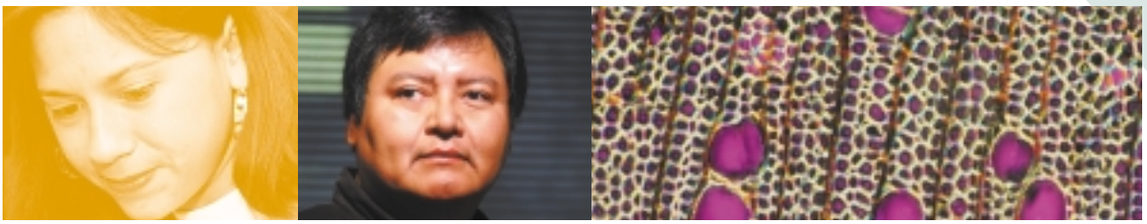

SCIENTISTS FOR THE 21ST CENTURY

Biomedical Research and Training Opportunities for Minorities

National Institutes of Health
National Institute of General Medical Sciences

SCIENTISTS FOR THE 21ST CENTURY

Biomedical Research and Training Opportunities for Minorities

U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health
National Institute of General Medical Sciences

NIH Publication No. 00-3328
July 2000
www.nigms.nih.gov

PREFACE

WHO WILL DO SCIENCE *in the 21st Century?*

The past several decades have been a time marked by major advances in the biomedical sciences. Future advances require well-trained scientists from a variety of backgrounds and disciplines. In addition, there will be an increasing demand for scientists trained to address the health problems that disproportionately affect minorities and medically underserved populations in this country.

To meet this need, a variety of Federal programs have been designed to increase the number of minorities entering careers in biomedical research. This booklet describes programs offered by the National Institute of General Medical Sciences, a component of the National Institutes of Health that supports basic biomedical research.

The next generation of biomedical scientists will work in one of the most exciting periods of human history. These scientists are our best hope to treat—and even prevent—diseases like cancer, heart disorders, diabetes, and AIDS.

Who will do science in the 21st century? The answer could be you!

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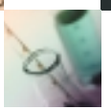

NIGMS

Minority Programs

The National Institute of General Medical Sciences (NIGMS) is committed to increasing the number and capabilities of underrepresented minorities engaged in biomedical or behavioral research. In order to achieve this goal, the NIGMS Division of Minority Opportunities in Research (MORE) offers research and research training grants designed to encourage minority students to pursue training for scientific careers and to enhance the science curricula and research capabilities of faculty at institutions with substantial minority enrollments. Historically, minority groups underrepresented in biomedical and behavioral research include, but are not limited to, African Americans, Hispanic Americans, Native Americans (including Alaska Natives), and natives of the U.S. Pacific Islands.

MORE has three components:

- The **Minority Access to Research Careers (MARC) Branch** provides institutional research training grants to support honors undergraduates, science curriculum development, conferences, science enrichment activities, and visiting scientists, as well as individual predoctoral and faculty fellowships.
- The **Minority Biomedical Research Support (MBRS) Branch** provides grants to minority institutions to support investigator-initiated research and to enhance faculty, student, and institutional development.
- The **Special Initiatives** component of MORE sponsors programs such as Bridges to the Future to encourage successful transitions by 2-year college students and master's degree students to bachelor's (Bridges to the Baccalaureate) and Ph.D. (Bridges to the Doctorate) degree programs, respectively. The Institutional Research and Academic Career Development Award merges postdoctoral training at a research-intensive institution with teaching at a minority institution.

While the MORE Division sponsors grants that specifically target underrepresented minorities, individuals from underrepresented minority groups are encouraged to apply for any NIGMS grant for which they qualify. Information on NIGMS' grant programs can be found in the Institute's *Divisions and Grant Award Mechanisms* brochure as well as on the NIGMS Web site at http://www.nigms.nih.gov/funding/funding.html.

FOR MORE INFORMATION
www.nigms.nih.gov/about_nigms/more.html

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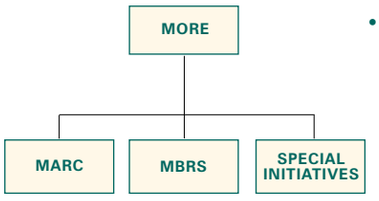

MORE'S THREE COMPONENTS

Program Overview by Career Stage

MINORITY PROGRAM	HIGH SCHOOL STUDENT	COMMUNITY COLLEGE STUDENT	UNDERGRADUATE STUDENT	MASTER'S STUDENT	PH.D. STUDENT	POSTDOCTORAL STUDENT	FACULTY MEMBER	OTHER
Undergraduate Student Training in Academic Research (U*STAR) Awards (p. 7)			•					
Ancillary Training Activities Grants (p. 8)								•
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Predoctoral Fellowships (p. 10)					•			
Faculty Predoctoral Fellowships (p. 10)							•	
Faculty Senior Fellowships (p. 11)							•	
Support of Continuous Research Excellence (SCORE) Program (p. 15)							•	
Research Initiative for Scientific Enhancement (RISE) Program (p. 16)		•	•	•	•	•	•	
Initiative for Minority Student Development (IMSD) Awards (p. 17)			•	•	•	•		
Bridges to the Baccalaureate (p. 21)		•						
Bridges to the Doctorate (p. 22)				•				
MORE Institutional Research and Academic Career Development Awards (IRACDA) (p. 23)						•		
Predoctoral Fellowship Awards for Minority Students (p. 24)					•			
MORE Faculty Development Awards (p. 25)							•	
Research Supplements for Underrepresented Minorities (p. 26)	•	•	•	•	•	•	•	

Profile of Success

DR. WILFRED DENETCLAW, JR.

"Being raised in a traditional Navajo lifestyle—raising livestock and farming—helped me to recognize the meaning of life and the diversity of living things."

Jay Watson Photography

"AS AN ELEMENTARY SCHOOL STUDENT, I WAS FIXED ON LEARNING ABOUT CELLS AND HOW THEY WORKED," recalled Dr. Wilfred Denetclaw, Jr. of the University of California, San Francisco (UCSF), "and today I'm a cell biologist," he added, explaining how his interest in science developed at a young age.

"Being raised in a traditional Navajo lifestyle—raising livestock and farming—helped me to recognize the meaning of life and the diversity of living things. I was able to witness the earliest beginnings of life and its conclusion in animals and plants."

Denetclaw kept this natural curiosity about science with him during his academic career, and he credits the MBRS and MARC Programs with exposing him to the possibility of a career in biomedical research.

"When I started college, I wanted to study biology, but I did not know how to apply my interest in biology and science to real employment," Denetclaw said.

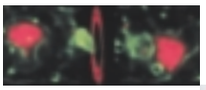
"At first, I did not consider scientific research as a profession because the career was unknown to me. However, the MBRS Program at my tribal college, Diné College, and the presence of a caring and patient research mentor provided me with the opportunity to learn firsthand the process of research and its value as a career."

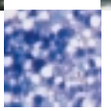
"As a student researcher in the MBRS—and later the MARC—Program, I was able to experience scientific research at its core, and I really enjoyed this work," he added.

After completing a year at Diné College in Shiprock, NM, Denetclaw went on to receive a bachelor's degree in biology from Fort Lewis College in Durango, CO. He received a Ph.D. in zoology from the University of California, Berkeley (UCB).

Now an assistant professor of biology at UCSF, Denetclaw studies cellular growth and differentiation mechanisms in the formation of the developing skeletal muscles in the vertebrate embryo. He hopes that his findings will shed greater light on human development and assist in discovering new treatment strategies for muscle diseases.

Denetclaw has been an active member of numerous scientific societies, including serving as a past student president of the UCB chapter of the American Indian Science and Engineering Society and as a board member of the Society for Advancement of Chicanos and Native Americans in Science. He recently served as a faculty mentor in the American Society for Cell Biology Minority Affairs Committee's visiting professor program. He was the 1999 recipient of UCSF's "Champion of Diversity" award.





MINORITY ACCESS
to Research Careers

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To help tap the talent of members of minority groups that have long been underrepresented in the biomedical and behavioral sciences, NIGMS formally established the Minority Access to Research Careers (MARC) Program in 1975. MARC administers several programs that are designed to increase the number of well-prepared minority students who can compete successfully for entry into graduate programs leading to research doctorates in the biomedical or behavioral sciences. MARC institutional and individual grants support research training for undergraduates, predoctoral students, and faculty members at 4-year colleges, universities, and health professional schools.

Like all MORE programs, MARC awards require applicants to set goals and measurable objectives—such as an increase in the number and/or competitiveness of students pursuing biomedical or behavioral research careers—to be achieved by the proposed activities. Grantees are also required to evaluate the effectiveness of their research training activities.

MARC trainees and fellows must be citizens or noncitizen nationals of the United States or must have been lawfully admitted to the United States for permanent residence and have in their possession a permanent visa at the time of application. Individuals on temporary or student visas are not eligible.

*Undergraduate Student Training in Academic Research (U*STAR) Awards*

Purpose

MARC U*STAR Awards provide funds to baccalaureate degree-granting institutions with significant minority student enrollments. These grants provide support for honors undergraduates at the junior/senior level to enhance their preparation for graduate training in the biomedical or behavioral sciences. In addition, the grants provide funds to improve the research training environment and for science faculty development at the grantee institution.

Each institution is encouraged to design a research training program that reflects its mission, physical and personnel resources, and student population. Institutions are expected to set their own goals and measurable objectives and describe the procedures that will be used to evaluate the effectiveness of the proposed research training activities. Although variation among U*STAR programs is anticipated, all programs are expected to provide trainees with a summer research experience at a research-intensive institution. In addition, during the academic year U*STAR trainees should be provided with research opportunities at the home institution or at another institution to which the institutional U*STAR program has established linkages. Alternatively, institutions may offer other effective educational experiences that stimulate the trainees' interest in research.

Eligibility

Only domestic, nonprofit, public or private institutions that offer the baccalaureate degree and that have student enrollments drawn substantially from minority groups that are underrepresented in the biomedical or behavioral sciences may apply. Only one grant will be awarded to an eligible institution. The institution is responsible for selecting the trainees to be supported. MARC U*STAR trainees must be honors students majoring in the sciences who have an expressed interest in a biomedical or behavioral research career and who intend to pursue postgraduate education leading to the Ph.D., M.D.-Ph.D., or other combined professional degree-Ph.D.

Award Information

In addition to annual student stipends of $9,732, funds may be requested for tuition, fees, and research supplies for trainees; limited travel for trainees and faculty; and program administration and evaluation. Certain other training-related costs, such as support for pre-MARC student development activities, may be requested with strong justification. The initial institutional grant period is 5 years, with the opportunity for competitive renewal at the end of that period. The period of appointment to the MARC U*STAR Program is 2 years at the junior/senior level.

The MARC stipend levels listed in this brochure are for Fiscal Year 2000 and became effective on October 1, 1999. These stipend levels generally increase each fiscal year.

Career Level	Stipend for FY 2000
MARC juniors/seniors	$ 9,732
Predoctoral	$15,060
Postdoctoral Years of Experience	
0	$26,916
1	$28,416
2	$33,516
3	$35,232
4	$36,936
5	$38,628
6	$40,332
7 or more	$42,300

INSTITUTIONAL AWARDS

APPLICATION RECEIPT DATES
January 10 and May 10

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: August 19, 1999, PAR-99-150

http://grants.nih.gov/grants/guide/pa-files/PAR-99-150.html

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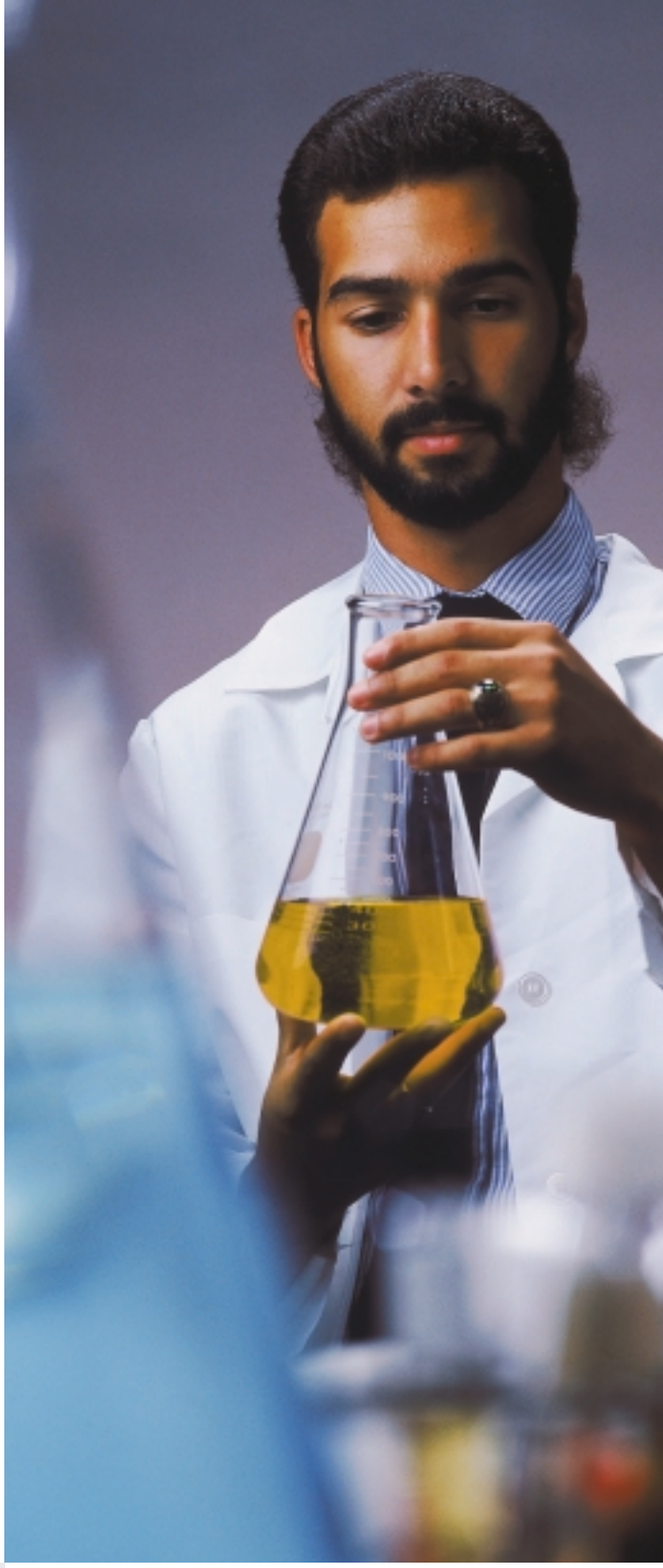
A list of institutions receiving MARC U*STAR support is posted on the NIGMS Web site at www.nigms.nih.gov/funding/marc.html



Ancillary Training Activities Grants

Purpose

MARC Ancillary Training Activities grants provide support for scientific meetings, conferences, technical workshops, and other training activities that address in unique ways the overall objectives of the MARC Program, which are increasing the number of well-trained minority biomedical and behavioral scientists and strengthening the research training capabilities of minority institutions.

Eligibility

Applications may be submitted by U.S. institutions, including scientific and professional societies. Applications will not be accepted from foreign organizations or for international conferences.

Award Information

Allowable costs include salaries, conference services, rental of necessary projection and audiovisual equipment, supplies, travel expenses, publication costs, registration and speaker fees, and per diem allowances for speakers and activity participants. The responsibility for planning, managing, and conducting the meeting lies solely with the applicant organization. The duration of a grant may not exceed 5 years.

APPLICATION RECEIPT DATES
February 1, June 1, and October 1

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: April 20, 1999, PAR-99-091

http://grants.nih.gov/grants/guide/pa-files/PAR-99-091.html

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Visiting Scientist Fellowships

Purpose

MARC Visiting Scientist Fellowships are awarded for periods of up to 1 year to support outstanding scientist-teachers who serve as visiting science faculty members at eligible minority institutions. The visiting scientist and faculty of the host institution jointly develop a program of teaching, seminars, and research workshops. The program seeks to strengthen the research and teaching programs in biomedically and behaviorally related sciences for the benefit of the students and faculty at the host institution by drawing on the special talents of scientists from other institutions. The visiting scientist benefits from his or her involvement in innovative science education and research development programs.

Eligibility

Applications must be submitted by a minority institution on behalf of the visiting scientist, who should be a recognized scholar and/or researcher in the biomedical or behavioral sciences.

Award Information

A MARC Visiting Scientist Fellowship provides salary support for the period of time that the scientist-teacher is working at the minority institution. The amount that may be requested depends on the current salary and fringe benefit rate of the visiting scientist, prorated for the time spent at the host institution. With appropriate justification, the institution may request a travel allowance for the visiting scientist as well as an institutional allowance to provide funds for items such as supplies and support services.

APPLICATION RECEIPT DATES
April 5 and December 5

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: Vol. 6, No. 1, January 7, 1977

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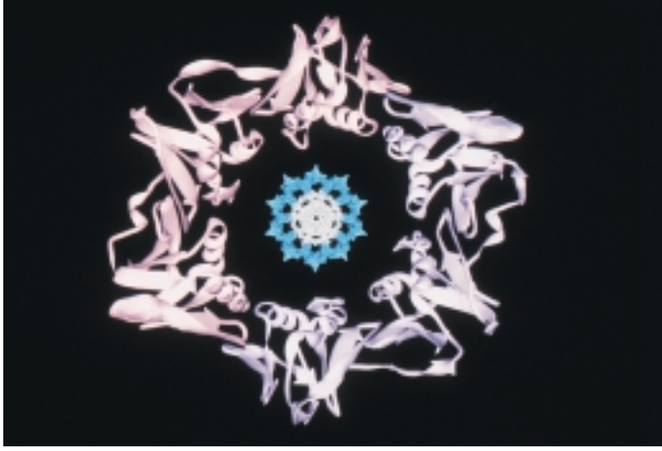

INDIVIDUAL AWARDS

PREDOCTORAL FELLOWSHIPS
APPLICATION RECEIPT DATES
April 5 and December 5

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: August 16, 1999, PAR-99-142

http://grants.nih.gov/grants/guide/pa-files/PAR-99-142.html

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FACULTY PREDOCTORAL FELLOWSHIPS
APPLICATION RECEIPT DATES
April 5 and December 5

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: Vol. 23, No. 7, February 18, 1994, PAR-94-032

http://grants.nih.gov/grants/guide/pa-files/PAR-94-032.html

CONTACT
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Predoctoral Fellowships

Purpose

MARC Predoctoral Fellowships are made to outstanding graduates of the MARC U*STAR Program to help them pursue graduate degrees in the biomedical or behavioral sciences. Support is not available for individuals enrolled in medical or other professional schools unless they are enrolled in a combined-degree (such as an M.D.-Ph.D., D.D.S.-Ph.D., or D.V.M.-Ph.D.) program.

Eligibility

Applicants must be graduates of a MARC U*STAR program and must be currently enrolled in a Ph.D. or equivalent research degree program, a combined M.D.-Ph.D. program, or another combined professional degree-Ph.D. program in the biomedical or behavioral sciences, or have been accepted into and have agreed to enroll in such a graduate program in the academic year in which support is sought.

Award Information

The annual stipend for MARC predoctoral fellows is $15,060. NIGMS will also provide tuition and fees according to NIH policy, as well as up to $2,500 per 12-month period to the predoctoral fellow's sponsoring institution to help defray such trainee expenses as research supplies and equipment. A maximum of 5 years of support is available.

Faculty Predoctoral Fellowships

Purpose

MARC Faculty Predoctoral Fellowships enable science faculty members at minority institutions to obtain a Ph.D. or equivalent degree. The fellowship is performed at a different institution, but the fellow is expected to return to the minority institution at the end of the training period.

Eligibility

An applicant must be a full-time, permanent faculty member in a biomedically or behaviorally related science at a minority institution, and must have been at that institution for at least 3 years at the time of application. The applicant must be enrolled in or have been accepted into a Ph.D. or combined M.D.-Ph.D. training program in the biomedical or behavioral sciences.

Award Information

An applicant may request a stipend equal to his or her annual salary, but not more than the stipend of a level 1 postdoctoral fellow ($28,416). The applicant may also request tuition and fees according to NIH policy, as well as an allowance of $2,500 per year for training-related costs. A maximum of 5 years of support is available.

Faculty Senior Fellowships

Purpose

MARC Faculty Senior Fellowships enable science faculty members at minority institutions to engage in full-time research for up to 2 years at a state-of-the-art research institution. Upon completion of the training, the faculty member will return to the home institution with new skills that enhance his or her ability to compete for grant funding and to improve the institution's research and teaching environment.

Eligibility

An applicant must be a full-time, permanent faculty member in a biomedically or behaviorally related science at a minority institution, and must have been at that institution for at least 3 years at the time of application. The applicant must have received a Ph.D. or equivalent degree at least 7 years before the date of application.

Award Information

An applicant may request a stipend equal to his or her annual salary, but not more than the stipend of a level 7 postdoctoral fellow ($42,300). If the award is for less than 12 months, the actual amount will be prorated by the length of the award. The applicant may also request an institutional allowance of $3,000 per year to be used for expenses directly related to his or her research. The applicant may request no less than 1 academic year (9 months) and no more than 2 years of support.

APPLICATION RECEIPT DATES
April 5 and December 5

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: Vol. 23, No. 7, February 18, 1994, PAR-94-032

http://grants.nih.gov/grants/guide/pa-files/PAR-94-032.html

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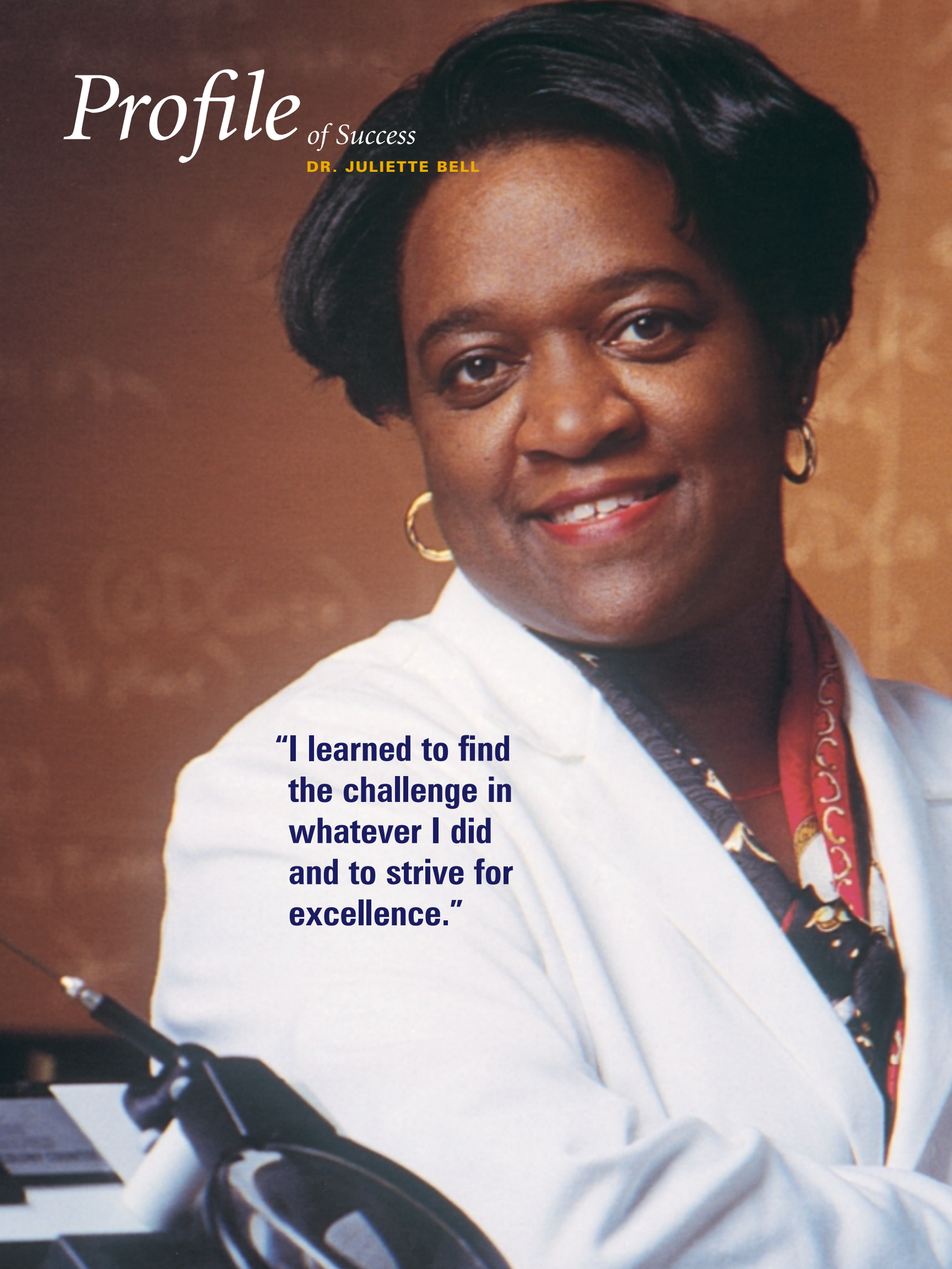
Profile of Success

DR. JULIETTE BELL



"I learned to find the challenge in whatever I did and to strive for excellence."

"WHEN I TELL PEOPLE THAT I AM A BIOCHEMIST, I AM OFTEN ASKED HOW I GOT INTO THIS LINE OF WORK," said Dr. Juliette Bell, a biochemistry professor at Fayetteville State University in North Carolina.

"People ask: 'Did you have a biochemist in the family?' or 'Did you always want to be a scientist?' "

Her answer is "No."

Bell grew up on a family farm in the small rural community of Alpine, AL, and began assisting with farm-related tasks at a very early age.

"I distinctly remember having to miss school to work in the cotton fields, and struggling to bring in the last of the cotton crop during the Christmas holidays," Bell said, adding that this hard work taught her an invaluable lesson.

"I learned to find the challenge in whatever I did and to strive for excellence. Back then, at 12 or 13 years old, it was trying to pick a hundred pounds of cotton in a day. Later on in high school, it was in a chemistry course that I found the challenge."

Bell went on to study chemistry at Talladega College in Alabama. She credits the MBRS Program for providing her with her first opportunity to conduct research as an undergraduate student.

"My interest in and love for biomedical research were born from that experience," Bell noted.

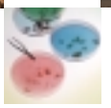
After graduating at the top of her class, Bell attended Atlanta University in Georgia, where she became a MARC predoctoral trainee.

"The MARC Program actually made a career in biomedical research a real possibility by providing the support for me to obtain a Ph.D. degree."

Bell now studies the structure/function relationships in enzymes involved in nucleic acid biosynthesis. She has received numerous honors and awards throughout her career, including the prestigious Young Investigator Award from the National Science Foundation. Most recently, she was selected Fayetteville State University's "Teacher of the Year" for 1999–2000 and received the University of North Carolina Board of Governors' Award for Excellence in Teaching for 2000–2001.

Bell continues to be involved with NIGMS' minority programs, serving now as a program director and principal investigator of the MBRS Program at Fayetteville State University and as president of the MBRS/MARC Program Directors' Organization for 1999–2001.

"The MBRS Program has allowed me to establish my own research program and has given me the opportunity to begin training the next generation of biomedical researchers," she said.



MINORITY BIOMEDICAL
Research Support

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National Institutes of Health
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The Minority Biomedical Research Support (MBRS) Program began in 1972 as a long-term investment to strengthen minority institutions' research capabilities and to provide for faculty and student participation in research. MBRS awards are made to public and private 2- or 4-year colleges, universities, and health professional schools with 50 percent or more enrollments of minorities that have been determined by the grantee institution to be underrepresented in biomedical or behavioral research. In some cases, awards are made to institutions that have a demonstrated commitment to the special encouragement and assistance of the minority student population although minority enrollment at these institutions is under 50 percent.

MBRS strives to fulfill its mission of increasing the number of minority scientists engaged in biomedical or behavioral research by awarding grants to support research by faculty members; strengthen the institutions' biomedical or behavioral research capabilities; and increase the interest, skills, and competitiveness of students and faculty in pursuit of biomedical or behavioral research careers.

MBRS has three major grant mechanisms: Support of Continuous Research Excellence (SCORE), Research Initiative for Scientific Enhancement (RISE), and Initiative for Minority Student Development (IMSD). A list of institutions receiving MBRS support is posted on the NIGMS Web site at www.nigms.nih.gov/funding/mbrs.html.

Support of Continuous Research Excellence (SCORE) Program

Purpose

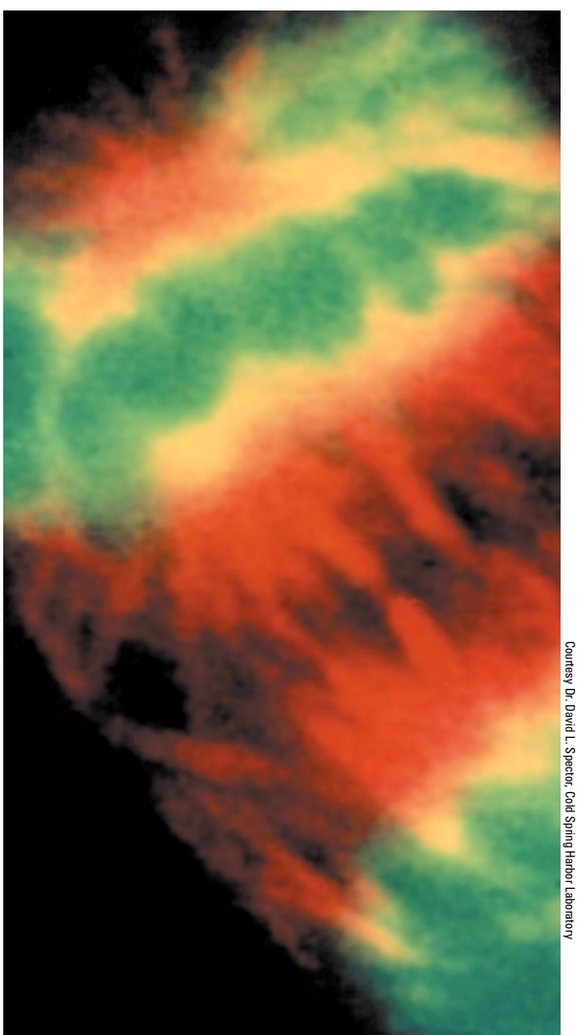
The purpose of the SCORE Program is to assist biomedical or behavioral research faculty at minority institutions to develop competitive research programs, and to increase the number of underrepresented minorities who are professionally engaged in biomedical and behavioral research. SCORE grants support faculty-initiated, scientifically meritorious research projects (including pilot projects) in all areas of biomedical and behavioral science at institutions with significant underrepresented minority student enrollments. Support for faculty participating in SCORE-funded pilot research projects is preparatory to their seeking more substantial funding from other NIH research grant programs or from other Federal agencies or private organizations. Institutions are expected to set specific goals and measurable objectives with reference to research productivity (such as number of publications and number of grant applications, improvements to research infrastructure, faculty research environment, and faculty development). Institutions are also expected to design methods to evaluate their progress toward these objectives.

Eligibility

MBRS awards are made to public and private 2- or 4-year colleges, universities, and health professional schools with 50 percent or more enrollments of minorities that have been determined by the grantee institution to be underrepresented in biomedical or behavioral research. In some cases, awards are made to institutions that have a demonstrated commitment to the special encouragement and assistance of the minority student population although minority enrollment at these institutions is under 50 percent.

Award Information

Applicants may request support for 1 to 20 research projects and 1 to 8 pilot research projects per program. Allowable costs in the SCORE Program include faculty salaries (reimbursed according to percent effort), salaries for technicians, limited administrative support, consultant fees, equipment, research supplies, scientific seminar series, travel, and support for evaluation activities. Funds are also available for up to $40,000 in alterations and renovations when necessary to carry out the proposed research. The total requested project period may not exceed 4 years. Applicants requesting over $1,000,000 in any one year must first contact the MBRS branch chief. An institution may hold only one active SCORE award and may not be currently receiving support from the IMSD Program.



Courtesy Dr. David L. Spector, Cold Spring Harbor Laboratory

INSTITUTIONAL RESEARCH DEVELOPMENT AWARDS

APPLICATION RECEIPT DATES
February 1, June 1, and October 1

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: August 19, 1999, PAR-99-152

http://grants.nih.gov/grants/guide/pa-files/PAR-99-152.html

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Research Initiative for Scientific Enhancement (RISE) Program

INSTITUTIONAL STUDENT DEVELOPMENT AWARDS

APPLICATION RECEIPT DATES
February 1, June 1, and October 1

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: August 19, 1999, PAR-99-151

http://grants.nih.gov/grants/guide/pa-files/PAR-99-151.html

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Purpose

The RISE Program seeks to enhance the research environment at minority institutions. The overall goal is to increase the interest, skills, and competitiveness of students and science faculty in pursuit of biomedical and behavioral research careers.

The program offers support for faculty and student development activities, which can include on- or off-campus workshops, specialty courses, travel to scientific meetings, and research experiences at on- or off-campus laboratories. The RISE Program also supports institutional development activities, including the provision of limited funds for the renovation or remodeling of existing facilities to provide space necessary to implement proposed developmental activities, limited equipment purchases, and the development of innovative courses. Institutions are expected to set specific goals and measurable objectives and develop methods to evaluate the outcomes of the proposed developmental activities.

Eligibility

MBRS awards are made to public and private 2- or 4-year colleges, universities, and health professional schools with 50 percent or more enrollments of minorities that have been determined by the grantee institution to be underrepresented in biomedical or behavioral research. In some cases, awards are made to institutions that have a demonstrated commitment to the special encouragement and assistance of the minority student population although minority enrollment at these institutions is under 50 percent.

Award Information

The RISE Program includes such allowable costs as faculty salaries (reimbursed according to percent effort), salaries for students, limited administrative support, consultant fees, equipment, research supplies, workshops, scientific seminar series, travel, and support for evaluation activities. Funds are also available for up to $40,000 in alterations and renovations when necessary to carry out the proposed developmental activities. The total requested project period may not exceed 4 years. Applicants requesting over $750,000 in any one year must first contact the MBRS branch chief. An institution may hold only one active RISE award and may not be currently receiving support from the IMSD Program.

Initiative for Minority Student Development (IMSD) Awards

Purpose

IMSD Awards encourage the development and/or expansion of innovative programs to improve the academic and research competitiveness of underrepresented minority students at the undergraduate, graduate, or postdoctoral levels and facilitate their progress toward careers in biomedical or behavioral research. Applicants should describe the systems by which they will monitor and track the student participants in their programs, including the careers students choose after graduation and the benefits of the programs on student retention and graduation rates.

Eligibility

Awards are made to domestic, public and private educational institutions that are involved in biomedical or behavioral research and training. The institutions select the students to be supported. These students must be majoring in biomedically and behaviorally relevant sciences or be in medical, dental, or veterinary training and have an interest in pursuing research careers.

Award Information

The total requested project period for these awards may not exceed 4 years. Awards are renewable. Allowable costs include, but are not limited to, graduate student tuition remission; some administrative costs when fully justified; supplies; equipment; travel; other expenses; and salary, wages, and fringe benefits for students. Applicants requesting over $500,000 in any one year must first contact the MBRS branch chief. Institutions holding active MBRS SCORE or RISE awards are not eligible for this award.

APPLICATION RECEIPT DATE
February 1

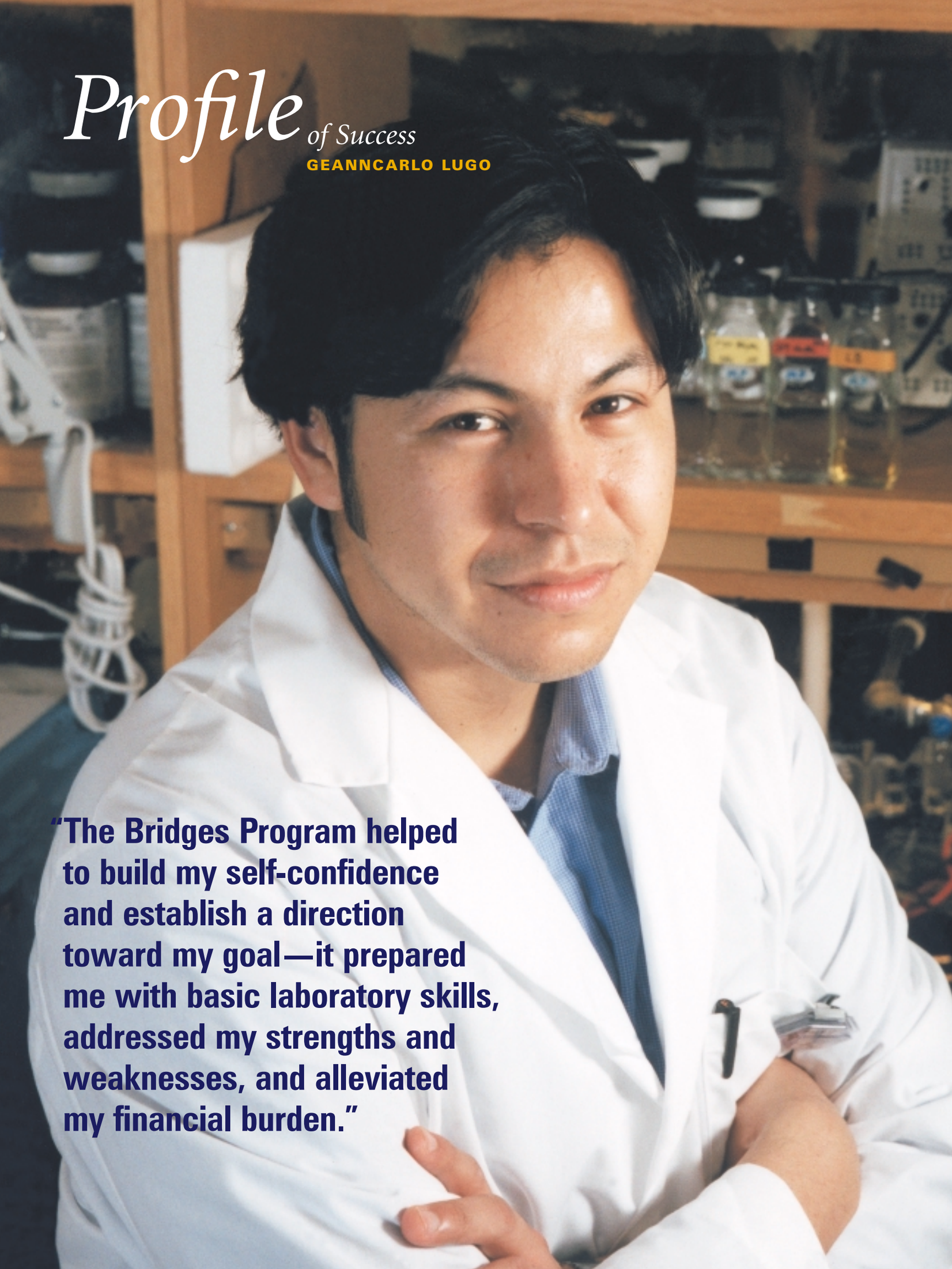
FOR MORE INFORMATION
NIH Guide for Grants and Contracts: December 9, 1999, PAR-00-022

http://grants.nih.gov/grants/guide/pa-files/PAR-00-022.html

CONTACT
Dr. Ernest Márquez
301-594-3900
marqueze@nigms.nih.gov

Profile of Success

GEANNCARLO LUGO



"The Bridges Program helped to build my self-confidence and establish a direction toward my goal—it prepared me with basic laboratory skills, addressed my strengths and weaknesses, and alleviated my financial burden."

Photo by Graham G. Ramsay

"I STILL HAVE A HARD TIME BELIEVING THAT I AM ATTENDING HARVARD UNIVERSITY PURSUING A PH.D.," said Geanncarlo Lugo, a first-year doctoral student studying immunology at the university.

"After I finished junior high school in Mexico, my mother made the wise decision for us to move to the United States and live with my grandmother," Lugo explained. "Her plan was to provide me with all the opportunities that she never had, and she knew that education was the best ticket for success in this country."

Lugo, a former Bridges to the Baccalaureate Program participant at Southwestern College in Chula Vista, CA, says the assistance he received from the Bridges Program provided him with the skills needed to successfully prepare for a career in the biomedical sciences.

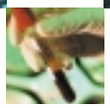
"The Bridges Program helped to build my self-confidence and establish a direction toward my goal—it prepared me with basic laboratory skills, addressed my strengths and weaknesses, and alleviated my financial burden." Most important, he added, the program provided him with mentors who cared about and believed in his future as a scientist.

Making the successful transition from a 2-year college to a 4-year university, Lugo transferred from Southwestern College to San Diego State University, where he participated in the MARC Program. He views the MARC Program as the "turning point" in his career.

"After I obtained the MARC fellowship, I experienced for the first time in my academic life a much-needed stability. I was able to dedicate myself 100 percent to scientific research and academics," he said.

With the help of the Bridges Program, and later the MARC Program, Lugo successfully completed his bachelor's degree in biology with honors.

"At the end of 3 fabulous years, I fell in love with immunology and applied and was accepted into one of the best immunology programs in the country for graduate school," Lugo said. Now at Harvard, he is studying lymphocyte development and the differentiation of T cells—the main orchestrators of the adaptive immune response.



SPECIAL
Initiatives

The MORE Division develops and launches new research and research training programs and other initiatives for minority students to encourage them to choose research careers in the biomedical and behavioral sciences. These include the Bridges to the Future Programs (Bridges to the Baccalaureate and Bridges to the Doctorate), which are co-sponsored by the Office of Research on Minority Health (another component of the National Institutes of Health), and the Institutional Research and Academic Career Development Award (IRACDA). The division is also responsible for organizing meetings and other activities that build networks among individuals and educational institutions to promote minority participation in sponsored research.

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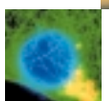

Bridges to the Baccalaureate

Purpose

The Bridges to the Baccalaureate initiative provides support to institutions to help students in biomedically or behaviorally related fields of study make transitions from 2-year junior or community colleges to full 4-year baccalaureate programs.

A key component of the Bridges to the Baccalaureate Program is partnership between institutions with the goal of providing a seamless transition for students who are interested in careers in biomedical or behavioral research. The partnership must involve at least two colleges or universities, but it may involve a consortium of several institutions and it may include several institutions within a single state system. The 2-year college must offer the associate's degree as the only undergraduate degree in the sciences within the participating departments and must have a significant enrollment of underrepresented minority students. One participating institution, designated as the applicant institution, must name the program director and must submit the application. Each participating institution must also name one individual to act as its program coordinator.

Eligibility

Awards are made to domestic, public and private educational institutions. State and local systems of higher education may also apply. Bridges to the Future specifically targets underrepresented minority students.

Award Information

The total requested project period for these awards may not exceed 3 years, with direct costs not to exceed $600,000 for the 3-year period. Allowable costs include, but are not limited to, tuition remission, supplies, equipment, travel, other expenses, salary, wages, and fringe benefits for students and faculty.

INSTITUTIONAL AWARDS

APPLICATION RECEIPT DATES
May 14 and November 14

FOR MORE INFORMATION
Bridges to the Baccalaureate Request for Applications: www.nigms.nih.gov/funding/pa/#more_rfa

CONTACT
Dr. Irene Eckstrand
Bridges to the Future Program
National Institute of General Medical Sciences
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45 Center Drive MSC 6200
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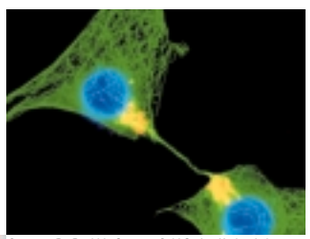
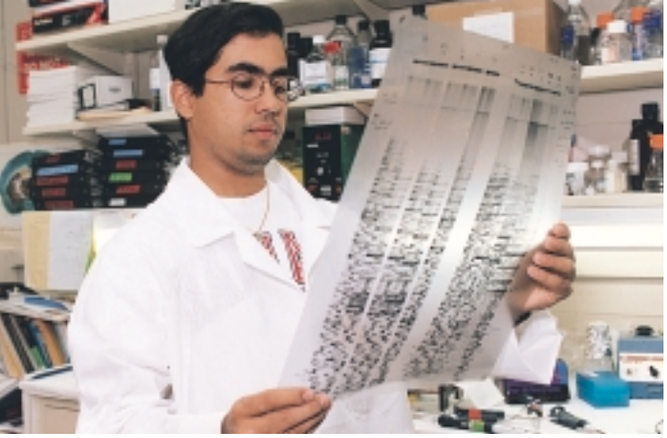
eckstrai@nigms.nih.gov

A list of institutions receiving Bridges Program support is posted on the NIGMS Web site at www.nigms.nih.gov/funding/bridges.html



Courtesy Dr. David L. Spector, Cold Spring Harbor Laboratory



Bridges to the Doctorate

Purpose

The Bridges to the Doctorate initiative provides support to institutions to help students in biomedically or behaviorally related fields of study make the transition from master's degree programs to doctoral degree programs.

A key component of the Bridges to the Doctorate Program is partnership between institutions awarding the master's degree as the terminal degree and universities awarding the Ph.D. degree, with the goal of providing a seamless transition for students who are interested in careers in biomedical or behavioral research. The partnership must involve at least two colleges or universities, but it may involve a consortium of several institutions and it may include several institutions within a single state system. The master's degree-awarding institution must have a significant enrollment of underrepresented minority students. One participating institution must be designated as the applicant institution, must name the program director, and must submit the application. Each participating institution must also name one individual to act as its program coordinator.

Eligibility

Awards are made to domestic, public and private educational institutions. State and local systems of higher education may also apply. Bridges to the Future specifically targets underrepresented minority students.

Award Information

The total requested project period for these awards may not exceed 3 years, with direct costs not to exceed $600,000 for the 3-year period. Allowable costs include, but are not limited to, tuition remission, supplies, equipment, travel, other expenses, salary, wages, and fringe benefits for students and faculty.

APPLICATION RECEIPT DATES
May 14 and November 14

FOR MORE INFORMATION
Bridges to the Doctorate Request for Applications:
www.nigms.nih.gov/funding/pa/#more_rfa

CONTACT
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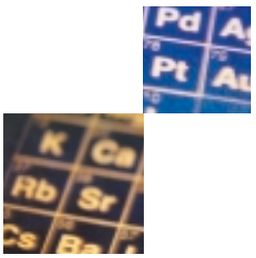
301-594-5402
eckstrai@nigms.nih.gov

A list of institutions receiving Bridges Program support is posted on the NIGMS Web site at www.nigms.nih.gov/funding/bridges.html



MORE Institutional Research and Academic Career Development Awards (IRACDA)

Purpose

MORE Institutional Research and Academic Career Development Awards (IRACDA) combine a traditional mentored postdoctoral research experience with an opportunity to develop teaching skills through mentored assignments at a minority institution. This program is expected to facilitate the progress of postdoctoral candidates toward research and teaching careers in academia. Other goals are to provide a resource to motivate the next generation of scientists at minority institutions and to promote linkages between research-intensive institutions and minority institutions that can lead to further collaborations in research and teaching. As with other MORE grant programs, institutions are expected to set specific goals and measurable objectives and describe plans to evaluate their accomplishments.

Eligibility

Applications must be submitted on behalf of a consortium of domestic, public or private educational institutions. The applicant institution should serve as the primary site of the postdoctoral research experience, and the consortium must include one or more minority institutions. The minority institution may be a public or private, 2- or 4-year college, university, or health professional school with a significant enrollment of underrepresented minority students.

Award Information

The total project period may not exceed 5 years, and projects are renewable. Institutions that receive awards may recruit and select candidates directly into their programs, rather than submitting a separate application on behalf of each prospective candidate. Applicants may request salary and fringe benefits to support the full-time effort of the candidates, as well as funds for tuition, fees, and books related to career development; supplies and other research expenses; travel to one training or scientific meeting per year; and statistical services, including personnel and computer time. Funds may also be requested to support mentoring activities at the minority institution and program administration.

APPLICATION RECEIPT DATE
October 1

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: June 24, 1998, PAR-98-085

http://grants.nih.gov/grants/guide/pa-files/PAR-98-085.html
and September 4, 1998, http://grants.nih.gov/grants/guide/notice-files/not98-122.html

CONTACT
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INDIVIDUAL AWARDS

Predoctoral Fellowship Awards for Minority Students

APPLICATION RECEIPT DATES
May 1 and November 15

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: February 24, 2000, PA-00-069

http://grants.nih.gov/grants/guide/pa-files/PA-00-069.html

CONTACT
Dr. Adolphus P. Toliver
301-594-3900
tolivera@nigms.nih.gov

Purpose

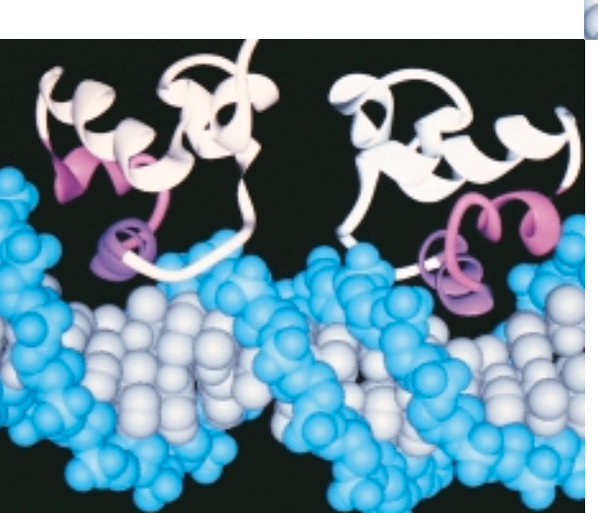
NIGMS participates in an NIH-wide program of individual predoctoral fellowship awards for minority students. These awards support research training leading to a Ph.D. or equivalent research degree, a combined M.D.-Ph.D. degree, or another combined professional doctorate-research Ph.D. degree in the biomedical or behavioral sciences. The intent of this fellowship program is to encourage students from minority groups that are underrepresented in the biomedical and behavioral sciences to seek graduate degrees, and thus further the goal of increasing the number of minority biomedical and behavioral scientists.

Eligibility

Eligible for this award are highly qualified students who are members of minority groups that are underrepresented in the biomedical or behavioral sciences. Applicants must currently be enrolled in a Ph.D. or equivalent research degree program, a combined M.D.-Ph.D. program, or another combined professional doctorate-research Ph.D. graduate program or have agreed to enroll in such a graduate program in the academic year for which funds are sought.

Award Information

The fellowship provides an annual stipend of $15,060; tuition and fee allowance; and an annual institutional allowance of $2,500, which may be used for travel to scientific meetings and for laboratory supplies and other training expenses. The total requested project period may not exceed 5 years.



MORE Faculty Development Awards

Purpose

MORE Faculty Development Awards provide support for eligible science faculty at institutions with substantial minority enrollments to spend the summer (or one academic term) every year for 2 to 5 years in full-time research in a research-intensive laboratory. The purpose of the award is to enhance the research and research training capabilities of the minority institution by offering faculty who have the Ph.D. degree or equivalent an opportunity to update or enhance their research skills through high-quality research experiences. The awardee will also have the opportunity to enroll in one course per academic term in fields directly related to the research in order to update his or her theoretical background. Ideally, the experience would lead to long-term collaborations between the awardee and the faculty of the research institution.

Eligibility

Applicants must be full-time, permanent faculty members in a biomedically or behaviorally related science at a domestic, public or private minority institution for at least 3 years prior to the time of application. Applicants must also have received the Ph.D. or equivalent at least 5 years before the application date and must intend to remain at the home institution at the end of the training period. In addition, applicants must have demonstrated a commitment to research and teaching at a minority institution and must plan to conduct research in the biomedical or behavioral sciences. The home institution must offer at least the baccalaureate degree, support the applicant's plans, and guarantee to provide appropriate release time each year for the applicant to perform full-time research and take coursework at the research institution.

Award Information

An applicant may request a salary equal to his or her actual annual salary and appropriate fringe benefits, prorated for the period of time during which the applicant is engaged in full-time research at the research institution. Salary support will not be provided for the time an awardee is only enrolled in an academic course. An applicant may also request up to $3,000 a year for supplies, equipment, and other expenses, which may include travel. The direct cost requested may not exceed $50,000 in any year. The applicant's home institution will serve as the grantee institution.

APPLICATION RECEIPT DATES
February 1, June 1, and October 1

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: Vol. 24, No. 14, April 14, 1995, PAR-95-048

http://grants.nih.gov/grants/guide/pa-files/PAR-95-048.html

CONTACT
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SUPPLEMENTS

Research Supplements for Underrepresented Minorities

INDIVIDUAL AWARDS

APPLICATION RECEIPT DATES
Continuous

FOR MORE INFORMATION
NIH Guide for Grants and Contracts: May 14, 1999, PA-99-104

http://grants.nih.gov/grants/guide/pa-files/PA-99-104.html

CONTACT
Dr. Anthony A. René
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Purpose

As part of an NIH-wide program, principal investigators holding NIGMS research grants may request supplemental funds to support minority scientists and students. The aim of these supplements is to attract and encourage minority individuals to pursue biomedical or behavioral research careers. The types of supplements available are:

- *Research Supplements for Minority High School Students* support minority high school students who have expressed an interest in the biomedical or behavioral sciences.
- *Research Supplements for Minority Undergraduate Students* support minority undergraduate students who have demonstrated an interest in the biomedical or behavioral sciences and wish to continue on to graduate-level training in these areas.
- *Research Supplements for Minority Graduate Research Assistants* help minority predoctoral scientists develop their capabilities for independent research.
- *Research Supplements for Minority Individuals in Postdoctoral Training* provide an opportunity for minority postdoctoral scientists to participate in ongoing research projects to further their development into independent biomedical or behavioral researchers.
- *Research Supplements for Minority Investigators* provide short- and long-term opportunities for minority investigators to participate in ongoing research projects while further developing their own independent research potential.

Eligibility

Any principal investigator at a domestic institution holding an active NIGMS research grant, program project grant, center grant, or cooperative agreement research program, with a reasonable period of research support (usually 2 years or more) remaining at the time of the supplemental award, is eligible to submit a request to NIGMS for an administrative supplement to the grant. Usually, each "parent grant" would have only one supplement. Minority individuals may receive support under these programs on only one grant at any time, but may be supported by more than one grant during their research careers.

Award Information

Supplement amounts vary for each of the above categories. In general, the supplement recipient will receive a salary consistent with institutional salary policies. Additional funds for supplies and travel may also be requested.

Application Receipt, Review, and Award Dates

The dates for receipt of applications requesting NIH support are established by the NIH Center for Scientific Review. All applications must be submitted directly to the Center for Scientific Review and must be postmarked by the indicated receipt dates. (Some programs may require that additional copies be sent to the NIGMS Office of Scientific Review. See the instructions for individual programs for details.)

MORE BRANCH	PROGRAM	RECEIPT	SCIENTIFIC MERIT REVIEW	ADVISORY COUNCIL/ FELLOWSHIP OVERVIEW GROUP REVIEW	EARLIEST AWARD
MARC	U*STAR Awards	January 10 May 10	March October	May January	June June
	Ancillary Training Activities Grants	February 1 June 1 October 1	June/July October/ November February/March	September January May	December April July
	Visiting Scientist Fellowships	April 5 December 5	June March	August/September May/June	September June
	Predoctoral Fellowships	April 5 December 5	June March	August/September May/June	September June
	Faculty Predoctoral Fellowships	April 5 December 5	June March	August/September May/June	September June
	Faculty Senior Fellowships	April 5 December 5	June March	August/September May/June	September June
MBRS	SCORE	February 1 June 1 October 1	June/July October/November February/March	September January May	December April July
	RISE	February 1 June 1 October 1	June/July October/November February/March	September January May	December April July
	IMSD	February 1	June/July	September	December
SPECIAL INITIATIVES	Bridges	May 14 November 14	July February	October May	January July
	IRACDA	October 1	February/ March	May	July
	Predoctoral Fellowships	May 1 November 15	July/August January/February	August/September May/June	September June
	Faculty Development Awards	February 1 June 1 October 1	June/July October/November February/March	September January May	December April July
	Research Supplements	Continuous	Varies	Varies	Varies

GLOSSARY

Biomedical sciences — Any science related to areas such as cell biology, biochemistry, pharmacology, genetics, and behavioral research as well as the more quantitative areas such as mathematics, physics, chemistry, and computer sciences.

Direct costs — Costs that can be specifically identified with a particular project or activity.

Grantee institution — An institution (such as a college or university) that administers the grant funds supporting the research project.

Health professional school — An institution certified to award advanced degrees in the health-related sciences such as medicine, dentistry, veterinary medicine, nursing, or pharmacy.

Host institution — The grantee institution that administers the grant funds to support visiting scientists.

Individual grant — A grant awarded to an individual.

Institutional grant — A grant awarded to an institution (such as a college or university), allowing the institution to select the program participants.

MARC — Minority Access to Research Careers

MBRS — Minority Biomedical Research Support

Minority institution — An institution with a substantial enrollment of underrepresented minority students.

MORE — Minority Opportunities in Research

NIGMS — National Institute of General Medical Sciences

NIH — National Institutes of Health

Percent effort — The percent, or amount of time, of an individual's full-time, on-the-job effort that is devoted to a designated research project.

Postdoctoral fellow — A student performing research after receipt of a doctoral degree.

Underrepresented minority — A member of a recognized minority group that is underrepresented in the biomedical or behavioral sciences. Historically, these groups include, but are not limited to, African Americans, Hispanic Americans, Native Americans (including Alaska Natives), and natives of the U.S. Pacific Islands.

NOTES

DISCRIMINATION PROHIBITED: Under provisions of applicable public laws enacted by Congress since 1964, no person in the United States shall, on the grounds of race, color, national origin, handicap, or age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity (or, on the basis of sex, with respect to any education program or activity) receiving Federal financial assistance. In addition, Executive Order 11141 prohibits discrimination on the basis of age by contractors and subcontractors in the performance of Federal contracts, and Executive Order 11246 states that no federally funded contractor may discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Therefore, NIGMS extramural research and training awards must be operated in compliance with these laws and Executive Orders.

ACCESSIBILITY: This publication can be made available in formats that are more accessible to people with disabilities. To request this material in a different format, contact the NIGMS Office of Communications and Public Liaison at 301-496-7301, TDD 301-402-6327, or write to the office at the following address:
45 Center Drive MSC 6200, Bethesda, MD 20892-6200.

U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health
National Institute of General Medical Sciences

NIH Publication No. 00-3328
July 2000
www.nigms.nih.gov