

National Institute on Aging

NIA

Judith A. Salerno, M.D.

Deputy Director (Former)

EDUCATION

M.D.: Harvard Medical School, 1985

S.M.: (Health Policy and Management)
Harvard School of Public Health, 1976

B.A.: (History/
College Studies)
Stonehill College, 1973

RESEARCH INTERESTS

Long-term care, career development programs, arts, and aging



PIVOTAL EVENTS

After a rewarding professional career as a health policy analyst, I decided that I was better suited to a career in medicine and science. Asking myself, "Why not follow your dreams?" I returned to school to take more undergraduate science courses and found myself, nearing age 30, competing for grades with 18- and 19-year olds. I recall one of my chemistry professors suggesting that I was "too old" to take up science and, worse yet, medicine, especially if I wished to have a family. Without question, his doubts about my career choices were uppermost in my mind while I worked toward an "A" in his course. He motivated me to achieve and to learn science, albeit through my refusal to accept his cynicism and disapproval.

MENTORING & WORK/LIFE BALANCE

As a single mother with three teenaged children, I frequently feel "off balance." I have always worked to support my family, even during my years of clinical training, but I can't imagine a life without my career. Over the years, I have become comfortable with the perspective that either professional responsibilities or family may be on the "front burner" at any given time—never both together—but there will always be something on the stove! I have been fortunate to have good friends who can leap into help me, good supervisors who understand my priorities, and great children who are very forgiving if I can't make it to every soccer and baseball game. My female role models were few and far between, but I remember (and thank) each and every one.

INSIGHTS

My "second career" has given me the opportunity to work in different professional settings and experience a variety of ways a physician-scientist can serve numerous communities.

For example, I have built a geriatric medicine program in an academic health center, developed a fellowship training program in geriatrics, been actively involved with a consortium of community health organizations, worked in a laboratory doing clinical neuroscience research, and been in the thick of health policy decisionmaking at the highest levels of government. Now, my work at NIA allows me to draw from all these past experiences to advance the mission of our Institute—to encourage and support biomedical research, the development of research resources, and research training, as well as improve public understanding of the health of our aging population.

I would strongly recommend that women be undaunted about letting their colleagues know when, on occasion, personal or family responsibilities need to take priority, while always remembering that the rewards of a family need not exclude a satisfying professional life and that both can sustain you through the peaks and valleys of life.

J Taylor Harden, Ph.D., R.N.

*Acting Deputy Director;
Assistant to the Director for Special Populations*

EDUCATION

Ph.D.: (Psycho-Gerontology/Psychiatric Mental Health Nursing) University of Texas at Austin, 1989

M.S.: (Psych-Mental Health Nursing) University of Maryland at Baltimore, 1977

B.S.N.: University of Maryland at Baltimore, 1972

RESEARCH INTERESTS

Dr. Harden has wide-ranging research and teaching interests in aging; her core research interests are prevention and health promotion for older, minority women, with emphasis on behavioral interventions as well as functional and psychosocial outcomes.

PIVOTAL EVENTS

As an African American female, product of public schools in Washington, DC, and the first in my family to attend college, I wanted to help others in a profession that also offered security and flexibility—a career in nursing seemed appropriate. After obtaining a baccalaureate degree in nursing, I became a military nurse, where my interest in physical and mental health and health promotion grew. But the focus gradually changed



from acute illness in young adults to chronic health conditions in older adults and from clinical practice to clinical research, leading to a Ph.D. in nursing, with emphasis in research and psycho-gerontology. Being selected an NIH Extramural Associate made a critical difference in my tenure as a scientist in aging research. I was mentored by Dr. Miriam Kelty from the National Institute on Aging and Dr. Gertrude McFarland, then of the Division of Research Grants and now, Center for Scientific Review.

MENTORING & WORK/LIFE BALANCE

My career mentors in aging have modeled the critical dynamics of priority setting and balancing family with professional responsibilities. A helpful management illustration, taught early in my career and remembered often, involves a glass jar, rocks, stones, pebbles, sand, and water. First, I was asked to put the rocks in the jar and then asked the question, "is the jar full?" After adding each of the items in a succession of rounds, I was asked, "is the jar full?" Finally, I was asked to add water. The water saturated the sand, covered the pebbles, stones, and rocks, and spilled over the top of the jar. The lesson became clear—your family, friends, and mentors are the rocks, and room must be made for them as a first priority, work and professional responsibilities will seep in to fill all other available space. Learn what is important and make priorities.

INSIGHTS

In a professional life dedicated to higher education and aging research, the various administrative and leadership positions I have held have deepened my commitment to improve not only the quantity, but the quality of life of older adults. As the Assistant to the Director for Special Populations, NIA, my responsibilities include building collaborations and communications with extramural faculty scientists and professional organizations. I plan, develop, implement, and manage scientific meetings for women, minority, and disabled scientists, including an annual 7-day NIA Summer Institute on Aging Research. This involves a highly competitive application process, scientific review of abstracts, coordination of approximately 40 doctoral-level participants, and over 25 senior faculty from intramural and extramural research programs, scientific associations, academic institutions, and private foundations. As a result, over 800 new and emerging leaders and scholars in aging research, usually more women than men, have benefited from the informative curriculum and enduring network of the NIA Summer Institute.

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Michele Kim Evans, M.D.*Deputy Scientific Director, Intramural Research Program***EDUCATION**

Fellowship Training:
(Medical Oncology)
National Cancer Institute,
1986–1990

Postgraduate Training:
(Internal Medicine)
Emory University School
of Medicine, 1981–1984

M.D.: University of
Medicine and Dentistry
of New Jersey: The Robert
Wood Johnson Medical
School, 1981

A.B.: (Biology) Barnard College, 1977

RESEARCH INTERESTS

Biochemistry of DNA repair, the role of DNA damage and repair in cancer, minority health and health disparities

PIVOTAL EVENTS

Two events changed my career goal from community-based clinical medicine to research. First, in medical school, Dean Jack Gardner said he saw me as a research fellow in 10 years, not practicing medicine. He felt I was not stretching myself in my career choices and clearly had a vision for me that I did not even have for myself. He felt I needed the push he was prepared to give. Even after I came to NIH, he made certain I stayed on track.

Second, my NIH mentors, Drs. Dan Longo, Samuel Broder and Bruce Chabner continued Dr. Gardner's efforts by continually challenging me to pursue being a true physician-scientist. By providing vital support and training at each bend in the career path, this triumvirate nurtured me at critical career junctures and enabled the basic science work, the clinical work, the community-based epidemiologic study of health disparities work I do.

MENTORING & WORK/LIFE BALANCE

Traditional mentors like my parents and educators have been critical in every career step. As a minority female, I have thrived in mentoring relationships with minority men and women as well as those with nonminorities. As a physician-scientist, many patients I have treated were excellent mentors, developing my patient care skills as I was torn between career opportunities in clinical practice and research.



There is no perfect balance between family and work, just a never-ending series of careful compromises in order to successfully fulfill the multiple roles women must play on a daily basis. Hour to hour, one role dominates over the other as one is asked to be mother, researcher, wife, daughter, cook, physician, statistician, and director of the school pageant all in one day. Once one accepts that there is no perfect balance, it is much easier to succeed in both the professional and personal spheres of life.

INSIGHTS

My most significant career milestone has been the design and implementation of HANDLS, the Healthy Aging in Neighborhoods of Diversity across the Life Span Study. This multidisciplinary, community-based, prospective longitudinal epidemiologic study examines how race and socioeconomic status influence the development of age-related health disparities among African Americans and whites in Baltimore. This unique study employs novel research tools—mobile medical research vehicles—to improve participation rates and retention among nontraditional research participants. HANDLS allows me to conduct research on health disparities, have a clinical outlet, and conduct basic and translational research—a true convergence of all the factors that led me to become a physician-scientist.

As a minority woman in science, I have been in the 'double-bind,' described in 1975 by Shirley Malcolm. Even in 2007, additional challenges for minority women in science further complicate career progression and frequently compound their roles and responsibilities. I enjoy meeting the challenges and paying the price presented by my career path as no other provides such a robust chance to make a difference and do important work.

Marcelle Morrison-Bogorad, Ph.D.

Director, Division of Neuroscience

EDUCATION

Postdoctoral Fellowship:
(Biological Chemistry)
University of Cincinnati
Medical Center, 1971–1975

Ph.D.: (Biochemistry),
Beatson Institute for
Cancer Research,
Glasgow University, 1971

Hons. B.Sc.:
(Biochemistry),
University of Aberdeen,
Aberdeen, Scotland, 1967



RESEARCH INTERESTS

Basic and applied research on causes and treatment of normal age-related behavioral change and Alzheimer's disease (AD)

PIVOTAL EVENTS

Being one of the few researchers in neuroscience who had molecular biology experience and working with a collaborator who complemented my molecular experience with knowledge of the brain were two important aspects of my career.

MENTORING & WORK/LIFE BALANCE

I mentored both women and men in my laboratory and was a successful role model for women and for medical students who wanted a taste of research. Mentoring was really a source of joy because I could see my charges develop professionally. My husband and I have no children, so I have the utmost respect for those who combine child rearing with their professional responsibilities.

INSIGHTS

I have never felt that being a woman hindered my career development although I did have to press for equal pay early on. While an undergraduate, I was the first female to be voted head of my mixed hall of residence. Take advantage of these opportunities for service for they give you valuable experience and you never know where they may lead. In my case, being asked to be on the National Alzheimer's Association Medical and Scientific Advisory Board later in my career exposed me to the wider world of AD research and to caregivers and volunteers and laid the foundation for my eventual move to the NIH.

Chhanda Dutta, Ph.D.

*Chief, Clinical Gerontology Branch,
Division of Geriatrics and Clinical Gerontology*

EDUCATION

Ph.D.: (Pharmacology)
Uniformed Services University
of the Health Sciences, 1986

B.S.: (Biology) American
University, 1982

RESEARCH INTERESTS

Clinical research on age-related loss of muscle (sarcopenia), age-related physiological changes across the lifespan, influence of physical activity/exercise on aging, and exercise programs for older adults



PIVOTAL EVENTS

Being of Indian descent, although born and raised in the United States, forced me to navigate through, and often struggle with, the influences and expectations of two very different cultures for many years of my life. My struggles eventually taught me to find commonalities in things seemingly disparate, to integrate various influences, and to be self-directed. I think these same skills were pivotal to the development of my scientific career. For instance, although my doctoral thesis focused on reproductive endocrinology, my Ph.D. is in pharmacology, and my postdoctoral research was on vitamin D and calcium metabolism. I was also a pharmacologist in the Food and Drug Administration, prior to arriving at the NIA in 1993. Ultimately, I was able to draw from and continue to build upon my diverse scientific background and research experiences to successfully work in and promote the multidisciplinary field of aging research.

MENTORING & WORK/LIFE BALANCE

Balancing personal and professional responsibilities is an admirable goal, but in reality, it is difficult to achieve. At the time I was going through graduate school and postdoctoral training, there were not any mentoring programs available. Like so many of my contemporary colleagues, I have learned to shift my energies between personal and professional responsibilities, as needed. In practice, we make trade-offs between personal and professional responsibilities, rather than achieve any balance.

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Josephine M. Egan, M.D.

Chief, Diabetes Section and Acting Chief, Laboratory of Clinical Investigation, Intramural Research Program

EDUCATION

Fellowship: (Endocrinology)

University of Virginia Health Sciences Center, 1987–1990

Fellowship: (Clinical Pharmacology)

Baylor College of Medicine, Houston, TX, 1984–1986

M.B.B.Ch.: National University of Ireland, 1979

B.Sc.: (Pharmacology) National University of Ireland, 1976

RESEARCH INTERESTS

I am fascinated by the beta cell in islets of Langerhans within the pancreas. They are like little machines that sense any perturbations in blood glucose, and they can exquisitely modulate the amount of insulin secreted, as needed, at any moment in time. In type 2 diabetes, the sensing machinery is gone awry, and consequently, blood glucose is higher than it should be.

PIVOTAL EVENTS

My Irish training gave me a good, solid medical background. It opened my mind to unsolved medical dilemmas. If I had not come to the United States from Ireland in 1984, I would not be carrying out basic research. I completed a Clinical Pharmacology Fellowship in Baylor College of Medicine, Houston, when I first came to the United States. Baylor was a very rich research environment, with lots of potential collaborations and many excellent researchers, and I was able immerse myself in research for a full 2 years. This gave me the confidence to think I might be successful in biological research. From the moment I learnt how to isolate islets of Langerhans and actually see them in a dish, I was hooked on islet research.

MENTORING & WORK/LIFE BALANCE

During my fellowship at the University of Virginia, I began to study insulin secretion under the supportive direction of Dr. Michael Thorner. Under NIA Scientific Director George Martin, I explored what happens to insulin secretion with age to learn what might prevent the inexorable declines in insulin secretion with aging and disease. It was always difficult to balance family life with work. I often brought my first baby to the laboratory on weekends and evenings. I would work, feeling happy that he was with me, sleeping in his chair. With my second child, I worked at the bench throughout the working day, saving any writing for late night. During the week, my life was devoted to work, family, and sleep. I never owned a television, keeping up with current events through National Public Radio (NPR). I always carried a few manuscripts to read if I was picking up the kids and they were running late.

Rebecca A. Fuldner, Ph.D.

Chief, Aging Physiology Branch, Division of Aging Biology

EDUCATION

Postdoctoral Fellowship: Laboratory of Tumor Immunology and Biology, NCI, NIH, 1987–1990

Ph.D.: (Cell and Developmental Biology)

University of Wisconsin, Madison, 1986

B.S.: (Biochemistry) University of California, Berkeley, 1978

RESEARCH INTERESTS

How aging affects immunity; alterations in tissue function with aging

PIVOTAL EVENTS

While at the University of California at Berkeley, my first exposure to laboratory research was a work–study job during my sophomore year. The encouragement I received from my mentor and others in the laboratory as well as my sense of accomplishment in completing a project made my decision to become a research scientist quite simple, and I never looked back. The early 80s were a stimulating time in science as there were many new discoveries in the field of molecular biology that were full of promise. Later at The Institute for Genomic Research, I was fortunate to be one of the first scientists to view the entire set of genes encoded by the human genome. Not only was this experience exciting, but I also was involved in a gene race to find the gene(s) for early-onset Alzheimer's disease. Working in such a team setting was quite useful in helping to develop skills that are necessary for managing large multi-disciplinary projects.

MENTORING & WORK/LIFE BALANCE

The most important career choice you will make is choosing your mentors. I encourage junior scientists to consult with previous students and postdocs about their experiences in the laboratory under consideration. This is time-consuming, but well worth the effort as the mentors you choose early in your career are critical. One of my former mentors once told me, "You can't choose your parents, but you can choose your career advisor." This advice also is true for those considering combining a family with a research career. Raising a family and being a successful scientist are both demanding endeavors. Find a partner willing to be equally responsible for home and family life. Most successful women scientists that I know are extremely efficient, having developed organizational skills early on that helped them later accommodate the increasing demands on their time. I would encourage young women scientists to identify and adopt some of these techniques early in their careers so that they become second nature.

Nina Silverberg, Ph.D.

*Assistant Director, Alzheimer's Disease Centers Program,
Division of Neuroscience*

EDUCATION

Ph.D.: (Cognitive Psychology)
University of Arizona, 1998

B.A.: (Biopsychology)
Brandeis University, 1989

RESEARCH INTERESTS

Measuring memory and thinking ability in older people, Native Americans, and other underrepresented populations; educating the public as well as physicians about the latest research; and encouraging participation in research



PIVOTAL EVENTS

Unlike some people who know their career goals from age 2, when I finished college, I still had no idea what I wanted to "be when I grew up." So, drawing on a connection from a previous job as a research assistant at a rehabilitation hospital in Philadelphia, I found a similar position at Massachusetts General Hospital. Working with people with aphasia, I developed a strong interest in how language is represented in the brain, particularly in how we produce language. I was told the best in the field was someone at the University of Arizona. Though it seemed literally and figuratively like Mars to me, I fell in love with Tucson and had a superb graduate school experience. I was later drawn back to Arizona and was fortunate to obtain a position at Sun Health Research Institute, where my current research interests blossomed and culminated in my present job.

MENTORING & WORK/LIFE BALANCE

My best mentor is my mom, who always encouraged me to feel proud of my accomplishments and to learn from my mistakes. Moreover, she is a terrific role model. Having grown up in an immigrant household, she worked her way through college. She not only was the spokesperson for Metro, but also launched her own successful media relations consulting business.

I was pregnant with my second child when I applied for my current position. My son was 4 weeks old when we moved from Arizona to Bethesda and 2 weeks later, I started working. My first week on the job, since I was nursing, I dragged my infant and my mother back across the country to a meeting in California. My son, of course, decided he was hungry just as I was to be introduced to the scientists I would be working with! How's that for balancing family with professional responsibilities?

Catherine A. Wolkow, Ph.D.

*Head, Invertebrate Molecular Genetics Unit,
Laboratory of Neurosciences,
Intramural Research Program*

EDUCATION

Ph.D.: (Molecular Biology
& Genetics)
The Johns Hopkins University
School of Medicine, 1997

B.A.: (Chemistry) Pomona
College, 1990

RESEARCH INTERESTS

Genetic determinants of healthy
aging and longevity



PIVOTAL EVENTS

The major factor in my career success has been the collaborations I have conducted with other colleagues. Science is a collaborative enterprise, regardless of the fact that we sometimes spend long hours in the lab working alone on our own projects. Our work is only meaningful when it fits into a larger picture that includes the findings of our colleagues. In both my graduate and postdoc work, I was able to incorporate my studies with those of my lab-mates, leading to a more significant contribution at the end. As a lead investigator, I work very hard to find common connections between the projects ongoing in my lab and to establish a sense of collaboration between the various members of the lab.

MENTORING & WORK/LIFE BALANCE

Mentoring and collaboration are essential for building a successful scientific career. While some may be comfortable approaching a powerful scientist for advice, this has been an intimidating prospect for me. To overcome this, I took advantage of any opportunity to interact with senior scientists. This helped me get over my shyness and establish a rapport for mentoring discussions.

The delicate balance between family and professional responsibilities is ever-changing. It helps to appreciate that everyone struggles with this issue and nothing ever feels quite enough. When I started my family, I decided that I could only do my best and that worrying wasn't going to solve the problem. On most days, I feel fairly comfortable with the balance that my husband and I have achieved. On the harder days, I try to keep in mind that this balance may get easier as the kids grow up.

National Institute on Alcohol Abuse and Alcoholism

NIAAA

Hee-Yong Kim, Ph.D.

*Chief, Laboratory of Molecular Signaling,
Division of Intramural Clinical Biological Research*

EDUCATION

Ph.D.: (Analytical Chemistry) University of Houston, 1984

M.S.: (Natural Product Chemistry) Seoul National University, Seoul, Korea, 1980

B.S.: (Pharmacy) Seoul National University, Seoul, Korea, 1978



RESEARCH INTERESTS

Membrane biochemistry and modification, mass spectrometric characterization of signaling proteins and membrane lipids, development of mass spectrometric methodology for membrane phospholipids remodeling and membrane-protein/protein-protein interaction

PIVOTAL EVENTS

My decision to study mass spectrometry for my Ph.D. affected my career tremendously. Dr. Marvin Vestal and his group were about to make a breakthrough that could revolutionize the way biological studies were performed. I wanted to learn more about this exciting field, but I did not have the background to pursue the types of projects carried out in his lab. Understandably, Dr. Vestal was not willing to take me as his student. After a week of contemplation, I decided not to give up. I took extra courses and researched the literature on my own, got accepted by Dr. Vestal, worked hard, produced, and became one of his favorite students, eventually earning the nickname 'Ace.' Being trained as a mass spectrometrist greatly expanded the horizon of my research capability in pursuing biological problems. More importantly, once I experienced the success of learning a seemingly difficult new field, I was ready to face new challenges in all aspects of my scientific career without being intimidated.

MENTORING & WORK/LIFE BALANCE

As a mother of two boys, it was sometimes difficult to juggle the time. However, I tried to do my best to be productive whether at work or at home. I always felt grateful for the opportunity to work as a woman scientist despite having to leave my precious children in daycare. Most of all, my husband, who is also a scientist, understood the long hours of a scientist's daily life and was a great help. We always placed family life first, while pursuing our careers. At times, some sacrifices were inevitably made both at work and home. However, I found that there is always a

way to make it work in the long run, as long as one does not give up. My advice to women scientists is that under any circumstances, be confident in your ability, grateful, responsible, and never give up anything that is dear to your heart.

INSIGHTS

I came to the United States after receiving my master's degree in Korea. Naturally, I had difficulties in following lectures, expressing my thoughts, and communicating with others even on scientific matters. Furthermore, I cannot forget to mention my struggle to understand the culture of American life, at least for the first 5 years. Despite the hardship, I never gave up my dream of being an excellent scientist and a contributor to biomedical research.

As a foreigner and a woman, advancing each step of my career seemed to be a hurdle. I felt honored when elected to the Board of Directors of the American Society for Mass Spectrometry in 1995. This experience provided me with a unique opportunity to learn not only the broad prospect of cutting-edge mass spectrometric research, but also the collaborative spirit and organizational skills of the scientific community. Serving as the Nomination Committee Chair of the same society gave me an opportunity to examine successful examples of scientific activities. I served on the Editorial Board for Analytical Biochemistry, and organized/lectured at many national and international scientific meetings. I currently serve on the Board for the International Society for Studies on Fatty acids and Lipids. While these activities at times detracted from my scientific productivity, they contributed to my scientific track record. In 2006, I was promoted to Laboratory Chief. It was tremendous progress for a shy woman who had limited capability of expressing herself 27 years ago. Thinking back, it was the patience and tenacity that helped me to get here. I always tried my best in whatever I undertook and waited patiently for the results of my efforts. In doing so, I found it necessary to be assertive but polite. I struggled with this idea for a while and I am indebted to my friends and colleagues who helped me through the difficult times. I believe that if one is earnestly doing his/her best, there will be an outcome commensurate with the efforts, even if it may not be immediate. In addition, I would like to encourage women scientists to actively cultivate a cooperative and nurturing environment and to network. Above all, each of us must strive to become a good scientist with high work ethics, as the success of our profession is undoubtedly impinged upon scientific merits.

Patricia A. Powell, Ph.D.

Chief, Science Policy Branch,
Office of Science Policy and Communications

EDUCATION

Ph.D.: (Cellular and Molecular Biology) Washington University, 1988

B.A.: (Classics) Franklin and Marshall College, 1980

RESEARCH INTERESTS

Molecular and cellular genetics and developmental biology

PIVOTAL EVENTS

After graduating from college I worked as a lab technician for a year prior to entering graduate school. I was very fortunate to work with a Principal Investigator who was at the top of her field. She had an uncanny ability to ask the central question, whether in a seminar or informal discussion. The value of asking the right question stuck with me and guided my research career. In addition, for the first time, I experienced the fun of doing cutting-edge research. Even this early in my career I realized the importance of conveying both the excitement and the value of what we were doing in the laboratory. This started out as drawing genes and plasmids on paper napkins at the family dinner table, but eventually led to my spending a year at the National Science Foundation working on how to translate cutting-edge science for the lay public.

MENTORING & WORK/LIFE BALANCE

Mentoring is critical in science and I have both benefited from excellent mentoring as well as tried to provide it to others. One of the most valuable comments I ever received came from a mentor who was leaving the place where we both worked. He said, "When I talk with you in the future, I'm always going to start by asking about your family, not your job." When I start to lose sight of my priorities, that statement comes back to me. I do think being able to share a love of science, an excitement for exploration, and the value of a good question is a gift that scientists can give their children.

INSIGHTS

My career has taken many twists and turns that I certainly did not foresee from the outset. My research experience ranges from generating genetically modified virus-resistant plants, to pattern formation and neural development in the fruitfly. In my thesis lab, there was great excitement around being one of the first to express foreign genes in plants, and the first to engineer resistance to viruses using this technology. In later years,



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watching the debate on genetically modified organisms play out and seeing the influence of the spin by both extremes on public opinion, I became increasingly interested in the communication of science and science policy. In order to pursue this interest, I spent 1 year as an American Association for the Advancement of Science, Science and Technology Policy Fellow at the National Science Foundation focusing on how to provide information about cutting-edge science to the public through science museums, television and radio programs, and IMAX films. Our primary goal was in educating the public about major areas of current research occurring worldwide that warranted translation—especially research that might impact individual decisionmaking or policy formulation. Following my year at NSF, I moved to NIH as an AAAS policy fellow and remained there. Working at NIAAA, I focused much of my attention on the issue of underage drinking. One of the highlights of my policy work at NIH was serving as liaison to the Surgeon General's Office as we cowrote and edited the Surgeon General's Call to Action to Prevent and Reduce Underage Drinking.

Tina Vanderveen, Ph.D.

Director, Office of
Extramural Activities
(Former)



EDUCATION

Ph.D.: (Nutrition)
Ohio State University, 1976

M.S.: (Public Administration)
George Washington University, 1965

B.S.: (Biological Sciences)
Montana State University,
1953

RESEARCH INTERESTS

The scientific pursuit of alcohol consumption as it relates to better understanding of direct and indirect health effects attributable to human disease, comorbid disorders, mortality, and public health; relationships between biological factors and behaviors occurring in the context of environmental settings need to be untangled to better explain biological variability in response to the consumption of alcohol throughout the human lifespan

PIVOTAL EVENTS

The opportunities that enabled me to pursue a career in science include advice from my parents to pursue college after high school. It included hard work to earn sufficient money to afford this! Secondly, I was encouraged to seek opportunities

to seek financial assistance and to make those commitments necessary to achieve my goals. Finally, I was employed in the private sector; money to conduct research was available and no one in the company was qualified to undertake development of a sound research program!

It was at the insistence of my husband that I explored graduate possibilities for someone with considerable work experience, a few graduate hours toward a doctoral degree, and a strong belief that biology and behavior were somehow related in a way that could help health and disease! This took 3 years in a graduate program in residence nearly 2,000 miles from my home! I would add that leaving two young children, even in wonderful and competent care, was not easy. However, our entire family shared my goal and upon its accomplishment we found ourselves moving to Washington and me hunting for employment. My NIH career has evolved as a Health Science Administrator.

MENTORING & WORK/LIFE BALANCE

I have alluded to this balance in the above paragraph. I would add and emphasize that my marriage and family responsibility has always been a partner relationship with my husband. We had no other family support in child care, our lifestyle was modest, and our combined focused interest is science and academics. We are both scientists; our children have pursued careers in art and science.

The mentoring I have received was largely what I have sought in relation to goals that I felt were realistic. Before coming to NIH, I was not aware of the myriad opportunities for career progression through extramural programs. After my initial employment as a special assistant, I quickly realized that combining graduate school experience with previous experience as an administrator enabled me to assume the duties and responsibilities that comprise the Health Science Administration field. I had numerous mentors and very much cherished the opportunity to interact with scientists in the extramural community. In the most recent years, I acquired additional responsibilities and now have the privilege of providing mentoring for scientists who have recently joined my staff as Scientific Review Administrators.

INSIGHTS

Being a woman in science and/or a woman in the arts is still a challenge. Perhaps this is not so apparent in the earliest stages because gaining entry is easier in the sciences as well as other professions. In early adulthood, a more complex array of choices and value considerations provide barriers for many women. Several issues are at play here. It is my observation that early marriage provides some risk as intellectual development and fulfillment can be difficult concepts to discuss with partners. The necessities of economics and support of young families further complicates decisions. A huge factor is geographic mobility; couples and families do not want to be separated and sometimes this is necessary on a temporary basis. To women, I

would really say, be your own person even as you accommodate other demands and expectations. A partnership, which was my good fortune to find, accounts for my happiness and success.

Beata Buzas, Ph.D.

Scientific Review Officer, Extramural Project Review Branch, Office of Extramural Activities

EDUCATION

Postdoctoral Fellowship:
Uniformed Services University,
Maryland, 1992–1995

Ph.D.: (Neuroscience) Jozsef
Attila University, Hungary, 1991

M.S.: (Biology and Chemis-
try) Eotvos Lorand University,
Hungary, 1988

RESEARCH INTERESTS

Neuroscience, signal transduction, genetics, addiction



PIVOTAL EVENTS

I think my most important attribute as a scientist is my endless sense of wonderment of and curiosity about the natural world. I love learning new things, whether it is intricate details of how the brain works or how migrating birds find their way, and even about subjects that I understand only as a layman, such as astronomy. In school, I loved every subject and being a scientist is like never leaving school; you are a student forever. Being imaginative and organized is also important, so is approaching hypotheses in a scientifically strict and unbiased manner. Scientific integrity is the most essential quality every scientist must possess.

MENTORING & WORK/LIFE BALANCE

I had three children in less than 4 years as a junior research faculty, and it was difficult to find the balance between professional and family life. I came from a country where there is much more support for working mothers. It was a heart break to leave my few-weeks-old babies in the care of someone else, but when I saw them thriving, it allayed my concerns. For many years, I had no time at all for myself; I was either at work or with my children. We also made some compromises: we bought a small house close to work instead of a larger one farther away, so I did not have to spend valuable time commuting. Often people asked me, “How can you do all this?” and my answer always was, “You just do what you need to do,” which is the motto of many working mothers.

Mary-Anne Enoch, M.D.

Staff Scientist, Section of Human Neurogenetics, Laboratory of Neurogenetics, Division of Intramural Clinical and Biological Research

EDUCATION

M.B.B.S.: University College
Hospital Medical School,
London, 1981

B.A.: (Genetics) King’s College,
Cambridge University, 1975

RESEARCH INTERESTS

Genetic vulnerability and gene x environment interactions underlying alcoholism and comorbid disorders, particularly anxiety disorders; intermediate phenotypes (EEG power, event-related potentials [ERP], dimensional anxiety) for alcoholism and anxiety disorders



PIVOTAL EVENTS

Science has been my major interest since early childhood. I entered college wanting to be a physicist and exited it as a geneticist. I was then torn: should I go into research or become a physician? The latter won out and for several years I worked as a successful family practitioner with an interest in alcoholism, in London, United Kingdom. However I missed the intellectual stimulation of science so when my husband was offered a job in Washington, DC, I jumped at the opportunity to join NIAAA. My medical background gives me a broad perspective to my research in alcoholism and comorbid disorders and helps me in my work as a member of the NIH Neuroscience institutional review board (IRB). My most memorable times at NIAAA have been working together with members of Native American tribes in Oklahoma, collecting genotype—phenotype datasets to help understand the devastating consequences of alcoholism at an individual and community level. Pivotal reality-check moments in my scientific career came with the realization that if I was to get on, particularly as a woman scientist, I would have to be assertive and ask for the promotion, volunteer for the committee, organize the symposium, break into the networking system, and continually speak up.

MENTORING & WORK/LIFE BALANCE

My working hours as a scientist are flexible so that I have been able to balance professional responsibilities with raising my three children, for example by writing papers and reviewing manuscripts at home. I have learnt that in order to be a well-rounded scientist, it is important to nurture one’s outside life and not to get totally caught up in the job, interesting as it may be.

National Institute of Allergy and Infectious Diseases

NIAID

Carole A. Heilman, Ph.D.

*Director, Division of Microbiology
and Infectious Diseases*

EDUCATION

Ph.D.: (Microbiology)
Rutgers University, 1979

M.S.: (Microbiology)
Rutgers University, 1976

B.A.: (Biology)
Boston University, 1972

RESEARCH INTERESTS

Infectious diseases with an emphasis on translational research and emerging/re-emerging threats



PIVOTAL EVENTS

I was fortunate to have mentors who demonstrated great personal and professional integrity. The concepts of scientific excellence and rigor were part of my training in bench research. My first few papers were published with reviewers' comments such as "absolutely nothing negative to say," and "critically important findings." This reinforced the value of quality and scrupulousness in research. These continue to be among my fundamental principles.

I also learned from my mentors the importance of looking at the entire picture when answering a scientific question. Although I'm a molecular biologist by training, I find that taking a multidisciplinary, broad-based approach almost always leads to more creative thinking and effective solutions. This has served me well in my current position.

MENTORING & WORK/LIFE BALANCE

A large part of my ability to balance family and responsibility comes from the fact that this was the accepted model in my family. My mother worked at a time when that was unusual for women. Loving your job is an important part of balancing. The time you spend away from your family has to be worth it. That time can be valuable to your family as well. Routine and organization help tremendously, as does a network of supportive colleagues, many of whom are facing similar challenges.

Mentoring is a responsibility and privilege for everyone in science and comes in many forms. Talking with a young scientist who is trying to sort out options, becoming a role model at work, explaining to elementary school children the wonders of germs, or conducting a homemade chromatography experiment can make a lasting impression beyond what you ever imagined.

INSIGHTS

I could never have wished for a better time to have started my career. Molecular biology was a new concept and I was helping to define it, starting to develop unique tools that are now commonplace and well established in today’s laboratories. Cloning and developing the first “transcriptional map” of the human papillomavirus, applying molecular biology techniques to eukaryotic models of disease—these may seem ordinary now but they were revolutionary at that time.

I find it interesting that even in this day and age, a separate distinction is made for Women in Science. Perhaps one of the best gifts I have received is the belief that being a woman and a scientist was not unusual. Although my path has changed directions from the bench to the office, the scientist in me has never been stronger.

Hortencia M. Hornbeak, Ph.D.

Associate Director for Scientific Review and Policy, Scientific Review Program, Division of Extramural Activities

EDUCATION

Postdoctoral Fellowship:
(Pox Virus) NIAID,
1972–1974

Ph.D.: (Medical Microbiology) Georgetown University School of Medicine and Dentistry, 1972

B.A.: (Biology & Chemistry) Skidmore College, 1968

RESEARCH INTERESTS

Prevention, diagnosis, immunology and treatment of infectious diseases at the national and international levels

PIVOTAL EVENTS

My scientific career began with a solid scientific foundation. I received a B.A. in biology and chemistry from Skidmore College, followed by graduate training, a Ph.D. degree in medical microbiology from Georgetown University Medical School, and a postdoctoral fellowship at the NIAID. As an Assistant Professor at a newly established medical school, South Alabama, I conducted research, taught medical and allied health students, and had numerous administrative and management responsibilities. As a result, I became keenly aware of my leadership and management skills and my ability to independently assume major responsibilities. These capabilities grew and were fur-



ther developed through my career at the NIH, the world’s pre-eminent research institution. This organization has exposed me to outstanding scientists and facilities, and increased my appreciation of the benefits of NIH’s research to global health.

MENTORING & WORK/LIFE BALANCE

Formal and informal mentors have significantly affected my scientific development and career decisions. These mentors strengthened my interest in learning from all available resources, developing my strengths, and making sound career decisions that fit my family’s needs. Decisions have been made within a broad framework of knowledge, which has led to optimal choices. If decisions have unexpected consequences, I identify reasons, capitalize on positive aspects, and use newly gained perspectives in future decisions.

Throughout my career, decisions were made to minimize stress on my family and to maximize the effects of my scientific, leadership and administrative career goals. To balance family and professional responsibility, I address the most demanding tasks when I am most productive and intercalate my family and work responsibilities. Through family support, resourcefulness, flexibility, and planning, my promotions to positions of increasing responsibility were accommodated without undue stress.

INSIGHTS

I have been a critical player in the development of major Institute programs in the areas of basic and clinical research in HIV/AIDS, immunology, transplantation, biodefense and emerging/re-emerging infectious diseases. This work required knowledge of science and national/international policy and procedures in an environment of constant change.

The vision and leadership skills I developed during my career are recognized within and outside the NIH. I have been on the faculty of Brookings Institute training programs for senior executive management, interacted with national and international scientists as part of NIAID, NIH, and HHS research programs and grantsmanship workshops, and represented HHS on U.S. State Department and Global Fund activities.

Throughout my scientific career, the latitude to make decisions and take risks in safe environments has contributed to my personal and professional growth, and has resulted in the development of skills, perspectives, and opportunities that otherwise would not have been available. In addition, my ability to network and gain knowledge of organization’s culture/politics and acquisition of resources (e.g., staff, training, equipment, etc.) has been critical for success.

NIAID

Margaret (Peggy) I. Johnston, Ph.D.

*Assistant Director for Vaccine Research;
Director, Vaccine Research Program,
Division of Acquired Immunodeficiency Syndrome*

EDUCATION

Postdoctoral Associate:
Rega Institute for Medical
Research, Katholieke
Universiteit Leuven,
Leuven, Belgium, 1977–1978

Ph.D.: (Biochemistry)
Tufts University, 1977

B.S.: (Chemistry) Carnegie-
Mellon University, 1972

RESEARCH INTERESTS

HIV vaccine research,
discovery

**PIVOTAL EVENTS**

My father instilled in me an insatiable curiosity about the world, and my mother demonstrated how helping others can be enormously fulfilling. Mix these characteristics with a strong desire to be part of a team and add good mentorship and the result is a rewarding career in trying to solve one of the world's greatest biomedical challenges—stopping the spread of HIV (www.bethegeneration.org).

My mentors, including David Stollar, my Ph.D. thesis advisor at Tufts University and J.J. McGowan, my first supervisor at NIAID, were clearly positive forces. I have also been fortunate to have contributed to several successes in the AIDS field to keep me going.

MENTORING & WORK/LIFE BALANCE

My partner and I are designated -guardian/godparents for five children, which means I have somewhat different challenges than those faced by my colleagues who are parents. Without the demands of raising children, it is perhaps too easy to work longer and harder. My challenge has been in creating and maintaining this extended family, allowing time for a rewarding life outside work and keeping up with those children, some of whom live quite far from DC.

I was taught early on that employment is a two-way street. The employee needs to give to the organization, and the organization needs to give back something of value to the employee. Clear communication from both sides and a willingness to give-and-take over time is necessary.

INSIGHTS

As Director of the vaccine research program in the Division of AIDS, I have responsibility for NIAID's extramural research programs focused on HIV/AIDS vaccines, including initiatives in fundamental vaccine-related research; vaccine design and discovery; preclinical evaluation and development; and clinical trials, including the HIV Vaccine Trials Network. As Assistant Director for HIV Vaccines at NIAID, I serve as a liaison between the extramural and intramural HIV/AIDS vaccine research communities, and with the nonprofit and private sectors to help establish productive collaborations and to ensure an integrated and coordinated vaccine research and development program. I chair several inter- and intra-agency groups and I serve on several international advisory and coordinating bodies in the field of HIV vaccine research and development.

I have worked in the field of AIDS since 1987. Prior to returning to NIAID in the fall of 1998, I was the founding Scientific Director of the International AIDS Vaccine Initiative (IAVI). Before HIV/AIDS, I had an academic research/teaching career that included employment at the Rega Institute in Belgium, the NIH, and the Uniformed Services University of the Health Sciences (USUHS).

What are the keys to success?

1. Understand what the job needs from you so you can excel in giving to the job. Then you are in a good position for #2 below.
2. Figure out what will make you happy and then go for it. Ask for it. Your boss is not a mind reader. And hopefully he/she will be willing to negotiate.
3. Learn to negotiate. Understand what is of value to yourself and the person with whom you are negotiating—and be willing to walk away.
4. Value what you bring to the table. If the organization does not recognize your value, you are not in the right organization and you should leave.
5. Embrace rather than fear change. Change is inevitable and brings the possibility of more, not less. Letting go leaves you a free hand when the brass ring comes around. And it will.
6. Grab for your brass ring, whatever it may be. Everyone has self-doubts at times, even though they may not show it. So be brave and go for it.
7. If you should fail (and everyone does) or when you do need help, lean on others. They will feel useful and you will get the support you need.
8. Learn something from every failure. Those moments are much greater teachers than your successes.
9. When you need to choose, and you will, put family first. As former Senator Paul Tsongas wrote, no one ever lay on their death bed wishing they'd worked harder.
10. You are the boss of yourself and don't let anyone tell you otherwise. So please take from this list what works for you and throw the rest away!

Susan Plaeger, Ph.D.

Director, Basic Sciences Program,
Division of Acquired Immunodeficiency Syndrome

EDUCATION

Postdoctoral Fellowship:
(Human Immunobiology)
University of California
at Los Angeles, School of
Medicine, 1983–1985

Ph.D.: (Microbiology
and Immunology)
Louisiana State University
Medical Center, 1982

M.S.: (Microbiology
and Immunology)
Louisiana State University
Medical Center, 1976

B.S.: (Medical Technology—Biology and Chemistry)
Loyola University, New Orleans, 1971

RESEARCH INTERESTS

Basic research on the biology and pathogenesis of HIV and virus/host interactions of HIV-1

PIVOTAL EVENTS

The most positive influences were a mother and father who always told me that I could be anything I wanted to be. Neither of them had the opportunity to finish college, so they wanted that for me more than anything. My father also always treated me the same as my three brothers, never ever implying that I could not do anything that they could.

A negative experience that had an influence was a professor in graduate school who told me that my NIH fellowship was wasted because I would only go home and have babies and not use my Ph.D., which gave me the impetus to prove him wrong in the biggest way I could.

MENTORS & WORK/LIFE BALANCE

I found mentors at every stage of my career, many but not all of whom were women. They were people I admired and who had skills that I wanted to develop, for example being successful grant writers. These people were pivotal to me in their encouragement and support.

Balancing family with science has been hard. It requires a very supportive spouse. I still feel sad about certain events in my son's life that I missed. But my son is proud of me. He spent a lot of time in my lab, and I spent a lot of time driving between my lab and his school so that I could serve cookies, or whatever the "normal" mothers were doing. I don't regret any of it, but warn



young women that "having it all" is not really possible; family and career take a lot of effort and compromise.

INSIGHTS

Scientific milestones include being the only woman in my postdocs group at UCLA, getting my first NIH R01 grant, establishing an independent laboratory, and after 20 years in the lab, coming to the NIH as an extramural branch chief.

My most inspirational experience was finding incredible mentors and role models who supported me in every way. I remember finishing a grant renewal late on a Saturday night with two of my female colleagues and mentors there with me. It is that kind of mutual support, established women helping those more junior, which is the best hope for the success of women scientists.

Kathryn Christine Zoon, Ph.D.

Director, Division of Intramural Research

EDUCATION

Ph.D.: (Biochemistry)
The Johns Hopkins
University, 1976

B.S.: (Chemistry)
Rensselaer Polytechnic
Institute (RPI), 1970

RESEARCH INTERESTS

Interferon, cytokine biology,
signal transduction

PIVOTAL EVENTS

Many experiences influenced my career and achievement. Early on, an interest in chemistry was sparked both by my uncle Robert Pollock, a chemist for General Foods, whom I greatly admired, and by the great interest in science at the time. At RPI, my mentor, Stanley Bunce, encouraged me to advance my career in chemistry. It was with this encouragement and the support of my mom and dad, uncle and husband, that I pursued a Ph.D. in biochemistry at Johns Hopkins with John Scocca. John taught me survival skills that have benefited me throughout my career. My postdoctoral mentor and Nobel Prize winner, Christian Anfinsen, taught me that being the best was dependent not only on how smart you were, but also on caring for all the folks with whom you worked. This lesson has shaped my success as has his other lesson—the importance of always being prepared.

MENTORING & WORK/LIFE BALANCE

The help of my parents, August and Violet Egloff, made it possible for me to pursue this career by helping to care for my



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two daughters, Chrissy and Jenny. Without their support, this would have been close to impossible.

INSIGHTS

As Julia Childs said, the most important parts of cooking are ingredients and timing. This was particularly true for my career at the FDA, which I joined at the dawn of the new biotechnology revolution. I used my skills to capitalize on the opportune timing and advanced through the ranks of the FDA at the encouragement of my family, particularly my husband, Bob, FDA leadership, and Ruth Kirschstein, then Deputy Director of NIH. With their support of my efforts, I became the Director of the Center of Biologics at the FDA where I led a team of dedicated staff for 10 years overseeing the safety and efficacy of vaccines, biotechnology products, blood, and blood products. Al Rabson and Ruth Kirschstein encouraged me to return to the NIH in 2003, which was my ultimate desire. After spending two great years with the Center of Cancer Research, I was lured back to my love of public health infectious disease challenges and joined the NIAID. I had come full circle back to my roots and I am thoroughly enjoying the challenge of being the Scientific Director (SD) of the Division of Intramural Research (DIR).

Yasmine Belkaid, Ph.D.

Head, Mucosal Immunology Unit, Laboratory of Parasitic Diseases, Division of Intramural Research

EDUCATION

Ph.D.: (Immunology) Orsay University, Pasteur Institute, Paris, France, 1996

Diplome d' Etude Approfondie (DEA): (Immunology) Orsay University, Pasteur Institute, Paris, France, 1991

M.S.: (Biochemistry) University of Science & Technology Houari Boumediene of Algiers, Algeria, 1990

B.S.: (Biochemistry) University of Science & Technology Houari Boumediene of Algiers, Algeria, 1989

RESEARCH INTERESTS

Understanding the mechanisms underlying pathogen persistence, in particular, in the context of parasitic infections

PIVOTAL EVENTS

Of the experiences that have stimulated my research career, being exposed to research on parasitic diseases in endemic areas during my training was the first to shape my success. Having supervisors that understand the demands of a family life and having the support of several mentors has also been pivotal in my development and achievement as a scientist.

MENTORING & WORK/LIFE BALANCE

The balance of family and professional responsibilities for me has only been achieved because my companion considers my career as important as his own. As well, access to day care on campus was important during the early childhood of my children.

Nancy D. Bridges, M.D.

Chief, Transplantation Immunobiology Branch, Division of Allergy, Immunology, and Transplantation

EDUCATION

Fellow: (Pediatric Cardiology and intervention) The Children's Hospital, Boston, 1988–1991

Intern/Residency: (Pediatrics) The Children's Hospital of Philadelphia, 1985–1988

M.D.: New York University School of Medicine, 1985

B.S.: (Nursing) Columbia University, 1978

**RESEARCH INTERESTS**

I am a pediatric cardiac interventionist and transplant physician by training. My research interests are in translational and clinical investigations in organ and pancreatic islet transplantation, specifically early recognition of alloimmune activation and quiescence, and of graft acceptance and rejection; immunologic tolerance in transplant recipients; the identification of immunologic biomarkers that will allow for individualized, pre-emptive immunomodulatory therapies to prevent rejection; and the advancement of pancreatic islet transplantation to a therapy with equipoise and durable benefit.

PIVOTAL EVENTS

An early decisive moment in my career occurred before I went to medical school. I watched a young woman pediatric cardiologist walk up to the bedside of a critically ill infant and, using physical examination skills, make a diagnosis and direct therapy. This made a profound impression on me and influenced my view of medicine as a discipline requiring the ability to solve complex problems and make decisions based on the analysis of data—often inadequate—learned through observation. Subsequently, the greatest influences on my scientific career have been the result of being mentored by and forming professional collaborations with extraordinarily talented and innovative physicians and scientists who, in addition to being inspirational as a result of their own achievements, were able to help me learn how to learn, how to be self-critical, and how to teach.

MENTORING & WORK/LIFE BALANCE

Teaching has always been an important part of my career, and has taken many forms, from the design and implementation of structured didactic programs to establishing durable mentoring relationships with physicians in training, to nurturing the careers of the staff in my branch here at Division of Allergy, Immunology, and Transplantation (DAIT).

Interest in—or preferably a passion for—things outside of science contribute in obvious and subtle ways to career success. I don't think it matters very much whether the focus is skydiving, rock climbing, or—as in my case—things that are considerably more mundane, such as reading and discussing books and playing the cello.

Melody C. Carter, M.D.

Staff Clinician, Mast Cell Biology Section, Laboratory of Allergic Diseases, Division of Intramural Research

EDUCATION

Fellowship: (Allergy/Immunology)
NIAID, 2000–2002

Residency: (Pediatrics)
Emory University, 1981–1984

M.D.: Tulane University
Medical School, 1981

B.S.: (Biology) Newcomb College,
Tulane University, 1977



RESEARCH INTERESTS

Pediatric mastocytosis, pediatric asthma, anaphylaxis

PIVOTAL EVENTS

The pursuit of a career in research was prompted by the care of inner-city children with asthma and allergic diseases and the impact of their environment on disease morbidity. I began clinical research as an Assistant Professor in pediatrics at Emory University. This experience was the impetus for my pursuing a career in Allergy/Immunology at the NIH. The mechanisms of allergic and immunologic disease development as well as the increased incidence are particularly complex in minority inner-city populations. Consequently, I have been involved in asthma research and inflammatory mechanisms.

The mast cell is central in the development of allergic disease. Opportunities at the NIH have allowed me to develop expertise in patients with mastocytosis, a disease of abnormal proliferation of mast cells. Understanding the mechanisms of mast cells in allergic diseases has enhanced my understanding of the mediator effects of mast cells and is precipitating investigations of new therapeutic approaches.

MENTORING & WORK/LIFE BALANCE

Thomas Platts-Mills has been my most influential mentor for starting a career in Allergy/Immunology research. His guidance and expertise have been immeasurable. I began a clinical research project on inner-city asthma and environmental modification to evaluate its impact on disease morbidity. This experience ignited an interest in this field and a desire to pursue A&I after 15 years of general pediatrics.

Since completing my fellowship and becoming a staff clinician at the NIH, Dean Metcalfe has guided my career and continues to exemplify the proficiency required to maintain a career in research. He is a prolific and well-respected author and I am benefiting from his expertise to expand my knowledge in a new field and publish sound research.

My husband has been very supportive and my most ardent fan since I have changed career paths. His encouragement and patience has allowed me the opportunity flourish in a new endeavor.

Christine W. Czarniecki, Ph.D.

Chief, Office of Regulatory Affairs, Division of Allergy, Immunology, and Transplantation

EDUCATION

Staff Fellow: (Laboratory of Experimental Pathology)
National Institute for Arthritis, Metabolic and Digestive Diseases, NIH, 1978–1981

Ph.D.: (Microbiology)
Georgetown University, 1978

B.S.: (Biology) Muhlenberg
College, 1972



RESEARCH INTERESTS

The biological and biochemical mechanisms of interferon action on retrovirus replication; the effects of interferons and other cytokines on infectious diseases of clinical significance; the scientific aspects of the drug development process; interferons, cytokines, monoclonal antibodies, and small molecules as therapies for clinical indications including asthma, cancer, and infectious and autoimmune diseases

PIVOTAL EVENTS

The most significant event that affected my scientific career occurred when, in the early 1980s, after a 3-year fellowship at NIH, I took a huge risk (which later turned out to be a great opportunity) and joined a small group of scientists who had started a fledgling company called Genentech, Inc. It was the

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birth of the biotechnology industry and I was given the opportunity of being a part of its creation. At that time, the pharmaceutical industry was not viewed as a place where high-quality research could be carried out and published. At Genentech, we scientists set out to change that image and we were successful in doing so. In my 12 years at Genentech, I not only continued and broadened my research from my NIH work, but I was also able to develop significant research collaborations with scientists in academia and government, publishing over 30 scientific papers in peer-reviewed journals and authoring three patents. This network of scientists has been and continues to be a major force contributing to success in my scientific career.

MENTORING & WORK/LIFE BALANCE

In 1950, my parents and I came to the United States as "Displaced Persons," having been displaced from the home country as a result of World War II. The lack of extended family support and lack of formal education as well as language barriers severely limited my parents' ability to provide me with career guidance beyond emphasizing the importance of education. As a result, my teachers and professors became the source of this type of guidance and became my mentors. At each stage of my scientific career, I was fortunate to have a mentor who helped me identify opportunities that would lead me to a new level—always moving forward and upward. Since these mentors were critical to my success, I strongly support and encourage mentoring activities and I feel a strong obligation to serve as a mentor, for others, whenever possible. I have participated in many programs encouraging young women in science at the high school and university level and have served as a panelist in different programs—discussion options in scientific careers. In my current NIH position, I lead a staff of degreed (Ph.D. and M.D.) as well as nondegreed individuals and thus have many opportunities for mentoring. With regards to balancing family with professional responsibilities, the family responsibilities that have faced me center on care and support of my parents. The challenges in providing care to an aging parent are significant and thus, at times, my career choices and decisions have been influenced by those needs.

Maria Y. Giovanni, Ph.D.

Assistant Director for Microbial Genomics and Advanced Technologies, Division of Microbiology and Infectious Diseases

EDUCATION

Staff and Senior Staff Fellowship:
National Heart, Lung, and Blood
Institute, NIH, 1982–1988

Postdoctoral Fellowship: Univer-
sity of Pennsylvania, 1981–1982

Ph.D.: (Molecular Biology) Uni-
versity of Pennsylvania, 1981

Graduate Fellowship: University
of Pennsylvania, 1976–1981

B.A.: (Biology) University of Pennsylvania, 1976

RESEARCH INTERESTS

Infectious diseases, microbial genomics, proteomics, bioinformatics, public health, technology development, medical diagnostics

PIVOTAL EVENTS

As an undergraduate biology major at the University of Pennsylvania, my career path was pediatric medicine. When my father died suddenly during my sophomore year, my world was turned around. I needed to find a job that would provide a learning experience and spending money. While perusing work–study positions, one caught my eye. I made an appointment with Penn professor Dr. Mary Catherine Glick and was fortunate to be offered a job in her lab. The lab became my home and passion, setting my career in motion. I went onto pursue a Ph.D. in molecular biology and did my thesis work there.

Over the past 25 years, from my postdocs to my current position, Dr. Glick has continued to be my mentor. One small event, pursuing a job opportunity posted on a bulletin board, changed my life. I love my career and the intellectual pursuits that it continues to provide.

MENTORING & WORK/LIFE BALANCE

A number of factors have allowed me to pursue a successful career at the NIH as a scientist and to be a working mother and wife. These include a flexible work schedule, a supportive husband, stable and nurturing daycare, home within a few miles of NIH, and mentors and colleagues who understand the demands of the balancing act.

In spite of the time challenges, feeling engaged in my work helps me to be more energized with my family. Because of my



career, I've had the opportunity to become involved in school activities such as chairing and participating in science days and fairs, organizing our elementary school's first after-school science club, and serving as science educator at the National Eye Institute's Vision School Program. My daughters have grown up understanding the importance my career holds for me and it has added an extra dimension to our relationship.

Kyung J. Kwon-Chung, Ph.D.

*Head, Molecular Microbiology Section,
Laboratory of Clinical Infectious Diseases,
Division of Intramural Research*

EDUCATION

Ph.D.: (Bacteriology),
University of Wisconsin, 1965

M.S.: (Bacteriology),
University of Wisconsin, 1963

M.S.: (Biology) Ewha Womans
University, Seoul, Korea, 1958

B.S.: (Biology) Ewha Womans
University, Seoul, Korea, 1956



RESEARCH INTERESTS

Pathogenic mycology in general, pathobiology of the fungi that cause aspergillosis and cryptococcosis

PIVOTAL EVENTS

An invaluable experience led me to become a mycologist and inspired my career. My desire to be a scientist stemmed from a strong interest and a fascination I had of the biological world since my early childhood. In light of my strong interest, choosing biology as my major in college was a natural decision. However, my choice of mycology as a focus was inspired by an exceptional degree of dedication by my late professor, Dr. Marion Backus, at the University of Wisconsin. This mentorship was an invaluable experience and the decisive factor in achieving the success in my mycology career. Among other important factors in my career has been the NIH environment, which has afforded me the luxury of pursuing risky projects that may have been discouraged at universities where cost effectiveness can be a major concern. Last, but not least, strong family support was the most important factor.

MENTORING & WORK/LIFE BALANCE

Mentoring young scientists as they enter research careers has been very rewarding. The challenge in mentorship has not been the directing of their research, but in grooming them to be excited about the field of research for the long term.

It was not an easy task to balance family and professional responsibilities. While my three children were very young, my mother played a pivotal role in complementing my duties to raise them. Having a very thoughtful and supportive husband was also a critical factor that helped me with my responsibilities.

Sharon Henrietta Jackson, M.D.

*Tenure-Track Investigator and Head, Monocyte Trafficking Unit, Laboratory of Host Defenses,
Division of Intramural Research*

EDUCATION

Research Fellowship: (Allergy/
Immunology) NIAID, 1996–2001

Clinical Associate: (Allergy/
Immunology) NIAID, 1991–1996

Residency: (Pediatrics)
Mount Sinai Hospital,
New York, 1988–1991

M.D.: State University
of New York at Buffalo, 1988

B.A.: (Psychology)
Williams College, 1982



RESEARCH INTERESTS

The ongoing investigations of the Monocyte Trafficking Unit are focused on characterizing the role of reactive oxygen species (ROS) in T lymphocyte homeostasis and function. The inter-related objectives of our research program are characterizing NADPH oxidase and NADPH oxidase-derived ROS regulation of T cell function, characterizing the role of the NADPH oxidase in regulating the molecular communication signals between dendritic cells and T cells, and investigating the role of NADPH oxidase and NADPH oxidase-derived ROS in the pathogenesis of chronic inflammatory and autoimmune diseases.

PIVOTAL EVENTS

Targeted gene deletions and genetically engineered knockout mice with diseases that mirror exactly the human diseases. "Wow, you can do that?" is what I thought as I sat listening to what would be my fellowship project. I heard it, I tried it, and I succeeded at it! Nothing fosters passion to pursue a dream or goal like success; however, success often carries with it accompanying obstacles and challenges. Learning to endure these challenges has strengthened and focused my resolve to overcome the obstacles while advancing my research to the next level. So I thrive on the infinite possibilities of using science to solve problems and make new discoveries that will impact human health.

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MENTORING & WORK/LIFE BALANCE

As one of the few African American females seeking to become a tenured physician–scientist within the NIH intramural program, I have enjoyed mentoring students at all levels of training. The most valuable lesson I have learned from these experiences is that a positive mentoring relationship requires definitions and ongoing discussions about expectations for the mentoring relationship. This lesson has helped me remain positive in my endeavors and avoid being burdened or disappointed when my expectations for mentoring have been unfulfilled.

Balancing career and family has helped me be more positive and accepting of my best efforts at work and at home. Hope guides me and I expect positive outcomes. Everyday is an adventure for my son and me. I have learned to cull resources, eliminate distractions, and remain focused on the agenda for the day without guilt for my choices. Now that I am a parent, I feel my life is balanced!

Susan K. Pierce, Ph.D.

*Chief, Laboratory of Immunogenetics,
Division of Intramural Research*

EDUCATION

Ph.D.: (Immunology)
University of Pennsylvania, 1976

M.S.: (Microbiology)
Yale University, 1974

B.S.: (Microbiology) Pennsylvania
State University, 1971

RESEARCH INTERESTS

The cellular and molecular mechanisms by which the immune system's B lymphocytes are activated to differentiate into long-lived memory B cells and antibody-secreting cells and the influence malaria infections have on this process

PIVOTAL EVENTS

As I look back, I can't define a critical point around which my scientific career pivoted. Each phase of my career seemed extraordinarily challenging at the time, beginning with graduate school, through postdoctoral training, to my first faculty position, up through the ranks, and most recently as a lab chief at NIAID. But with encouragement, some luck, and hard work, my career was built step by step. Of course, there were times when the going seemed tough, but these times were balanced by good times and the sheer exhilaration that comes with discovery. Being closer to the last step than the first step in my career, I know that in science you never really arrive; there is always a next step.

**MENTORING & WORK/LIFE BALANCE**

As a senior scientist, I am often asked by young researchers just starting their careers, "Is it really possible to have children and a successful career?" You'll need the support of your husband and mentoring throughout your training and independent research career, but with these, having both a family and a career is possible. My answer is simply, "Yes, if that's what you want to do." I have three grown children and by my recent marriage, a stepdaughter and three grandchildren. It is fair to say that my children always come first, but even with that immutable priority, there is still time and energy to lead a productive professional life. I have no doubt that families balance careers and in return, careers balance families. With some luck, you can have the best of both worlds.

Suzette A. Priola, Ph.D.

*Senior Investigator and Chief,
TSE/Prion Molecular Biology Section,
Laboratory of Persistent Viral Diseases,
Division of Intramural Research*

EDUCATION

Ph.D.: (Microbiology and
Immunology)
University of California, Los
Angeles, 1990

B.S.: (Biology) University of
New Mexico, 1985

RESEARCH INTERESTS

Prion/amyloid diseases, protein misfolding and neurodegeneration, viral and molecular mechanisms underlying diseases of the central nervous system, general viral pathogenesis, therapeutics

PIVOTAL EVENTS

Two experiences were particularly central to shaping my success as a scientist. The first was choosing to do a postdoc with an excellent mentor, Dr. Bruce Chesebro, at the NIH Rocky Mountain Laboratories. This was crucial in my development as a scientist as I was given the freedom to think both scientifically and creatively. My appointment as a member, and later Chair, of the FDA transmissible spongiform encephalopathies (TSE) Advisory Committee was also pivotal. This experience was invaluable in that it provided insight into how what we do at the bench and the resultant expertise and experience gained can have a profound impact on everyday lives. That experience drove home the absolute requirement to always do relevant, interesting, and hopefully groundbreaking science as rigorously and creatively as possible.



MENTORING & WORK/LIFE BALANCE

I consider mentoring new researchers, both when they are members of my lab and after they leave the lab, to be one of the most important aspects of my work as an NIH scientist. I firmly believe that you cannot mentor by just passing on facts or providing technical training—you have to teach people to think both scientifically and creatively and give them the confidence to do so. Open communication between the PI, students, post-docs, etc., is therefore a must. I have found that open communication inevitably leads postdocs and students to come up with their own ideas and approaches. It also increases the confidence of young researchers that they do, or don't, have the ability to run their own lab.

Helen Rita Quill, Ph.D.

*Chief, Basic Immunology Branch,
Division of Allergy, Immunology, and Transplantation*

EDUCATION

Ph.D.: (Biochemistry) Massachusetts Institute of Technology, 1979

B.A.: (Chemistry) Trinity College, Washington, DC, 1968

RESEARCH INTERESTS

Basic immunology and the application of immunological principles to the prevention and treatment of human disease



PIVOTAL EVENTS

But for a terrific high school chemistry teacher, and a science fair project on the wonders of chelation, I would have become another unemployable art history or English major and missed out on the intellectual excitement unique to scientific work. Remarkably generous and expert mentoring was provided to me first as a laboratory technician and then as a formal graduate student and postdoctoral fellow. Federal training funds allowed me the time to develop my own expertise and the opportunity to discover previously unknown facts about important aspects of biological systems. Great mentoring was the key. Nearly as important was the free exchange of ideas and critiques among my peers at each stage of development.

MENTORING & WORK/LIFE BALANCE

Balancing professional responsibilities with personal goals and activities is difficult in any career that engages one's strong interest and commitment. The obvious and sometimes overwhelming demands of laboratory work are unavoidable if success is expected. And as it turns out, even the administrators of science, although freed from the need to harvest cell cultures

or inject mice at 2 am, are subject to unpredictable demands on their time to accomplish important goals. An ungrudging willingness to expend extra effort is essential, and a flexible work schedule and advance planning go a long way toward making it possible to also engage in rewarding activities separate from work. Even with a flexible work schedule, balance is best obtained if nonwork routines and special activities are at least penciled-into the calendar well in advance, so that time doesn't pass unknowingly before the realization that work has consumed the past many months.

Polly R. Sager, Ph.D.

Assistant Director for International Research in Infectious Diseases, Division of Microbiology and Infectious Diseases

EDUCATION

Ph.D.: (Toxicology)
University of Rochester, 1982

M.S.: (Toxicology)
University of Rochester, 1980

B.S.: (Zoology)
Houghton College, 1971

RESEARCH INTERESTS

Infectious disease research relevant to developing countries (malaria, tuberculosis [TB], influenza, tropical diseases), infrastructure development and support in resource-constrained settings, particularly involving clinical research, networking, and partnerships to maximize scientific success in developing countries



PIVOTAL EVENTS

My career has taken many twists and turns over the years as I've transitioned from neurodevelopmental toxicology to my current international work on infectious diseases and infrastructure development in resource-constrained countries. I have taken advantage of opportunities to change directions that have enabled me to grow as a scientist and science manager. When I came to NIAID in 1989, I helped develop animal models for testing efficacy of an antiviral drug against AIDS. Later, when biodefense became paramount, I was able to apply my knowledge and experience to developing initiatives for the rapid acceleration of biodefense research. My work on international AIDS initiatives also helped me to move into the broader area of standardizing and coordinating research support and infrastructure in developing countries. I feel that this helps to ensure that research in developing countries meets the highest quality standards and therefore leads to improved health.

NIAID

MENTORING & WORK/LIFE BALANCE

Thankfully, I never had to choose between family and career. That simply wasn't an option since I was a single mother while a graduate student, postdoc, and during my early professional career. I have been, and continue to be, blessed with mentors and supervisors who trust me to make the hour-by-hour decisions needed to balance responsibilities—and who are willing to consider creative solutions. My daughters not only survived, but are now established in their own successful careers.

Some of my most memorable mentors taught me “how the system works.” These are lessons rarely offered—but are the most valuable for career advancement. One should never be shy about asking for mentoring because the lessons learned are invaluable. I thank my mentors and supervisors—male and female—for their guidance and support.

Kanta Subbarao, M.D.

*Senior Investigator, Respiratory Viruses Section,
Laboratory of Infectious Diseases,
Division of Intramural Research*

EDUCATION

M.P.H.: (Epidemiology)
University of Oklahoma Health
Sciences Center, College of
Public Health, 1988

Fellowship: (Pediatric Infectious
Diseases) Oklahoma Children's
Memorial Hospital, University of
Oklahoma Health Sciences Center,
1985–1988

Internship and Residency:
(Pediatrics) Cardinal Glennon Memorial Hospital
for Children, St. Louis University, 1982–1985

M.B.B.S.: Christian Medical College,
Vellore and the University of Madras, India, 1982

RESEARCH INTERESTS

Development of vaccines against pandemic strains of influenza and the development of animal models and evaluation of vaccines against the severe acute respiratory syndrome (SARS) coronavirus

PIVOTAL EVENTS

I grew up on a university campus surrounded by academics and researchers, including my father. My family instilled in me a respect for hard work and encouraged me to seek the best

training available in the field I chose. I attribute part of my success as a scientist to being in the right place at the right time. I was at the CDC in Atlanta when the first cases of avian H₅N₁ influenza occurred in Hong Kong in 1997. Studying the viruses from that outbreak stimulated a change in the direction of my career, from research on human influenza viruses to avian influenza viruses infecting humans. Three months after I joined the NIH, the SARS outbreak occurred. I was able to initiate an exciting new research program on SARS because I had experience working with avian influenza viruses, had access to the appropriate containment facilities, and was given the resources and support necessary to work on the newly identified SARS-coronavirus.

MENTORING & WORK/LIFE BALANCE

I have made two significant transitions in my professional life, first in moving to the United States after completing medical school in India and many years later, from clinical medicine to a laboratory research career at the NIH. I have been fortunate in being able to make these transitions smoothly and feel that they have enriched my career. I am also grateful to my mentors. In addition to providing advice and training, a mentor can facilitate opportunities and recognition of one's work. The mentor may introduce a young scientist to other scientists in the field, pass along opportunities to speak or write or nominate them to professional societies.

A supportive and understanding spouse makes it easier to balance family and professional responsibilities. In my experience, one of the most significant challenges faced by two-career couples is in searching for jobs and balancing the options that are available to both, recognizing that compromise is essential.



National Institute of Arthritis and Musculoskeletal and Skin Diseases

NIAMS

Joan A. McGowan, Ph.D.

*Director, Division of Musculoskeletal Diseases,
Extramural Program*

EDUCATION

Ph.D.: (Cell Biology)
Brown University, 1978

M.S.: (Nutrition)
Cornell University, 1968

B.S.: (Chemistry)
Marymount College,
New York City, NY, 1966

RESEARCH INTERESTS

My main research interests
are in translational and
clinical bone disease.



PIVOTAL EVENTS

I was very slow to understand that a woman could make a career in science. When I started college, I hadn't met many college graduates except my teachers, who were mostly nuns. I had a wonderful chemistry teacher in my first year of college who convinced me that you could have a normal life and be a scientist—well, maybe we were wrong about that or overly optimistic! I think the most important characteristic women scientists can develop is resilience. Things don't always work out the way you expected or in the timeframe you gave it—life is like a scientific experiment and you have to be alert to the unexpected and follow up on directions you never imagined when you started. As John Lennon said, "Life is what happens, while you are making other plans."

MENTORING & WORK/LIFE BALANCE

I had wonderful mentoring as a graduate student at Brown, but little to none during my postdoctoral and early faculty years at Harvard. I learned a lot from that about how important it is to give advice and encouragement to young investigators, not only about the science, but about career moves and the importance of playing on teams outside your own environment. Young scientists should get mentoring from the people they work most closely with, but often they don't, and I tell them to seek out mentors and guidance from wherever they can find it.

I taught high school chemistry and biology, worked as a technician in two different laboratories, and had two children before I began my Ph.D. Balance of work and family life is not something you achieve every day. Some days you have to be there totally for the family and other times your head must be in your work. You miss a few things in both arenas while you are juggling, but your life is richer and maybe a former "soccer coach/

NIAMS

Mom” can make use of the skills acquired managing people. I was very fortunate to have a very supportive scholar husband and when my children were school age, my mother came to live with us, making us a three-parent family. My advice to women professionals is that life is long and you don’t have to accomplish everything in the first two decades out of college.

INSIGHTS

NIH has really given me a chance to tap into talents and to do work I would never have had a chance to do in an academic institution. I have organized two large consensus conferences and served as the Senior Scientific Editor of a Surgeon General’s Report on Bone Health and Osteoporosis. I also worked with the Women’s Health Initiative from its inception. I have had the chance to try to enhance and facilitate scientific careers, of both women and men, through counseling about grant applications, but also by selecting people for panels and workshops and conferences that gave them a chance to be seen and appreciated. I am very proud to have received the Leadership Award from the Women in Orthopedics for mentoring women in that field. Most of what has brought me the greatest satisfaction is beyond my “day job.” So I would say that taking advantage of opportunities to do volunteer work within the framework of your current job and position can be one of the most important things you can do for your career and your life. And, as a mentor, my goal is to offer those opportunities to others.

Ivona Aksentijevich, M.D.

Group Leader, Microarray Unit and Director, Molecular Diagnostics Lab, Genetics and Genomics Branch, Intramural Research Program

EDUCATION

NIH Genetics Fellowship:
(Clinical Molecular Genetics)
NIH, 1997–1999

Postdoctoral Fellowship:
(Arthritis and Rheumatism)
NIAMS, 1990–1995

M.D.: University of Belgrade,
Medical School, Belgrade, Serbia,
Yugoslavia, 1986

**RESEARCH INTERESTS**

Genetics and genomics of human inflammatory diseases

PIVOTAL EVENTS

I came to NIH soon after graduating from a medical school in Yugoslavia without any research experience. The first couple of years were very stressful, as I had to learn both the English language and the language of science. Looking in retrospect at

the past 18 years, I think the most important factor in my career has been having an inspiring mentor. If it had not been for Dr. Daniel Kastner and his boundless love and enthusiasm for science, and for his compassionate nature, I am not sure whether I would have stayed in the demanding field of research. Our team battled for seven years until we cloned a gene causing an inflammatory disease. I will always remember the hardships and many disappointments we lived through, and of our joy once we had the culprit gene. A competent and kind mentor makes a lab a joyful and welcoming place to work.

MENTORING & WORK/LIFE BALANCE

As a mother of five, who is also working a full-time job in science, I feel that I have had to truly develop a sense of balance, efficiency, and self-discipline in order to make the two worlds mesh harmoniously. That is to say, that at any given moment, one side might have to take a break from the spotlight in order for the other to get a chance to further develop. And yet, somehow, through this constant compromise, both sides have intertwined such that they play off each other in the best way possible. My children might never have had a mom waiting at the school bus stop, but they have a mom of whom they are very proud. And while my students at work do not have a mentor available during late hours, they do have a mother-like teacher to coach them through their research work.

Elaine Frances Remmers, Ph.D.

Staff Scientist, Genomics Section, Genetics and Genomics Branch, Intramural Research Program

EDUCATION

Ph.D.: (Microbiology) University
of Maryland, College Park, 1982

B.S.: (Biochemistry) University of
Maryland, College Park, 1977

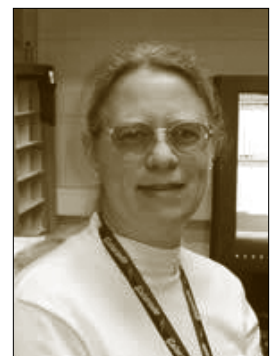
RESEARCH INTERESTS

Complex genetics of common
rheumatic diseases

PIVOTAL EVENTS

During my career, I have realized that it is important to pursue a scientific question that interests you even if you do not have the expertise to answer it. Find and consult the experts. Learn new methods, if necessary, and tackle a new discipline.

I wanted to know why one rat strain developed severe experimental arthritis while another strain remained unaffected. Although I was not trained in genetics, I delved into genetic studies, realizing that it was the key to the fundamental differences in these strains. When it became apparent that simple



Mendelian genetics could not explain the strain differences, I learned techniques to investigate complex genetics.

My initial question has led to instrumental research in identifying over 20 genetic loci that contribute to disease susceptibility or severity, and generated more than 70 peer-reviewed articles describing animal model studies and their genetic basis. Recently it has also led to the identification of three new genes that contribute to rheumatoid arthritis in man, and two recent *New England Journal of Medicine* publications, including one describing a disease-associated variant of the *STAT4* gene.

MENTORING & WORK/LIFE BALANCE

My mentors have encouraged me to take on new challenges in my work by helping put me in contact with experts and providing resources that made the work possible. Balancing my family and professional responsibilities has been greatly facilitated by my supportive husband and by understanding mentors.

Susana A. Serrate-Sztejn, M.D.

Director, Division of Skin and Rheumatic Diseases, Extramural Program

EDUCATION

M.D.: School of Medicine, Buenos Aires University, 1979

RESEARCH INTERESTS

Clinical and translational research on rheumatic diseases and autoimmunity; influence of genetic, sex, and environmental factors in the development of autoimmune diseases. Immunology, pathology and biopsychosocial approaches to chronic diseases. Research careers of new investigators and participation of women and minority groups in biomedical research.

PIVOTAL EVENTS

The transition from the bench to work on science, management, and administration at NIH was exhilarating and enlightening. I gained new understanding about the complexities of research and the systems that promote and support the most talented scientists in the United States. I enjoyed the opportunities to work with outstanding scientists to influence the direction of research on many chronic debilitating diseases, including many that disproportionately affect women, such as lupus and rheumatoid arthritis.



MENTORING & WORK/LIFE BALANCE

I am responsible for the Division of Skin and Rheumatic Diseases at the National Institute of Arthritis and Musculoskeletal and Skin Diseases where I oversee a large portfolio of grants and contracts dealing with the etiology, pathogenesis, diagnosis, treatment, and prevention of skin and rheumatic diseases. I have mentored students, young college graduates, and more senior professionals who have moved onto successful careers in biomedical research and research administration. I have had great mentors who influenced my career by virtue of their enthusiasm about science and their trust in my abilities. Helping others find a way to use their strengths to advance their careers is a challenge and a great source of personal and professional satisfaction.

I have three children and a wonderful support system at home with my husband and my mother, who have shared with me the joys and responsibilities of raising them. I have been fortunate in that my children also understood that when Mom was working late or at away meetings, it was because she was working with other scientists to find cures for diseases that also affect children. It was not always easy, but having them understand and, when possible, participate in some of those activities helped tremendously.

Madeline Turkeltaub, Ph.D., R.N.

Director, Division of Extramural Research Activities, Extramural Program (Former)

EDUCATION

Certificate: (Adult Primary Care Nurse Practitioner) The George Washington University, 1990

Ph.D.: (Higher Education Administration and Curriculum Development) University of Maryland, College Park, 1980

M.N.: (Neurological Nursing) University of Pittsburgh, 1970

B.S.N.: (Nursing) Long Island University, Brooklyn, NY, 1966

Diploma: (Nursing) Long Island College Hospital School of Nursing, Brooklyn, NY, 1965

RESEARCH INTERESTS

Patient outcomes, asthma and allergic disease, clinical trials management



NIAMS

PIVOTAL EVENTS

As far as I can remember, I have always had an interest in pathophysiology and the causes of cellular malfunction. The profession of nursing allowed me to operationalize my interest. Federal Nurse Traineeships for both my baccalaureate and master's degrees provided full tuition plus a stipend. Although there was no payback required, I have always felt that I had an obligation to public service and have generally fulfilled my career goals in public institutions. My interest in research in patient outcomes came from my desire to provide the most effective and current evidence-based care. As one of the first nurses to chair an Institutional Review Board in Maryland, I was directly involved in protection of human subjects. My experience at NIH started as a Clinical Research Project Manager and has evolved into an extramural Director position, which also continues to include supervision of clinical coordinators and oversight of safe clinical studies/trials.

MENTORING & WORK/LIFE BALANCE

Continuing to practice my profession while having a family stems from a sense of obligation related to the Federal funds expended on my education and the belief that with the help of my husband, a physician, I could balance both work and family. Our mutual understanding of the demands and the satisfaction of providing high-quality patient care was important to our supportive relationship.

My philosophy as a mentor is to maximize the potential of my mentees. I first met my most influential mentor when I was a staff nurse. As Director of Nursing, she chose me to be on a committee and I can still hear her saying what a good job I did. During my career, she reappeared—when I met her again she invited me to work with her on a project that I knew little about, but she said, "I know you can do it," and I did do it! Taking on new challenges is fun, and so is encouraging other people so that they too will develop the confidence to maximize their potential.

IN MEMORIUM:

The NIH mourns the death of Dr. Maddy Turkel-taub in the Spring of 2008. ORWH acknowledges the special role that she provided in overseeing the Specialized Centers of Research (SCOR) on Sex and Gender Factors Affecting Women's Health Program, as well as her many other contributions to the NIH.

National Institute of Biomedical Imaging and Bioengineering

NIBIB

Belinda Seto, Ph.D.

Deputy Director

EDUCATION

Ph.D.: (Biochemistry)
Purdue University, 1974

B.S.: (Biology) University of
California, Davis, 1970

RESEARCH INTERESTS:

My research interests include protein chemistry of enzymes involved in proline metabolism, protein-protein interactions, and enzyme mechanisms. I have also conducted research in virology,

hepatitis viruses. As a research administrator, I was involved in developing clinical trial policies: data and safety monitoring, inclusion of women and minorities in clinical research.



PIVOTAL EVENTS

My junior year in college at the University of California, Davis, was extremely science-intensive. By then, I had taken numerous science courses and enjoyed my experiences with laboratory experimentation. My interests were rewarded when I was given the opportunity to do an honor science project during the following summer. I worked on a research project involving anaerobic metabolism in methane bacteria. In order to understand the various metabolic products generated when these microbes are grown under a variety of conditions, I developed chromatographic methods to identify the metabolites. The project introduced me to the world of research, the quest for the unknown, and the thrill of answering questions about "what ifs."

After completing my doctorate at Purdue University in Lafayette, Indiana, I came to the NIH for postdoctoral training. I was fortunate to work with Dr. Theresa Stadtman in the Laboratory of Biochemistry in the NHLBI. Dr. Stadtman is a world-renowned biochemist who succeeded in the largely male-dominated world of biochemistry in the 1960s. Not only did I gain tremendous experience in biochemistry, Dr. Stadtman was a wonderful role model for an ambitious female scientist.

NIBIB**MENTORING & WORK/LIFE BALANCE**

As I developed as an independent researcher, numerous senior scientists, including Dr. Stadtman, took time to mentor me. I learned that it is possible to be both professionally successful and generous to junior researchers. Dr. Stadtman gave me credit for my work by providing the opportunity for me to be the sole author on several publications in prestigious journals.

In addition, I learned the importance of achieving a balance between my personal and professional time. During graduate school, I met my husband who, like me, is a scientist. I am extremely fortunate that he has always supported my professional goals. Early on, we arranged for at least one of us to be home with our three daughters in the evenings. I was able to have time with my children, who have grown into self-confident, independent young women who share our interest in biomedical research.

INSIGHTS

Research endeavors allowed me the opportunity to explore and pursue leads that are often surprising. I will never forget what Dr. Stadtman told me: negative experiments are as important, if not more so, than those that work as planned. It is liberating to recognize that what may seem like failure may indeed be revealing of some unknown concepts. Believing in this philosophy, I have learned to take calculated risks in my career. I decided to have a family before obtaining a tenured or permanent position in the lab. This might have been a risky move because I didn't know the time and energy that children would require of me to be away from the bench. Yet, the decision gave me the most gratifying experience; my daughters are my most successful experiments. Not only did I gain a family, I was also able to achieve recognition in science. Learning that the two are not mutually exclusive was one of my most valuable lessons. Purdue University recently awarded me the Distinguished Alumnus in Science award and receiving the award with my family at my side, I knew that each of my endeavors was worth the fight. Dr. Stadtman bestowed upon me the gift of intellectual fearlessness. I discovered a confidence to push forth, even in trying circumstances, and it is one with which I hope to inspire others.