National Institute of Nursing Research

Patricia A. Grady, Ph.D., R.N.

Director

EDUCATION

Ph.D.: (Physiology)
University of Maryland
School of Medicine, 1977

M.S.: (Nursing)
University of Maryland
School of Nursing, 1968

B.S.: (Nursing)
Georgetown University
School of Nursing, 1967

RESEARCH INTERESTS

Stroke, hypertension, cerebrovascular permeability, vascular stress, and cerebral edema

PIVOTAL EVENTS

Science has always been of special interest to me. As I continued my education, I realized what an opportunity there was in nursing research, and how important this field is to our Nation's health care. That feeling has grown over the years, first as an independent researcher, then when I came to NIH as a Program Director and became the Deputy Director of the National Institute of Neurological Disorders and Stroke, and now as Director of the National Institute of Nursing Research (NINR).

It is my goal for NINR to advance nursing research and support investigators whose findings will directly benefit patients and their families. Research is the best way to create better patient care. For a nurse scientist, research ties you to something bigger and provides an evidence base for others to build upon. Research is as an investment in the future.

MENTORING & WORK/LIFE BALANCE

Mentoring is vital in nursing research. All that I have achieved in this field was made possible by the support and guidance I received from faculty at both Georgetown University and the University of Maryland. Working with more experienced investigators early in my research career, I observed how they balanced their personal responsibilities with their professional interests. We must always strive to maintain this balance, to develop both our own personal strengths and the strengths of our profession.

When respected scientists become mentors, they ensure that students and developing investigators have the training, resources, guidance, and motivation needed to become the scientists of tomorrow. In turn, these new researchers often serve as faculty, enabling more individuals to pursue their career goals and helping to eliminate the nursing shortage our Nation is experiencing.

INSIGHTS

Those who came before me in nursing research, and the new generation of nurse researchers whom I have seen develop over the past 10 years, have shown that there is no limit to what a woman can accomplish in this field. I have been fortunate enough to conduct critical research in fields that are clinically important. I have been honored with such awards as the Georgetown University School of Nursing's Centennial Achievement Medal, the National Institutes of Health MERIT Award, and the Public Health Service Superior Service Award, for my leadership. I have been elected to the American Stroke Association, the American Academy of Nursing, and the Institute of Medicine. However, as the Director of NINR, I have been most proud to guide our Institute in supporting successful researchers who will carry out our mission and further the health of all populations.

Mary E. Kerr, Ph.D., R.N.

Deputy Director, NINR

EDUCATION

Ph.D.: (Nursing) Frances Payne Bolton School of Nursing at Case Western Reserve University, 1991

M.N.Ed.: (Medical-Surgical Nursing) University of Pittsburgh, 1981

B.S.N.: Slippery Rock University, Slippery Rock, PA, 1977

RESEARCH INTERESTS

Cerebral perfusion and ischemia, traumatic brain injury, and subarachnoid hemorrhage

PIVOTAL EVENTS

Moving from the academic setting, where I spent the majority of my career, to the Deputy Director position at the National Institute of Nursing Research was a fascinating change. As a professor, I devoted my energy to teaching the next generation of clinical investigators. As a scientist, I focused on finding ways to improve cerebral perfusion of critically ill patients with a neurological injury or illness. My position at NINR has expanded my view in that I further appreciate the diversity and creativity behind research that is conducted across all conditions of health and illness and throughout the lifespan. NINR supports the research training and research projects that provide the evidence base for clinical practice. Seeing the benefit of research to the health of the public on a national scale has been personally rewarding and enlightening.

MENTORING & WORK/LIFE BALANCE

At the University of Pittsburgh, I held the positions of University of Pittsburgh Medical Center (UPMC) Health System Endowed Chair in Nursing Science, Director of the Center for Nursing Research, and Associate Director of the Clinical Core of the Brain Trauma Research Center. In these roles, I conducted clinical research, mentored junior investigators, sponsored research activities and advised, taught, and supervised the research of doctoral students and faculty. Over the years, I learned that success as a scientist involves producing good science as well as mentoring the next generation of scientists. This means one takes the time to develop young investigators through teaching, providing opportunities for them to take part in significant studies, and mentoring them in their new role. By helping young investigators ask important questions and acquire the skills necessary to conduct clinical research, science advances.

INSIGHTS

I am optimistic that I have helped to advance science in an important area of health care focused on cerebral ischemia in acute neurological conditions such as subarachnoid hemorrhage and traumatic brain injury. I was fortunate to be involved in an academic health center conducting research and teaching at the University of Pittsburgh. I hope that I have supported and mentored young scientists who will be at the forefront of future discoveries in clinical research. In my current role as Deputy Director at NINR, I now have the opportunity to contribute to this growth at a national level, and I am proud to be a part of it.

National Library of Medicine

Johanna McEntyre, Ph.D.

Staff Scientist and Chief, Public Services Section, Information Engineering Branch, National Center for Biotechnology Information

EDUCATION

Ph.D.: (Biological Sciences)
Manchester Metropolitan
University, Manchester, UK, 1993

B.Sc.: (Biological Sciences)
Manchester Metropolitan
University, Manchester, UK, 1987

RESEARCH INTERESTS

Bioinformatics,
information retrieval

PIVOTAL EVENTS

After finishing my Ph.D., I decided that life as an experimentalist was not for me and moved into scientific publishing. In this position, I was lucky enough to be exposed broadly to the forefront of molecular biology research, and in particular I became fascinated by the emerging areas of bioinformatics and online publishing, which were made accessible to people like me through the Internet. It was amazing that I could take a gene sequence, run a BLAST search to find similar sequences, and then read PubMed abstracts describing the biology of the results, all from the comfort of my own desk. The idea that online bioinformatics resources could enable scientific discovery was powerful enough to me that when I got the opportunity to work at the National Center for Biotechnology Information, I jumped at the chance.

MENTORING & WORK/LIFE BALANCE

I think people choose their mentors, rather than their mentors choosing them. Having more women in leadership roles within bioinformatics will provide more opportunities for women to become mentors themselves. Two important qualities I gleaned from my mentors were to have confidence in my ideas and to instill in me the rigor to execute the better among them. I hope I have passed these qualities onto those I have mentored myself.

One of the nicer things about bioinformatics regarding the work-family balance is that a lot of the work is portable, which brings an element of flexibility that might not be possible in other positions.

Ilene Karsch Mizrachi, Ph.D.

Staff Scientist and Coordinator, GenBank and Chief, Primary Data Archives Section, Information Engineering Branch, National Center for Biotechnology Information

EDUCATION

Postdoctoral Fellowship: (Biochemistry), NCI, 1992–1995

Postdoctoral Fellowship: (Molecular Genetics) NICHD, 1991–1992

Ph.D.: (Microbiology and Immunology) Albert Einstein College of Medicine, 1991

M.S.: (Microbiology and Immunology) Albert Einstein College of Medicine, 1986

B.S.: (Biology, minor in Chemistry) State University of New York at Albany, 1984

RESEARCH INTERESTS

I am responsible for the coordination of the building and maintenance of the GenBank Nucleotide Sequence Database.

PIVOTAL EVENTS

I have always loved biology and computers, the technological advances made, and the challenges presented during the Genomics era. I had realized during my postdoctoral fellowship that bench science was not the proper career path for me. At that time, however, I did not know what else to do. I spent a few months working at a small biotech company and was extremely unhappy. I started to look for alternative career paths and found a position that seemed well-suited to me and my interests. In 1996, I accepted a position as a GenBank Indexer, where I processed incoming sequence submissions to the database. It was very exciting for me to be a part of this most important project. I was awed by this opportunity. I was able to continue to do what I loved without ever having to pick up a pipette again.

MENTORING & WORK/LIFE BALANCE

Balancing family and career can be challenging but extremely rewarding. The career path that I chose has enabled me to succeed at both. As a laboratory scientist, experimental demands often required me to spend evenings and weekends away from my family. As a scientist at National Center for Biotechnology Information (NCBI), where tasks do not have the same time constraints as working with living cells, I can devote quality time to my work during the work day, while having evenings and weekends to devote to my family. I have encouraged scientists with young families to choose a path such as mine to benefit from the flexibility offered by a "nontraditional" scientific career.

Teresa M. Przytycka, Ph.D.

Investigator, Computational Biology Branch, National Center for Biotechnology Information

EDUCATION

Postdoctoral Fellowship: (Biophysics) The Johns Hopkins University Medical Institutes, 1997–2000

Ph.D.: (Computer Science) University of British Columbia, 1990

M.S.: (Computer Science) Warsaw University, Poland, 1982

RESEARCH INTERESTS

Computational biology, systems biology, molecular evolution

PIVOTAL EVENTS

As a high school student, I had little doubt that my destiny was to become a mathematician. Indeed, my first research papers concerned theory of algorithms and graph theory. Well into my math-oriented career, I was invited to be a member of the Institute of Discrete Mathematics and Computer Science (DIMACS) during the special year on Parallel Computation. I was sitting in my DIMACS office, deep in thought, organizing some computations in a tree-like structure, when a guy stuck his head into the door: "What are you working on?" I replied briefly, "On trees." He asked, "Ever heard of evolutionary trees?" He clearly had no intention of leaving my office. I had heard of evolutionary trees, but it never crossed my mind that I would have anything to do with them. That day we had a long discussion and I made my first step from the comfort of well-defined math to the uncertainty of biology.

MENTORING & WORK/LIFE BALANCE

Our two boys were born when I was still a graduate student and considered myself invincible. For many years, it was difficult for my husband and me to find a position in one place and we managed to be together every second year at best. During this time, I got enormous help and support from my Ph.D. supervisor, postdoctoral mentors, family, and friends. Even when we eventually settled in one place, the organization of our home remained chaotic and, once again, our friends were there for us when we needed help. Both of us continued to be passionate about our research and, as the boys grew older, they started to appreciate and share this passion.

Recently, a graduate student I was supervising gave birth to a baby girl. I hope that I have given her the same encouragement and support I have been fortunate to receive.

Tatiana Tatusova, Ph.D.

Staff Scientist and Unit Chief, Reference Collection Section, Information Engineering Branch, National Center for Biotechnology Information

EDUCATION

Ph.D.: (Physics and Mathematics) Moscow State University, Moscow, Russia, 1988

M.P.S.: (Physics) Moscow State University, Moscow, Russia, 1982

RESEARCH INTERESTS

Bioinformatics, genomics

PIVOTAL EVENTS

I was very lucky to have great mentors in my professional career. My Ph.D. advisor, Dr. Liberman, always encouraged me in my research at graduate school. I had the great pleasure and honor to work with Drs. Ostell and Lipman at NCBI. They have inspired and supported me in all my scientific projects during the past 15 years at NIH.

MENTORING & WORK/LIFE BALANCE

Balancing family with professional responsibilities is not easy. A lot of times I felt guilty for not spending enough time with my kids because I had to devote my time to work, but I always tried to explain to my children what I did at work and why it was important. I believe that created a role model for their future. I have two sons who both graduated as biology majors and are now in medical school.

Deborah A. Zarin, M.D.

Senior Scientist and Director, ClinicalTrials.gov, Lister Hill National Center for Biomedical Communications

EDUCATION

Fellowship: (Child and Adolescent Psychiatry) Bradley Hospital, Brown University, 1985–1987

Residency: (Psychiatry) McLean Hospital, Belmont, MA, 1983–1985

Fellowship: (Clinical Decision Making) New England Medical Center, 1982–1983

Internship: (Pediatrics) Massachusetts General Hospital, 1981–1982

M.D.: Harvard Medical School, 1981

B.A.: (Human Biology) Stanford University, 1977

RESEARCH INTERESTS

Optimizing the use of data from clinical trials to inform medical and policy decisions

PIVOTAL EVENTS

I have been fortunate to develop long-term mentoring relationships with a number of people who have helped to nurture my interests in both clinical and policy issues. My interest in health policy began in college, and lasted through medical school and residency training. Eventually, I focused on the use of clinical trials to inform medical and policy decisions, both within my chosen specialty (psychiatry and child psychiatry) and within medicine as a whole. In addition to clinical work, my previous jobs included developing and implementing an evidence-based practice guideline development program for the American Psychiatric Association, and directing a program for the Agency for Healthcare Research and Quality (AHRQ) that involved conducting comprehensive evaluations of medical devices for possible coverage under Medicare. Based on these experiences, I understand the scientific and ethical importance of having a comprehensive and scientifically valid registry of clinical trials, and was thrilled to have the opportunity to help make that happen.

MENTORING & WORK/LIFE BALANCE

I have been inspired by several key mentors, each of whom has served as a role model for different aspects of my career. Balancing family and career has not been that difficult for me because it was always clear to me that once I had children, they came first. This was particularly important because I was a single mother of two daughters for most of their school years. The most important piece of advice I could give to any young parent would be to make sure that you take a job that has sufficient leave time to allow you to meet unexpected needs (e.g., sick days, school events) without causing stress, and also provides for sufficient family vacation times. In my mind, several weeks of work-free vacation (even if you stay home) is essential for everybody's mental health.

Center for Information Technology

Susan Chacko, Ph.D.

Computational Biologist, Scientific Computing Branch, Division of Computer System Services

EDUCATION

Postdoctoral Fellowship: (Protein Crystallography) NIDDK, NIH, 1992–1996

Ph.D.: (Biophysics) University of Illinois, 1991

M.S.: (Physics) Indian Institue of Technology, Kharagpur, India, 1985

B.S.: (Physics) Indian Institue of Technology, Kharagpur, India, 1983

RESEARCH INTERESTS

Our group, which consists of a mix of scientists and system administrators, runs scientific supercomputers for the NIH intramural community. As a scientist, I develop, maintain, modify, install, and investigate scientific software that is relevant to the NIH community, and consult with intramural scientists about projects that require supercomputing-scale resources.

PIVOTAL EVENTS

As a graduate student, I was drawn toward protein crystallography, a field that involved wetlab benchwork as well as computer programming. I was lucky enough to find a wonderful graduate advisor who encouraged his students to explore nonstandard scientific avenues. I really enjoyed my graduate work and was able to develop my computing and programming skills. During my postdoctoral career at NIH, I used the NIH computing resources extensively, and I was delighted when the opportunity arose to work in this group. After 10 years here, there's still a thrill about working at NIH, dealing with smart and interesting scientists, and of course the wonderful seminar series.

MENTORING & WORK/LIFE BALANCE

As the mother of two children, I have become an expert at functioning on insufficient sleep! It's a delicate balance at times, but I love what I do and it's all worth it.

INSIGHTS

There are many, many nontraditional niches in science that are exciting, intellectually satisfying, and that may fit your interests and personality better than the traditional academic path. I only wish I had time to explore them all!

CIT

Dale Graham, Ph.D.

Technical Manager NIH Intramural Database, Custom Applications Branch, Division of Enterprise and Custom Applications

EDUCATION

Postdoctoral Fellowship: (Molecular Biology) California Institute of Technology, 1970–1973

Ph.D.: (Molecular Biology) University of Tennessee-Oak Ridge Graduate School of Biomedical Sciences, 1970

B.S.: (Microbiology) University of Tennessee, 1966

RESEARCH INTERESTS

I previously studied molecular biology but now focus on computational biology and database programming.

PIVOTAL EVENTS

My Aha! moments came when I first observed bacteria under a microsope, the first time I isolated DNA from lamba bacteriophage, then understanding what we could do from a molecular biological approach (I sometimes even dreamed of annealing DNA strands). Also starting in graduate school, I had a strong fascination with harnessing computational tools to work for biological research.

MENTORING & WORK/LIFE BALANCE

I was fortunate to have excellent mentoring both in graduate school from Dr. Dorothy Skinner, my Ph.D. advisor, and others on the Oak Ridge faculty, and in my postdoctoral fellowship with Dr. Roy Britten. My parents were always positive about my abilities and extremely supportive of my wishes, even at the cost of suppressing their own opinions (I only found out later that my father had hoped I would go into medicine).

As much as possible, I have compartmentalized work and my personal life, ensuring that one did not subsume the other. I feel this has led to a richer life experience, as both work and personal experience support each other. I also think that some of my personal interests (ranging from dog obedience showing, rodeo photography, and breeding llamas) although not congruent with my research/work, have positively impacted it.

INSIGHTS

The major milestones of my career include the opportunity to be one of the first students in the Oak Ridge Graduate School with its intensive faculty/student ratio, a chance that led me to be able to meet with Dr. Roy Britten, my future postdoctoral mentor, and the opportunity afforded to me to come to the NIH by Dr. Gilbert Smith (NCI). At NIH, important moments were the offer to come into computing full-time under the aegis of Dr. Rodbard and Brian McLaughlin at the then Division of Computer Research and Technology (DCRT) (now CIT) and Mr. Russo's request that I undertake to the Office of Intramural Research's project to oversee data produced by the Intramural Research Program.

I feel that I have been very fortunate throughout my career, as I have not experienced some of the barriers that many women in research careers have faced. I have enjoyed new challenges and opportunities as they arose, allowing me to grow into new dimensions in my bench-science career (from zoology to microbiology to invertebrate molecular biology to developmental and evolutionary biology to mouse mammary gland virus research and then to insulin-like-growth factor I research). There was always an underlying theme of/interest in computational research, from graduate school onward, culminating with my move into full-time computational work. I have found that the successes (but frequent frustrations) of bench research better prepared me for the successes and frequent frustrations of computer programming.

Jean Mao, Ph.D.

Staff Scientist, Scientific Computing Branch, Division of Computer System Services

EDUCATION

Postdoctoral Fellowship: (Cancer research) Wistar Cancer Institute, 1998

Ph.D.: (Molecular Endocrinology) University of Delaware, 1997

M.S.: (Animal Reproduction) National University of Taiwan, 1994

B.S.: (Animal Science) National University of Taiwan, 1992

RESEARCH INTERESTS

Computational biology

PIVOTAL EVENTS

During my postdoctoral fellowship, I found that I was not happy working in the lab anymore due to the long, demanding hours without holidays, and low salary. I decided to take extra time after work to learn computer science. It turned out that there was demand for people with my skills to analyze biological data from high throughput computer analysis.

MENTORING & WORK/LIFE BALANCE

Being a full-time Federal employee and a mother of two daughters greatly increases my self-esteem and self-confidence, which is the key to my happiness and success. The professional learning and training process also greatly improves my productivity, efficiency, and effectiveness in my work. Alternating between the two roles not only enhances my time management ability, but also resets my mind to be more successful in both roles.

INSIGHTS

After getting a doctoral degree in molecular biology, I realized I didn't have enough time to be with my family due to the high demand of lab work. I decided to incorporate computer science into my biology knowledge and changed my career path to computational biology. Now, not only do I have a regular work schedule that allows me to enjoy enough time with my family, but also I feel very good about myself and am financially independent. I am glad I made the hard decision to change career paths. The main goal is to be happy!

Barbara Lynn Young, Ph.D.

Physical Scientist, Bioinformatics and Molecular Analysis Section, Computational Bioscience and Engineering Laboratory, Division of Computational Bioscience

EDUCATION

Ph.D.: (Physics) Purdue University, 1988

M.S.: (Physics) Purdue University, 1985

B.S.: (Physics) Centenary College of Louisiana, Shreveport, LA, 1982

RESEARCH INTERESTS

Bioinformatics and ontology engineering

PIVOTAL EVENTS

I have always been very excited about the advent of many biotechnologies. I remember two seminars, in particular, in which new technologies were presented, and the results simply took my breath away. One was about whole chromosome painting, and the other, about two-color microarrays. The potential for many of these technologies to be used in diagnosing disease inspired me to work on projects that may one day drastically reduce the time required for patients to receive a diagnosis for a serious disease.

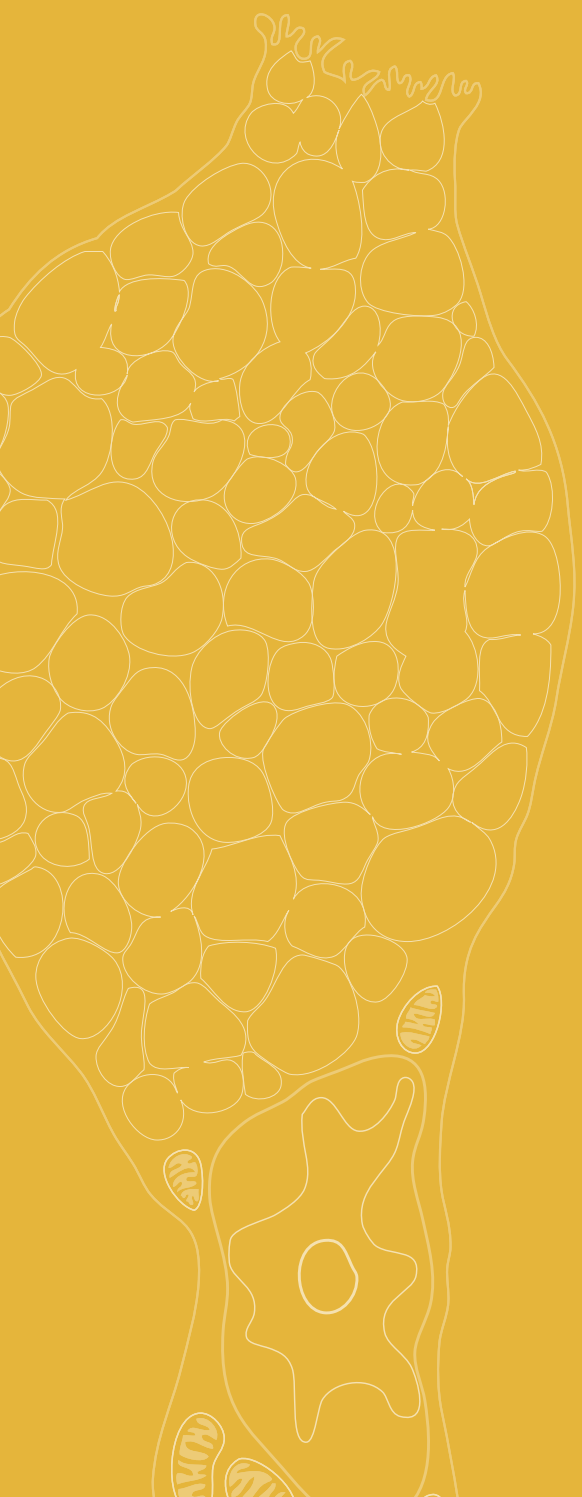
MENTORING & WORK/LIFE BALANCE

When I enjoy the projects on which I am working, I find a natural flow between personal and professional life. Unsolved problems can be placed in the back of the mind while away from the lab, and other parts of the mind can be exercised at that time. Often, when the well-rested mind views the problems anew, solutions present themselves.

INSIGHTS

What I appreciate most about being a scientist is the environment in which we work. We have an opportunity to make a contribution to improving human health. We interact with highly intelligent colleagues on a daily basis and are frequently exposed to ideas on the leading edge of research.

Center for Scientific Review



Cheryl Kitt, Ph.D.

Deputy Director

EDUCATION

Ph.D.: (Biopsychology)
University of Maryland,
College Park, 1981

B.A.: (Psychology)
Adelphi University,
Garden City, NY, 1974

RESEARCH INTERESTS

Comparative neuroanatomy, Parkinson's disease, neurotransmitters and Alzheimer's disease, pain research

PIVOTAL EVENTS

I grew up knowing I was an important member of a team. My father ran a service business dealing with auto glass and car locks, and my whole family helped him do the work and manage the business: my grandmother, mother, sisters, and brother. When I became a scientist, I gravitated to science that involved tremendous teams of collaborators with different areas of expertise, and I pursued basic research that held the promise of one day serving patients in great need, particularly Alzheimer's patients. I soon formed my own teams and found it very rewarding to mentor and train new scientists, many of whom went onto be very successful researchers and department chairs.

MENTORING & WORK/LIFE BALANCE

When I was a freshman in college, I had a professor who allowed me to work with complete freedom in her lab. It was exciting to work with grad students, and I published my first paper in my sophomore year. She was a wonderful professor. Even today, when I help others advance in their careers, I feel the same excitement that I felt as her student. Back then, people in science were men, but I didn't think of myself as a trail blazer. We were all just on the same team. Being a woman mattered more later in my career when I had two small children. I had become so busy I didn't see them enough. I eventually realized life was short and I needed to focus more on what was precious. I looked around for something different and I discovered NIH offered many great opportunities to create a new, more satisfying life.

INSIGHTS

In my second year as a postdoctoral student, I led research that identified the role of a neurotransmitter in the pathology of Alzheimer's disease. My results were published in *Science*. It was exciting to be developing techniques to solve a big medical mystery and to work with front-line physicians and the patients who stand the most to benefit from the research. Joining the extramural staff at NIH and later becoming the Deputy Director of the NIH Center for Scientific Review gave me many new opportunities to advance science and serve others. Despite large responsibilities, I have not forgotten what is important for the future. Other women can make discoveries and make a difference in people's lives. So I continue to do mentoring and outreach. I'm still thrilled when high school girls come up to me to find out how to have a career in science, too.

Suzanne Eileen Fisher, Ph.D.

Director, Division of Receipt and Referral

EDUCATION

Ph.D.: (Cell Biology) University of Illinois at Champaign-Urbana, 1978

B.S.: (Zoology) Michigan State University, 1972

RESEARCH INTERESTS

Gene duplication and regulation, developmental biology, evolution, cancer initiation and progression

PIVOTAL EVENTS

A major influence on my development as an extramural scientist administrator was the opportunity to work closely with two women who had dedicated so much of their careers to the peer review process—Dr. Catherine Henley in the National Eye Institute and Dr. Rosemary Morris in the Center for Scientific Review. Both were of the era when women felt they had to choose between a career and marriage/family and thus never married. Both were extraordinarily intelligent, great sources of knowledge about science and the extramural process, and had a fierce work ethic. Both were also enormously supportive of me in my efforts to establish a career and a family life. Though Catherine and Rosemary are now deceased, I regularly recall the lessons I learned from these two remarkable women.

MENTORING & WORK/LIFE BALANCE

My husband and I have been married for 35 years. We have one son; having one child was a conscious decision—we were concerned about our ability to juggle the many responsibilities as well as the financial considerations. We are enormously proud of him and realize that he has had to cope with the benefits and the burdens of his only-child and only-grandchild status. I always made a conscious effort to state that both his parents worked full-time. Most of our friends were in a similar situation and we learned so much from each other on how to cope at each stage—whether it was making your own baby food or driver's education. As I look forward to grandchildren, I will try to think of ways that I can help the next generation fulfill their career aspirations and enjoy a family.

INSIGHTS

Since leaving graduate school, my entire career has been at NIH as a postdoc and staff fellow in two intramural laboratories and then in the extramural process, first review and then referral. Though I have had only one employer, there has been great variety in what I have done and many changes over the years. In addition to my direct work responsibilities, I have had the opportunity to be involved in other interests, including libraries and history. NIH has allowed me to grow in knowledge and responsibility with many outstanding women scientists as role models and friends. I made the choice to come to NIH for a number of reasons, not the least to be in the same location as my spouse. It turned out to be a very fortuitous one.

CSR

Anita Miller Sostek, Ph.D.

Director, Division of Clinical and Population-Based Studies

EDUCATION

Ph.D.: (Developmental Psychology) State University of New York at Buffalo, 1975

B.A.: (English) New York University, 1967

RESEARCH INTERESTS

Developmental psychology, infant development, biobehavioral risk

PIVOTAL EVENTS

After obtaining a Ph.D. in developmental psychology and working within a medical setting on infant sleep, I came to the Department of Pediatrics, Division of Newborn Medicine at Georgetown University and conducted research on developmental outcomes of infants born at risk because of prematurity, complications of birth, or congenital neurodevelopmental disorders. Working within neonatology for 13 years, I was privileged to be mentored by male and female Chiefs who set the stage for a family-oriented workplace that provided support for the challenges of child and parent care. I have carried that experience with me to the NIH. My work with families gave me an appreciation for the complexity of challenges they face when dealing with disabilities and disadvantages, be they medical, developmental, financial, or social. I came to realize the unique place of various disciplines in defining and addressing these challenges.

MENTORING & WORK/LIFE BALANCE

I have mentored a large number of Scientific Review Officers, originally as a colleague, and then as Integrated Review Group Chief and Division Director. I also directed the CSR Review Internship program from 2001 until 2007. The program originally focused on intramural scientists, but then expanded nationwide to provide training in administration and increase the base of scientists eligible for Scientific Review Officer (SRO) positions. Before it ended, the program served 44 scientists including 28 women. In terms of staff members in general, I also feel that it is critical to relate to them on a personal level, focusing on families and health, particularly when they are experiencing difficult situations. Personally, I have two daughters whom I raised much of the time on my own while working in academia and at the NIH. Now in their twenties, they are doing well professionally, one as a journalist and one in information technology.

INSIGHTS

My milestones include reaching the rank of associate professor as a behavioral Ph.D. in a medical school, working in an area that had great meaning for me, and advancing our understanding of the developing brain by studying perturbations that occurred prenatally and shortly after birth. In addition, we used an early form of brain imaging to research the extent of intraventricular hemorrhage that is generally associated with prematurity. When I came to the NIH in 1987 to work in peer review, I was extremely fortunate to assume responsibility for a study section directly relevant to the topics I had studied. My children were in grade school at the time. While it is often difficult to balance priorities, it is as critical to do so as a woman in science as well as other professions. I like to think that a passion for what you are doing in the personal and professional spheres helps see you through.

Eileen W. Bradley, D.Sc.

Chief, Surgical Sciences, Biomedical Imaging and Bioengineering Integrated Review Group, Division of Clinical and Population-Based Studies

EDUCATION

D.Sc.: (Physiology/Radiobiology) Harvard University, 1971

M.S.: (Radiological Health) Harvard University, 1968

B.A.: (Biology) Anna Maria College, Paxton, MA, 1966

RESEARCH INTERESTS

Radiation effects on normal tissues; radiation oncology

PIVOTAL EVENTS

Pivotal events in my career include being awarded NIH predoctoral and postdoctoral fellowships as well as an RO1 grant as a principal investigator. Other important aspects of my career have been excellent mentoring and the opportunities to work in a clinical research environment as well as at the NIH.

MENTORING & WORK/LIFE BALANCE

Mentoring is one of my favorite opportunities. In academia, I mentored doctoral students, postdocs, and residents. At NIH, I have the opportunity to mentor new Scientific Review Officers.

Family and professional responsibilities constitute a roller coaster ride. My three children are the most important part of my life. They have grown up to be intelligent, responsible, giving adults. There were times I felt like I was not doing a good job with either, but I'm very glad I did both.

Noni Husain Byrnes, Ph.D.

Chief, Cell Biology Integrated Review Group, Division of Biologic Basis of Disease

EDUCATION

Ph.D.: (Analytical Chemistry) Emory University, 1994

B.S.: (Chemistry) Allegheny College, 1989

RESEARCH INTERESTS

Analytical chemistry, fluorescence spectroscopy, chemical separations, technology development

PIVOTAL EVENTS

I can think of three events in different settings (graduate school, industry, government). In graduate school, my advisor allowed me to pursue a side project on my own as long as I agreed to do an oral presentation at a national meeting. In industry, I was supposed to help my manager with a project but realized very soon that he had stopped showing up for clinical project team meetings, forcing me to assume responsibility as our section's representative. In government, my supervisor delegated to me a presentation that he was asked to give to the advisory council. In each case, someone in a position of power chose to take a chance on me, a chance that they didn't have to take at a time when I was not sure if I was ready for it. Those opportunities had a critical impact on my self-confidence and success.

MENTORING & WORK/LIFE BALANCE

I have been blessed with wonderful mentors throughout my career so far. I administered CSR's Review Internship Program for 2 years and had the chance to work with many talented young scientists transitioning into extramural science administration. I have two young daughters and a husband with an academic appointment. We made a commitment early on to do everything possible to ensure that one of us is home after school. Each Sunday, we "work the home calendar" according to our work schedules the following week. I also made a commitment at work to never miss any deadlines or meetings due to my fluctuating schedule, and to always be accessible to my direct reports. Juggling the demands of work and family can become hectic at times, but it is worth it for the well-being of my children. Having a supportive spouse at home and a supportive supervisor at work is a tremendous plus.

Cathleen Cooper, Ph.D.

Scientific Review Officer, Transplantation Tolerance and Tumor Immunology Study Section, Immunology Integrated Review Group, Division of Biologic Basis of Disease; Referral Officer, Division of Receipt and Referral

EDUCATION

Ph.D.: (Pathology) University of Southern California, 1989

B.A.: (Bacteriology) University of California Los Angeles, 1976

RESEARCH INTERESTS

Microbiology, immunology, transplantation, transcriptional regulation of gene expression, cancer biology

PIVOTAL EVENTS

After college, I worked for a few years as a technician in a laboratory that pioneered immunohistochemical staining of tissue sections for identification and typing of poorly differentiated cancers. At first, I simply did the lab work and gave the slides to my boss, an M.D./Ph.D. pathologist, to read. After a while, I started reading the slides myself and writing up draft versions of the reports—just to see if I could do it—and submitted them to my boss along with the slides. In many cases, he only tweaked my report drafts a bit before sending them out, which gave me the confidence and the final push I needed to continue my studies—in pathology, of course!

MENTORING & WORK/LIFE BALANCE

I've had both strong and weak, even destructive, mentors at different points in my career. While the poor mentoring taught me good lessons about how to become self-sufficient and to believe in myself, it also taught me how much more any person can achieve when they have the right kind of support on their side.

It always has been very easy to lose myself in my work at the expense of my personal life, and this was one of the main reasons I left academia to take my current position at CSR as a Scientific Review Officer. However, 3 years after coming to CSR, I took on the additional responsibility of Referral Officer, then last year I was elected Chair of the CSR SRO Council, so achieving balance between my professional and person lives remains an ongoing struggle.

CSR

Cheryl M. Corsaro, Ph.D.

Scientific Review Officer, Genetics of Health and Disease Study Section, Genes, Genomes, and Genetics Integrated Review Group, Division of Molecular and Cellular Mechanisms

EDUCATION

Ph.D.: (Human Genetics) The Johns Hopkins University, 1975

B.S.: (Biology) St. Mary's College, Notre Dame, IN, 1969

RESEARCH INTERESTS

Human genetics, molecular genetics, genomics; ethical, legal, social implications of human genetics

PIVOTAL EVENTS

I was fortunate to have an inspiring genetics professor in college who motivated me to change my major from math to biology and to go to graduate school in genetics. I joined the Ph.D. Program in Human Genetics at Johns Hopkins University, which was an excellent experience, largely due to faculty who were very supportive of graduate students. After working as a postdoctoral fellow for a number of years, I decided to make the switch from experimental research to science administration. Again, I was fortunate to find an outstanding training venue, the Grants Associates Program at the NIH. This was a 1-year management internship program for research scientists who were changing to science administration. It was an excellent way to learn about the NIH Extramural Program and to make many contacts throughout the NIH. I continue to draw upon these experiences and connections over 20 years later.

MENTORING & WORK/LIFE BALANCE

I have been lucky to have had supportive mentors at several stages of my career—during college, graduate school, posdoctoral training, the NIH Grants Associates Program, and as an employee in the NIH Extramural Program. These mentors played a very strong role in the development of my career and were critical to its development. The challenge of balancing family with professional responsibilities is a constant work in progress. I have found that during intense periods of work that required long hours, it was important to always take Saturday off to refresh. It also helps to remind myself that I am a person first and a scientist second.

Sherry L. Dupere, Ph.D.

Chief, Biology of Development and Aging Integrated Review Group, Division of Molecular and Cellular Mechanisms

EDUCATION

Ph.D.: (Microbiology & Immunology) Ohio State University, 1980

M.S.: (Biology) University of Cincinnati, 1974

B.S.: (Biology) University of Cincinnati, 1970

RESEARCH INTERESTS

Developmental biology; biology of aging (molecular to whole organism-based studies of biological changes over time); stem cells and regenerative medicine; global health; bioethics

PIVOTAL EVENTS

I am fortunate to have seen my early passion for nature develop into a scientific career broad enough to weather the vicissitudes of funding and employment for many years. Undergraduate training in biology led me to plan graduate studies in tropical disease microbiology, but the untimely death of my advisor obliged me to redirect my master's thesis research to a different laboratory studying microbial hydrocarbon degradation. Another pivotal event was redirecting my training to again include more human health relevance through doctorate-level research in cellular and molecular studies of cancer and aging. Postdoctoral and independent research followed in this vein with emphasis on chromatin neoantigens, growth factors, and proto- and onco-genesis in cancer and embryonic development. This led ultimately to a position in NIH Extramural Research Administration. In retrospect, I would offer this advice to any new scientist: "Be persistent, be resourceful, and embrace change as an opportunity for growth."

MENTORING & WORK/LIFE BALANCE

"Mentoring" is a term I rarely heard before coming to NIH, although it certainly has served me throughout my career. My undergraduate advisor, a woman scientist and excellent role model, taught me that "gender is incidental to capability." Typically, subsequent mentors have provided both positive and negative influences, but mostly positive. In recent years, I became a "mentor" myself to two talented CSR interns, both of whom have since been hired in NIH Extramural Research Administration. As Integrated Review Group (IRG) Chief, I occasionally advise staff about career options, and always strive to foster their professional growth.

Balancing family and professional responsibilities may have been easier for me, for I am unmarried and have no children. However, I have long nurtured a love of travel and support for wildlife preservation, and with continued good health I hope to travel more extensively and continue extracurricular efforts toward the protection of endangered species.

Joy Corey Gibson, D.Sc.

Chief, Cardiovascular Sciences Integrated Review Group and Hematology Integrated Review Group, Division of Physiology and Pathology

EDUCATION

D.Sc.: (Nutrition) Harvard University School of Public Health, 1974

M.Sc.: (Nutrition) Harvard University School of Public Health, 1972

A.B.: (Physiology) Mount Holyoke College, 1970

RESEARCH INTERESTS

Lipid and lipoprotein metabolism, atherosclerosis and cardiovascular disease in general

PIVOTAL EVENTS

My success as a scientist has largely been due to being in the right place at the right time and taking advantage of the circumstance. After my postdoctoral fellowship at Cornell University, I married a corporate tax lawyer and spent the next 30 years of my life moving from one position to another, adapting my career to geographical moves that were integral to his career track. As luck would have it, each place we settled, from Sydney, Australia; to New York City; Coral Gables, Florida; Summit, New Jersey; and Washington, DC, proved to be an opportunity for me and provided me with a foundation that facilitated each subsequent career move. I took advantage of each position, gaining experience and approaching each as if it were a permanent commitment. As a result, I was able to gain experience and publications and develop long-term friendships and professional relationships, all of which have served me well throughout my career.

MENTORING & WORK/LIFE BALANCE

It has been very rewarding to have brought up two children while maintaining an unbroken professional career. I spent 3–4 years in each of three different academic institutions childless, but when I joined the pharmaceutical industry and remained at one job for 14 years, child raising became an important adjunct to my professional life. Raising children kept my life in perspective and, with the help of my colleagues and at-home child care, I never felt that I was sacrificing either responsibility. Both of my children are now focused on professional careers and it has never occurred to my daughter to view marriage and a family as an alternative to a career. I would counsel any young woman contemplating combining a career and a family that the two are complementary and can enrich and renew one's perspective on life.

Sooja K. Kim, Ph.D.

Chief, Endocrinology, Metabolism, Nutrition, and Reproductive Sciences Integrated Review Group, Division of Biologic Basis of Disease

EDUCATION

Ph.D.: (Nutritional Science and Biochemistry) Texas Woman's University, Denton, TX, 1975

B.S.: (Human Ecology) Humboldt State University, Arcata, CA, 1967

RESEARCH INTERESTS

My main areas of interest are nutrition and metabolism. In addition, as Chief of the Endocrinology, Metabolism, Nutrition, and Reproductive Sciences (EMNR) IRG and SRO, I am continually reviewing and keeping abreast of the most recent cutting-edge scientific areas in endocrinology, metabolism, nutrition, and reproductive sciences, including the burgeoning research area of diabetes and obesity.

PIVOTAL EVENTS

Many mentors have helped my personal and career development. One in particular was Dr. Doris Williams, who tirelessly helped junior faculty to grasp the "nuts and bolts" of academic work and rapidly gain understanding of institutional procedures and cultural expectations at a middle-size university in Ohio. Dr. Calvin Long at Medical College of Ohio focused on my real research work while he encouraged me to question and be persistent to overcome any consequential obstacles to achieve only the best outcomes of the research. Both mentors challenged me in cross race/gender aspects despite the institutional culture of inhibiting attention to Asian-American females.

MENTORING & WORK/LIFE BALANCE

I have been involved with the following activities: 1) As a member of Research Subcommittee and Seminar Series Committee under the Office of Research on Women's Health (ORWH), I help identify and recommend priority areas of research for women's health; 2) As a member of the Advisory Committee to the organization, Korean-American Women in Science and Engineering (KWISE), I have been advising activities for the members, including networking opportunities,

community service projects, job opportunities, and internal communication network (KWISE Web page, newsletters, e-mails, etc.). In addition, I have been co-chairing "Women in Science and Engineering Forum" during the United States-Korea Conference on Science, Technology, and Entrepreneurship to address "Facing Challenges" and "Navigating Professional Career Advancement" for the past 2 years; and 3) I am frequently asked by women scientists to talk about grantsmanship and NIH peer review information.

For professional women, staying fit is essential for balancing family with professional responsibilities. I try to maintain good health practices with regular physical activity.

Christine Melchior, Ph.D.

Chief, Integrative, Functional, and Cognitive Neuroscience Integrated Review Group, Division of Physiology and Pathology

EDUCATION

Ph.D.: (Psychobiology) Purdue University, 1977

M.S.: (Psychology) University of Bridgeport, 1973

B.S.: (Psychology) Duke University, 1971

RESEARCH INTERESTS

Neuroscience, biomedical basis of alcoholism

PIVOTAL EVENTS

Maintaining a joy in discovery and figuring out how things work has certainly been a critical factor for me in starting and continuing a career in science, but doors have opened to different directions in science from networking and building on experiences. I have enjoyed serving my scientific community by actively participating in relevant scientific societies and sitting on various study sections to review grants. As a Chair of a VA grant review panel, I enjoyed helping put together the puzzle of matching grants to the expertise of the panel members, so I was very interested when a colleague at NIH called and asked if I would apply for a position as a Scientific Review Administrator. Working in this capacity proved rewarding and led to other career advancements.

MENTORING & WORK/LIFE BALANCE

Given the many hours spent at work, I consider the people with whom I work to be my alternate family, so I have enjoyed providing guidance to my students and staff members. I have benefited directly from formal mentoring situations, but another important source of guidance for me has been observing others and thinking about how they handle different situations.

Anna L. Riley, Ph.D.

Scientific Review Officer, Psychosocial Development, Risk, and Prevention Study Section; Risk, Prevention, and Health Behavior Neuroscience Integrated Review Group, Division of Clinical and Population-Based Studies

EDUCATION

Postdoctoral Fellowship: (Gerontology) University of Michigan, 2003

Ph.D.: (Sociology/Social Psychology) Washington State University, 1994

M.A.: (Sociology) Southern University, Baton Rouge, LA, 1986

B.A.: (Sociology) Paine College, Augusta, GA, 1984

RESEARCH INTERESTS

Social and personality psychology, aging and health, risk and prevention, and health disparities

PIVOTAL EVENTS

The pivotal event in my scientific career is the 3 years I served as a National Institute on Aging postdoctoral fellow at the University of Michigan's Institute for Social Research. This experience determined the focus of my scientific career on the interaction of social and personality psychology with physical and mental health across the lifespan. During this period, I participated in key components of the research process, including grant-writing, which helped prepare me to administer the grant review process as a Scientific Review Officer. I also taught the methodology of studying aging populations and trained interviewers for the National Survey of American Life—a national longitudinal study assessing the prevalence of mental disorders in Blacks/African Americans. Overall, these experiences determined the focus of my professional life and demonstrated the critical role that Federal postdoctoral opportunities can play in training scientists for public service.

MENTORING & WORK/LIFE BALANCE

I have received exceptional mentoring. I began my career at NIH in the internship program at CSR. Thus, I have been provided with great guidance and support from colleagues. Balancing family and professional life is always a challenge. My husband and I work hard to balance our careers, our church activities, and our family responsibilities. We do this by focusing on the importance of giving our best in each environment and by trying to nurture others as they work to achieve their goals.

Fogarty International Center

Karen Joanne Hofman, M.D.

Director, Division of International Science Policy, Planning, and Evaluation

EDUCATION

Postdoctoral Fellowship: (Pediatric Disabilities) Johns Hopkins Hospital, 1988

Postdoctoral Fellowship: (Pediatric Genetics) Johns Hopkins Hospital, 1985

M.B.BCh: University of Witswatersrand, Johannesburg, South Africa, 1978

RESEARCH INTERESTS

Global public health with a focus on sub-Saharan Africa, biomedical ethics, human resources for global health research, implementation and dissemination science, childhood disabilities

PIVOTAL EVENTS

Fifteen years after moving to the United States, my family and I spent a sabbatical in Cape Town. This experience proved to be a pivotal event in my career. My mentor, the first female Dean at a medical school in South Africa, asked me to collaborate with one of her faculty. While working on local provincial guidelines to screen for childhood disabilities, I realized that my research skills could be used in the policy arena. I also began to perceive myself as a member of the African science diaspora. On returning to the United States, I decided to change my focus to global public health, a field where I thought I could have a greater impact. This shift presented some challenges, but after a couple of years at the headquarters of the Pan American Health Organization in Washington, DC, the prospect arose to transition into science administration and science policy for global health at NIH.

MENTORING & WORK/LIFE BALANCE

Balancing work and family life has presented many challenges that have changed over time: first in my capacity as one partner in a two-career couple and also in my role as mother of two young adult sons. Several factors have been crucial to managing this balance. One is an encouraging spouse who was willing to share responsibilities. The second is a succession of flexible and supportive mentors. For several years when my children were young, the Chair of Pediatrics at Johns Hopkins graciously agreed to my request for a 4-day week. This allowed me some flexibility. While I don't think it compromised my productivity, it did increase my efficiency!

FIC

I am passionate about mentoring—this began at Johns Hopkins with medical students, pediatric house staff, and genetics fellows and continued at NIH where I have mentored several interns and staff to pursue global health and related careers.

INSIGHTS

For the past 10 years, I have been on staff of the Fogarty International Center. My office is responsible for helping to set the agenda and determining research gaps and training needs in global health. We help to guide the NIH response with respect to international research strategy and evaluate ongoing Fogarty programs. On reflecting on my career trajectory, I received strong encouragement at my girls-only public high school in Johannesburg to pursue science and medicine as a career. My entry to the University of Witwatersrand School of Medicine took place during the Apartheid-era in the 1970s in South Africa. While my class of 200 students, most of whom entered directly out of high school, was 40 percent female, the racial diversity was minimal and did not reflect the population. Also notable was the separation of medical students by race; amongst us were a few Black students whose rotations were confined to Black-only facilities. This early experience of working in a racially divided and socioeconomically inequitable healthcare delivery system left a lasting impression on me. It has been the key motivating force for my work in global health. My exposure to health research began as a medical student and continued during my internship and residency. In particular, the Clinical Pediatric Research Unit at The Chris Hani Baragwanath Hospital in Soweto provided me a unique opportunity to learn research skills as a budding pediatrician. In the early 1980s, a time when the repressive apartheid regime seemed firmly entrenched, I left South Africe for the United States. During my postdoctoral years, my career evolved in the direction of childhood disabilities and genetics. Most importantly, these two closely related disciplines provided a view of research though a lens of public health. During my tenure on the faculty at Johns Hopkins, I established the first Down Syndrome clinic and was exposed to and participated in a broad spectrum of research from the laboratory to the bedside. Daily exposure to an NIH-funded pediatric clinical research unit was critical. Over time, I became increasingly attracted to research on ethical, legal, and social issues that impact on health policy and medical education. With a growing family and after 12 years of a daily commute from Baltimore to Washington for my husband, we decided to move to the DC area. Soon after this, our family spent a sabbatical in Cape Town, South Africa. Working at NIH has afforded me a great opportunity to develop an understanding of one of the preeminent research funding agencies in the world. I believe that health science is inherently an international enterprise. For this reason, I am fortunate to serve on the staff of the Fogarty Center, where the mission meshes so seamlessly with my own goal of promoting the developing country research expertise to enhance global health.

Marya Levintova, Ph.D.

International Health Program Officer, Division of International Relations

EDUCATION

Ph.D.: (Clinical Psychology) California School of Professional Psychology/ Alliant University, 2000

M.A.: (Clinical Psychology) California School of Professional Psychology/ Alliant University, 1997

B.A.: (Psychology) University of Redlands, 1995

RESEARCH INTERESTS

Noncommunicable disease prevention and control, health policy and legislation implementation and monitoring, social and behavioral interventions

PIVOTAL EVENTS

As a former Olympic swimmer, being diligent in achieving my goals has been in my blood since early childhood. As a young adult deciding on a career, the only difficulty was determining what exact career goal I was trying to reach. As I am in the early stages of my career, I cannot definitely state that the path I have chosen thus far will be the path I will stay on for the rest of my career. Nonetheless, I believe that the most important event in my life that led me to strive toward success was immigration to the United States from the former Soviet Union at the age of 16, when I had to suddenly prove that I was a somebody.

MENTORING & WORK/LIFE BALANCE

I believe that mentoring is a very important component of one's success, but in reality, good mentors are incredibly difficult to find.

I believe there are some positive changes for women who are trying to balance family and work responsibilities. I have found that an understanding relationship with the director is essential, as it aids in determining the level of latitude one may have to complete their professional responsibilities, while at the same time being able to tend to the needs of their family.

INSIGHTS

I feel that I have been fairly fortunate in my career progression. Partly, I believe it is because of my life experiences. In addition, the people I studied with have been instrumental in my career progression and decisions. I would not say that reaching the various career milestones thus far has been easy; quite the opposite, it has been a rocky road and at times, it did not feel

that I moving forward. Ultimately, I believe that success comes from inside the individual, but because it is so fragile, it needs the support of mentors who need to provide the fertile ground for one's growth.

Linda Elaine Kupfer, Ph.D.

Deputy Director, Division of International Science Policy, Planning, and Evaluation

EDUCATION

Ph.D.: (Pharmacology)
Columbia University, 1984

A.B.: (Psychology)
Cornell University, 1978

RESEARCH INTERESTS

International science policy, evaluation, pharmacology, biotechnology

PIVOTAL EVENTS

My enthusiasm for science has been a constant in my career. Upon receiving my Ph.D. from Columbia University, I was awarded an AAAS Fellowship in Scientific Diplomacy. This opportunity afforded me a position at the State Department where I coordinated and negotiated bilateral science and technology agreements with China, Japan, and countries in Southeast Asia. While the process of getting my Ph.D. in pharmacology confirmed my interest in science, my experience at the State Department introduced me to the field of science policy, particularly the international aspects and I really loved it!

My next few jobs were in international science policy at National Oceanic and Atmospheric Administration (NOAA). While there, an opportunity opened for me to use my pharmacology background and I became a program officer for marine biotechnology in the National Sea Grant College Program Office. Because of congressional interests, my colleagues and I developed an evaluation framework for scientific programs at Sea Grant, allowing me to get back to science policy. I brought the evaluation framework to the policy and evaluation office at the Fogarty International Center, NIH, where I now work.

I couldn't have planned or predicted any of the many opportunities I've had in my career, but it's been a really interesting and productive journey with science at the center.

MENTORING & WORK/LIFE BALANCE

I worked full-time for 3 years at the Department of State until I had my son. When he was born, I took 3 months off and then requested to come back to the State Department part-time. This was in 1987, and there were not many (or perhaps any) part-time positions at the Department of State. I therefore resigned from State and decided to take 2 years off and be a full-time mom. I joined a PACE (Parent After Childhood Education) groups and my son and I had many fun bonding hours together and with other mothers and their children.

I loved being a full-time mom, but it was very hard! I was ready to go back to work part-time when my son was 2 years old. Coincidentally, a colleague I had worked with while at State offered me a job, 2 days a week, 10 minutes from my house. I took the job and was still able to take my son to mommy and me programs but was back in the adult science working world, which was a lot of fun. It was a great arrangement. As my son spent more hours in organized programs, I increased the time I gave to work. When he went to school full-time, I began working 4 days a week and continued with that schedule until 5 years ago when I came to the NIH. This is my first full-time job! Working 4 days a week was the best. I found I was able to go on class trips, do errands, and other work to free up weekends to spend with the family. For me, part-time work was worth the sacrifice in pay and promotion given the benefits to my quality of life with my family.

Cécile G. Viboud, Ph.D.

Staff Scientist/Epidemiologist, Division of International Epidemiology and Population Studies

EDUCATION

Ph.D.: (Epidemiology and Public Health) University of Paris, France, School of Public Health, 2003

M.P.H.: (Biomathematics)
University of Paris, France, School of Public Health, 1999

Engineering Degree: (Biological Sciences)
National Institutes for Applied Sciences, Lyon, France, 1998

M.S.: (Mathematics)
University Claude Bernard, Lyon, France, 1997

B.S.: (Mathematics and Biology)
University of Lyon, France, 1997 and 1998

RESEARCH INTERESTS

Mathematical and statistical modeling of infectious diseases, spatial and temporal patterns, influenza epidemics and pandemics, respiratory and enteric viruses

FIC

EVENTS

As a young graduate student at the University of Paris, France, I was fortunate to work in a research division where a lot was going on, and where I could try very diverse projects. I was able to work on studies across the board of statistics, modeling, clinical epidemiology, and chronic and infectious diseases. This made me realize that I was passionate about infectious diseases, influenza in particular, for which population dynamics are still poorly understood. I have been working on influenza research ever since starting my graduate work, and continued in this line of research after my move to Fogarty, NIH, in 2003. While at Fogarty, I had the opportunity to work with many people from different horizons and nationalities, and analyze epidemiologic data from many different countries. Acquiring a global perspective of influenza epidemiology patterns was essential to my success as a scientist, while at the same time, it was a truly enriching experience to work in international health.

MENTORING & WORK/LIFE BALANCE

As an NIH scientist, I believe that my specific research area is important for the advancement of public health and science in general; however, the most important part of my work is mentoring. Over the past few years, I have mentored junior scientists and less junior foreign scientists, and found it most rewarding, perhaps because mentoring is a more tangible and less abstract product than a scientific communication. Most importantly, I had outstanding mentors as a graduate and post-doc student, interestingly each with very different skills, and this was key in teaching me how to mentor people.

Family life does not always seem compatible with a demanding career as a scientist, and it seems that there is never enough time for work and family. However, I strongly believe that having a rich family life can make me a better scientist, and vice versa.

National Center for Complementary and Alternative Medicine

Josephine P. Briggs, M.D.
Director

EDUCATION

Research Fellowship: (Physiology) Yale School of Medicine, 1976–1979

Fellow: (Clinical Nephrology) Mount Sinai School of Medicine, 1973–1975

Residency: (Internal Medicine and Nephrology) Mount Sinai School of Medicine, 1970–1973

M.D.: Harvard Medical School, 1970

A.B.: (Biology) Harvard-Radcliffe College, 1966

RESEARCH INTERESTS

My main research interests are diabetic kidney disease, the renin-angiotensin system, circadian regulation of blood pressure, and effect of antioxidants in kidney disease. In addition, I am interested in the mind-body connection, the use of complementary and alternative medicine (CAM) for symptom management, and the application of new research methods and techniques that focus on biocomplexity to CAM research.

PIVOTAL EVENTS

At Harvard I investigated different majors, but biology drew me—my father was a scientist, I enjoyed science, but the balance was tipped by wonderful biology professors, such as Dr. Matthew Meselson. Another difficult decision was whether to pursue a medical degree versus a Ph.D. in science; my final decision to go into medicine was guided by a desire to interact with people. Once in medical school, I considered pediatrics, but chose nephrology because of excellent mentors, such as Dr. Peter Coggins at Massachusetts General, and my appreciation for nephrology's quantitative nature. Following my residency, I pursued research training, a decision that led to my meeting my husband and then basic research in Germany. My moves to the University of Michigan and then to NIH/NIDDK brought together my clinical and research experience. While at NIDDK, I met Dr. Stephen Straus, who led NCCAM, and together we worked on the Science of the Placebo conference in 2000, which introduced me to NCCAM.

NCCAM

MENTORING & WORK/LIFE BALANCE

Throughout my career, professors and mentors have played a key role in my decisionmaking. In return, I have mentored/trained many young scientists who are now spread across the country doing wonderful research. I have also worked to recruit talented people to NIH and build strong research groups. I am proud of relationships I have built and consider it an important part of my career. I also recognize that one cannot underestimate the value of a supportive spouse or partner in making decisions about work and family while maintaining a research career. I was fortunate to have had my children while I was working in basic research, which, in some ways, offered more flexibility, and while at the University of Michigan I benefited from the proximity of home to work, which aided the ability to balance work and family life.

INSIGHTS

I was extraordinarily lucky in my career to have had the opportunity to not only work with patients, but also train in research and have that duality of experience. In fact, I now advise young scientists who want to have this duality to pursue the M.D./Ph.D., route, which really was less common when I was training in medicine and research. Having this mix of basic and clinical experience enabled me to take the unique career path that I have had—moving back and forth between the clinic and the laboratory. This experience was really my foundation for my understanding of translational research, which I see as the essential approach to the future of medical research—creating teams of researchers that draw upon the expertise of clinicians in the field and researchers at the bench.

As a woman in research, I have sometimes felt outside of the establishment. In 1970, when I graduated from medical school, it was a different era for women in science. There were only 12 women, I think, in my graduating class, so there was not a large network of other women scientists. Now there is a much larger network of women researchers. We need to embrace the opportunities that that network provides for support and collaboration. Here at NIH, for example, I have had the advantage of being connected with many women in research and other fields.

Laura Lee Johnson, Ph.D.

Statistician, Office of Clinical and Regulatory Affairs

EDUCATION

Ph.D.: (Biostatistics)
University of Washington, 2002

M.S.: (Biostatistics)
University of Washington, 2000

B.A.: (Mathematics)
University of Virginia, 1997

RESEARCH INTERESTS

Methodology for semi-parametric joint modeling of longitudinal and survival data (e.g., looking at the quality of life at the end of life), biomarker and person-reported outcome data, dosing studies, and studies with multiple interventions and outcomes

PIVOTAL EVENTS

I would not have known my field existed except for the offhand remarks of several people. My high school chemistry teacher told me, if I wanted to be a math teacher (I liked math, so it made sense) I should major in math, not education. My dad later said if I was good in math, why stop at a B.A.? Why not get a Ph.D.? My undergraduate statistics professor convinced me to work part-time as a data manager for a clinical trial. Later, the Principal Investigator of that study, a nurse, told me my work was vital to changing how care was being delivered to the underserved population we were studying. I suddenly realized that my math background was good for something beyond simply teaching calculus; I could help people in other ways. I resubmitted Ph.D. applications for biostatistics. I was hooked.

MENTORING & WORK/LIFE BALANCE

For a woman, in particular, the outside pressure to have children is sizeable. It is important to decide what you want and occasionally revisit that with your family and yourself. I have many mentors in government, research organizations, academic positions, young and old; talking to them when trying to decide next steps has been extremely helpful. Most told me tenure-track and having children did not mix. Their advice was, "Do something else, make your name there, have your family, then go into academics." I have seen some people try to do everything exceedingly well all at once and pull it off. But very few people. Regardless of your path, caring for older relatives, even handling a household of two adults, can be rough. I can have everything I want, but not be all at once. I like my job, but I do realize I have to sleep at night.

INSIGHTS

Milestones for me are not the awards, fellowships, or positions, but the thank yous and the fortuitous events. In the introductory biostatistics class that I teach, I tell my students to learn basic algebra, and not just to pass the course. Too many people are afraid of math, and this skill is tremendously empowering. Several former students (all adults, most with doctoral degrees) have written to thank me for that advice. NIH grantees I work with thank me and my office for helping their projects succeed. The fact that busy investigators take that time, reminds me that the hard lines we take matter and are useful. When middle school students I talk to understand how to look at information critically and they thank me for advising them (they did all the work!), I swoon. My work helps others achieve their milestones.

Two short fortuitous events boosted my career. As a graduate student, I was speaking at an international conference immediately prior to a star in the field. When the session fell 20 minutes behind schedule, the majority of the attendees—most of whom had come to hear the forthcoming "star"—also heard my presentation, while trying to figure out who I was. When the star attraction gave her talk, she made reference to my presentation. (Speaking of thank-yous: Thank you, Diane; thank you, Paula, for rehearsing me; thank you, Donald and Carol, for the added support.) I still work with people I met through that talk.

When I first came to NCI, my mentor noticed I had a teaching award and asked me to take over some lectures for him in a small course. That "small course" is televised to 14–17 domestic and international sites each year! My branch full of nonstatisticians and my mentor listened to each lecture, gave comments, and proofed my final exam. All the practice and input paid off when my teaching reviews came back. (Thank you, Paul, Craig, and CPSB.)

My coworkers have been wonderful teachers about science and life in every place I have worked. (Thank you, UVa, UW, VAPSHCS HSR&D, and NCCAM.) I never thought I would marry, but I found a partner who helps me be a good scientist. That coupling is not an accomplishment itself, but staying together is, and his unwavering support has helped me push forward when exhausted. He might be my biggest cheerleader.

And speaking of cheerleading…cheerleading is important. Taking the time to help people out by promoting their work when you believe in it or to volunteer in schools so students know your job exists can be done by anyone at any point in their education and career. The accomplishment from helping others will magnify and multiply your career achievements.

Barbara Sorkin, Ph.D.

Extramural Scientist Administrator, Division of Extramural Research

EDUCATION

Ph.D.: (Developmental Molecular Biology) The Rockefeller University, 1985

M.S.: (Molecular Biophysics and Biochemistry) Yale University, 1978

B.S.: (Molecular Biophysics and Biochemistry) Yale University, 1978

RESEARCH INTERESTS

Cell biology, developmental biology, cell-cell adhesion and regulation of cell/tissue differentiation and cell proliferation, cancer biology, neurobiology, biology and neurobiology of aging, complementary/alternative and traditional medical approaches

PIVOTAL EVENTS

Mentors throughout my life have encouraged me toward science: from my father, a violinist with a deep love of science, to high school and college teachers who encouraged me to learn about scientific research, whether by pointing me toward Columbia University's wonderful Science Honors Program for high school students or by inviting me to do research in their labs.

During my first year of graduate school, my research taught me not to rely on dogma. I was analyzing the carbohydrate portion of a chicken cell adhesion protein and kept finding that the ratios between amounts of different sugars were inconsistent with any known vertebrate proteins. I learned that unusual results require unusually clean data from several different experimental approaches, but that with good data, even the newest grad student can change dogma and, most importantly, that the fact that an observation hasn't been reported before doesn't mean it's wrong.

MENTORING & WORK/LIFE BALANCE

Having chosen early on not to have children, I find it critical to interact whenever possible with young scientists and science students; the interaction not only recharges my own enthusiasm and keeps me up to date, but also allows me to try to pass along the mentoring I was fortunate to receive, as I'm sure my mentors would have wished me to do.

Recently, as my parents have aged, I've had to learn the high-efficiency art of combining professional life with more demanding family responsibilities.

INSIGHTS

Sometime during my graduate school career, my (male) mentor, in the course of a "whither your research career" conversation, told me that as a woman in a largely male profession I would always need to prove myself to a greater extent than the men to achieve the same level of success. Fortunately for me, he was unbiased enough to understand that was an issue I would face once I moved beyond his sphere of influence. Unfortunately, while I think the situation has improved over the decades since then, the data say that the playing field still isn't level.

Most women have stories about male colleagues who clearly thought we'd gotten our academic or other positions as token women (or worse), rather than through having proved ourselves worthy of our appointments. My favorite of those experiences was with one such colleague who, one day in the lab, apparently unable to find a male to consult with, asked me what I made of his puzzling, hot-off-the-press data. I looked at it, had that flash of insight, turned his film upside down, and said "I think it's exactly what you expected." He never treated me like a dumb brunette again. I hope he generalized the lesson to other women!

Julia T. Arnold, Ph.D.

Staff Scientist and Lead Investigator, Endocrine Section, Laboratory of Clinical Investigation, Division of Intramural Research

EDUCATION

Postdoctoral Fellowship: (Experimental Therapeutics) The Johns Hopkins University School of Medicine, 1999–2001

Postdoctoral Fellowship: (Cancer and Cell Biology) National Cancer Institute, 1998–1999

Ph.D.: (Experimental Pathology) School of Medicine, University of North Carolina, Chapel Hill, 1998

B. S.: (Human Biology and Population Dynamics) University of Wisconsin, Green Bay, 1976

RESEARCH INTERESTS

Our research investigates the complex interaction of endocrine-immune-paracrine factors involved in the regulation of prostate epithelial function by associated normal or reactive stroma and extracellular matrix, and consequently how that functioning is altered in neoplasia. The prevalent over-the-counter use of DHEA, an adrenal steroid, is a current research target as it may contribute to progression of prostate lesions by being preferentially metabolized to androgens in the presence of inflammatory cytokines contributed by the reactive stroma. We additionally focus on mechanisms of botanical-based supplements that may modulate the interactions of DHEA-treated prostate stromal and epithelial cells.

PIVOTAL EVENTS

My science career developed somewhat backward. My undergraduate studies were in ecology and environmental science, but I never had the opportunity to be exposed to basic research. After working for 10 years in a contract research laboratory, gaining experience in carcinogenesis and eventually directing the lab, I realized the limit of opportunity for scientists without a Ph.D. So I went back to graduate school in my late 30s. Even though I was the oldest graduate student in my class, I wanted to work toward doing something I was really excited about. I now look forward to many challenging years of coordinating investigations toward teasing apart cellular complexities. My background in ecology provided a perspective toward developing a paradigm of research in complementary and alternative medicine that adopts an integrative approach to restoring an ecological balance in the physiology for better health.

MENTORING & WORK/LIFE BALANCE

The energy and creativity of the next-generation scientists whom I mentor is very exciting. We are here to encourage and promote our students as scientific knowledge unfolds at an exponential pace. We will never understand it ALL. As we piece together our separate investigations, we gather increased appreciation of the complexity of the human physiology and disease processes. I find it is important to not let scientific arrogance take over one's character. Arrogance can be a cover for ignorance. It is perfectly fine to say, "I do not know the answer to that question, but let's go look it up!" Balance between home, family, and work can be very difficult, but worth it. There is no perfect time to start a family as a women scientist. You just do it. Ask for advice and find support from fellow women scientists. And most importantly, take care of yourself.

Dale Lousie Birkle, Ph.D.

Scientific Review Officer, Office of Scientific Review, Division of Extramural Activities

EDUCATION

Postdoctoral Fellowship: (Ophthalmology) Louisiana State University Medical Center, 1982–1986

Ph.D.: (Pharmacology) Virginia Commonwealth University, Medical College of Virginia, 1982

B.A.: (General Sciences) Bridgewater College, Bridgewater, Virginia, 1977

RESEARCH INTERESTS

Complementary and alternative medicine, mind-body medicine, neuroscience, interaction of stress responses and psychiatric conditions, effects of adverse early life experiences on brain development

PIVOTAL EVENTS

A pivotal event in my career development occurred some time during graduate school when I realized that the most important quality of a scientist was the ability to stick with it, perseverance. Learning that a lot of the daily experience of a working scientist is negative (experiments that don't work, papers that get rejected, grants that go unfunded), but that one discovery, or seeing the light go on in the eyes of one student, makes up for all of that.

I think the most valuable skill I have as a scientist is knowing how to write, a skill that was fostered by a love of reading, an early infatuation with journalism, creative writing classes, and keeping a journal.

MENTORING & WORK/LIFE BALANCE

Mentoring at its best is very personal, but formal mentoring programs have their place, too. Just being visible as a successful female scientist is mentoring in the sense of providing role models. A mentor has to be a very giving person; many people are not up to the task.

Balancing work and family requires organization, many lists and reminders, a family that is willing to help out, and no hesitation about asking for help.

Sheila Ann Caldwell, Ph.D.

Program Officer, Office of Special Populations, Division of Extramural Research

EDUCATION

Ph.D.: (Molecular and Cellular Oncology) George Washington University, 2001

M.Phil.: (Molecular and Cellular Oncology) George Washington University, 2000

(Biology Concentration) Northeastern University, 1992–1994

B.A.: (International Relations with a concentration in Economics) Boston University, 1989

RESEARCH INTERESTS

Women's health, health disparities, and minority training programs

PIVOTAL EVENTS

No singular pivotal event in my background has directly influenced my success as a scientist. Rather, the major influences in my success have been the "messages" I received throughout my childhood.

I was told by my parents that there was nothing I could not accomplish through dedication and hard work. My parents believed that determination (sometimes referred to as stubbornness), perseverance, and passion were key elements in building character. They told me to always do what I believed to be right, to treat people with respect and to help others—especially those who cannot help themselves.

After taking a slight detour into a more political pathway, and with encouragement from several science professors, I pursued a career in science. I applied to graduate school and received my master's and Ph.D. from George Washington University in molecular and cellular oncology. My thesis research was on neuroblastomas and medulloblastomas, two pediatric cancers. The word pediatrics and its cognates mean "healer of children." Pursuing research in pediatrics was my way of helping a subset of people who were reliant on others and could not generally help themselves.

After doing a postdoctoral training fellowship at NCI, I welcomed the opportunity to explore a career outside of bench science. Up until this point, I had been surrounded by male role models. The lack of women in senior scientific positions was discouraging. This is why coming to NCCAM's extramural

program has been such an illuminating and worthwhile experience. I have been extremely fortunate to be exposed to very astute, knowledgeable, and wise NCCAM mentors, namely Drs. Margaret Chesney and Ruth Kirschstein. These women have truly encouraged my learning and growth. I have felt truly supported as a women scientist at NCCAM, where a clear message has resonated that women can be strong, taken seriously, and hold positions of leadership in science. This support has encouraged me to pursue my career goals in extramural, namely working in the areas of women's health, health disparities, and minority training.

MENTORING & WORK/LIFE BALANCE

Work and family are both central to my way of life. Finding a balance between the two is an issue of importance to many women, men, and employers and can be a great source of stress. My experience with successfully balancing work and family life has never been more apparent than during my time at NCCAM.

A healthy family and a successful career in science are two very important goals but can often compete with each other. Dr. Margaret Chesney, NCCAM Deputy Director, has been extremely supportive in understanding the responsibilities of raising a family while forging a successful career in extramural science. She has allowed changes in work schedule, such as teleworking to allow some flexibility to work from home, when necessary. Dr. Ruth Kirschstein, NCCAM Acting Director, has been a significant mentor by inspiring and supporting me in both the areas of family and work. Being a wonderful role model herself, Dr. Kirschstein understands the delicate balancing act and is a strong proponent for women in science.

I firmly believe that the scientific community must foster more understanding and support of women in science and their desire to have both a family and a career. This philosophy is strongly supported and embraced at NCCAM. There are many examples of professional women at NCCAM who do this balancing act successfully every day. As I pursue my career and achievements in science, my hope is that I can serve as an inspiration and mentor to upcoming women in science.

Laurie Friedman Donze, Ph.D.

Scientific Review Officer, Office of Scientific Review, Division of Extramural Activities

EDUCATION

Ph.D.: (Psychology) Michigan State University, 1996

Predoctoral Research Fellowship: (Psychology) State University of New York at Buffalo, 1995–1996

Predoctoral Internship: (Psychology), Veterans Affairs Health Care System, Palo Alto, CA, 1994–1995

M.A.: (Psychology) Michigan State University, 1991

B.A.: (Psychology) University of California, Berkeley, 1986

RESEARCH INTERESTS

Obesity and eating disorders (etiology, treatment, and prevention); prevention and treatment of type 2 diabetes, cardiovascular disease, cancer, and substance abuse; neurobiology of eating behavior; diet and physical activity behavior change; community-based interventions and alternative treatments for obesity; mind-body treatments of physical and psychological conditions

PIVOTAL EVENTS

The pivotal events that have probably most contributed to my success as a scientist are the many professional rejections I experienced (and my response to them), starting with not being admitted to graduate school the year following college. I applied again the next year and was then accepted to Michigan State's graduate program in clinical psychology. While still on my internship, I applied to countless postdoctoral research positions across the country, including a position at the Johns Hopkins Weight Management Center. I was not offered that position, but instead I took a research fellowship in pediatric obesity at the University at Buffalo. After two (challenging) years in Buffalo, I was finally offered a faculty position at Johns Hopkins with their Weight Management Center! I often wished that I could have just skipped those 2 years in Buffalo, but actually, they were a necessary part of my personal and professional development.

MENTORING & WORK/LIFE BALANCE

People often marvel at how I balance working full-time with being the mother of two young children and wife to a busy husband. For me, my desire to have a family has always gone hand-in-hand with my desire for a career. As a child, I wanted a career so I could "support my family." While in graduate school, I did not think much about starting a family until after

I defended my dissertation. The very day after my defense, my desire to have a baby kicked in! I got married 4 years later, and 5 years after earning my Ph.D., my son was born! The combination of my work, my children, and my relationship fulfills and energizes me in a way that allows me to manage it all… For example, my 6-year-old son wants to be a scientist and often asks if I ever wanted to be a "real" scientist!!

Jeanette M. Hosseini, Ph.D.

Scientific Review Officer, Office of Scientific Review, Division of Extramural Activities

EDUCATION

Ph.D.: (Physiology) Uniformed Services University of the Health Sciences, 1996

B.S.: (Medical Technology) Wright State University, 1973

RESEARCH INTERESTS

General physiology/clinical medicine, nutrition/mineral metabolism, bone, laboratory science, clinical trial design

PIVOTAL EVENTS

My technical research position in the NIH Clinical Center Clinical Pathology Department groomed me for a growing research interest in magnesium, nutrition, and general physiology, so much so that I decided to pursue a Ph.D. degree in physiology in the fall of 1990 at USUHS. Through this endeavor, I came to appreciate the role of Federal funding activities and the impact this can make upon science. Therefore, from that point forward, I have found much personal reward in my capacity as a scientific review official at the NIH, both at NCCAM and at the National Eye Institute.

MENTORING & WORK/LIFE BALANCE

Balancing home and professional responsibilities was most challenging while I was pursuing my Ph.D. full-time and simultaneously working part-time at the NIH Clinical Center Clinical Pathology Department (CC CPD) in a research position. Additionally, I was trying to maintain infrastructure for my nuclear family (my husband, myself, and my daughter in middle school). My success was critically dependent upon weekend work hours at the CC CPD, my husband's willingness to take on additional tasks, and my daughter's ability to become more independent and self-sufficient. I feel very fortunate that all things came together in a positive way to provide the necessary support. I feel I have served as a role model for my daughter and I look forward to mentoring her further as she finishes up her M.D./Ph.D. this May and starts a family of her own, most likely while completing her residency program.

Martina Schmidt, Ph.D.

Scientific Review Officer, Office of Scientific Review, Division of Extramural Activities

EDUCATION

Internship: (Scientific Review Administration) Oncology IRG, CSR,NIH, 2004–2005

Research Fellowship: (Cellular Oncology) NCI, NIH, 2001–2004

Postdoctoral Fellowship: (Cellular Oncology) NCI, NIH, 1997–2001

Ph.D.: (Microbiology) University of Würzburg, Germany, 1997

M.S.: (Biology) University of Würzburg, Germany, 1993

B.S.: (Biology) University of Würzburg, Germany, 1990

RESEARCH INTERESTS

Oncology, virology, immunology

PIVOTAL EVENTS

Working as a bench scientist often required unconventional working hours and working environments. Leaving the laboratory in the evening did not mean that I stopped thinking about a research project. Often, I found a solution to a project while doing the laundry or washing the dishes. As science and research always seemed to linger somewhere in the back of my mind, early on I realized that it was important that if I started a new project or a new position, I would have to be certain that this was really what I was interested in, that this was really what I want to spend my time with. Keeping this in mind always seemed to help me get over obstacles and keep a positive attitude, even in situations that seemed difficult at the time.

MENTORING & WORK/LIFE BALANCE

Mentoring is a great experience independently of who you mentor or at what level you mentor. It is immensely gratifying to see your knowledge being used, often being modified and applied to new scenarios. Additionally, I always thought that the feedback and the questions I received and the discussions I had were equally beneficial for myself and for the person I was mentoring.

I always found that a very honest and realistic assessment of my professional responsibilities as well as the needs of my family were essential to balance both responsibilities. Being well informed about the demands of a job was always helpful in deciding if a certain position was right for me (and my family). Some flexibility in my job and just being well-organized certainly

helped. Being prepared for unexpected circumstances, always having a fall-back plan in the back of my head, and always working ahead of deadlines if possible seem to be essential.

Marni N. Silverman, Ph.D.

NCCAM Director's Postdoctoral Fellow (Former); Postdoctoral Fellow, Section on Neuroendocrine Immunology and Behavior, Integrative Neural Immune Program, Division of Intramural Research Programs, National Institute of Mental Health

EDUCATION

Ph.D.: (Neuroscience)
Emory University, 2005

B.S.: (Psychobiology)
Binghamton University
(SUNY), 1995

RESEARCH INTERESTS

I am interested in studying how dysfunction of neuroendocrine stress pathways (HPA axis) and the immune system contribute to the high comorbidity between depression and other chronic diseases, such as cardiovascular, metabolic, infectious and autoimmune disease. I am also interested in measuring neuroimmune biomarkers in various clinical populations practicing a mind-body intervention to help elucidate the underlying biological mechanisms of how CAM modalities potentially affect a multitude of health outcomes (psychological and physical well-being). Finally, I am interested in the role of glucocorticoid resistance in susceptibility to inflammatory disorders. Individual differences in glucocorticoid sensitivity may also shed light on reasons for individual variability in responsiveness to CAM therapies that modulate the perception of and the neuroendocrine response to stress.

PIVOTAL EVENTS

My interest in science started at a young age, with my Dad being a high school science teacher in chemistry and physics, mentoring me on award-winning science fair projects, and encouraging me to tag along on class trips. As my science education continued, my interests became focused in biology, especially in the biology of behavior and the factors that make us the unique individuals we are.

I believe that "health care" involves treating a person as a whole and not just a sum of their symptoms, whereby one's mental well-being is crucially intertwined with their physical well-being. Therefore, I am excited to have been awarded the NCCAM Director's Fellowship, which has given me the opportunity to apply our knowledge of the biological mechanisms underlying stress-related disorders toward the understanding of mind-body intervention efficacy in alleviating "dis-ease."

Throughout my training, I have been privileged to receive excellent mentorship in which my ability to grow as an individual has been nourished. My Ph.D. advisor warned me early on that pursuing a research career is like a marriage: it requires relentless dedication and can sometimes be an emotional roller-coaster. I believe that my enthusiasm, perseverance, and attention to detail have helped guide me on the right track for a successful scientific career.

MENTORING & WORK/LIFE BALANCE

I have not yet had the opportunity to mentor a long-term student at NIH. However, being part of a multidisciplinary lab, composed of fellows with expertise in the fields of immunology, molecular biology, psychiatry, and myself in neuroscience, we all mentor each other, contributing to the interdisciplinary nature of our field of study, psychoneuroimmunology. As a graduate student, I had the honor to mentor an undergraduate student over the course of a year on his honors research project. This was an invaluable and rewarding experience as I was able to communicate my knowledge and skills and watch my student grow personally and professionally. He went onto pursue an M.D./Ph.D. As for balancing my personal and professional life, it can be challenging at times. I am lucky to have parents who support me in all my efforts and a fiancée who understands the time I need to devote to my career. It is important to remember that it is love that makes the world go around. Surround yourself with friends, family, and what you love to do and your happiness will spread to those around you.

Marguerite Alice Klein

Health Science Administrator/Program Officer, Division of Extramural Research (Former); Health Science Administrator, Office of Dietary Supplements, Office of Disease Prevention, Office of the Director, NIH

EDUCATION

Graduate Courses: (Health Education and Statistics, Statistics, Epidemiology, Clinical Trials, and Technical Writing, Horticulture and Natural History) University of Maryland College Park, Foundation for Advanced Education in the Sciences, Inc. (FAES), Bethesda, MD, USDA Graduate School, Washington, DC, 1990–1997

M.S.: (Nutrition) Tufts University, 1984

B.S.: (Nutrition) University of Rhode Island, 1981

RESEARCH INTERESTS

Efficacy and effectiveness of diet and dietary supplements in preventing and treating chronic illnesses, especially conditions influenced by behavior and environment

PIVOTAL EVENTS

My mother's old china cabinet: To house my natural objects collections, thereby, beginning in elementary school my systematic scientific inquiry, development of observational and analytic skills, and providing a base for future study.

National Cholesterol Education Program (NCEP): To manage components of NHLBI's newly launched NCEP. My first professional experience in developing something from nothing taught me the thrill of the challenge, in addition to communication skills for a variety of professional and lay audiences and how much research is needed to affect practice guidelines. I wanted to do research.

Pathways, a study of obesity prevention in Native American children: To conceptualize, develop, and implement a multicenter, school-based clinical trial. This experience exposed me to the nonscientific elements of clinical studies, especially "standardized" behavioral interventions in multicultural populations.

Product Quality Working Group: To conceptualize, develop, and implement NCCAM's policy and guidance to investigators on the quality of biologically active agents and placebos used in CAM research.

MENTORING & WORK/LIFE BALANCE

My mentoring occurs on and off the job. I speak to students, interns, and other academic groups as part of my NIH job experiences, but I prefer to spend my personal time with children. I am passionate about mentoring young people, for instance, helping out with scout badges and science fair projects to foster their interest in the health and environmental sciences. Strongly influenced in the 1960s and 1970s by the burgeoning environmental movement, I chose to not have children. Hence, my family responsibilities are fewer, but I substituted environmental and conservation activities, which have ultimately benefited my professional interests. Because I play hard and work hard, I chose to compartmentalize my activities so that I could focus and do each activity well. It turns out that my personal activities in the natural sciences have not been mutually exclusive and benefit my understanding of botanicals and their application to health.

Recently, as my parents have aged, I've had to learn the high-efficiency art of combining professional life with more demanding family responsibilities.

National Center on Minority Health and Health Disparities

Joyce A. Hunter, Ph.D.

Deputy Director

EDUCATION

Ph.D.: (Physiology–Cardiovascular) Howard University, 1998

B.A.: (Biology) Dillard University, New Orleans, LA, 1978

RESEARCH INTERESTS

Hypertension and cardiac function, extramural policies and procedures (specifically those regulating human subjects' involvement in clinical studies), and minority health and health disparities

PIVOTAL EVENTS

I grew up in a still-segregated south, which remained steadfast in its determination to withstand the inevitable downfall of years of racism with the arrival of the Civil Rights Era. My family drilled into my siblings and me the importance of education with the same fervor and conviction that we were taught about religion and civil rights. My early leanings were toward a career in civil rights and government, but there was always a pull toward science and the unknown. I did well in both, but must admit science took a bit more effort. I think the pivotal moment for me was the day I learned from Dr. Pendleton (the family doc) that high blood pressure was not an illness that you were supposed to have, that there were causes, causes that changed the normal way that the body worked. Yet everyone in my family seemed to have this mysterious high blood pressure. I had to learn more, so a major in biology was the only logical choice.

I was fortunate enough to attend one of the Historically Black Colleges and Universities (HBCU) with a racially mixed faculty that not only encouraged students to succeed, but expected it, and did not shy away from rimming your ears if they thought you were not doing your best. My introduction to research and the area of science for which I still feel quite passionate was through Dr. Joyce Verrett. Dr. Verrett was a mammalian physiologist, faculty mentor in the Porter Foundation Mammalian Physiological Consortium, and an NIH Minority Biomedical Support grantee (now known as MBRS). While working with Dr. Verrett, I was afforded the opportunity to gain research training at the Marine Biological Laboratory (Woods Hole, MA) and the Argonne National Laboratory (IL). For me, physiology

explained the normal functioning of organ systems and provided a "logical thought process" for when the normal functioning became pathological. I was hooked!

During my junior year of undergrad, Dr. Verrett took several of us to a symposium where Dr. Edward W. Hawthorne (cardiologist and hypertension researcher) was the keynote speaker. This was the first time that I had ever heard anyone speak with such intensity; an intensity that stirred excitement about the heart and about biological research as the key to solving the puzzles of hypertension. I knew what I had to do. I wanted to become a cardiovascular physiologist. It was logical. I began my graduate career under Dr. Hawthorne as a trainee on an NRSA Minority Institutional Research Training Grant.

One could easily say that I am a product of outstanding mentors, HBCUs, the American Physiological Society Porter Foundation, and NIH Training Opportunities.

MENTORING & WORK/LIFE BALANCE

Throughout my life and career, there have been individuals who have provided guidance, support, and encouragement to me. I came to the NIH extramural community quite early in my career. Quite frankly, had I known of all the fantastic research training and career development opportunities supported by the NIH and available to academic researchers, I probably would have remained in research longer. Nevertheless, I have had several positions in the extramural community in both program and review areas. I have learned much, received many awards and recognitions, and have had many wonderful mentors and colleagues along the way. NIH provided me with an inexhaustible array of opportunities to develop a professional career, and serve the larger extramural community. I have tried to share with students and young investigators how to use the research training and career development opportunities that NIH supports to explore and developed their own research careers. My current position is perhaps the icing on the cake in that I get to work with some of the brightest and best in an effort to eliminate health disparities, which includes hypertension.

INSIGHTS

If you look at every experience in life, whether good or bad, as an opportunity to learn, you will. The more you learn, the more you have to share. In fact, it is a responsibility, it's logical.

Ileana Collado Herrell, Ph.D.

Director, Division of Scientific Strategic Planning and Policy Analysis

EDUCATION

Ph.D.: (Human Development)
Institute of Child Study,
University of Maryland, 1976

M.A.: (Psychology)
University of Puerto Rico, 1971

B.A.: (Psychology)
University of Puerto Rico, 1965

RESEARCH INTERESTS

Global health, drug abuse and prevention, women's health, impact of health literacy and language proficiency in research and healthcare access, behavioral determinants of population health

PIVOTAL EVENTS

Being a research scientist and a Hispanic woman affords me a unique perspective on the insidious problem to which I have devoted my professional life, eliminating health disparities rampant in communities of color around the world. A native of Puerto Rico, I have seen the toll exacted by the disproportionately high incidence of disease, burden of illness, and mortality experienced by my fellow Puerto Ricans. Being a trained behavioral scientist enables me to help develop the interventions likely to be most successful.

During my career, I have become a recognized expert on developing health promotion and disease prevention policies and programs at the local, State, national, and international levels. I have served as a consultant to governments and nongovernmental agencies in more than 24 countries, and to the United Nations system, including the International Labour Office (ILO) and the World Health Organization in Geneva, Switzerland. While on detail to the WHO, I was executive secretary to the Global Task Force on Health Policy and Development and advisor to the Global Commission on Women's Health.

MENTORING & WORK/LIFE BALANCE

I try to lead through example. As one of the first minority female SES member of the HHS, I have mentored many women, particularly women of color, who often struggle to establish their careers as public health professionals and scientists. Balancing career and family has been as rewarding as it has been challenging. There are similarities in my approach to my professional and family life that helped me to provide guidance and direction to my children. I believe that my work ethic sets an example for my children as to the importance of values and of contributing to the community. Despite being raised in a majority environment, my children were able to maintain their cultural heritage, and both are multilingual. They were taught early on that setting goals and priorities and learning how to resolve conflict are all important skills in one's personal and professional life. The end result is that I have been blessed with two strong and independent children, who have achieved many successes and whom I feel are well-prepared to manage their professional and family lives.

National Center for Research Resources

Barbara M. Alving, M.D.

Director

EDUCATION

Residency and Fellowship: (Hematology)
Johns Hopkins Hospital, 1973–1976

M.D.: Georgetown University School of Medicine, 1972

B.Sc.: (Biology)
Purdue University, 1967

RESEARCH INTERESTS

Inherited and acquired disorders of bleeding and clotting as well as new agents for treating thrombotic disorders

PIVOTAL EVENTS

In 1976, I joined the Public Health Service, working at the U.S. Food and Drug Administration on the NIH campus on studies of fibrinogen, while simultaneously becoming involved in applied research concerning blood products. The ability both to conduct research and take part in programs having national impact led to a 28-year career in the government, spanning three Federal organizations: the FDA, the Walter Reed Army Institute of Research, and the NIH. Each one has provided me with outstanding challenges and opportunities.

My most recent challenge has been to develop, in the capacity as director of the National Center for Research Resources, the Clinical and Translational Science Awards. These awards, which will be established at 60 academic health centers by 2012, aim to transform how clinical and translational research is conducted, ultimately enabling researchers to provide new treatments more expeditiously to patients.

MENTORING & WORK/LIFE BALANCE

Throughout my career, I have had numerous mentors. My initial 4 years at the FDA were greatly enriched by Dr. John Finlayson, a biochemist who was both an outstanding teacher and collaborator in the research that I undertook. He not only promoted my professional efforts, but he also set extremely high standards for scientific publication. During each phase of my career, I have had the good fortune of working with individuals who succeeded in the environments in which they were placed and served as outstanding role models.

NCRR

My husband, Carl, a research physician, has been my most constant mentor and for this I am extremely fortunate. The balance of work and life, including parenting, has always been a challenge and will continue to be so. There are times when the family comes first and times when work must be a priority. I have no easy answers. I try not to spend valuable time doing tasks that can be effectively done by others and to concentrate on those tasks that specifically need my qualified attention. Consequently, some time is freed up for enjoyment of life, which in turn, increases my productivity.

INSIGHTS

My professional experiences have taught me to be willing to take risks in terms of new positions, new areas of research, new committees, and other new challenges. I have learned how important it is to be willing to explore the world around me, while maintaining a sense of humor, and that one does not have to be perfect to succeed. We all need to take time to enjoy friends and family; after all, they form the foundation of our lives.

Louise E. Ramm, Ph.D.

Deputy Director

EDUCATION

Ph.D.: (Microbiology) University of Virginia, 1974

M.S.: (Microbiology) University of Virginia, 1971

B.S.: (Biology) Marquette University, 1967

RESEARCH INTERESTS

Development of nonmammalian/mammalian models for biomedical research, membrane protein expression and function

PIVOTAL EVENTS

Twenty years ago, I had the opportunity to join the NIH. I was in an unusual situation as a brand new administrator, since I was given almost carte blanche in developing a new program based on a National Academy of Sciences report entitled, "Models for Biomedical Research: A New Perspective." This was a challenge since my scientific expertise was in immunochemistry and microbiology. However, the experience of starting this program, initially focusing on marine/aquatic models for biomedical research, with an NIH consensus conference, an ad hoc marine models assessment conference, and several other meetings targeted at a scientific community that I hardly knew was exciting and tested me professionally in a very different way. I became quite knowledgeable about this broad area of science and very engaged with the scientists. I feel that I was able to play a pivotal role in enhancing the support for nonmammalian/freshwater species as research models as well as resources to the biomedical community. This position at the NIH clearly had a seminal effect on my success as a different type of scientist: one from the extramural administrator community.

MENTORING & WORK/LIFE BALANCE

I was very unfortunate as a graduate student and a postdoctoral fellow not to have good mentors. I relied heavily on the advice of other students and postdocs for problem solving and various issues, which did not lend itself to great insight! So, as my own career progressed, I made an active effort to formally and informally mentor others, and I have relished the time that I have spent with both new and seasoned extramural administrators, particularly women. Also, I have sought out individuals to mentor me and have been rewarded, albeit later than I wished, with superb mentors.

One of my biggest challenges has been to maintain an even disposition at work and at home with traveling a 100-mile roundtrip every day. Despite this hardship, balancing my work and family has been reasonably straightforward for me since I have my husband, Eric, who has championed my efforts both as a research administrator and a nationally ranked age group triathlete.

INSIGHTS

Once you have defined yourself by the job you do, you run the risk of being very unhappy when your work changes dramatically, such as through a change from being an active research scientist to an administrator or through retirement. I have witnessed unsettled and even depressed individuals who could not cope with this type of sea change. It is important to use these situations as yet another challenge.

I believe that women, in general, are too hard on themselves. I have forced myself to step back and understand that life is too short, that many of the perceived problems and disappointments will pass, and that in the large scheme of things most adversities are fleeting moments that are really not that important. In fact, I think that one's emotional style sets a tone for the workplace. A good leader who creates a positive atmosphere through her own emotional well-being and actions serves her employees well and creates an environment where everyone is valued.

Sheryl Kay Brining, Ph.D.

Director, Office of Review, Office of Extramural Activities

EDUCATION

Ph.D.: (Neuroanatomy) University of Cincinnati, 1991

M.A.: (Biopsychology) University of Chicago, 1982

B.A.: (Psychology) Reed College, Portland, OR, 1976

RESEARCH INTERESTS

Neuroscience: basic research in Alzheimer's disease, neuroanatomy, animal models of behavior, chemical senses; electron microscopy

PIVOTAL EVENTS

Two prior generations of women in my family modeled how to attain a satisfying, professional life. I am here because they came first and not just because of our biological connections, but because of what they achieved in their lifetimes without an advanced education or terminal degrees. I wanted to go on and do even more because of them.

My studies on ethology and animal behavior led me to study the brain and eventually to basic research on Alzheimer's disease. My career has spanned various research areas, which has served me well in my present position. In this science administration position, I oversee an office that is responsible for the review of any type of science imaginable and the infrastructure to support it.

MENTORING & WORK/LIFE BALANCE

Mentoring is a way of life and you need more than one person. My many mentors have had different strengths. They are people whose strengths are different from mine. I try to keep in mind that every person I meet has something to teach me. Sometimes the lessons taught were not the ones I may have wanted and may not have been from the folks I chose, but in always getting up and trying again, I have found that the experiences have served me well and, most importantly, have allowed me to "pay back" by helping others along the way. The best advice is to keep an open mind and learn the lessons when they are presented or the teacher finds a way of coming back until you do!

Work/Life Balance: have a partner who believes in you and is willing to pitch in with the cooking!

Elaine Smith Collier, M.D.

Assistant Director for Clinical Research, Division for Clinical Research Resources

EDUCATION

Fellowship: (Endocrinology) University of Utah College of Medicine, 1978–1980

Internship: (Internal Medicine) University of Utah College of Medicine, 1975–1978

M.D.: University of Alabama in Birmingham, 1975

M.S.: (Physiology) School of Veterinary Medicine, Auburn University, 1972

B.A.: (Psychology, Chemistry) Auburn University, 1970

RESEARCH INTERESTS

Clinical research, clinical research informatics, human research protections, ethics of clinical research, immunology, autoimmunity, endocrinology

PIVOTAL EVENTS

My grandmother was widowed with two young children and another on the way as a new emigrant. She taught me that life is what you make of it and it was best to make it something you enjoy. Her independence, intelligence, work ethic, and love provided an enduring example. A turning point for me in my scientific life came when I made the move from the bench to the administration of science. This seemed a hard decision at the time, but allowed me to broaden my vision and encouraged me to immerse myself in new areas of science. The experience is still stimulating and has enabled me to make connections between various scientific fields that I could never have imagined.

MENTORING & WORK/LIFE BALANCE

Challenges that require acquisition of new knowledge and/or creative collaborations have led to interactions with individuals who have taught me much about science, leadership, fun, frustration, growth, satisfaction, and life itself. I have learned as much from the young as the mature. These "mentors" have come from both personal and professional challenges and the lessons have crossed the boundaries. Life is a tapestry of work, responsibility, play, love, learning, roles, and grief. I have given up on balance and embraced messy integration.

NCRR

Franziska Grieder, D.V.M., Ph.D.

Director, Division of Comparative Medicine

EDUCATION

Postdoctoral Fellowship: (Microbiology and Immunology) University of North Carolina, Chapel Hill, 1990–1992

Ph.D.: (Pathobiological Sciences) University of Wisconsin-Madison, 1989

M.S.: (Pathobiological Sciences) University of Wisconsin-Madison, 1987

Dr. Vet. Med.: (Virology) University of Zurich, Switzerland, 1987

D.V.M.: University of Zurich, Switzerland, 1984

Baccalaureate: Gymnasium Lindau, Germany, 1979

RESEARCH INTERESTS

Molecular genetics of viral pathogenesis, viral-induced neuroimmunology and neurodegeneration, emerging viral threats

PIVOTAL EVENTS

As a high school—or in my case, gymnasium—student, I spent a day with our family dog in a veterinary hospital while the puppy underwent neutering. This experience changed my career path—I was determined to become a veterinarian. As a junior and senior veterinary student, I worked in the veterinary teaching clinic assisting the attending veterinarians. I loved the interactions with the pets and owners, the exam, and diagnostic approaches. Recognizing that I enjoyed the investigative part of medicine better than the treatment, I decided on the path in research.

To fulfill this goal, I moved from Europe to the United States to pursue graduate research training and a career in academic biomedical research. Recognizing that veterinary medicine needs to be partnered with human medicine for a productive 'One-Medicine' concept, I used my experience as a researcher at two medical schools prior to joining the NIH.

MENTORING & WORK/LIFE BALANCE

During my tenure as a full-time academician, I greatly enjoyed teaching, both in the classroom (although, I can do without the question "will this be on the exam?") and on a one-on-one basis with students and postdocs alike. To me, teaching was never a burden, but always rewarding; to see students or postdocs advance to where they develop their own experiments and contribute information from the literature or seminars to support their conclusions is tremendously rewarding.

Balancing family and career is very challenging, especially when situations change such as during a relocation or an illness. I have personally experienced my share of such enhanced challenges and have witnessed others go through rough times. Determination, courage, and a strong network of supporting family and friends are key factors in those settings. It is difficult to make it through misery—it is much harder to get through alone.

Shelia A. McClure, Ph.D.

Health Scientist Administrator and Director, Research Centers in Minority Institutions Program, Division of Research Infrastructure

EDUCATION

Postdoctoral Fellowship: (Cancer Research) The Upjohn Company, Kalamazoo, MI, 1987

Postdoctoral Fellowship: (Growth Factor Biology) University of California, Berkeley, 1985

Ph.D.: (Cell Biology) University of California, Berkeley, 1985

B.S.: (Biology) Savannah State University, 1978

RESEARCH INTERESTS

Tumor biology and cancer research

PIVOTAL EVENTS

Much of the success that I've achieved in my professional life is attributable to having great mentors that encouraged me to pursue a career that I was passionate about. My parents always stressed the importance of enrolling in courses that I found interesting and that challenged me academically. They were a continual source of support and encouragement, and their high expectations resulted in my having confidence in my abilities and high expectations of myself. In addition to my parents, the mentors most important to my becoming a scientist were my professors at Savannah State University. In addition to serving as excellent role models, Drs. Margaret Robinson and Frissell R. Hunter also fostered my participation in biomedical research. As an undergraduate, I had the opportunity to conduct research, give presentations at scientific meetings, and co-author scientific papers. These experiences were certainly pivotal events that led to my becoming a cell biologist.

MENTORING & WORK/LIFE BALANCE

Choosing a work environment that supported my work/life balance needs has always been important. I began my professional career as an assistant professor in the Biology Department at Spelman College in Atlanta, GA. During this same time, I was also starting my family. Even though I was working extremely long hours and focusing on being promoted and tenured, my work environment was very supportive of my family obligations. For example, I was in an environment where other women scientists mentored me during this time when work/life balance was so crucial. It also helped that my workplace had exceptional onsite child care with extended morning and evening hours. Without a doubt, these positive experiences allowed me to have a fulfilling professional and family life. My decision to leave my tenured faculty position and come to the NIH was strongly influenced by my division director at NCRR Dr. Sidney A. McNairy, Jr. He serves as a mentor, encourages mentoring as a core value in our division, and has an appreciation for the importance of work/life balance in fostering a productive workforce.

Gunta Iris Obrams, M.D., Ph.D.

Medical Officer (Research),
Division for Clinical Research Resources

EDUCATION

Ph.D.: (Epidemiology) The Johns Hopkins University, 1988

M.P.H.: (Epidemiology) The Johns Hopkins University School of Public Health, 1982

Residency: (Preventive Medicine) The Johns Hopkins University School of Public Health, 1981–1984

Residency: (Obstetrics & Gynecology) Eastern Virginia School of Medicine, Norfolk, VA, 1977–1978

M.D.: Albany Medical College, 1977

B.S.: (Biology) Rensselaer Polytechnic Institute, Troy, NY, 1977

RESEARCH INTERESTS

Leadership and administration of transdisciplinary clinical research programs; clinical research program policy development, budget management, and program evaluation; epidemiologic methods in planning, conducting, and evaluating clinical research; chronic disease epidemiology, etiology, and prevention; compliance with regulations and legislative initiatives in clinical research and managed care; implementation of medical informatics and patient safety programs; compliance with data privacy and security regulations in clinical research and protection of research participants.

PIVOTAL EVENTS

After practicing clinical medicine for a number of years, I had to ask myself whether I wanted to continue to improve my clinical skills yet essentially do similar tasks and make similar decisions day after day until the end of my working career. The answer was clear—I was being called back to academic medicine and the lure of research, which held the promise of new avenues to explore.

MENTORING & WORK/LIFE BALANCE

I was very fortunate in coming to NIH that there are fantastic mentors, both female and male, here who make extraordinary efforts to help shape the complex careers that NIH can offer.

Amy L. Swain, Ph.D.

Health Scientist Administrator,
Division of Biomedical Technology

EDUCATION

Ph.D.: (Chemistry) University of South Carolina, 1988

B.S.: (Biology) Frostburg State College, Frostburg, MD, 1983

RESEARCH INTERESTS

Structural biology in the broadest sense, from atomic to cellular level

PIVOTAL EVENTS

As a postdoctoral fellow in a protein crystallography laboratory at NCI, I solved the crystal structure of a large enzyme that had been unattainable by others. This achievement was only possible thanks to the supercomputing capacity that I had access to at NCI. It was an amazing feeling to realize that I was the first person ever to view this structure as I built the chain of the enzyme into the data represented on the colorful graphics screen. This enzyme, asparaginase, is used for the treatment of acute lymphoblastic leukemia in children.

After gaining experience with enzyme-drug complexes through structural studies of the HIV protease at NCI, I took a position at a pharmaceutical company. I worked in drug discovery and development at Hoffmann-La Roche Inc. for 5 years as a crystallographer on a variety of projects in multidisciplinary research teams. The mutual respect and learning that comes

from working together with scientists from multiple disciplines toward a single goal was rewarding and challenging.

In 1999, the opportunity to broaden my scientific perspective presented itself and I accepted the position at NCRR as a Health Scientist Administrator. Although I had enjoyed being a crystallographer, I was not fully satisfied working in the laboratory. This new position allowed me to expand my horizons and engage daily with the scientific community. Since coming to NCRR, my knowledge of structural biology has expanded from the atomic level using crystallography and synchrotron radiation techniques to the cellular level and microscopy technologies. I have enjoyed learning about cutting-edge biomedical technologies from the leaders in the field and have been able to apply my background knowledge to create further opportunities for essential developments in structural biology technologies.

MENTORING & WORK/LIFE BALANCE

I received critical mentoring as a postdoctoral fellow at NCI where I learned the very practical applications of crystallography from Dr. Alexander Wlodawer. He was a valuable counselor as I finished up my Ph.D. dissertation and he provided me with challenging opportunities in my postdoctoral position. In my current position as a Program Officer at NCRR, I am very fortunate to have an excellent mentor, Dr. Michael Marron. In addition to helping me to advance my career, Dr. Marron has been very sensitive to the demands of family life. He has allowed me a flexible schedule, including some telework to permit me to care for children and an aging parent even as I continue advancing in my professional career.

Dr. Louise Ramm has also been a valuable mentor to me in the areas of policy and administration. She has provided me the opportunity to grow into a position of responsibility for the small business grant program at NCRR in addition to representing NCRR in trans-NIH forums.

Now I have opportunities to be a mentor within NCRR, a responsibility I take seriously. I find myself learning as much or more from the people I mentor as they do from me.

National Institutes of Health Clinical Center

Marion Danis, M.D.

Chief, Ethics Consultation Service; Head, Section on Ethics and Health Policy, Department of Bioethics

EDUCATION

Fellowship: (Critical Care) University of North Carolina, Chapel Hill, 1983–1985

NIEHS Research Fellowship: (Toxicology) University of North Carolina, Chapel Hill, 1979–1982

Residency: (Internal Medicine) North Carolina Memorial Hospital, Chapel Hill, NC, 1976–1978

Internship: (Internal Medicine) North Carolina Memorial Hospital, Chapel Hill, NC, 1975–1976

M.D.: University of Chicago, 1975

B.A.: (Biology) University of Chicago, 1971

RESEARCH INTERESTS

Clinical ethics and ethics of rationing

PIVOTAL EVENTS

At the end of my NIEHS fellowship training, I was asked to run the intensive care unit at the University of North Carolina. I had been advised by my division chiefs to focus on research questions that addressed the tough questions we face in clinical practice. I began to explore questions that lie at the heart of intensive care: How interested are critically ill patients in receiving intensive care? Does quality of life and life expectancy influence their interest in life-sustaining treatments? To our surprise, we found that people were extremely willing to receive intensive care even if they were likely to survive for as short a time as 1 month. This finding posed a monumental dilemma because accommodating this preference is an exorbitantly expensive proposition. These results provided the focus for the question I have been interested in for the rest of my career—how can we balance respect for patient preferences with the need to distribute limited healthcare resources fairly?

CC

MENTORING & WORK/LIFE BALANCE

Successfully pursuing career, marriage, and family has been a bit of a tight rope act. I find that I am happiest acknowledging that all these pursuits are important to me and that each pursuit must give way at times. Some of the insights that have been useful are that it is important to be flexible, and accept some serendipitous job opportunities even if they do not obviously take you on the path you had expected or planned. Use some of the strategies recommended for highly effective people—prioritize those activities that help you achieve your long-term goals rather than those activities that seem the most immediately pressing. Don't become overly preoccupied about your personal success—if you are doing work that you believe matters and will make a difference in tackling pressing problems, others will recognize the value of your work and your success will follow.

INSIGHTS

Because of my research on patient and family preferences for intensive care, I was invited to chair the Ethics Committee of the Society of Critical Care Medicine. Other important opportunities included chairing the Ethics Committee at the University of North Carolina Hospitals and Clinics. My research on patient preferences at the end of life and my experience with ethics consultation, led to the invitation to join the Department of Bioethics at the NIH Clinical Center where I run the Clinical Center Ethics Consultation Service and the Section on Ethics and Health Policy. After coming to the NIH, I continued to explore strategies for balancing the competing concerns of respect for patient preferences and the need to distribute limited resources fairly. My current work is centered on strategies for public engagement in priority setting and rationing. A central part of this research has involved the design of decision tools to facilitate public deliberation about the design of affordable health insurance and other interventions to improve health. These decision tools are currently available and in use by several State governments. I am particularly interested in increasing access to care and improving the health of disadvantaged populations. One of the publications that best reflects the focus of my work is the book, "Ethical Dimensions of Health Policy," which I edited in collaboration with Carolyn Clancy and Larry Churchill and published by the Oxford University Press.

Christine Grady, Ph.D., R.N.

Head, Section on Human Subjects Research, Department of Bioethics

EDUCATION

Ph.D.: (Philosophy)
Georgetown University, 1993

M.S.N.: (Community Health Nursing)
Boston College, 1978

B.S.: (Nursing and Biology)
Georgetown University, 1974

RESEARCH INTERESTS

The ethics of research with human subjects, especially informed consent, recruitment and incentives, vulnerability, international research; clinical ethics

PIVOTAL EVENTS

Throughout my clinical career as a nurse, I was privileged to have many amazing practice opportunities in diverse settings. From academic medical centers, to an NIH-funded General Clinical Research Centers (GCRC), to small community hospitals, rural public health, Project Hope in Brazil, and then the NIH Clinical Center, I encountered the value of rigorous science, courageous patients and peers, and innumerable ethical challenges in practice and in research. After receiving my doctorate in philosophy, I was fortunate to be well-prepared and at the NIH when the extraordinary vision and leadership of both Dr. Gallin and Dr. Emanuel resulted in the creation of a vibrant Department of Bioethics. I attribute my success as a scientist at the NIH Clinical Center to a supportive and intellectually rigorous environment, exemplary leaders and colleagues, and hard work.

MENTORING & WORK/LIFE BALANCE

Like so many others, I strive to achieve a healthy balance between my personal life and my professional responsibilities. In my case and with the support of my supervisors, I was able to build some flexibility into my schedule and develop some strategies that served my commitments to quality science and my job responsibilities while allowing me to take advantage of precious opportunities to participate in the lives of my spouse and three wonderful daughters. For example, taking leave to attend a school play or a sports event sometimes required catching up on work at 4 am or midnight. Sometimes bringing the girls with me into the office on a weekend afternoon, or finding time for a conference call or reviewing a manuscript while on vacation at the beach, and similar compromises helped me to attend to both sides of my life.

INSIGHTS

Encouragement from my family and enormous opportunities for education and experience all served to launch me on the career path that I have chosen. Interestingly, my career does not correspond to a long-held dream or a well-crafted plan. Rather, I dove into each job I have had with enthusiasm, followed leads, both intellectual and otherwise, and took advantage of challenges that presented themselves to me along the way. The result is a career with multiple branches. Many of the milestones and accomplishments that I have been able to achieve were possible because I was here at the NIH. The intellectual stimulation, leading-edge science, and superb colleagues have and continue to motivate me to work hard and try to make a difference.

Deborah P. Merke, M.D.

Chief, Pediatric Services

EDUCATION

Fellowship: (Pediatric Endocrinology) National Institute of Child Health and Human Development, 1994–1997

Residency: (Pediatrics) Children's Hospital of Philadelphia, 1991–1994

M.D.: State University of New York at Buffalo, 1991

M.S.: (Biostatistics) Columbia University School of Public Health, 1986

B.S.: (Interdisciplinary Studies) University of Massachusetts, Amherst, 1982

RESEARCH INTERESTS

My research focuses on the study of congenital adrenal hyperplasia (CAH), a genetic disease that affects adrenal hormone synthesis. I strive to understand the impact of multiple hormonal imbalances on the growth and development of children and hormonal effects on the brain, and ultimately develop new treatment approaches. In my role as Chief of Pediatric Services at the NIH Clinical Center, I strive to bring exemplary pediatric care and consultation to Clinical Center patients.

PIVOTAL EVENTS

My background is a bit unusual in that prior to going to medical school, I obtained a master's degree in biostatistics from Columbia University and worked in the Biostatistics Department of Memorial Sloan Kettering. My training in biostatistics taught me how to think like a "scientist." Then in medical school, I was taught how to think like a "clinician." During my last year of medical school at SUNY at Buffalo, I did an away elective at the NIH. As part of this elective, I spent 1 day a week at the Clinical Center, seeing pediatric patients with rare genetic syndromes and interacting with clinical investigators. For the first time, my training in scientific methodology and clinical medicine came together and I realized that my passion for both types of thinking could merge into an ideal career. My month as a medical student doing an elective at the NIH was a pivotal event in my decision to pursue a career in clinical research.

MENTORING & WORK/LIFE BALANCE

Balancing my personal life with my professional responsibilities and aspirations has always been my biggest challenge and, unfortunately, it remains a bigger challenge for women than for men in today's society. I've been very lucky in that my superiors/mentors have had incredibly high standards, but have also been very supportive. Without on-the-job support, this balancing act would not have been possible. Having a family while having a successful career has been possible by remaining persistent, being organized, having flexible hours in the sense that I've always been willing to work late night hours to get things done, and admitting that sometimes I can't do it all. I've found advice from other women professionals extremely useful in navigating childcare issues. I try to mentor women in-training by example, by being successful as a clinical investigator, pediatrician, wife, and mother. I also try to be a good role model for my two daughters by sharing positive work experiences.

INSIGHTS

Although my excellent training and mentors have influenced me greatly in my career, and collaborations with colleagues have been very fruitful, perhaps my greatest inspiration has come from my patients and the personal satisfaction I gain from helping others. I am continually impressed by the deep commitment patients and parents have toward participating in research and the desire they have to help others with the same disease. As a mother of healthy children, I am amazed by the strength of the parents of children with significant diseases, and how they and their children contribute to medical research. My most memorable accomplishments are my experiences with patients and their families. In my role overseeing pediatric care at the Clinical Center, I have had the unique opportunity to interact with patients with a wide range of diseases and clinical investigators from across multiple Institutes.

CC

Some of my most significant research contributions in the study of CAH have emerged from listening carefully to patients and their parents regarding signs and symptoms of their disease, and then balancing this with a scientific perspective. Being a mother has helped me respect mothers' observations regarding their children's condition and honed my listening skills. Ideas for many studies first began by listening to mothers describe unusual symptoms in their children.

My scientific accomplishments have resulted from the combination of being a good listener, taking advantage of opportunities as they arise, and remaining determined no matter what the obstacle. Producing good work has inevitably led to new career opportunities for me, including invited international talks, and exciting new collaborations with investigators both across NIH and at outside institutions.

Zenaide Quezado, M.D.

Chief, Department of Anesthesia and Surgical Services

EDUCATION

Clinical Fellowship: (Burn Care) Shriners Hospital for Children, Shriners Burns Hospital-Boston, 1999

Clinical Fellowship: (Cardiac Anesthesia) Massachusetts General Hospital, Harvard Medical School, 1998–1999

Residency: (Anesthesia and Critical Care) Massachusetts General Hospital, Harvard Medical School, 1996–1999

Clinical Care Medicine Fellowship: (Sepsis and Septic Shock) Critical Care Medicine Department, NIH, 1990–1994

Residency: (Internal Medicine) Albert Einstein Medical Center, Temple University, 1987–1990

M.D.: Universidade Federal do Ceara Fortaleza, Ceara, Brazil, 1983

RESEARCH INTERESTS

Role of neuronal nitric oxide synthase in nociception, role of neuronal nitric oxide and TRPV1 in inflammatory response during sepsis

PIVOTAL EVENTS

The pivotal events were those that left me inspired to pursue knowledge, to be better, and to improve the life of others. Over the years, I have been inspired by my father with whom I competed to solve math problems, by my mother who, as a woman living in a place where women have less opportunities, has reminded me that I can and always must do better, by a teacher in medical school who taught me to ask why and how, by my first patient who died of sepsis during my ICU rotation, by the environment at the NIH when I first worked as a fellow where "why" and "how" are often the beginning of many sentences.

Also pivotal to my success has been to often witness the pain and suffering of patients and their families. These events have inspired me to investigate the mechanisms of disease and to pursue its treatment.

MENTORING & WORK/LIFE BALANCE

While I have often been inspired by great scientists and colleagues, I found that mentoring was one of the deficiencies in my experience. We must do better in mentoring women in science and in medicine. It is an issue deserving of great attention if we want more women to succeed and to add to the scientific environment in this country.

Balancing personal life and professional responsibilities has been a challenge. Inevitably, as a woman pursuing an academic career, one might make choices that can jeopardize either personal life or professional path. The ideal is to have it all, which is not always possible. I have a sister, also in science who has been able to reconcile a very active family life with a successful career and still be lots of fun. She is unique.

INSIGHTS

While often I have been reminded that I am in a minority, that there are not many women in science who reach the upper tiers in academia, and that many challenges exist in its pursuit, the most important thing I have gotten from being a scientist is to have lived the process of pursuing knowledge and to have acquired the determination to answer a question. There is great reward in often being surprised by results of experiments, working with and being inspired by colleagues, in often being wrong and sometimes proven right. Having been a scientist has shaped the way I live, think, and relate to others. There is nothing more enjoyable than having discussions with your colleagues, looking at results of an experiment, witnessing a great experimental design come to completion, struggling with the statistician to decipher your results and tell your story.

I hope that some time soon, we will be able to drop the "woman" of "being a woman scientist" so that we can witness more significant contributions many of us can make to science. We have lots to offer and to contribute to the field; however, we have to work on shifting the paradigm to which we, as women, are expected to mold. Women in science do face a complex and multifaceted problem and those who have succeeded have the responsibility to address it.

Index

H

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

Y

Z

DESIGN AND ILLUSTRATION: NIH MEDICAL ARTS

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