathon Team, which has won county championships for the past eight years. She enjoys being part of an enriching community with dedicated peers and a highly motivated student population.

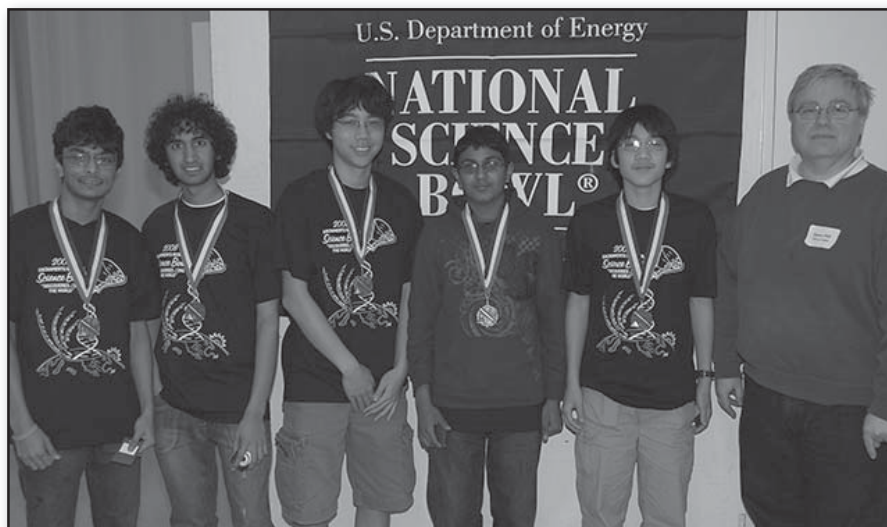
Team Members — **Guillermo Gonzalez** is a junior and is a Hispanic from Venezuela, although born in the U.S. Spanish was his first language, followed by English. He likes to be outdoors most of the day enjoying Florida's nice weather. Going on a boat is one of his favorite activities. He wants to end up in California one day studying to become an engineer. **Lucy Li** is a junior. In academics, she loves to learn about every subject, from literature to history to chemistry, and is part of the 2008 first-place Environthon Team in Miami-Dade. She is actively involved in community service events as president-elect of the Interact service club, and also paints murals for children's organizations and schools on her weekends. In her free time, she enjoys keeping up with world events, reads passionately with her school Literary Society, and watches any movie she can get her hands on. She hopes to become a professor, but is not sure of what yet because of her wide range of interests. **Joseph Moon** is currently a junior who craves knowledge in the field of mathematics and the sciences. He takes pride in his accomplishments in math competitions, including qualifying for AIME, top 10 Finalist for the David Essner Competition, and has taken many trophies in FAMAT competitions. He also has interests in biology, where he has been a semi-finalist for two years in the USABO. When not studying, he likes to write and perform music, for himself or for an audience. He plays five different instruments and enjoys the enriching musical experience that his school and community have provided to him. **Jessica Santos** is a senior, and this is her first year at Nationals. Jessica has competed in several local chemistry competitions and aspires to become a pediatrician. She hopes to attend UNC or UF in the fall. She is also the captain of her school's girls' lacrosse team and loves to horseback ride in her spare time. **Yuqiao (Joe) Shen** is a junior and is interested in all sciences, though his main interest lies in physics and mathematics. This is his first year competing in NSB. He has participated in local math competitions and AMC. Computer gaming is one of his favorite hobbies. He will probably major in engineering in college.

2008 National Science Bowl® for High School Students

Mira Loma High School — Sacramento, California

WESTERN AREA POWER
ADMINISTRATION — SIERRA
NEVADA REGION

1974: "Australopithecus" Afarensis or "Lucy" — Donald Johanson discovers the partial skeleton of a 3.2 million-year-old female hominid in Ethiopia. Johnson dubs his find "Lucy" after the Beatles' song "Lucy in the Sky With Diamonds," which was playing on the radio as the team celebrated the find.



Left to right: Aninda Chowdhury, Rishi Kulkarni, Edward Lee, Sriram Pendyala, Andrew Chen, James Hill (Coach)

Team Coach — **James Hill** teaches Honors Chemistry and International Baccalaureate (IB) Biology at Mira Loma High School in Sacramento, CA. Before moving to California, he taught upper level science in public schools and junior colleges in Virginia. James received a B.S. degree from the University of Virginia and an M.S. degree from Radford University. In addition to being the Science Bowl coach, James is also the director of the Sacramento Regional Science Olympiad. In his spare time, he enjoys playing piano, photography, traveling, and taking care of his four Labrador retrievers.

Team Members — **Andrew Chen** is a freshman. His favorite subject is chemistry, and he participates in various academic competitions such as Science Olympiad, National History Day, and Quiz Bowl. He enjoys playing the piano in his spare time. He also plays tennis and trains in martial arts. He is possibly interested in a career in medicine. **Aninda Chowdhury** is a sophomore. His favorite subjects in school are English and history. He is involved in many extracurricular activities, including Speech and Debate, Interact, Music Club, JSA, and Science Bowl. In his spare time, he enjoys correcting the pronunciation of his name to his peers, playing the guitar, and reading about politics and world news. He especially enjoys his time volunteering at his local community hospital. In the future, he hopes to go into a career of law or pathological medicine. **Rishi Kulkarni** is a junior. His favorite subject is biology, though perhaps he should be better at it. He is part of various academic competitions, including National History Day, Future Business Leaders of America, and Speech and Debate, in all of which he has experienced some degree of success. He spends his spare time playing the guitar and playing basketball. His career interests lie in business, law, or medicine. **Edward Lee**, a sophomore, started his passion for science in middle school. His favorite subjects in school are history and physics. In addition to regular schoolwork, Edward has participated in numerous academic competitions, including Science Olympiad and Quiz Bowl. He also enjoys playing the piano and practicing his jump shot in his leisure time. Edward's career goal is in the field of medicine and he hopes to become a doctor after his schooling. **Sriram Pendyala**, a freshman, has had a deep interest in science from a young age and enjoys attending math and chemistry class in his school. He has taken a large interest in a broad range of topics in science, including physics, chemistry, and biology. At home, he avidly pursues piano and community service by volunteering at his local library and elementary school. He enjoys attending Speech and Debate club. Sriram one day aspires to attend pre-medical school at UC Berkeley and medical school at Johns Hopkins University to become an internist.




2008 National Science Bowl® for High School Students



Left to right: Weller Emmons, Manoj Maddali, Sean Duke, Jeremy Porta, Nathan Barnett;
Not pictured: Ken Wester (Coach)

Mississippi School for Mathematics and Science — Columbus, Mississippi

MISSISSIPPI UNIVERSITY FOR WOMEN



1905: Special Relativity — Albert Einstein
overthrows basic assumptions about time and
space by describing how clocks tick slower and
distances appear to stretch as objects approach
the speed of light.

Team Coach — **Ken Wester** received his Bachelor of Science degree in biological engineering and Master's in secondary education from Mississippi State University and his education specialist from the University of Alabama. He has been teaching physics for 24 years — 19 at the Mississippi School for Mathematics and Science. He has coached the school's Science Bowl Team for 16 years, advancing to the National Competition 11 times.

Team Members — **Nathan Barnett** is a senior. Nathan is currently the president of the Young Republicans and Campus Crusade. Nathan is also the tournament chair for Mu Alpha Theta. He has received numerous honors, including induction into the American Junior Academy of Science and Finalist status for the Questbridge National College Match Scholarship. Nathan's favorite subjects are chemistry and calculus. Outside of academics, Nathan enjoys Mock Trial and plays an active role in the Student Government Association as the Residence Life Committee head. Nathan plans to attend Vanderbilt University, majoring in biomedical engineering. After completing his first 11 years of schooling at Caledonia High School, a small town in east Mississippi, senior **Sean Duke** was accepted in the Mississippi School for Mathematics and Science before his junior year. He maintains a high GPA, while balancing Varsity basketball, Varsity tennis, and Intramural football. He is the president of the Astronomy Club and is very active in the school's SGA. After graduation, he plans to attend Vanderbilt University, working to gain acceptance in medical school. He plans to return to Caledonia and open his very own practice in his hometown. Senior **Weller Emmons** is the son of Rome and Kathy Emmons and a native of Hattiesburg, MS. He attended Hattiesburg High for two years before attending the MS School for Mathematics and Science for his remaining years. Weller is active as chairman of Test & Convention Prep of MAΘ, president of Physics Club, vice president of Young Republicans, and captain of the swim team. He also participates in Mock Trial and is a student coach for Debate, a Life Scout, and on the Varsity soccer team. Weller is undecided about what college he will attend, but plans to study economics, math, or aeronautical engineering. **Manoj Maddali** is currently a junior. The captain of the Quiz Bowl Team, Manoj is an active member of the Chess Club, Mu Alpha Theta, and *Vision*, MSMS's school newspaper. His favorite subjects are physics and calculus. Outside of academics, Manoj enjoys playing Varsity soccer, working out, and playing racquetball. He hopes to attend the Massachusetts Institute of Technology and major in aerospace engineering. Senior **Jeremy Porta** has participated in Science Bowl since junior year. He is a native of McComb, MS, and lives in Columbus at the MSMS campus. Jeremy is a member of the Spanish Club, Film Club, and the Quiz Bowl Team. His favorite school subjects are literature, biology, and chemistry. His college plans are not yet finalized, but he intends to pursue a major in the field of biology.

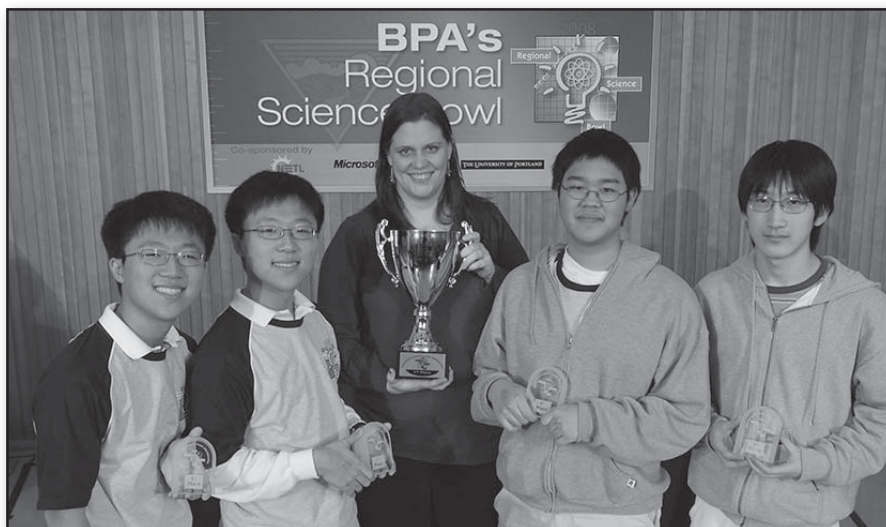
2008 National Science Bowl® for High School Students

Mountain View High School — Vancouver, Washington

BONNEVILLE POWER
ADMINISTRATION



1950s – 1960s: Restriction Enzymes — Several scientists discover restriction enzymes — biological scissors that recognize and cut specific DNA sequences.



Left to right: Seungjun Kim, Seungsoo Kim, Kari Hay (Coach), Cullen Su, Tianyi Gao; Not pictured: Matthew Cong, Jamie Johnston (Coach)

Team Coaches — **Kari Hay** graduated from Carleton College in Minnesota with a B.A. in math, University of Chicago with an M.B.A. in finance, and Portland State University with an M.Ed., so she can speak eloquently about the small school versus large school debate and also about being multi-degreed. She became a math teacher because she thinks math is fun and she has actually used it in real life. She has had a great time seeing the other branches of science (but the pronunciations sometimes escape her). She would dearly love to be at Nationals, but considering she just gave birth to her first child, thought that maybe she would stay home (also, because her doctor and her husband would not let her go). **Jamie Johnston** is a history teacher at Mountain View, who is generously filling in for Kari Hay.

Team Members — **Matthew Cong**, a senior, has traveled to a variety of different countries including China, Singapore, and the United Kingdom. He is a participant in many academic activities including Science Olympiad, Knowledge Bowl, Science Bowl, Mu Alpha Theta, and Homework Helpline, where he works as a tutor. Besides his academic interests, Matthew also demonstrates interest in athletics and the arts. He has participated in the Swim Team and is a proud member of the Mountain View Band as a clarinet player. Whenever he is not incredibly busy, Matthew enjoys biking, swimming, and playing video games. He plans to major in chemistry and/or material science and engineering. Senior **Tianyi “Kenny” Gao** is bafflingly organized, admirably ambitious, shockingly intelligent, and altogether far too modest. He has made a hobby out of learning new programming languages, then using them to write programs that do not do very much at all. In his spare time, Kenny enjoys contemplating how to best achieve fulfillment before dying at the tender age of 101, as well as keeping in touch with his inner child by watching kids’ television shows. **Seungjun Kim** is a junior, and also Seungsoo’s twin brother. He is a semi-finalist for the USA Biology Olympiad, a two-time USA Math Olympiad qualifier, and the top scorer in the Portland, OR section in the National Chemistry Olympiad. Similarly to his brother, he also actively participates in Knowledge Bowl, Science Olympiad, Mu Alpha Theta, and Biology Club. However, he is also very involved in music and volunteer work. He won first place in Multiple Percussion at the State Solo Contest, leads the school drum line as its section leader, and serves on the Southwest Washington American Red Cross Board of Directors and the American Red Cross National Youth Council. **Seungsoo Kim** is a junior. He was a USA Biology Olympiad National Finalist in 2007 and has qualified for the USA Math Olympiad each year since ninth grade. He is the president of his school’s Mu Alpha Theta chapter and a co-founder of the Biology Club. He also helped his Knowledge Bowl team become the class 4A Washington state champion and medaled in several events at the Washington Science Olympiad. Another one of his passions is music; he plays percussion in his school’s Wind Ensemble and has competed at his state’s Solo and Ensemble Contest each year since ninth grade. **Cullen Su** is a senior. He is interested in math and science, especially computer science and calculus. He is taking numerous science classes in an effort to learn more about each branch of science, and he is the co-captain of the Science Olympiad team. He has applied to schools such as MIT, Caltech, and Stanford in hopes of pursuing the best education possible. He likes to pass time on the computer, and to play Wii with his friends. Throughout his life, he has lived in many states, including Wisconsin, New Jersey, Oregon, and Washington.

2008 National Science Bowl® for High School Students



Left to right: Sharanelle Clark (Hitachi), David Nahai (CEO/GM LADWP), Murtaza Saifee, Brian Kim, Ryan Thorngren, Angela She, Emily Ye, Altair Maine (Coach), Dr. Ed Krupp (Director, Griffith Observatory and moderator), Walter Zeisl (LADWP)

North Hollywood High School — North Hollywood, California

LOS ANGELES DEPARTMENT OF WATER & POWER

1906: Magnetic Field Reversal — Bernard Brunhes discovers that the Earth's magnetic field has changed direction and reversed itself. His paleomagnetic study of clay baked by a Miocene lava flow 13 million years ago provides the evidence. It is nearly 50 years before his discovery is accepted by the scientific community.

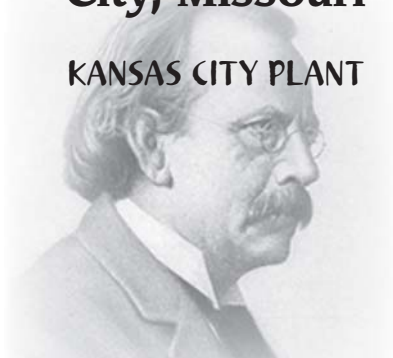
Team Coach — After skipping seven grades, **Altair Maine** attended Cal State University, Los Angeles, and later Caltech for graduate school, majoring in geology. His research at Caltech focused on the magnetization of Martian meteorites and isotope fractionation in the Martian atmosphere. An interest in teaching and some cynicism about the usual caliber of science instruction led him to a classroom rather than a career in laboratory research. Eight years later, he is still in love with teaching in general and particularly with Science Bowl. Outside of school, he hikes, plays Ultimate Frisbee with more enthusiasm than skill, reads copiously, and pursues amateur astronomy.

Team Members — **Brian Kim**, a junior, has been on the North Hollywood Science Bowl Team since the 10th grade. His favorite subjects are the sciences and history. He is also involved in the school Math Club, the California Scholarship Federation, the Science Olympiad Team, and the Varsity tennis team. **Murtaza Saifee**, a junior and a first-time competitor in Science Bowl, is most interested in physics and chemistry. He is also the co-captain of the school's Science Olympiad Team and a member of the Math Club. As an active member in school leadership, he is also a secretary for the North Hollywood California Scholarship Federation chapter and the student representative on the School Leadership Council. **Angela She**, a senior and the team captain, is now in her third year with the Science Bowl Team. As president of the Math Club, section leader in the school Orchestra, a diligent member of Science Olympiad, and a 3-D animation major at Montecito Fine Arts College of Design on weekends, she juggles a lot of commitments, but Science Bowl is a favorite. **Ryan Thorngren** is a junior. His favorite subject in science is physics. Outside of school, his hobbies include building rockets or trebuchets and playing video games. This is his first year on the Science Bowl Team. **Emily Ye**, a junior and second-year competitor in Science Bowl, is most interested in physics and math. She is the president of her chapter of the California Scholarship Federation and participates in several competitive math teams including her school's team and the Southern California ARML (American Regional Math League) team. She plays the flute and enjoys playing Ultimate Frisbee and drawing. Emily has a powerful sweet tooth and loves the TV show "Scrubs." She hopes to attend a science/math-focused west coast college.

2008 National Science Bowl® for High School Students

Oak Park High School — Kansas City, Missouri

KANSAS CITY PLANT



1897: The Electron — J.J. Thomson discovers that the negatively charged particles emitted by cathode ray tubes are smaller than atoms and part of all atoms. He calls these particles, now known as electrons, "corpuscles."



Left to right: Dr. Lario Yerino (Coach), Jonathon Kinate, William Meier, Sean Dobbins, Richard Wu, Christina Azodi, Matt Nevels (Coach)

Team Coaches — **Matt Nevels** completed his Bachelor's degree in 2001, earning credits both from the University of Missouri in Kansas City and Truman State University. He completed his Master's degree in 2007 at the University of Missouri in Kansas City. His teaching specialty is in the biological sciences. He was influenced to become a science teacher as the natural confluence of two loves: science and teaching. He believes the three most important scientific discoveries are: Einstein's Theory of General Relativity, Darwin's publication of *On the Origin of Species*, and Copernicus' Heliocentric Theory. **Dr. Lario Yerino** majored in chemistry at the University of Cincinnati, and then earned a Ph.D. in organic chemistry. His career began in the chemical industry, but he decided that his love was really teaching, so he attended the University of Missouri to gain his teaching certificate in chemistry and physics. Last summer, his Science Club built two amateur high-powered rockets; the 10-foot rocket, weighing 18 pounds, achieved one-half the speed of sound. His hobbies include astronomy, geology, circuit design, camping, and various forms of exercise. His most important discoveries are: antibiotics, the vacuum tube, and the internal combustion engine.

Team Members — Senior **Christina Azodi** stays busy with a variety of academic and extracurricular activities. At school, she is a Varsity volleyball captain, Science Olympiad and National Honor Society president, and member of the Volunteer Club. Her favorite classes include AP Biology and AP Art. Outside of school, she is a Girl Scout Gold Award recipient and a youth volleyball coach. Next year she plans on majoring in microbiology and minoring in digital design. **Sean Dobbins** is a senior. He is currently involved in Science Club, Academic Aces, Science Olympiad, and Science Knowledge Bowl, as well as various other science and chemistry competitions. Sean has been the Science Club historian for the past two years. He is also heavily involved in the band program at Oak Park, participating as a clarinetist in Marching band, Pep band, and Symphonic band, and is the current band president. Sean plans to attend a four-year university to major in chemistry. Senior **Jonathon Kinate** is ranked first in his class of over 500. Apart from Science Bowl, Jonathon is president of his school's Volunteer Club, president of the Math Club, a section leader in the Orchestra, and vice president of the Science Club. Additionally, he is involved in school and community sponsored swimming and Boy Scouts — where he has attained the rank of Eagle. In his free time, Jonathon enjoys long walks, good-humored pranks, and stargazing. He is currently looking at offers from Dartmouth College and the California Institute of Technology while other applications are pending. **William Meier** is a junior. He enjoys geology, computer programming, photography, video games, bluegrass and techno music, and Science Olympiad. This is his second trip to the National Science Bowl®, his first time was his freshman year in 2006. William placed first in the Rocks and Minerals event at the 2007 Science Olympiad National Competition. Senior **Richard Wu's** favorite subjects include mathematics and sciences, particularly biology. Highlight honors include principal's honor roll and multiple medals from science tournaments. He also is an active member of the Science Olympiad Team, is an A+ volunteer, and has been a member of the tennis team for two years. Volunteer work includes working at the recycling center, North Kansas City Hospital, and as a math tutor and adventure club assistant. He plans to get at least a Master's in a science field but he is not quite sure what he wishes to do yet. The first year of his education will be at UMKC and then he will transfer to another college.

2008 National Science Bowl® for High School Students



Left to right: Gerald Boyd (Manager, DOE-Oak Ridge Office), Alborz Bejnood, Rowan Chakoumakos, Katherine Xue, Ryan Liu, Woody Austin, Eddie Anderson (Teacher), Ron Townsend (President, Oak Ridge Associated Universities); Not pictured: Nita Ganguly (Coach)

Oak Ridge High School — Oak Ridge, Tennessee

OAK RIDGE INSTITUTE FOR SCIENCE & EDUCATION



2002: Toumai Skull — Michel Brunet unearths the oldest hominid fossil to date in the desert of the central African nation of Chad. The fragments of this 6 to 7 million-year-old skull, with characteristics resembling humans, were found outside eastern and southern Africa, suggesting human evolution may have been taking place all across the continent.

Team Coach — Dr. Nivedita (Nita) Ganguly teaches Genetics Honors and AP Environmental Science at Oak Ridge High School. She has an M.S. in zoology, a Ph.D. in genetics and an M.S. in science education. She has been involved in research at the National Institute of Environmental Health Sciences, the University of Nebraska — Lincoln, the University of California — Irvine, and the University of Tennessee — Knoxville. She thinks the most important scientific discoveries are the structure of DNA, the mapping of the human genome, and recent discoveries in the field of renewable energy. She teaches science because she loves it and wants to impart this enthusiasm to her students. Her hobbies include travel and reading.

Team Members — Woody Austin is a senior. He enjoys kayaking, snow boarding, and playing the guitar. He serves as vice president of the International Relations Club and is the webmaster for East Tennessee Whitewater Club. For his work at Oak Ridge National Laboratory, Woody was selected as a 2007 Siemens Regional Finalist. His project modeled the electrical properties of carbon nanowebs. Woody is hoping to attend MIT or Stanford University. He anticipates pursuing a career in physics, with minors in computer science and mathematics. **Alborz Bejnood** is a junior, and hopes to major in physics, with a career that goes with it. His extracurricular activities include Science Olympiad, Scholars Bowl, Math Club, Chess Club, and Philosophy Club. He is on the five-member leadership council in Math Club and serves as vice president of the Scholars Bowl. This is his fifth year in Science Olympiad, where he has won several regional and state medals, along with a national gold medal and a partial scholarship to the University of Illinois Urbana — Champaign. This year, he began coaching several events at his middle school and he enjoys the students. **Rowan Chakoumakos** is a junior. He is passionate about math and science, taking part in competitions such as the U.S. Invitational Young Physicist Tournament. In addition, he is enthralled with business. He holds leadership roles in FBLA, Spanish Club, Pi Club, and Student Council. Rowan's latest entrepreneurial venture is a Web site design studio. Fittingly, he is an active contributor to Moodle, an open-source shareware project. Believing in the Greek ideal of a sound mind and body, he has played soccer for 13 years. **Xinran (Ryan) Liu** is a sophomore. Throughout his schooling career, he has earned many honors, including two-time MathCounts National Finalist, Ecybermission Research Competition Regional Criteria Winner, and three-time AIME qualifier in his 8th, 9th, and 10th grade years. Ryan also currently is a member of the swim team, participates in the school orchestra, takes private lessons in piano and violin, and serves as president of the Math Club. He has also earned many honors in violin and piano, including the featured soloist in the National Suzuki Teachers Association conference in Minneapolis and is a two-time Tennessee winner in the MTNA Baldwin competition in the Junior Piano Division. Ryan plans to major in physics and earn a doctorate degree. **Katherine Xue** is a junior. She is president of the Science Club, co-founder and member of the board of officers for the Philosophy Club, public relations officer of the Scholars Bowl, and a member of the board of officers of the Math Club. She is a national gold medalist in the Wright Stuff event of Science Olympiad. She has also been a semi-finalist in the Biology Olympiad and twice has qualified for the American Math Exam. Katherine plans to pursue a career in math or science but at present is undecided about a specific field.

2008 National Science Bowl® for High School Students

Palm Harbor University High School — Palm Harbor, Florida

SCIENCE CENTER OF PINELLAS COUNTY

$n = 3$
 $n = 2$
 $n = 1$

1900–1935: The Quantum Leap —

To describe the behavior of subatomic particles, a new set of natural laws is developed by Max Planck, Albert Einstein, Werner Heisenberg, and Erwin Schrodinger. A quantum leap is defined as the change of an electron within an atom from one energy state to another. This change happens all at once, not gradually.

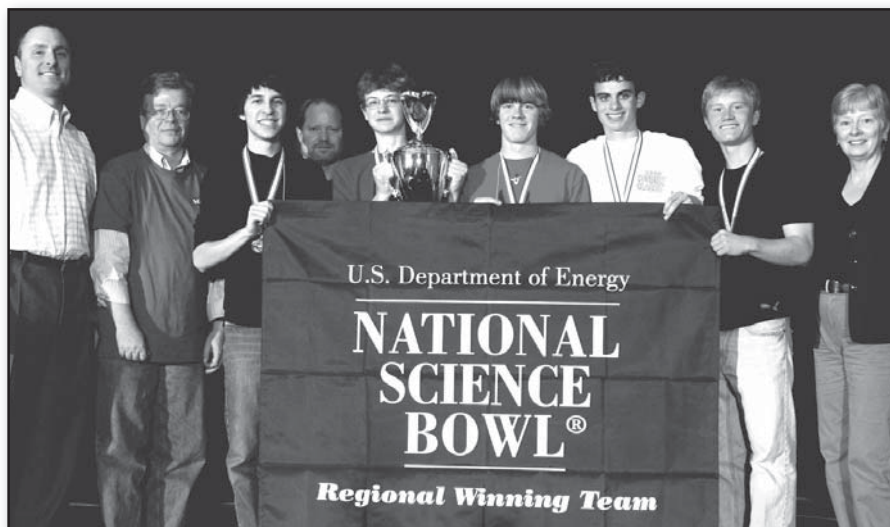


Left to right: Prateek Gudihal, Nathaniel Dolan, Karan Sagar, Alyson Kaplan, Rebecca Harvey, Bob Dull (Coach)

Team Coach — **Bob Dull** has been teaching chemistry for the past 30 years. He is currently teaching AP Chemistry and Organic Chemistry at Palm Harbor University High School. His interest in science was sparked by his outstanding high school chemistry teacher, Merrill Stevens. The influence of Merrill Stevens' love of science continues to drive him to strive to make every chemistry class an exciting and interesting learning experience. Bob was a DOE Teacher Research Associates (TRAC) participant and published *Teacher Guide to Superconductivity* at Oak Ridge National Labs. He also is an A.C.S. Operation Chemistry team member, Sigma XI Scientific Research Society Research Science Teacher, and a Sunshine State Scholars Distinguished Teacher, and participated in environmental air pollution research at the UF. He is National Board for Professional Teaching Standards certified and is a 2007 Presidential Award for Excellence in Science and Mathematics Teaching Florida State finalist.

Team Members — **Nathaniel Dolan** is a senior. He plans to attend Baylor University in Waco, TX, majoring in chemistry and pre-medicine. He plans to be an orthopedic surgeon or oncologist. He is a member of the National Honor Society, National Spanish Honor Society, and Mu Alpha Theta. He also enjoys volunteering for his community at the local hospital. His favorite subjects in school are chemistry, anatomy and physiology, and biology. Some of his hobbies include jet-skiing, SCUBA diving, and spending time with his friends and family. **Prateek Gudihal** is a senior in the International Baccalaureate Program. He is involved in Mu Alpha Theta Mathematics Honor Society, National Honor Society, and the Academic Team. His favorite subject is math, specifically calculus. He enjoys video games and reading in his spare time. **Rebecca Harvey** is a senior in the International Baccalaureate Program. Her higher level courses include her three favorite subjects: chemistry, mathematics, and history of the Americas. She participates regularly in the Mu Alpha Theta Math Honor Society at her school, as well as Drama Club, French Honor Society, and National Honor Society. While she has not chosen a particular university as of yet, she plans on majoring in chemistry with the intent of becoming a teacher. **Alyson Kaplan** is a senior in the International Baccalaureate Program. She is secretary of Mu Alpha Theta Math Honor Society and vice president of the National Honor Society at her high school. She regularly volunteers with Hospice of the Florida Suncoast, where she serves as president of the teen council. Although she has not yet decided on a particular college, she plans to pursue a medical career. **Karan Sagar** is currently a senior enrolled in the IB Program. His hobbies include tennis, watching anime, math, and volunteering at his local Hospice. He is currently pursuing juggling as well. He is the president of his school's Mu Alpha Theta Math Honor Society chapter, as well as a member of Spanish Honor Society, National Honor Society, and the Academic Team. His favorite subjects are mathematics, chemistry, biology, physics, and Spanish. Karan plans to attend college to become an engineer, perhaps obtaining a business degree afterwards. In his opinion, the three most important scientific achievements include the work done by Max Planck and Albert Einstein in early quantum theory, the discovery of the nature of DNA by James Watson and Francis Crick, and the development of the steam engine by Savery, Watt, and Co.

2008 National Science Bowl® for High School Students



Left to right: Corey Hessen (Xcel Energy), Doug Hooker (DOE Golden Field Office), Paul Macias, Jay Mead (Coach), Mclan Amos, TJ Puls, Ian Milligan, Kirk Dressen, Bobi Garrett (National Renewable Energy Laboratory)

Pueblo Centennial High School — Pueblo, Colorado

NATIONAL RENEWABLE ENERGY LABORATORY

1907: Radiometric Dating — Bertram Boltwood discovers how to calculate the age of a rock by measuring the rate of its radioactive decay. His observations and calculations put Earth's age at 2.2 billion years. Although we now think the Earth is nearly twice that age, this number was a dramatic increase over the accepted age at the time. Boltwood's formulas are compatible with several radioactive elements, including carbon-14, which has been used to date historical artifacts.

Team Coach — **Jay Mead** received his B.S. in chemistry with a minor in physical science and an M.S. in applied natural science-biochemistry from the University of Southern Colorado. He has been teaching science for 19 years. Jay has coached Science Olympiad and Science Bowl for 17 and 15 years, respectively. He worked for five years doing geophysical exploration and also worked as a chemistry technician at a power plant. Jay enjoys hiking, skiing, and Guitar Hero.

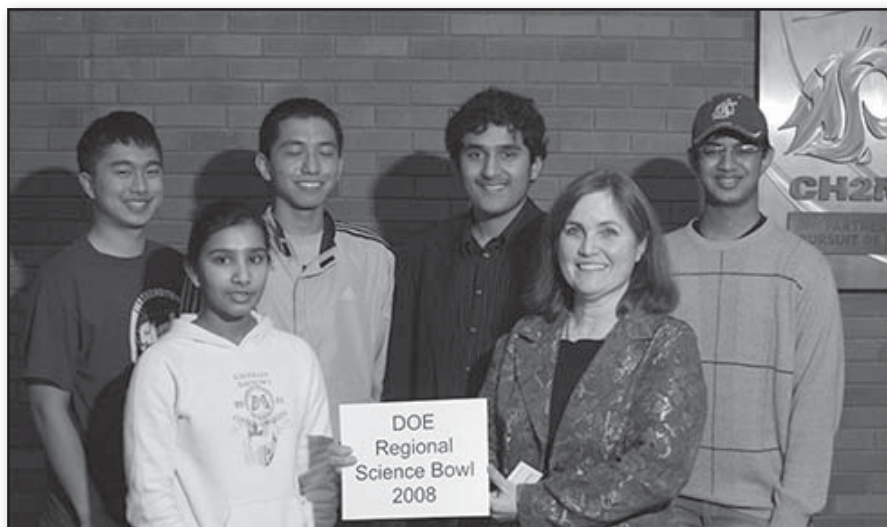
Team Members — Senior **Mclan Amos's** favorite subjects are physics, chemistry, and math. He is currently a National Merit Scholarship Finalist, president of the Drama/Theatre Club, and was selected on trombone for the Colorado All-State Jazz Band. He is involved in National Honor Society, Jazz band, Drama Club, Pride City Marching Band, Math Bowl, and Science Olympiad. Mclan is also involved in community theatre and designed and maintained the Impossible Players Web site as a service to them and the community. In the fall, Mclan will attend MIT, Texas A&M, or the University of California — Berkeley to study nuclear engineering. Senior **Kirk Dressen's** favorite subjects are chemistry and math. He has been involved in the Varsity soccer team, German Club, Key Club, National Honor Society, Future Business Leaders of America, and Science Olympiad. He has been a German I and German IV representative, Key Club junior representative, and a senior captain on the soccer team. Outside of school, he enjoys playing club soccer, drawing, participating in 4-H, and snowboarding. Kirk volunteers in his community through monthly 4-H projects, NHS activities, and his church. He plans to attend either Colorado College or the University of Denver and hopes to major in chemistry. Senior **Paul Macias's** favorite subjects are math and biology. He is the president of the National Honor Society. He is also involved in Future Business Leaders of America, Spanish Club, Drama Club, and plays piano in Centennial's Jazz Ensemble I. He serves his community by volunteering at the Pueblo Cooperative Care Center, a local food and clothing bank. He is also active in his church youth group, with which he has participated in several summer mission trips, including a trip to southeastern Texas to roof houses for victims of Hurricane Rita. Paul hopes to attend the University of Denver and study biology or biochemistry. Senior **Ian Milligan's** favorite subjects are math and chemistry. He has been involved with the Varsity soccer team, National Honor Society, Spanish Club, Future Business Leaders of America, Spanish National Honor Society, and Science Olympiad. Besides school activities, he plays soccer, skis, and is teaching himself how to play guitar. He helps his community through his church youth group. In this, he has raised money for mission trips by acting in a dinner theatre, went on a mission trip where he helped mentally disabled children, and served as an intern helping monitor children at a summer camp. Ian is hoping to attend the University of Colorado — Boulder, Stanford, or the University of California — Berkeley to study mathematics and chemistry. **Theodore (TJ) Puls**, a junior, enjoys chemistry, anatomy, and math at school. He has been involved in Varsity track, freshman football, Speech and Debate, National Honor Society, and Future Business Leaders of America. Outside of school, TJ helps the community through his church youth group and the Boy Scouts of America. He has recently earned his Eagle Scout rank, the highest rank in scouting. TJ hopes to major in chemistry at Colorado School of Mines or the University of Denver after graduating next year. He also hopes to continue his athletic career at the college level as a pole vaulter.

2008 National Science Bowl® for High School Students

Pullman High School — Pullman, Washington

PACIFIC NORTHWEST SITE OFFICE

1985: Fullerenes — Robert Curl, Harold Kroto, and Rick Smalley discover an entirely new class of carbon compound with a cage-like structure. This leads to the discovery of similar tube-like carbon structures. Collectively, the compounds come to be called buckminsterfullerenes, or fullerenes. The molecules are composed entirely of carbon and take the form of a hollow sphere, ellipsoid, tube, or ring. Named for Richard Buckminster Fuller, the architect who created the geodesic dome, they are sometimes called "buckyballs" or "buckytubes."



Left to right: Randy Xun, Prastuti Singh, Xingyu Zhang, Shashank Dwivedi, Barbara Harding (Coach), Suman Jandhyala

Team Coach — **Barbara Clark Harding** received a B.S. in chemistry from Allegheny College, and has done graduate work in several fields. In addition to teaching at both secondary and college levels, she has worked as a research chemist in industry and in a variety of academic labs. Probably her most exciting job was as lecture-demonstrator for the Chemistry Department at Washington State University. After more than 10 years of keeping students awake in chemistry lectures, she returned to high school teaching, and has taught at Pullman since 1996.

Team Members — **Shashank Dwivedi**, a junior, is a simple man with a love of good food and great music. With a deep interest in biology and aspirations of greatness, he believes his dream of becoming a doctor will eventually pan out. Besides Science Bowl, Shashank is involved in his school's JSA, Knowledge Bowl, Math, and tennis teams. This is his first trip to Washington, DC, and he has hopes to help lead his team to victory, while learning a little bit about science along the way. **Suman Jandhyala**, a junior, is a connoisseur of all types of science, but mainly groks math, chemistry, and biology. He is currently involved in a Math-Biology research program, and plans to enter the Intel Science Talent Search and the Siemens Competition come autumn. His future prospects include becoming a biomedical engineer and walking on the Moon. He plans to make the most of National Science Bowl®, and with his teammates, hopes to put in a good showing. **Prastuti Singh** is a sophomore who enjoys math, history, and science. Her hobbies include tennis, ballet, reading, climbing, and digging. She also takes great pleasure in eating, especially ice cream and pastries. She has no plans for the future at the moment. Team Captain **Randy Xun** is a senior. He plans to use his second trip to DC to continue his former captain's quest of the ultimate bagel shop on the eastern seaboard. Randy's favorite subjects are chemistry, biology, and math; however, they do not always stay in that order. Randy is also an avid sports player. He is at the Varsity level for both soccer and tennis. Randy's future plans include college and hopefully medical school some day. **Xingyu Zhang** is a senior attending National Science Bowl® for the very first time. His academic interests lie in the fields of astronomy and physics and he is likely focusing his future studies upon the latter. At school, Xingyu participates in cross-country, tennis, Key Club, and Math Team. His life is usually consumed by cycling or any other activity involving human-powered propulsion over fairly long distances. In the fall, he plans to attend college on the east coast. As to his more distant future, he has wanted since the second grade to someday become an astronaut.




2008 National Science Bowl® for High School Students



Left to right, Back row: Mike Gearen (Coach), Thomas Young, Eric Liaw, Rentaro Matsukata; Front row: Randy Wong, Allison Chen

Punahou School — Honolulu, Hawaii

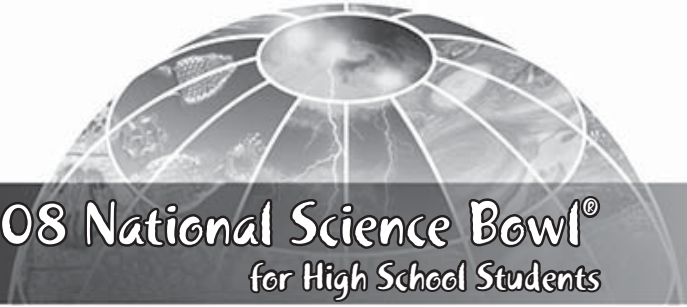
HAWAII SCIENCE BOWL



1932: The Center of the Milky Way Emits Radio Waves — Karl Jansky invents radio astronomy and discovers a strange radio-emitting object at the center of the Milky Way. Jansky was conducting experiments on radio wavelength interference for his employer, Bell Telephone Laboratories, when he detected three groups of static: local thunderstorms, distant thunderstorms, and a steady hiss-type static. Jansky determines that the static is coming from an unknown source at the center of the Milky Way by its position in the sky.

Team Coach — **Mike Gearen** received a Bachelor's degree in mathematics from the University of Notre Dame, and a Master's in the conceptual foundations of science from the University of Chicago. He has taught for 34 years, 27 of them at Punahou School in Honolulu. He has taught AP Computer Science, and currently teaches AP Physics B and C. He has studied physics education at the University of Washington's Physics Education Group, and has worked with the National Solar Observatory on a program for student-centered solar research (<http://eo.nso.edu/dasl/>). He enjoys tennis, cycling, and photography.

Team Members — **Allison Chen** is a junior who has a passion for math and science. While taking multiple AP classes, she is an avid contributor to Punahou's Varsity Math Team, a teaching assistant for AP Chemistry, news editor of the school newspaper, Treasurer of her class, and a top-ranked tennis player in Hawaii. She is a member of her school's Wind Ensemble and Symphony Orchestra, and with the Music Club performs piano, cello, and clarinet for the elderly at nursing homes. During the summer, she works in a lab at the University of Hawaii; her future goal is to do research with NASA. **Eric Liaw** is currently a sophomore. He enjoys learning and has a variety of interests, including science and math, music (piano, voice, and violin), karate, tennis, and geography. He was a semi-finalist in the Biology Olympiad in 2007, worked during the summer at the UH School of Medicine as a research assistant, and started a conservation club at Punahou whose goal is to promote awareness of Hawaii's imperiled biodiversity through hands-on experience with conservation work. His favorite foods are fish and ice cream (but not together). He hopes to become a scientific researcher one day. Senior **Rentaro Matsukata's** favorite subjects are science and math. He is very interested in engineering and robotics. He has competed in Bot Ball, Electron Marathon, the Underwater Robotics Challenge, and the FIRST Robotics Challenge. He spends his free time building circuits; many of his projects are posted on robo-nut.blogspot.com. He plans to major in electrical engineering in college. **Randy Wong** is currently a senior. He enjoys learning about the sciences and plans to attend college as a bioengineering student. He is considering a career in either engineering or medicine. In his spare time, Randy enjoys sailing and playing the clarinet and is an active member of both the sailing and music communities of Hawaii. He also likes to tinker with electronics, fix computers, and go to the beach. Some of Randy's favorite foods include dim sum, mochi ice cream, and dark chocolate. **Thomas Young** is a senior. Along with competing in Science Bowl, he is a captain of the school Math Team, a biology teaching assistant, a math tutor, and a singer in the school variety show. He is a winner of the Siemens Award for Advanced Placement. He is also a Boy Scout, and earned the Eagle Scout rank. In his free time, he plays the piano and guitar, critiques movies, and piddles around with math problems. His hero is the British polymath and scientist Thomas Young, and he aspires to be a researcher in the biological sciences.



2008 National Science Bowl® for High School Students

Renaissance High School — Detroit, Michigan

NATIONAL ORGANIZATION OF BLACK CHEMISTS AND CHEMICAL ENGINEERS —

MIDWEST REGION



1930s: Sulfa Drugs — *Gerhard Domagk* discovers that Prontosil, an orange-red dye, cures infections caused by the common bacteria streptococci.

The finding opens the door to the synthesis of chemotherapeutic drugs (or “wonder drugs”) and sulfa drugs in particular.



Left to right: Cynthia Bridges (Coach), Jeremy Cooper, Courtney Tatum, Constance James, Brandon Keeler, Troy Stewart

Team Coach — **Cynthia Bridges** is the proud mother of two boys — BJ, 12, and Brandon, 10. She received her Bachelor’s of Science in chemistry from Clark Atlanta University, and her Master’s of Science Education from University of Massachusetts. Presently, she is working on her doctorate in teacher leadership. Ms. Bridges’ decision to teach was influenced by the lack of minorities in science. Currently, she is in her 19th year of teaching. Her research experience includes research in hydrophobic-hydrophilic membranes at Millipore Corporation. Ms. Bridges’ hobbies include reading, traveling, skiing, and bowling. She is also the youth director and secretary at her church.

Team Members — Sophomore **Jeremy Cooper** is 15 years old. His favorite class is Advanced Chemistry. He is a member of his school’s soccer and basketball teams and is also an Advanced Placement Art student. Jeremy’s art has won him numerous awards and recognition and he is currently a member of the Detroit Neighborhood Arts Corp. After graduation, he hopes to attend the University of Michigan in pursuit of a career in the medical field. This is Jeremy’s first Senior Division National Science Bowl® after competing in Colorado two years ago in the Junior Division. Senior **Constance James** is very active in her school and community. She is president of the National Honor Society and frequently leads her charter in community service projects. She is also captain of the Varsity Debate Team, and vice-president of Model United Nations. Constance has been a participant in Science Quiz Bowl for four years. Besides those extracurricular activities, she also greatly enjoys AP Calculus, Physics, and AP Psychology. She plans to attend University of Michigan — Ann Arbor in the fall to major in international relations. **Brandon Keeler** is currently a senior. He has been on the Science Quiz Bowl Team for a total of four years and has been captain for the last two years. Brandon has also been very active in Latin Dance Club, golf, Model United Nations, and Medical Careers Club. He is also the treasurer of the New Metro youth group, a volunteer organization, and captain of the Science Quiz Bowl, soccer, and tennis teams. His favorite subjects are AP Calculus, AP Chemistry, and Anatomy, and he plans to study biomedical engineering at the University of Michigan — Ann Arbor or Johns Hopkins University. **Troy Stewart** is currently a junior. He has been on the Science Quiz Bowl Team for two years and is eager to contribute to his team. To this date, Quiz Bowl has been his only extracurricular activity; however, he plans on joining his Robotics Team next year. Troy enjoys Biology, Pre-Calculus, and Global Issues. Although he has not made up his mind on what college he wants to attend, Troy is open to any college major that involves math, science, and history. **Courtney Tatum** is a junior. Courtney is an honor roll student, having maintained a 4.0 average in high school. She has been a member of her high school’s Quiz Bowl Team for two years. Her favorite subjects include math and science, with concentrations in chemistry and biology. Other than Quiz Bowl, she is a member of the Medical Careers Club, softball, and Building with Books. She is passionate about the community and she serves bi-weekly and monthly volunteer hours. Her career plans are in the field of medicine with an undergraduate degree in biomedical engineering.

2008 National Science Bowl® for High School Students



Left to right: Gian Toyos (Coach), Noel Morales, Miguel Yañez, David Alfonso, Ricardo Casanova

Saint John's School — San Juan, Puerto Rico

SOCIETY OF HISPANIC
PROFESSIONAL ENGINEERS
— UNIVERSITY OF PUERTO
RICO — MAYAGUEZ

1903: Hormones — William H. Bayliss and Ernest H. Starling give hormones their name and reveal their role as chemical messengers. The team specifically describes secretin, a substance released into the blood from the duodenum (between the stomach and small intestine) that stimulates secretion of pancreatic digestive juice into the intestine.

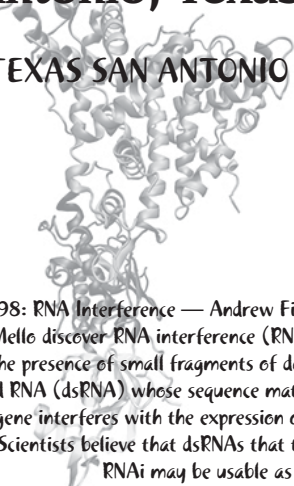
Team Coach — **Gian Toyos** attended the Pontifical Catholic University of Puerto Rico, where he graduated with a degree in biology. After graduating, he specialized as a marine mammal biologist coordinating for many years the Stranding Program at the Caribbean Stranding Network. In the late 90's, he started combining his field work with class instruction, and eventually made the transition to be a full-time teacher. Among the scientific discoveries he has been mostly impressed by are: the description of the DNA molecule, the completion of the Human Genome Project, and the discovery of hydrothermal vents on the bottom of the ocean.

Team Members — **David Alfonso**, a junior, is a very hard-working young fellow who has a knack for knowledge. So far he has taken AP Physics B and is currently in AP U.S. History and AP Chemistry. As a very motivated person, David strives for excellence inside school and outside too. He is a competitive sailor and tennis player and belongs to the Environmental Awareness Club. He is very science and math oriented and wishes to pursue a career in those fields. David is very excited to participate in a competition with the best students in the United States. Senior **Ricardo Casanova** is a very motivated student with various extracurricular interests. He likes photography, neuroscience, and technology. He spends his time taking pictures that express his inquisitive mind. Ricardo loves psychology, archeology, oceanography, and orchids; but not necessarily in that order. He is a Presidential Scholar Nominee, National Hispanic Scholar Nominee, and is awaiting his Johns Hopkins University acceptance letter on April 1st. **Noel Morales**, a senior, recently got accepted into MIT. His favorite classes are AP Calculus, AP Chemistry, Anatomy and Physiology, and AP English. He is on the Honor Roll; he is a Presidential Scholar Candidate; and he is the recipient of the Rensselaer Medal for Outstanding Academic Achievement, a National Hispanic Scholar, and AP Scholar. Among his extracurricular activities, he earned his black belt in Tae Kwon Do and he performs as a trombonist in the Student Philharmonic for the Conservatorio de Musica de Puerto Rico. His future education plans are to graduate from MIT, enter medical school, and specialize in neurosurgery. **Miguel Yañez**, a junior, is a very motivated student. He enjoys science-related fields very much. Last year he took AP Physics B and got a 5 on the exam. Right now he is taking AP Chemistry along with other AP courses. He is also a member of the National Honor Society. Throughout his high school attendance he has been awarded High Honors every quarter since ninth grade. He very much enjoys playing soccer and table tennis as well as SCUBA diving. Outside of school, he also studies Japanese, in which he is very determined to become fluent.

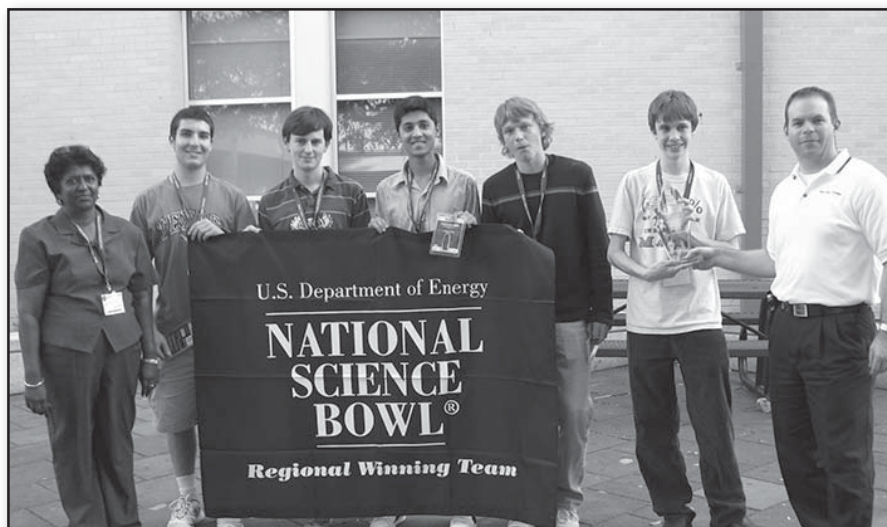
2008 National Science Bowl® for High School Students

Saint Mary's Hall School — San Antonio, Texas

TEXAS SAN ANTONIO



1998: RNA Interference — Andrew Fire and Craig Mello discover RNA interference (RNAi), in which the presence of small fragments of double-stranded RNA (dsRNA) whose sequence matches a given gene interferes with the expression of that gene. Scientists believe that dsRNAs that trigger RNAi may be usable as drugs.



Left to right: Hepsy Singh (Coach); Bradley Belasco, Will Beason, Himanshu Sharma, Evan Greif, Jason Hearne, Jay Cryderman (Booz Allen Hamilton)

Team Coach — **Hepsy Singh** has taught physics for the last 25+ years, both at the college and high school level. She has a passion for teaching physics, mathematics, and astrophysics. She loves to observe the galaxies through the big telescopes. She sponsors the Robotics and Engineering Club and the Science Bowl Club. She is also on the scientific review committee of the Alamo Area Science and Engineering fair. She enjoys classical music, gardening, and hiking, and loves to watch NASCAR racing.

Team Members — Sophomore **Will Beason** likes mathematics, the physical and biological sciences, and creative writing. He is a Life Boy Scout who has held the positions of Senior Patrol Leader and Assistant Senior Patrol Leader. For extracurricular activities, he is in Boy Scouts, Robotics and Engineering club, and cross-country. He enjoys reading, computer and video games, creating computer art, and writing science fiction. He plans to attend one of the Service Academics and become an astronaut. **Bradley Belasco**, a junior, plays basketball and lacrosse at school. He enjoys studying all forms of science, math, English, history, and foreign language. He has served on student council for three years. Bradley likes the Spurs basketball team. He is a Virgo who enjoys long walks on the beach and dancing in the rain. He wants to go to college in the Northeast. Junior **Evan Greif's** favorite subject is physics, but he also enjoys studying English and chemistry. He has two siblings and three dogs. He likes walks on the beach and is an active member in the school's Honor Council. He exercises daily, enjoys rock-climbing and wakeboarding, and is always looking for new opportunities. For his future education, Evan is optimistic. Senior **Jason Hearne** enjoys physics, chemistry, and mathematics. He is a member of the Robotics Club and competes in the Math, Physics, and Chemistry Olympiad qualification rounds. He is undecided on what college he will attend. **Himanshu Sharma** is a 14-year-old sophomore who enjoys playing soccer and lacrosse. He is delighted by physics and chemistry. He also holds the office of Student Council vice-president. He plays the violin and is part of the Robotics and Engineering Club among other activities. Himanshu is from India and English is his second language. He hopes to become a doctor.

2008 National Science Bowl® for High School Students



Left to right: Kimberly Lievense (JPL Coordinator), Dimitry Petrenko, Ian Fels Scheffler, Marino Di Franco, Alexandre Boulgakov, Ingo Gaida (Coach)

Santa Monica High School — Santa Monica, California

JET PROPULSION LABORATORY

1930s: Periodic Ice Ages — Serbian astrophysicist Milutin Milankovitch develops a theory relating Earth's motion to long-term climate change and ice ages. His mathematical theory of climate uses variations in solar radiation based on season and latitude. His theory posits that cyclical variations in Earth-sun geometry, such as orbit shape and axis angle, result in different levels of solar energy reaching the Earth.

Team Coach — **Ingo Gaida** is happy to be back at the National Science Bowl® competition after missing it last year due to a scheduling conflict with the National Ocean Sciences Bowl® competition. He is a graduate of UCLA three times over, attaining an undergraduate and two graduate degrees there, and is cautiously optimistic about both the Bruins' chances in the upcoming NCAA basketball tournament and his team's chances at the NSB competition. In his free time, Gaida enjoys watching sports, hiking, and fishing. Although many revolutionary developments have occurred in science in the past millennium, he still believes that the invention of TiVo takes the cake.

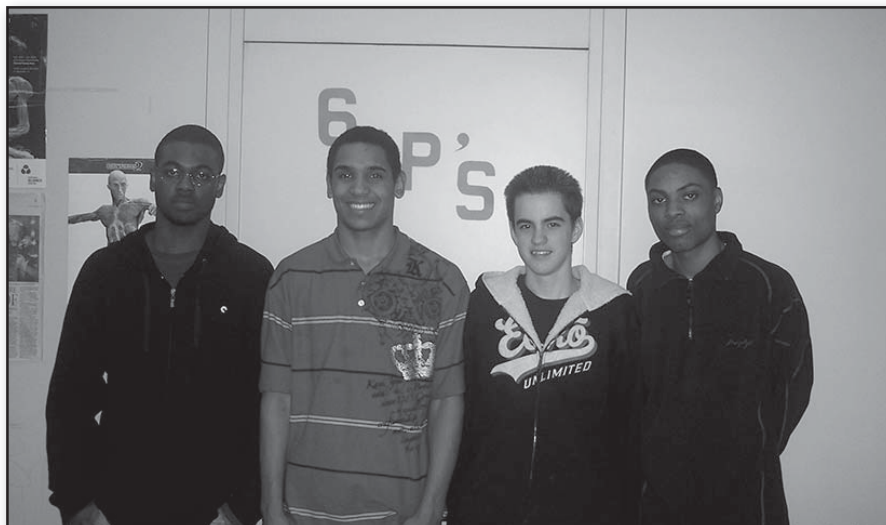
Team Members — Senior team captain **Alexandre Boulgakov** (more commonly known as Sasha) is a big fan of science. He enjoys math, biology, chemistry, physics, computer science, and robotics, and has many awards in each of the areas mentioned above from middle school, high school, and college level competitions. In addition to competing, he is the unanimously elected president of Math Circle and Computer Programming Club (as well as the founder) at his school. In his free time, he enjoys playing RPGs such as Legend of the Green Dragon and Final Fantasy, playing the piano, and reading good books. He is also nice and very handsome. Junior **Marino Di Franco** was born in Caracas, Venezuela. A native Spanish speaker of Italian and Venezuelan ancestry, he moved to Santa Monica circa March 2003 with his family. Aside from his interest in the sciences, Marino enjoys music, video games, and the electric, acoustic, and bass guitars. Marino is also currently working on a namesake calculus theorem with a physiological application, as well as composing music for the science pop band, "H2Love," whose members are the Santa Monica High School Science Bowl team. **Dimitry Petrenko** is a senior and comprises 50% of all the Russians on the school's Science Bowl Team. A brown belt in Judo, Petrenko has been in the Science Bowl program for the entirety of his high school career. He wishes to one day become a surgeon and physician and take up residence somewhere in Europe. Reading works of literature and poetry, both Russian and English, walking on the beach, and painting models are all among his hobbies. Dimitry hopes that his last year participating in the Science Bowl will be a memorable one, and will hopefully be able to volunteer for the program in future years. This is senior **Ian Fels Scheffler's** first year participating in Science Bowl. When not studying his biology and anatomy textbooks, Ian plays cello, swims, reads, writes, leads fiction writing workshops for middle school students, and practices Tai Chi. He has participated in the Biology Olympiad for the past two years. He is president of the Global Warming Awareness Society, a participant in the orchestra program, and a member of the Delians Honor Society. Ian looks forward to finishing high school; after 10 months of AM classes, he plans to aestivate all summer before entering college.



2008 National Science Bowl® for High School Students

School of Imaging & Information Technology at Edison — Rochester, New York

NATIONAL ORGANIZATION
OF BLACK CHEMISTS AND
CHEMICAL ENGINEERS —
NORTHEAST REGION



1850s: Atoms Have Signatures of Light — Gustav Kirchhoff and Robert Bunsen find that each element absorbs or emits light at specific wavelengths, producing specific spectra.

Left to right: Louis Nowlin, Johnnie Miles, Robert Mendenhall, Malik McFarley, Not pictured: Lisa Englert (Coach)

Team Coach — **Lisa Englert** went to college at Buffalo State University where she majored in biochemistry and obtained her Master's in Secondary Science Education from the University of Brockport. She decided to become an educator after witnessing the inequitable conditions that are prevalent in today's educational system. She wishes to be a part of the change that is needed to "level the playing field" for students. She worked as a scientist at Kleenbrite Labs in Rochester, NY. Scientific advances that she finds important include the human genome, stem cell research, and the light bulb, among others. Her hobbies are reading and playing golf.

Team Members — **Malik McFarley** is a junior. His favorite subject is geometry. He has participated in several Science Bowl competitions as captain of his team and has received several NOBCCHE awards. After graduation, Malik wishes to attend the University of Rochester, where he wishes to study music or computer science. **Robert Mendenhall** is a sophomore at the School of Business, Finance and Entrepreneurship at Edison. His favorite subject is chemistry. He is not only a member of the Science Bowl Team; he also competes as part of the Math League Team at Edison. After graduation, Robert is interested in going to college and pursuing a career as a genetic scientist or maybe even joining the military. **Johnnie Miles** is a junior. His favorite subject is science. Johnnie has participated in several Science Bowl competitions and has received several NOBCCHE awards. He is also a member of the Edison Varsity baseball team. After graduation, Johnnie plans to go to college and obtain a scholarship for athletics. **Louis Nowlin** is a junior at the School of Skilled Trades at Edison. His favorite subjects in school are Living Environment and Global History. He has been on Honor Roll on several occasions and won the "Leadership Award" for his positive attitude and academic work. Louis has also participated in track and field, Green Schools, and Student Government. After graduation, Louis plans to attend college and pursue a career in forensic science.



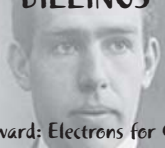
2008 National Science Bowl® for High School Students



Left to right: Chris Blansett, Greg Pedersen, Anders Landgren, Andrew Letson, Kyle Moen;
Not pictured: Kari Field (Coach)

Skyview High School — Billings, Montana

WESTERN AREA POWER ADMINISTRATION — BILLINGS



1913 onward: Electrons for Chemical Bonds
— Niels Bohr publishes his model of atomic structure in which electrons travel in specific orbits around the nucleus, and the chemical properties of an element are largely determined by the number of electrons in its atoms' outer orbits. This paves the way to an understanding of how electrons are involved in chemical bonding.

Team Coach — **Kari Field** found her niche teaching science at Skyview High School after graduating from Montana State University — Billings. She enjoys teaching chemistry, biology, and Earth science and sharing her love of learning and of science with the youth of today. She enjoys fishing, camping, backpacking, and every other outdoor activity that Montana has to offer with her husband, Brent, and three children — Kaleb, Lauren, and Olivia.

Team Members — **Chris Blansett** is a 16-year-old junior. In his free time, Chris enjoys having fun with friends, listening to various kinds of music, reading, playing his bass guitar, and playing video games. Chris is currently a member of Skyview's Science Bowl Team, Biodiesel Team, National Honor Society, and Boy Scouts of America. Chris is hoping to pursue a career in aerospace engineering. **Anders Landgren** is a junior. He is actively involved in Academic Team, Policy Debate, and Science Bowl. He considers math to be one of his favorite subjects of study and is considering studying political science and economics in college. He has only been involved in Science Bowl for a year. He enjoys philosophy and literature outside of his academic pursuits. Anders skis and plays Ultimate Frisbee and football recreationally. His dream would be to go to college at Princeton, Georgetown, or Yale. Senior **Andrew Letson** is not only captain of Skyview's Academic Team, he is also a prolific composer of techno music under the pseudonym of "DJ Bunny." He is active in Skyview's Business Professionals of America and is a notable violinist in the orchestra. He plays video games and designs Web pages in his spare time. He intends to go to the University of Montana. **Kyle Moen**, a senior, is an individual who has worked hard his entire time in high school. This is reflected in the fact that he will be graduating a Valedictorian. He has always had a passion for the sciences, and also has a passion for both law and politics; two other sciences that will require full attention in which to succeed. Kyle plans to attend Whitman College in Walla Walla, WA, in the fall of 2008, having been accepted under their Early Decision Policy. There, he plans to work hard to become a lawyer and, hopefully, a senator for Montana. A Montana native from Billings, sophomore **Greg Pedersen** loves to play baseball and is an avid winter sports enthusiast. In his spare time, he likes to tinker with electronics. Recent electives have been Spanish, Woodshop, and Culinary Essentials. He actively participates on the Academic Team, Student Government, and Students Against Destructive Decisions. He has been awarded the principal's Leadership Award and has attended the National Youth Leadership Conference in Philadelphia. Greg's interests are science and math and he plans to study engineering in electronics or computers at an out-of-state college to experience new cultures and lifestyles.



2008 National Science Bowl® for High School Students

Soda Springs High School — Soda Springs, Idaho

U.S. DEPARTMENT OF
ENERGY — IDAHO
OPERATIONS OFFICE



1935: The Neutron — James Chadwick discovers neutrons, which, together with protons and electrons comprise the atom. This finding dramatically changes the atomic model and accelerates discoveries in atomic physics.



Left to right: Ashley Bartschi, Taylor Bybee, Emma-Leigh Owen, Brittni Perkins, Zac Bybee, Dave Howell (Coach)

Team Coach — **Dave Howell** is presently a counselor at the middle school in Soda Springs. He enjoys working with students and has worked as the student council advisor and INL Scholastic Tournament coach for approximately 10 years. He received his Master's degree in counseling from Brigham Young University. He enjoys photography, backpacking, and sports.

Team Members — **Ashley Bartschi** is a senior and has been involved in INL Scholastic Tournament for three years. She is Senior Class president and is involved with track, cross-country, softball, and musical. She enjoys reading, biology, camping, MySpace, sleeping, playing board games, cheering very loudly, politics, driving around, laughing a lot, and watching the New England Patriots. One day Ashley plans on becoming a microbiologist. **Taylor Bybee** is a senior. He enjoys learning — especially anything to do with math and science. He has participated in INL Scholastic Tournament, cross-country, Boy Scouts (an Eagle Scout), student council (student body president), and the FFA. His favorite subjects are physics and calculus. He plans on attending either Utah State University or Brigham Young University and majoring in mechanical engineering. He plays the piano, organ, and the cornet, and enjoys singing in choirs and musicals. He enjoys public speaking, motorcycling, snow-machining, and hiking. **Zac Bybee** is in his sophomore year. He enjoys learning, basketball, baseball, backpacking, and other outdoor activities. He is the treasurer for the Soda Springs FFA Chapter. He plans to go to college and become either a pilot or an engineer. He thinks that one of the greatest inventions/discoveries is the airplane. **Emma-Leigh Owen** is a sophomore. Her interests include playing the violin, volleyball, reading, and watching basketball. She participated in volleyball this year and is currently involved with the Quiz Bowl Team. Her favorite subjects include biology, algebra, and seminary. She plans to attend Idaho State University and major in pharmacy. **Brittni Perkins** is a senior. Her interests include reading, singing, dancing, knitting, performing in musicals, and fixing computers. She is involved with Soda Pops Show Choir, Foreign Language Club, FCCLA, and Drama Club. Her favorite classes are science, psychology, and Spanish. She plans on attending Idaho State University and majoring in anthropology.



2008 National Science Bowl® for High School Students



From Left to Right; Front row: Dynell Williams (Assistant Coach), Tramaine Creighton, Ninfa Barnard, Keywan Johnson, Joann Lewis (Coach); Back row: Nagid Brown, Terrence Nelson, Jr.

St. Croix Educational Complex — Kingshills, Virgin Islands

VIRGIN ISLANDS
DEPARTMENT OF EDUCATION

1995 – 1997: Planets Around Other Stars
— Astronomers find a host of extrasolar planets as a result of improved telescope technology and prove that other solar systems exist, although none as yet resembles our own. Astronomers are able to detect extrasolar planets by measuring gravitational influences on stars.

Team Coach — **Joann Lewis** has earned a B.S. in biology and a Master's in secondary science education. She has been a teacher at the St. Croix Educational Complex for 10 years. Her influences to become a science teacher were the amazing efforts of her middle and high school science teachers. She also coaches the School's Academic Quiz Bowl Team. Ms. Lewis is a research leader dedicated in her mission to enhance the Virgin Islands environment. Her hobbies include reading, SCUBA diving, and challenging young minds. She believes that the Internet and cancer chemotherapeutic drugs are two of many important scientific discoveries.

Team Members — **Ninfa Barnard**, a junior and Magnet student, is an optimistic, intelligent, and energetic young lady. Ms. Barnard is captain of the St. Croix Track Club where she demonstrates extraordinary talents. She graduated Valedictorian from the John H. Woodson Jr. High School and her hobbies include reading and long distance running. The quote she lives by is, "Our greatest glory is not in never falling, but in rising every time we fall." — Confucius. **Nagid Brown**, an 18-year-old senior, is a dedicated and versatile young man. Nagid has made several academic accomplishments. He is a Magnet student with an above average GPA and has elected to challenge himself with an AP class. His aspiration is to become a mechanical engineer with a minor concentration in electrical engineering. He has six siblings — five sisters, and one brother, who will someday follow in his footsteps. A naturally talented individual who excels in sports, such as basketball, tennis, and volleyball, he also enjoys archery. His favorite hobby is eating. Senior **Tramaine Creighton** was born on the exotic island of St. Croix in 1992. Tenacious, goal-oriented, and compassionate are just a few words to describe her. Born under the zodiac sign Scorpio, she has an easy-going and down-to-earth personality, which makes her unique. Even with a winsome attitude, she is a confident over-achiever. From elementary up to high school, Tramaine has always done exceptionally well in her studies. Throughout her entire academic years, she has been on the principal's honor roll, and has received several awards for her achievements. Ms. Creighton was also the Salutatorian of her 8th grade class of 2004. Upon graduation, she plans to attend Tuskegee University and major in animal science (zoology). Junior **Keywan Johnson** is an exciting, intelligent, funny, and friendly individual. He is currently taking advanced classes such as Calculus and Honors Chemistry. Math is his favorite subject, but he has a keen knowledge of science. Keywan works as an office clerk, counting and balancing the funds of the entire store and sending money transfers. His hobbies include playing video games on his laptop and sticking his nose in a book. He believes that academics and hard work are the keys to success. **Terrence Nelson, Jr.**, is a 17-year-old senior who is determined, hardworking, and a generally fun-loving young man. He is a naturally brilliant young leader. He plans to study mechanical engineering with a minor in material science. Terrence is also a first degree black belt in Tae Kwon Do and enjoys playing basketball and steel pan. His favorite subjects are math and physics, and this is his very first Science Bowl competition.



2008 National Science Bowl® for High School Students

St. Paul Central High School — St. Paul, Minnesota

MINNESOTA ACADEMY OF SCIENCE



1796: Vaccination — Edward Jenner, an English country doctor, performs the first vaccination against smallpox after discovering that inoculation with cowpox provides immunity. Jenner formulated his theory after noticing that patients who work with cattle and had come into contact with cowpox never came down with smallpox when an epidemic ravaged the countryside in 1788.



Left to right: Jennifer Wei, Martin Camacho, Danie Monahan, Jon Schellenberg, Elwood McCreary; Not pictured: Joanne Thibault (Coach)

Team Coach — **Joanne Thibault**, originally from Montréal, Canada, studied linguistics at l'Université du Québec à Montréal. She has been a lifelong educator at the elementary, middle, high school, and university levels. She currently teaches French at Ramsey Jr. High in St. Paul. She has hosted the Central Science Bowl Team in her home every Sunday for two years, never failing to provide delicious sugary treats. Her support for her daughter, Danie, and for the whole team has been almost as amazing as her chocolaty brownies.

Team Members — **Martin "Air" Camacho**, a freshman, is the youngest and second-shortest member of the Science Bowl Team. Crushed by the realization that he would never make the NBA, Martin turned to math for solace. One dark night, Leonhard Euler came to him in a dream and said "You betta join dat dere Science Bowl." So, despite being busy winning awards in MathCounts, Math League, USAMTS, USA MathCamp, and LKWOM (Lord Knows What Other Math), he joined the team. He is also on Quiz Bowl and Science Olympiad and plays piano for the punk sensation "The Pythagoreans." Martin plans to graduate from college by the age of 16. One day during class, senior **Elwood McCreary** noticed photons cascading down on his head and heard several longitudinal waves propagating through the air in a heavenly chord. He soon realized he had found true love: physics. He immediately joined the school's Science Bowl Team. Captain of the Math Team and a member of Central's Science Olympiad Team and the school's Orchestra, Elwood hopes to study math, physics, or something equally nerdy next year. Senior **Danie Monahan** was recruited as a freshman to fill the astronomy position on the Central Science Bowl Team. Somewhere along the way, she realized her memory worked like a tape recorder. "I'm not crazy; the voice in my head just constantly reminds me of the reaction mechanisms!" says Monahan, the team's captain of two years. She loves math, clarinets, and loitering in the chemistry lab. She plans to attend Yale if she gets in and MIT if she does not. Junior **Jon Schellenberg** enjoys swimming in fjords, exploring active calderas, and searching for azurite specimens. He joined Science Bowl during his search for people who could appreciate his having memorized Moh's hardness scale. He quickly fell in love with the sweet tones of the buzzer system. Jon also participates in the Math Team, Science Olympiad, Quiz Bowl, and Orchestra. He hopes to attend college at some point but would rather whine about not having any money than give specifics. Soon after enrolling at inner-city Saint Paul Central, a talent scout for the Science Bowl Team found junior **Jennifer "Jeezy" Wei** doodling Punnett's squares. Young Jeezy's talents at the buzzer, fascination with genetics, and rare and remarkable ability to remember things learned in freshman biology distinguished her from the start. A star member of the Math Team, she also participates in the Science Olympiad, Quiz Bowl, and Orchestra. Thinking about college makes her want to go live in a mouse hole.



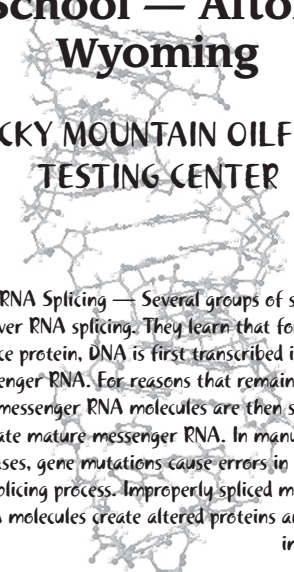
2008 National Science Bowl® for High School Students



Left to right, Front row: Mark Nethercott (Coach), David Clark, Analisa Stephens, Lyniece McKim (Coach); Back row: Aaron Daniels (Coach), Zachary Hunsaker, Noel Putnam, Tyson Barnes

Star Valley High School — Afton, Wyoming

ROCKY MOUNTAIN OILFIELD TESTING CENTER



1976: RNA Splicing — Several groups of scientists discover RNA splicing. They learn that for cells to produce protein, DNA is first transcribed into pre-messenger RNA. For reasons that remain unclear, pre-messenger RNA molecules are then spliced to create mature messenger RNA. In many genetic diseases, gene mutations cause errors in the RNA splicing process. Improperly spliced messenger RNA molecules create altered proteins and result in disease.

Team Coach — **Lyniece McKim** thinks that advising a Wyoming Champion Science Bowl team is “icing on the cake” for a BYU Utah graduate. Curiosity about how things work, the wonder of the human body, and a reading hobby led her to a satisfying career of teaching honors biology. She thinks the three most important scientific discoveries are biology based: first, DNA, RNA, and protein synthesis, as this is leading to the correcting of genetic illnesses; second, Germ Theory, hygienic practices, pasteurization, vaccination, antibiotics, and scientific use of the microscope; and third, Gutenberg’s printing press, personal ownership of books, supporting the desire for learning, and ushering in the Renaissance.

Team Members — Senior **Tyson Barnes** is the captain of the Science Bowl Team, National Honor Society (NHS) president, a HOBY Ambassador/junior staff member, and a member of the Academic Challenge and 2007 WY Science Olympiad Championship Teams. Tyson serves as president of his youth group. He gives service with his school’s Braves In Action organization, does community improvement projects, and tutors special needs elementary students. Tyson enjoys basketball, being outdoors, ballroom dance, and Honors physics, geology, and drafting classes. He will study geological engineering at the University of Wyoming. Senior **David Clark** was selected by Utah State University as a freshman science research assistant, where he will study virology this summer. He attended the University of Wyoming High School Summer Institute, Utah State University’s Biotechnology Summer Camp, and was a member of the 2007 WY Science Olympiad Championship Team. He has leadership in NHS, and competed on the Speech and Debate Team. He gives service at local care centers, the Salvation Army, and raises funds for needy families. He enjoys singing, reading, skiing, and hiking. He plans to study forensic toxicology. **Zachary Hunsaker**, a senior, enjoys physics, chemistry, English, and geology, in which he plans to eventually earn a Ph.D. and a teaching certificate. Zac has competed on the school Speech and Debate Team and the Academic Challenge Bowl Team, where he served as co-captain. He was also a member of the 2007 WY Science Olympiad Championship Team. Zac enjoys community basketball competition and is a member of the school cross-country team, where he received the Spirit Award. His service includes chopping firewood for neighbors, Braves In Action projects, and community improvement projects. Senior **Noel Putnam** enjoys Honors physics, biology, graphics, weight training, and welding, in which he placed in the WY State Skills USA competition. He is a two-year Varsity football team member, and a member of the 2007 WY Science Olympiad Championship Team. His outdoor experience includes bison ranching, bow hunting, snow shoeing, coyote calling, and taxidermy. He gives service with the school Braves In Action projects, chops firewood, and clears snowy sidewalks for the elderly. His plans include fabrication welding followed by a degree in wildlife biology, where he can enjoy the outdoors. **Analisa Stephens**, a senior, enjoys calculus, biology, anatomy, physics, and sign language, and has earned her E.M.T. certification. She attended the University of Wyoming High School Summer Institute, Utah State University’s Biotechnology Summer Camp, the National Youth Leadership Forum on Medicine, and the Engineering Summer Program. She was a member of the 2007 WY Science Olympiad Championship Team. She served as WY Girls’ State delegate, is a member of NHS, Marching band, and R.A.D., and an officer in F.F.A. Her plans include chemical engineering followed by medical school.

2008 National Science Bowl® for High School Students

State College Area High School — State College, Pennsylvania

NATIONAL ENERGY TECHNOLOGY LABORATORY — PITTSBURGH

1890s – 1900s: Radioactivity — Marie and Pierre Curie discover and isolate radioactive materials. After chemically extracting uranium from uranium ore, Marie notes the residual material is more “active” than the pure uranium. She concludes that the ore contains, in addition to uranium, new elements that are also radioactive. This leads to the discovery of the elements polonium and radium.

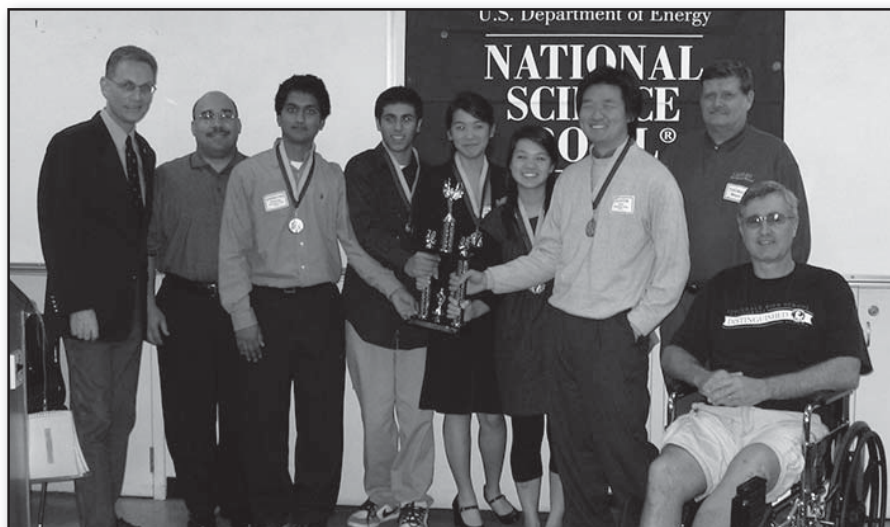


Left to right: Lijia Wang, Jinhui Zhao, Laura Gabrovsek, Emily Dong, Ruilong Ma; Not pictured: Julie Gittings (Coach)

Team Coach — **Julie Gittings** enjoys nothing more than accompanying her students on Science Bowl trips and listening to their conversations while they study. Although she misses those personalities who have gone before, she finds Ruilong, Lijia, Laura, Liz, and Emily to be wonderful both as individuals and as reincarnated spirits. She is not the least put off by Lijia’s delusions of deific grandeur as she has spent 30 happy years in the same high school in the same small town, observing much of adolescent behavior. In her spare time, Gittings relaxes by walking the fields with a new addition to her family — Dundee, her rough collie, who at 15 months old is just as sassy and bright in his way as most high school whiz kids.

Team Members — **Emily Dong**, a junior, is a Caucasian-Asian who has been a nerd for as long as she can remember. From her forays into the fascinating effects of acid rain as a six-year-old to her random retention of biological terminology, she has cemented her status as a pursuer of knowledge. When not studying, or pretending to study, Emily participates in Key Club, Debate Club, and Science Olympiad. Outside of the academic realm, Emily enjoys walking her pet stentor, Bob. Senior **Laura Gabrovsek**, returning team member and captain of her Science Bowl Team, is often intimidated by the beastliness of her teammates. Unable to handle the overwhelming fierceness, she often escapes to the campus of the Pennsylvania State University, where she takes classes in Immunology, Virology, and French Literature in addition to working in a plant biology lab. Though she feels intensely disloyal to her first love, romantic poetry and John Keats, she plans on majoring in plant biology before pursuing a medical degree to specialize in immunotherapeutic treatments for cancer. Calm and cool, junior **Ruilong Ma** does not flinch in the face of fear — having wrestled Super Saiyan Lijia on multiple occasions. When not wrestling fierce warriors, Ruilong unleashes his “uberleetness” upon abstruse science textbooks and inserts random phrases in his bios to see if anyone actually reads them. This is his first year participating in NSB and he has thoroughly enjoyed every minute of the experience. In addition to NSB, he plays an active role in his school’s Science Olympiad Team, Sierra Club, and Knowledge Masters Team. One day when he grows up, Ruilong would like to swim in the ocean with bottlenose dolphins. Junior **Lijia Wang**, though masquerading as a mild mannered member of the Science Bowl team, is in reality a fierce warrior. He joined Science Bowl in order to increase his Science Bowl knowledge, as knowledge itself is power. Lijia will now use this power along with his mad ping-pong skills to unleash his inner beast. Look out! These forces will cause him to go Super Saiyan, resulting in his becoming extremely buff, beastly, and drop-dead irresistible. Other than Science Bowl, Lijia also enjoys working out to gain weight, playing ping-pong, and doing calculus problems. Lijia aspires to be a force to be reckoned with. Do not cross him or you will fail your ancestors! **Jinhui (Liz) Zhao**, a junior, is a returning member of the Science Bowl Team. At school, in addition to Science Bowl, she participates in Science Olympiad and the National Honors Art Society. Outside of school, Jinhui plays in the Nittany Valley Symphony Youth Flute Choir and is the principle flutist in the Central Pennsylvania Youth Orchestra. While babysitting her little brother, she likes to teach him science by doing simple experiments such as paper chromatography with washable Crayola markers. When she is not teaching, practicing, or learning science, she can be found reading classics, drawing, or listening to romantic flute music. Jinhui plans to study chemistry, biology, and music in college.

2008 National Science Bowl® for High School Students



Left to right: Miles Muzio, Ramon Hendrix (Principal), Shreyas Srinivas, Amar Patel, Edith Teng, Laura Noz, Justin Koh, Thomas Meyer (Science Bowl Coordinator), Stephen Kiouses (Coach)

Stockdale High School — Bakersfield, California

CALIFORNIA STATE
UNIVERSITY

1978: Laetoli Footprints — A team led by Mary Leakey discovers fossilized *Australopithecus* footprints in Laetoli, Tanzania. The footprints, dated to 3.5 million years ago, were formed when two individuals walked over wet volcanic ash that had hardened like cement. These human ancestors had perfect, two-footed strides, indicating that the hominids walked upright.

Team Coach — **Stephan Kiouses** holds a B.A. in Earth science from SUNY College at Buffalo, an M.S. in geology from SIU — Carbondale, and an M.B.A. from CSU Bakersfield. After spending 20 years in various management and technical positions in the telecommunication and petroleum industry, Stephan started his “second career” as a science teacher, where he could share his love of learning with others. Stephan has participated in paleoclimatologic research at CSUB for the last two summers. Outside of the classroom, he enjoys camping, kayaking, and playing ice hockey.

Team Members — **Justin Koh** is a senior and a third-year Science Bowl captain. He was a participant in the U.S. National Chemistry Olympiad study camp in 2006 and 2007, and won a silver medal at the International Chemistry Olympiad XXXIX in Moscow, Russia this past year. Justin enjoys studying chemistry in order to better perceive the world around him, with an emphasis on organic chemistry. In his spare time, Justin enjoys playing video games, playing the violin, fencing, and studying philosophy. **Laura Noz** is a senior and has competed in Science Bowl for two years. She especially enjoys life science and studying famous scientists like Darwin. In her spare time, Laura plays bridge and collects and dries wildflowers. Laura plans to continue her studies at a four-year university. **Amar Patel** is a senior. He is looking forward to meeting new people and making friends at the National competition. In his spare time, Amar collects Star Wars memorabilia. He enjoys all aspects of science and math and plans to pursue engineering in the fall. **Shreyas Srinivas** is a senior and plans to study astronomy in the fall at a four-year university. He is especially interested in interplanetary geology. In his spare time, Shreyas enjoys bowling, country music, and backgammon when he is not watching the Science or History channel. Shreyas is looking forward to meeting new friends at the competition. **Edith Teng** is a senior. She has competed for two years in Science Bowl competitions. Edith enjoys science and math, and plans to attend a four-year university in the fall. She is especially fond of entomology. In her spare time, Edith enjoys needlepoint and crossword puzzles.

2008 National Science Bowl® for High School Students

Sycamore High School — Cincinnati, Ohio

U.S. DEPARTMENT OF
ENERGY ENVIRONMENTAL
MANAGEMENT
CONSOLIDATED BUSINESS
CENTER

1962: Quarks — Murray Gell-Mann proposes the existence of fundamental particles that combine to form composite objects such as protons and neutrons. A quark has both an electric and a "strong" charge. Protons and neutrons each contain three quarks.

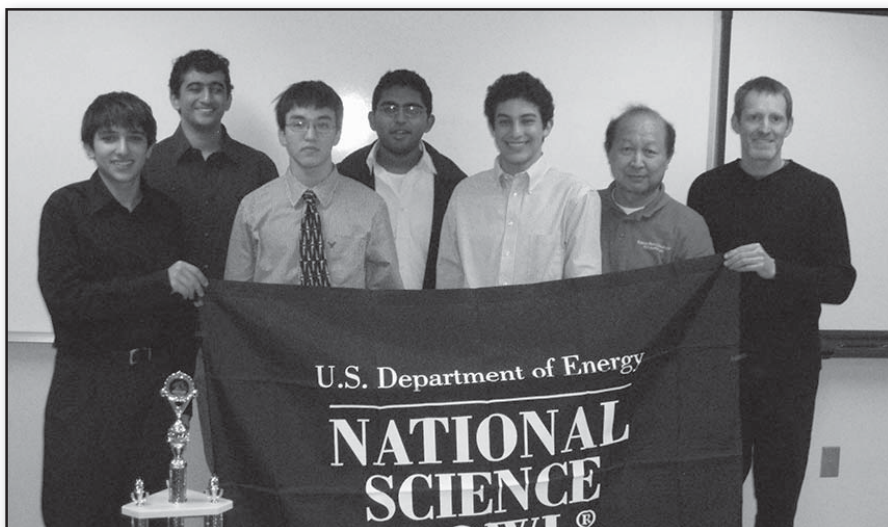


Left to right: Elizabeth Wei, Gabriel Ng, Eric Schwartz, Samantha Sekar, Nathaniel Eckman, Cindy Parrott (Coach)

Team Coach — **Cindy Parrott** is in her 26th year of teaching, having received B.S. and M.S. degrees from Miami University. This is the fifth time she has coached a team to the NSB. Three children, two dogs, and a husband take up much of her time and energy away from school. She serves Sycamore High School as Science Supervisor and loves working with both teachers and students in bringing science education to the forefront.

Team Members — **Nathaniel (Nate) Eckman** is a junior competing for the third time in Science Bowl. Through the school, his activities include Environmental Club, Science Olympiad, and Envirothon. Outside of school, he enjoys playing the piano, singing in various choirs, racing one-design sailing boats, hiking, teaching children, and practicing karate. Although he has not decided on a particular university, he plans to study physics, engineering, and astronomy. **Gabriel Ng** is a senior who has competed in the Science Bowl for three years. This is his first year competing in Nationals. Besides Science Bowl, he also participates in Science Olympiad, Ocean Science Bowl, and Envirothon. In addition to extracurricular activities, he raises fish and enjoys reading science books. Unfortunately, he will have to spend two years in Singapore for the military, but when he goes to college, he would like to study marine biology. **Eric Schwartz** is a junior in his first National competition. He is active in such science activities as Science Olympiad, Envirothon, and Ocean Science Bowl. He also enjoys playing instruments such as guitar, piano, and an SNES music emulator. He is undecided on profession and major; however, he would like to be involved in medicine. Senior **Samantha (Sami) Sekar** is the Science Bowl captain and extremely involved in extracurricular activities. Cross-country, Environmental Club, Mock Trial, Ultimate Frisbee, and band take up a lot of her time after school. Sami is also an Indian classical dancer. Sami would like to attend Vanderbilt University and major in environmental engineering science. **Elizabeth (Lizzy) Wei** is finally a senior and excited to be attending Nationals this year! She likes math and science of every sort, as well as reading stories, running cross-country, playing cello, and making stars. She is also very involved in the Cincinnati Chinese Church youth group, teaching Sunday school, and pianisting. Lizzy, a National Merit Finalist, does not know what college she will be attending yet, but she definitely wants to be a doctor eventually.

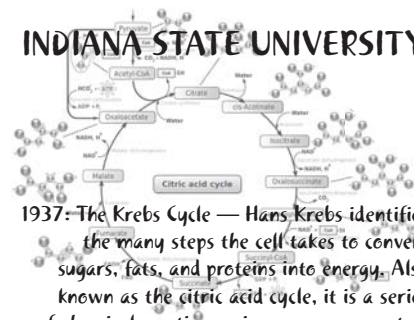
2008 National Science Bowl® for High School Students



Left to right: Peter Bittar, Raj Bhuptani, Emerst Wright, Pardha Ponugoti, Joseph Botros, Henjin Chi (Regional Coordinator), Aaron Warner (Coach)

Terre Haute South Vigo High School — Terre Haute, Indiana

INDIANA STATE UNIVERSITY



1937: The Krebs Cycle — Hans Krebs identifies the many steps the cell takes to convert sugars, fats, and proteins into energy. Also known as the citric acid cycle, it is a series of chemical reactions using oxygen as part of cellular respiration. The cycle contributes to the breakdown of carbohydrates, fats, and proteins into carbon dioxide and water.

Team Coach — **Aaron Warner** received a B.A. in biology and education and a Master's in secondary education from Indiana State University. Teaching science was his genetic destiny. Some of his newest and favorite hobbies include beekeeping, mushroom cultivation, story telling, hunting, fishing, and organic agriculture. His scientific heroes include Newton, Darwin, and his stepfather Dr. William J. Brett. He and his wife are actively teaching their sons how to save the planet.

Team Members — **Raj Bhuptani** is a junior and shares the first place ranking in his class with Pardha Ponugoti. In school his favorite subjects are chemistry and biology. He is passionate about math and science and participates in several math and science programs, including JETS and Science Olympiad. Raj is also a member of the National Honor Society and volunteers weekly as a tutor for a local community center. In his spare time, he enjoys bicycling and tennis (and watching "Monk")! In college, Raj hopes to pursue a degree in either finance or medicine. **Peter Bittar** is a sophomore and has held straight A's throughout his high school career. His favorite school subjects are biology and literature. He participates in a variety of clubs and activities including JETS, Science Olympiad, ARML, AMC, Latin and Key clubs, and plays on the school soccer team. He plays both the violin and piano and volunteers weekly after school for a local middle school's MathCounts program. He plans on attending either Northwestern or Johns Hopkins University to pursue a degree in medicine. **Joseph Botros** is currently a freshman. He participates in many different academic and volunteer activities throughout the year, including JETS, Science Olympiad, Speech Team, Quiz Bowl, and several other groups and extracurricular activities. His favorite subjects in school are Earth science and biology. He aspires to pursue a career in medicine, although he is not sure what he would like to specialize in. In his spare time, he enjoys spending time with friends and playing soccer. **Pardha Ponugoti** is a junior. His favorite subject is chemistry and he is tied for first in his class. He is part of the National Honor Society, class senate, Math Club, Science Olympiad, JETS, Asian American Club, and is a member of the Varsity tennis team. He volunteers at a local hospital and also volunteers at a tutoring program for elementary students. He wants to go to Northwestern University and go to medical school. Pardha enjoys playing tennis, watching "Prison Break" and "The Office" on television, and listening to his favorite band, Coldplay. **Ernest "E.G." Wright** is a senior and is attending Johns Hopkins University next year. He participates in many activities and clubs and is the president and co-founder of the Ultimate Frisbee Club. He enjoys reading Kurt Vonnegut and his favorite TV shows are "Chuck" and "The Office."

2008 National Science Bowl® for High School Students

Texas Academy of Mathematics and Science — Denton, Texas

TEXAS SOCIETY OF HISPANIC PROFESSIONAL ENGINEERS

Late 19th century to the present: Mitochondria
— Scientists discover mitochondria, the
powerhouses of the cell. These small structures
within animal cells are responsible for metabolism
and convert food into chemicals that cells can use.
Originally thought to be part of the cell, scientists
now believe they are specialized bacteria with
their own DNA.



Left to right: Rosemary Estrada (Regional Coordinator), Korok Chatterjee, Arjun Kavi, Vicki Crosson, Irene Cai, Vinay Ramasesh; Not pictured: Roy Zumwalt (Coach)

Team Coach — **Roy Zumwalt** is the network administrator for the Texas Academy of Mathematics and Science. He has a B.A. in finance from the University of North Texas and an M.S. in computer education and cognitive systems from the same university. Roy has been with the TAMS program for seven years and has worked within the University of North Texas system for over 15 years. His interests include traveling, reading, and home improvement projects.

Team Members — **Irene Cai** is a junior. As an active member of JETS and Mu Alpha Theta, she participates in numerous math and science competitions, such as the National Engineering Design Challenge. Pursuing her interest in science, she is researching the kinetics of the muscle protein myosin in the biochemistry laboratory of Dr. Douglas Root at the University of North Texas. She volunteers for the Children's Summer Art Camp at the Fort Worth Modern Museum of Art, folding paper cranes and drawing with pastels. She plans to make a difference in the world through advancing research in medicine. **Korok Chatterjee** is a senior who plans to major in physics. His favorite subjects are math and physics. Outside of school, he participates in Mu Alpha Theta, is vice president of JETS, and plays piano and trombone. This past year, he was named a semi-finalist in the Intel STS and a Goldwater Scholarship nominee. His favorite sport is table tennis and his favorite TV show is "Seinfeld." **Vicki Crosson** is a senior. She is secretary of JETS, a Girl Scout and Gold Award recipient, and co-founder of Vectorism. Vicki intends to major in mechanical engineering and physics, and hopes to find a career doing research on MEMS technologies. She is an avid amateur astronomer, knitter, and juggler who is currently learning to unicycle. In response to the 'chance to talk to anyone dead or alive' question, she would go for zombie Feynman. **Arjun Kavi** is a senior. He intends to pursue an undergraduate degree in chemistry and economics at Yale University and then a career in synthetic chemistry. He is currently Head of Academic Competitions for the TAMS Mu Alpha Theta and an active volunteer at Camp Summit, a summer camp for individuals with disabilities. **Vinay Ramasesh** is a senior with plans to attend either Stanford University or MIT in the fall. After qualifying for the USAMO last year, he spent his summer working in Dr. Angela Wilson's laboratory, performing research in computational chemistry. Vinay's work earned him status as a Siemens Regional Finalist and an Intel National Finalist. He is president of Mu Alpha Theta and enjoys math and physics. These will be his majors next year.

2008 National Science Bowl® for High School Students



Left to right: Jeff Clouse (Coach), Vishnu Halthore, Kevin Kowalski, Jiemin Zhou, Matthew Shackley, Tyler Fitzgerald, Laura Glismann (Coach)

The Meadows School — Las Vegas, Nevada

NATIONAL NUCLEAR
SECURITY ADMINISTRATION
— NEVADA OPERATIONS
OFFICE

1980s: The Human Retrovirus HIV — Competing scientists Robert Gallo and Luc Montagnier separately discover a new retrovirus later dubbed HIV (human immunodeficiency virus), and identify it as the causative agent of AIDS (acquired immunodeficiency syndrome).

Team Coach — **Jeff Clouse** attended Youngstown State University, The Ohio State University, and University of Chicago. He holds Bachelor's and Master's of Science degrees in mathematics, and his decision to teach high school math stemmed from his experience teaching under-prepared college freshmen. He believes that fire, natural selection, and the structure of matter are the greatest scientific mysteries that have yet been unraveled by humans.

Team Members — **Tyler Fitzgerald**, a junior, is an astronomy buff who is also a star on the stage. He is equally comfortable portraying Caliban, Mr. Mushnik, or even a diligent student. In addition, Tyler makes sure to use his position as Junior Class vice president to advocate for ethical treatment of dogs. Junior **Vishnu Halthore** loves to play his violin and wrestle with his pet dogs. He has truly relished this opportunity to broaden his scientific horizons and looks forward to a career in veterinary medicine. **Kevin Kowalski**, a senior, is a top scholar who also excels in non-scientific fields. His intimidating presence has won him both friends and enemies, and he revels in the divisions he creates. Kevin also likes dogs. Junior **Matthew Shackley** is a competitive cyclist and All-American Brit. When not trekking up mountains on his bicycle, he can be found playing football and writing A exams. His favorite canine is the English bulldog. **Jiemin (Jimmy) Zhou**, a junior, particularly enjoys the life sciences, as he has a passion for life in general. Gregarious and sharp-witted, he is not the stereotypical scientist. For example, it may come as a surprise to learn that he has a fondness for dogs.

2008 National Science Bowl® for High School Students

The Preuss School UCSD — La Jolla, California

NATIONAL ORGANIZATION OF BLACK CHEMISTS AND CHEMICAL ENGINEERS — SAN DIEGO

1911 – 1986: Superconductors — The unexpected discovery that some materials have no resistance to the flow of electricity promises to revolutionize industry and technology. Superconductivity occurs in a wide variety of materials, including simple elements like tin and aluminum, various metallic alloys and certain ceramic compounds.



Left to right: Ron Lewis (Coordinator), Fadhi Ali, Cynthia Kashiwagi, Juliana Biersbach (Coach), Gloria Chukwueke, James Noraky, Jonathan Wosen, Bob Countryman (Coordinator)

Team Coach — **Juliana Biersbach** is a graduate of Villanova University, where she received a B.S. in chemistry and a minor in business. After graduating, she joined Teach for America Corps in Los Angeles to help in the movement to eliminate educational inequity. While completing her two year teaching commitment in East Los Angeles, she attended Loyola Marymount University and completed her Master's in Secondary Education. Juliana currently teaches chemistry at The Preuss School UCSD and is amazed and inspired by her students there. When not working, she loves to be outside, by the beach, and/or playing sports.

Team Members — **Fadhi Ali** is a junior. He was born in San Diego, CA. He is Ethiopian and very proud of his heritage. At The Preuss School and in his community, Fadhi engages himself in various activities. He is a co-captain of the Varsity basketball team and is very enthusiastic about sports. He is also the VP of NOBCCChE (National Organization of Black Chemists and Chemical Engineers). Outside of school, Fadhi is an avid member of his mosque. In the future, he hopes to pursue a medical career. **Gloria Chukwueke** is a junior. She enjoys U.S. history and the sciences and is an avid reader that loves to read in her spare time. She is the current Junior Class president of her school and a member of both the girls' Varsity cross-country and basketball teams. **Cynthia Kashiwagi** is a junior. She is happy to say that Preuss has brought her many opportunities and fond memories. She enjoys her clubs, family, friends, church, Aztec Dancing, and having fun. At school she is the ASB Student Store manager and brings in a steady income for the class. As science being her favorite subject, she is a very passionate member of the NOBCCChE Science Bowl Club as well. Volunteering activities include being a religious education teacher and tutoring through NHS. **James Noraky** is a junior. James enjoys learning new things, be it science or the history of the Ottoman Empire. Aside from the academics, James is an avid runner and enjoys hanging out with his friends. James also builds robots and hopes to major in engineering at MIT. **Jonathan Wosen** is a junior. Jonathan enjoys science and math, as well as writing, and works extensively with the school's Botball team. Jonathan is also editor-in-chief of the *Preuss Insider*. For recreation, Jonathan enjoys playing ping-pong.



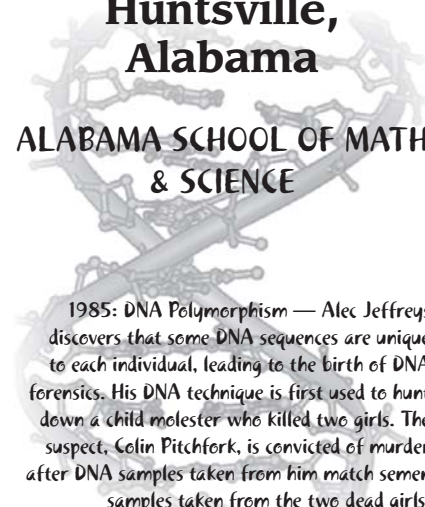
2008 National Science Bowl® for High School Students



Left to right, Front row: Meryal Smith (Coach), Patrick Wingo, Kurt von Laven; Back Row: Christopher Romanczuk, Chaitanya Allamneni, Jason Hon

The Randolph School — Huntsville, Alabama

ALABAMA SCHOOL OF MATH
& SCIENCE



1985: DNA Polymorphism — Alec Jeffreys discovers that some DNA sequences are unique to each individual, leading to the birth of DNA forensics. His DNA technique is first used to hunt down a child molester who killed two girls. The suspect, Colin Pitchfork, is convicted of murder after DNA samples taken from him match semen samples taken from the two dead girls.

Team Coach — **Meryal Smith** earned a B.S. from Louisiana State University and an M.Ed. from Alabama A & M in science education. She has been a chemistry teacher for 40 years, 9 of those at Randolph School. In addition to Science Bowl, she also coaches Science Olympiad and sponsors the Science Club. She was influenced to pursue a career in teaching by her great-grandmother and her choice of subject by her freshman college chemistry professor. She has done research with rocket fuels and corrosion of metals at Redstone Arsenal for four summers. She thinks three of the most important scientific discoveries are: the human genome project, antibiotics, and transistors. Coach Smith's hobbies are traveling, gardening, and reading.

Team Members — Senior **Chaitanya Allamneni** enjoys the life sciences, and hopes to major in neuroscience in college. He is active in Science Olympiad (co-captain), Scholar's Bowl, Science Club (vice-president), and Varsity tennis. He has played the piano for numerous years, and enjoys volunteering as a pianist at his local nursing home on the weekends. Though he hopes to become a physician in the future, he knows he can always fall back on a career as a professional tennis player. For now; however, he is content with defeating high school tennis opponents, including his fellow Science Bowl teammate Chris. A priori, **Jason Hon**, a senior, is a young, Alabamian, half-Asian Irishman. Though he has participated in math tutoring and Science Olympiad (co-captain), received academic honors and one or two awards, played the piano for 13 years, and overdosed on APs, he manifests almost no uniqueness. He plans to major in biology or physics next year, though unsure where. **Christopher Romanczuk** is a senior who has attended Randolph School since kindergarten, returning for his second National Science Bowl®. He enjoys math and science and plans on studying biomedical engineering. His university of choice is still in question, but since the party follows him, he is sure to have fun wherever he goes. Over the last few years he has been honored as a National Merit Finalist and a member of the Cum Laude Society, and serves as president of the Randolph National Honor Society chapter. In his free time, he plays golf on the Varsity team as well as Xbox. **Kurt von Laven** is currently a senior and has been accepted to Duke University. Perhaps he will major in cosmology and may one day become an astronaut. He plays the piano and the baritone, and is a member of the Ethics Club, Foreign Language Club, Randolph Environmental Awareness Program, the Tri-M Music Honor Society, and the National Honor Society. He is a member of both the Science and Math Clubs. He is a founder of the Philosophy Club. Kurt enjoys the outdoors, listening to music, reading, and writing is his free time. **Patrick Wingo** is currently a sophomore. His favorite subject is chemistry. He is in the National Junior Honor Society, National Honor Society, and Spanish Honor Society, and is the president of the Musician's Club. He runs cross-country, track, and indoor track, and his team has won the State championship for three years in a row. He also is on the Forensics Team. Besides Science Bowl, he competes in Science Olympiad. He plays in a rock band, playing guitar and synthesizer. He is also a Boy Scout and hopes to soon attain his Eagle Scout. He hopes to learn a lot from the National Science Bowl®.

2008 National Science Bowl® for High School Students

Theodore Roosevelt High School — Chicago, Illinois

SOCIETY OF HISPANIC
PROFESSIONAL ENGINEERS
REGION 6 — CHICAGO
SCIENCE BOWL

Late 19th to Early 20th Century:
Neurotransmission — Scientists discover
neurotransmitters and how they tell the body
what to do by passing signals from one nerve
cell to another via chemical substances or
electrical signals.



Left to right, John Linatoc, Mojdeh Ghafoori (Coach), Josue Gaona, Princess Lavada, Debbi Rodriguez

Team Coach — **Mojdeh Ghafoori** teaches biology at Roosevelt High School. She has a Bachelor's degree in biological science from University of Illinois and a degree in education from Chicago State University. She finds the discovery of DNA and atoms fascinating. Her favorite topics are gene therapy, finding alternative sources of energy, and conserving the environment. Her hobbies are biking, Yoga, and dancing.

Team Members — **Josue Gaona** is a freshman. His interests and hobbies include chess, bike riding, soccer, football, and math. He plans to attend the University of Illinois and obtain a Ph.D. His favorite subjects are algebra, biology, and world history. **Princess Lavada** is a 17-year-old sophomore. She has just transferred here from The Philippines last April. Her interests are reading magazines and literature, watching movies, surfing the Internet, camping, and writing short stories. She is a member of her school's Filipino Club. She entered the Regional History Fair in UIC this year. Her favorite subjects are science, history, and art. She also likes sketching and painting during her free time. She is planning to obtain a degree in the medical field. **John Linatoc** is a junior. Some of his hobbies include playing the guitar and piano, playing basketball and tennis, computers, anime, watching movies, hanging out with friends, and learning. He is involved in his school's Filipino Club and after-school sports programs. His favorite subjects are math and music. When John graduates, he plans to attend UIC and major in computer engineering, eventually to become a computer engineer. A few fascinating facts about John are — he is a certified lifeguard, he knows how to play the ukulele a little, and he has a twin. The three most important discoveries to him are: the string theory, global warming, and DNA. **Debbi Rodriguez** is a junior. Her interests and hobbies include reading books, learning about history and nature, listening to music, traveling, and surfing the Internet. She has been involved in the National Honor Society (NHS), Link Crew, Chorus, and Girl's track team. Her favorite subjects are history, zoology, and English. She has taken two years of chemistry. The two people that she admires the most are her parents. She plans to attend DePaul University and wants to major in pre-law and history. Her three most important science discoveries are: DNA, gravity, and evolution.



2008 National Science Bowl® for High School Students



Left to right; Back row: Kalven Goreal, Randall Robinson, Kevin Sutherland; Front row: Danielle Hicks, Alex Bonte; Not pictured: Daniel Harris (Coach)

Thomas Downey High School — Modesto, California

MODESTO IRRIGATION DISTRICT

1820s – 1840s: First Dinosaur Fossils Identified
— In 1822, geologist William Buckland uncovers some really big teeth in England. At the time, there is no word to describe his finds. Twenty years later, in 1842, Sir Richard Owen comes up with the word "dinosaur" to describe several spectacular creatures whose fossils are discovered across England. *Megalosaurus* is the first dinosaur ever named.

Team Coach — **Daniel Harris** graduated from the California Maritime Academy with a B.S. in nautical industrial technology. He worked as the chief mate on offshore oil exploration ships prior to going back to school to get his teaching credential in mathematics and physical sciences from the University of Pacific. He went back to school because he loved the feeling of helping kids understand science and math while he did some substitute teaching. The three scientific discoveries he considers important are: Galileo's and Newton's works on motion, discovery of penicillin, and the laser. His hobbies include photography, especially nature and college athletics, which springs from his other hobbies of mountaineering and sports in general as he played college soccer.

Team Members — Senior **Kalven Goreal** is a busy student; he participates in Science Olympiad, Mock Trial, Academic Decathlon, and Student Publications in addition to his commitment to Science Bowl. Kalven has accepted a Tennis Scholarship from Bethany College of Kansas and plans to major in finance so he can become a financial manager in the future. Senior **Danielle Hicks** is committed to many activities including volleyball, basketball, swimming, serving as the president of Science Olympiad and Science Bowl, Bible Club, and Leadership. She enjoys physics and biology. Danielle plans to attend college and major in astronomy or physics. Her hobbies include painting, playing the flute, and reading. **Randall Robinson**, a junior, is a motivated person who enjoys his math and science classes. He participates in the Downey Science Bowl, Science Olympiad, Bike Club, Bible Club, and CSF. In his free time, Randall likes to ride his bike, write stories, play with his dog, and take pictures. For college, Randall wants to go to one of the schools that is close to his house, possibly UC Merced. **Kevin Sutherland** is a junior and a very active student. In addition to his full AP schedule, he is active in Student Leadership, Science Bowl, Science Olympiad, Bass Clef Choir, CSF, and Mock Trial. His favorite classes include AP Calculus BC and AP Biology. Kevin hopes to attend Massachusetts Institute of Technology to study astrophysics or astronomy.

2008 National Science Bowl® for High School Students

Thomas Jefferson High School for Science & Technology — Alexandria, Virginia

THOMAS JEFFERSON
NATIONAL ACCELERATOR
FACILITY

2000 B.C – 500 B.C.: The Planets Move — A thousand years of observations reveal that there are stars that move in the sky and follow patterns, showing that the Earth is part of a solar system of planets separate from the fixed stars.



Left to right: Huanqi Deng, Bruce Sun, Jack Wang, Meng-Yang Chen, Evan Warner, Sharon Baker Webb (Coach)

Team Coach — **Sharon Baker Webb** teaches mathematics at TJHSST. She graduated from the University of Virginia in Charlottesville with a B.A. in mathematics and an M.Ed. in mathematics education. An enthusiastic mathematics professor at UVA inspired Coach Webb to pursue mathematics as a major, and ultimately to consider teaching. She was a semi-finalist in the NASA selection of educator astronauts, and she participates in NEAT (Network of Educator Astronaut Teachers.) She has served as an AP Calculus reader for the past three years. Coach Webb sponsors the Fellowship of Christian Athletes and Science Bowl clubs at TJ. Her hobbies include skiing, travel, and music.

Team Members — Senior **Meng-Yang Chen** has taken a variety of science classes, ranging from AP Physics to Organic Chemistry. He has participated at a summer research internship at George Mason University where he worked on an experiment that sought to maximize production of a drug that could potentially treat Alzheimer's. He wishes to study biological engineering in college. He is the co-director and co-founder of the AP Publishings club, and a member of the Math Team and NHS. He represented TJ at the National Chemistry Olympiad in his junior year. He studies piano with a private teacher. **Huanqi Deng**, a senior, enjoys learning about biology, economics, and environmental science. He is the lead director of TJ AP Publishings club and secretary of Future Problem Solvers. He has had a mentorship at Walter Reed Army Institute of Research, working on the analysis of sleep deprivation and its effects on neural activation patterns. After high school, he plans on studying operations analysis and management. In his free time, Huanqi likes to sleep, run, dance swing and tango, and relax. His favorite book is *The 7 Habits of Highly Effective People*. Senior **Bruce Sun** would like to contribute to conservation efforts (and also give his colleagues' biographies a bit more space) by writing less of his past and more of the future. Bruce aspires to be a part of the next generation of innovative leaders by starting his own company, after thoroughly engaging in an undergraduate degree in biological/chemical engineering and/or operations research (and getting his M.B.A.). He is anxious to matter in tomorrow's globalized world, delivering solutions to the people while having a blast. Senior **Jack Wang's** favorite classes in school are math and physics. As such, he is part of the Varsity Math Team and the captain of the Physics Team, and he has also qualified for the USA Math Olympiad, U.S. Physics Olympiad, and the U.S. National Chemistry Olympiad. In his free time, Jack reads and practices Wushu. He hopes to attend MIT, but is unsure of which degree he will pursue. The future is uncertain, but Jack will try to be prepared to be the best person he can be. **Evan Warner**, a senior, is a relatively boring person. He runs cross-country, indoor track, and outdoor track, although he really is not any good. He has somewhat more talent in music, and plays piano. He has been a Physics Olympiad semi-finalist, the state winner in the National Spanish Exam, and the regional winner in the Brain Bee (a neuroscience competition). The extent of Evan's college plans at the moment consists of a general desire to get into a college. When he gets older and slows down a bit, Evan thinks it might be a good idea to study mathematics.

2008 National Science Bowl® for High School Students



Left to right: Don Lee, Baylen Fitterman, Song Wang, Rick Blackstone (Coach), Chris Hallacy, David Lerner

Walton High School — Marietta, Georgia

ARMSTRONG ATLANTIC STATE UNIVERSITY

2003: Humans Have 20,000 — 25,000 Genes — Upon sequencing the human genome, it's discovered that humans have approximately 20,000 to 25,000 genes, far fewer than most scientists had predicted. It is hoped that understanding the genome will boost the fields of medicine and biotechnology, eventually leading to cures for diseases such as cancer and Alzheimer's disease.

Team Coach — **Rick Blackstone** received a B.S. in psychology from Duke University and a J.D. from Emory University School of Law. He mostly teaches Honors Biology, and has also taught AP Biology, Physical Science, Forensics, Zoology, Genetics, and Earth Science. His first choice of career was lighthouse keeping, but automation of lighthouses led him to switch to education, after a period of time as broadloom carpet maven. His top three scientific discoveries are the atomic theory, the modern evolutionary synthesis, and the ongoing explanation of gene expression. He likes to read, eat, cook, walk around in woods and streams, watch cartoons, garden, build stuff, and travel in Scotland.

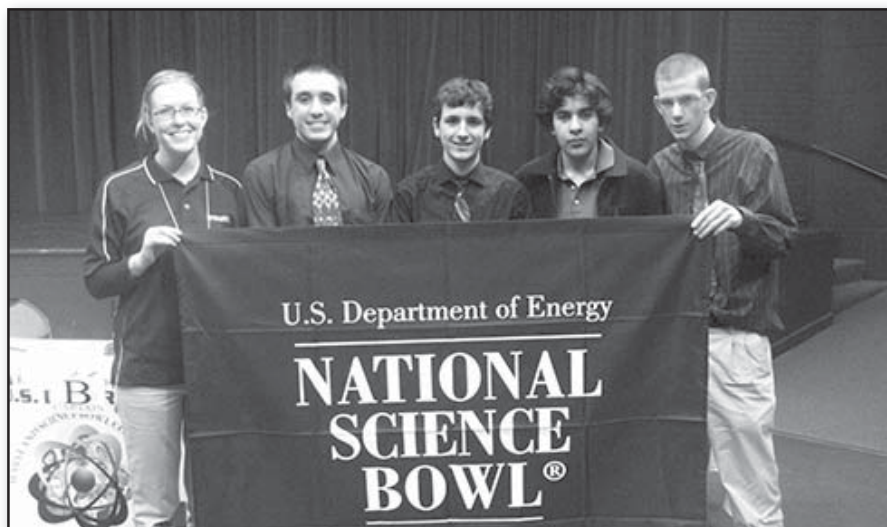
Team Members — Senior **Chris Hallacy** is captain of the Walton Science Bowl Team. His favorite subjects are applied physics and mathematics, but he is also interested in philosophy and religion studies. Outside of class, he participates in the Walton Marching Band, Science Club, Math Team, Academic Bowl, and Beta Club. He holds the positions of drum major, vice-president, and captain of the first three of those activities. Though he is a National Merit Finalist, he has yet to decide on future college plans, instead choosing to read books. Senior **Don Lee** was born in Pusan, Korea, and moved to the U.S. when he was nine. He participates in Walton's prestigious Math Team, and is an officer in the Science Club. In addition to Korean and English, Don has studied Latin for five years and competes successfully in national Latin competitions. He relaxes by building computers, playing video games, and spending time with friends. In the fall, he hopes to attend Duke University, majoring in game theory. **David Lerner** is a junior. He is a member of the Math Club and an officer in the Science Club. He hates shoes and is a devout Pastafarian. In his free time, he enjoys hiking and photography. **Song Wang**, a senior, is a biology enthusiast. He believes that knowing oneself is essential to life and biology is the necessary logical extension of this knowledge. At school, he is a member of Community Outreach and Science Olympiad and tutors fellow students. Song has done charitable work for a number of organizations, including the Make-a-Wish Foundation and the MCG Medical Center. During his spare time, he enjoys reading and discussing philosophy, especially that of Jean Baudrillard and Richard Dawkins, exercising, and studying ballistics. He hopes to major in biology or biotechnology in college and eventually start his own biotechnology company.

2008 National Science Bowl® for High School Students

Walt Whitman High School — Bethesda, Maryland

MONTGOMERY COLLEGE

1666 – 1957: Nuclear Forces — Discoveries of the basic forces at work on the subatomic level lead to the realization that all interactions in the universe are the result of four fundamental forces of nature — the strong and weak nuclear forces, the electromagnetic force, and gravitation.

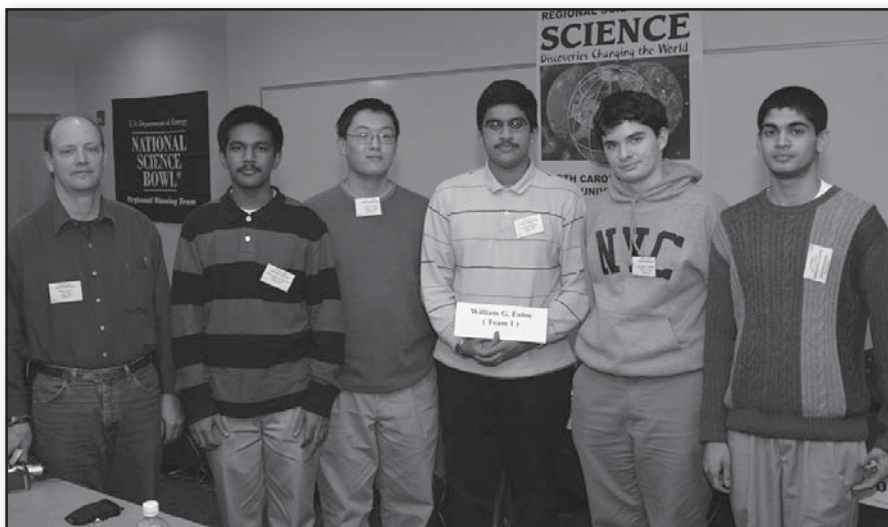


Left to right: Julie Frank (Coach), Seth Gordon, Damjan Korac, Shantanu Jha, Evan Weingarten

Team Coach — **Julie Frank** is a physics teacher at Walt Whitman High School. She attended Penn State University, where she majored in science education. This is her fifth year coaching the Science Bowl Team. In addition to Science Bowl, she coaches tennis and lacrosse.

Team Members — **Seth Gordon** is currently a junior in the Class of 2009. Outside of Science Bowl, he is an Eagle Scout in Troop 1946, the section leader of the percussion section of the Walt Whitman Symphonic Band, and a member of the Walt Whitman It's Academic Team. After completing his senior year of high school, Seth plans to study aeronautical or mechanical engineering with the goal of eventually obtaining his Ph.D. **Shantanu Jha** is a senior who has participated on the Science Bowl Team for two years. He is also tournament director and officer of the It's Academic Team and co-captain of the Chemistry Team. He hopes to study mathematics and art history. **Damjan Korac** is a senior who has been a member and captain of the Science Bowl Team for two years. He is also the president of the It's Academic Quiz Bowl Team and co-captain of the Chemistry Team. He was a semi-finalist in the 2007 Siemens Competition in Math, Science, and Technology, and hopes to study mechanical engineering and business in college. **Evan Weingarten** is a senior who has been associated with the Science Bowl for four years. He hopes to pursue psychology in college while studying a variety of other courses. Evan is a member of the It's Academic Team, and a co-captain of the Chemistry Team.

2008 National Science Bowl® for High School Students



Left to right: Brian Wood (Coach), Vivek Bhattacharya, Hao Lian, Ashwin Srikrishna, Daniel Vitek, Ranjan Banerjee

William G. Enloe High School — Raleigh, North Carolina

NORTH CAROLINA CENTRAL
UNIVERSITY

1905: $E = mc^2$ — Or energy is equal to mass times the speed of light squared. Albert Einstein's famous formula proves that mass and energy are different manifestations of the same thing, and that a very small amount of mass can be converted into a very large amount of energy. One profound implication of his discovery is that no object with mass can ever go faster than the speed of light.

Team Coach — **Brian Wood** has been teaching science, mainly biology, at Enloe High School for longer than he cares to think about. Many years ago, he graduated from Asbury College and then pursued an M.S. at NCSU. He has managed to get IB certified, AP certified, and national board certified — he guesses you could say he is just certifiable. When he is not cleaning up after a lab or coaching Science Bowl, he coaches JV soccer, watches his kids play soccer, and goes to soccer tournaments. One of these days he will get back to canoeing.

Team Members — **Ranjan Banerjee**, a senior, is a co-founder/co-director of Science Days, an elementary school tutoring program. He is also vice-president of Enloe's Medical Bioscience Academy, and a co-president for Science Olympiad, where he has medaled many times. He is an active member of Key Club, as well as part of the IB program. He is a member of National Honor Society and a School Marshal. He has played violin for seven years, sang Indian classical music for six years, and is on the track and field team. He plans to major in biomedical engineering before going on to medical school. **Vivek Bhattacharya**, a senior, is currently the class Valedictorian. He is a member of National Honor Society, Red Cross Club, Key Club, Science Olympiad, and Science Bowl. He has won numerous medals at state and regional Science Olympiads, has qualified twice for the USA Mathematical Olympiad, and was named a Physics Olympiad Quarterfinalist. Vivek also enjoys playing basketball. He credits his parents for piquing his interest in science, and would like to study economics and physics in college. Along with Daniel and Hao, he took second place nationally in the 2007–2008 Siemens Competition. **Hao Lian**, a senior, is currently the class Salutatorian. He volunteers with Science Days and has participated in Science Olympiad and National Economic Challenge. Hao was named a 2008 Physics Olympiad Semi-finalist. He is fluent in Mandarin Chinese and has won several awards for playing classical piano. Hao's dream job is starting an indie software company that would change the world. His interest in science stems from his parents. He would like to study computer science in college. Along with Daniel and Vivek, Hao took second place nationally in the 2007–2008 Siemens Competition. **Ashwin Srikrishna**, a junior, is a member of the National Honor Society, Beta Service Club, Red Cross Club, Science Olympiad, and Science Bowl. He has won medals in the Regional Science Olympiad and placed first in the junior division of the 2006 American Computer Science League. He regularly participates in various mathematics and computer science competitions and was a member of the NC team for the 2006 American Region Math League. He has been selected to attend the 2008 Governor's School of NC for Mathematics. He volunteers at the Food Bank and is a Sunday school youth leader. He enjoys playing basketball and soccer and plans to study chemical or nuclear engineering. **Daniel Vitek**, a junior, is on the board of Enloe Science Olympiad and is one of the Science Bowl Team organizers. He regularly leads his school's teams in mathematics and science competitions, has qualified twice for the USA Mathematical Olympiad, and was named a 2008 Physics Olympiad Quarterfinalist. Daniel has played classical piano for eight years and cello for five. He is part of the IB Program, is currently working towards the rank of Eagle Scout, and would like to become a mathematician. Along with Vivek and Hao, he took second place nationally in the 2007–2008 Siemens Competition.



2008 National Science Bowl® for High School Students

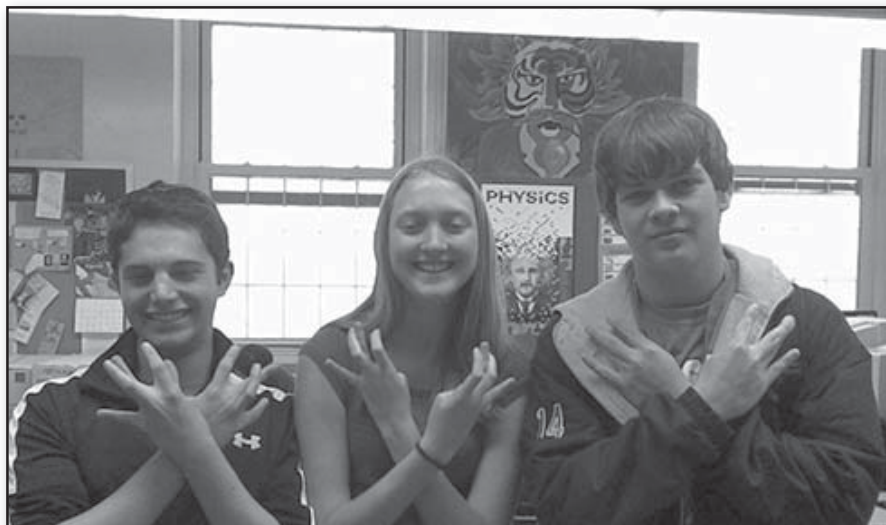
Woodrow Wilson Senior High School — Washington, District of Columbia



HOWARD UNIVERSITY

1902: Blood Groups —

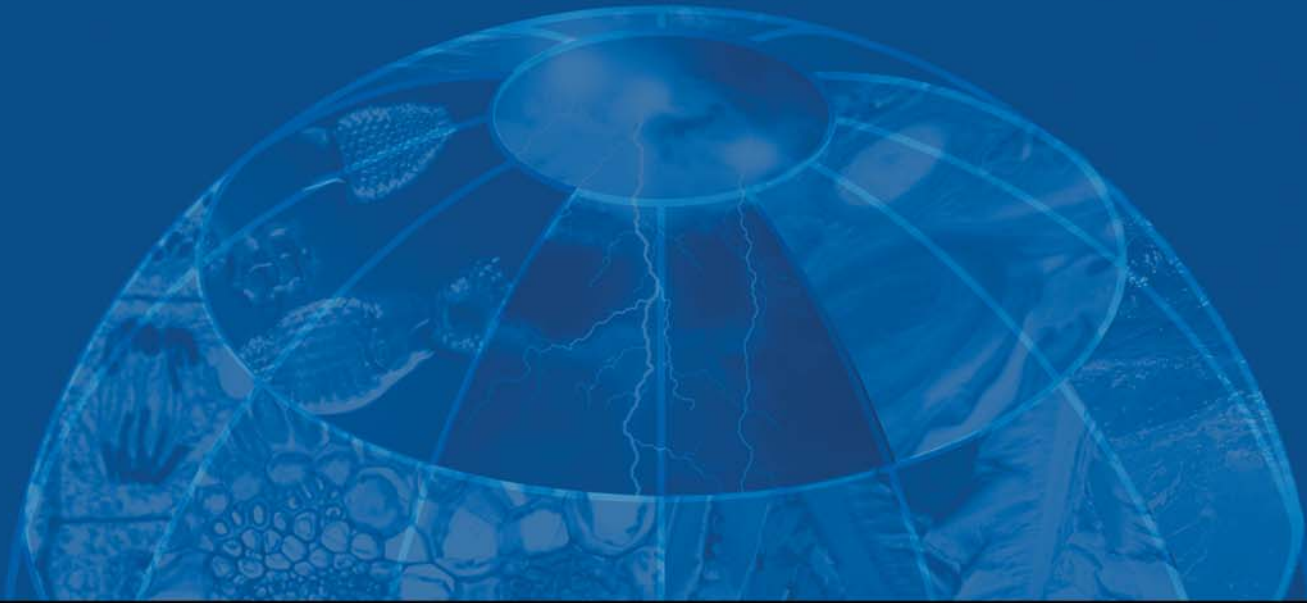
Austrian biologist Karl Landsteiner and his group discover four blood groups and develop a system of classification. Knowledge of the different blood types is crucial to performing safe blood transfusions, now a common practice.



Left to right: Sam Goldstein, Suzannah Fraker, Joe Berman; Not pictured: A Benjamin (Coach), Ben Cohen, Ben Horkley

Team Coach — **A Benjamin** graduated from Michigan State University with a Bachelor's degree in microbiology. Later she earned an M.Ed. in science education from George Washington University and she also completed the comps and coursework for a Doctorate in curriculum and instruction. She became a teacher because of the influence of a wonderful kindergarten teacher who became her mentor and encouraged her to participate in a teacher training program — she helped her to fall in love with teaching. She worked at Walter Reed Army Institute of Research in Washington, D.C., as a laboratory assistant. The most important scientific discoveries include the Hubble Space Telescope, antibiotics, and Maxwell's equations. Her hobbies include reading and sports. She is a member of the AP Physics development committee for College Board. She loves physics.

Team Members — **Joe Berman**, a senior, is the captain of the Science Bowl Team this year. He enjoys a wide range of subjects, including science, math, and history. He is the president of the National Honor Society. He is also a Varsity Policy Debater and Varsity baseball player. He plans to attend college. **Ben Cohen** is a junior who enjoys math and is particularly interested in the study of economics. He is also a nationally ranked fencer and is on the It's Academic Team. **Suzannah Fraker** is a junior who enjoys all math- and science-related subjects so much that she cannot decide between them! She also enjoys participating in Wilson's musical theater, as well as studying cooking and Mandarin Chinese outside of school. **Sam Goldstein** is a junior who is excited to be a member of Wilson's Science Bowl Team. He particularly enjoys biology, physics, and mathematics, but he generally enjoys all academic subjects. He is a Varsity member of Wilson's Policy Debate Team and also a member of the It's Academic Team. **Ben Horkley** is a sophomore who is interested in math and the physical sciences, and hopes to study engineering in college. He has participated in both the national MathCounts and Geography Bee competitions. He is also a member of the Policy Debate Team and the It's Academic Team.



Discoveries Changing the World



U.S. DEPARTMENT OF
ENERGY



<http://nationalsciencebowl.energy.gov>