WISMAC: Past Visiting Professorships

Ida M. Green Distinguished Visiting Professorship Honoring Women in Science and Medicine
Each year the Women in Science and Medicine Advisory Committee (WISMAC) selects and hosts an outstanding female scientist/physician to visit UT Southwestern for a two-day professorship. The Southwestern Medical Foundation sponsors this event, which promotes the accomplishments of women in science and medicine and provides inspiration to our junior faculty and trainees. Our visiting professor meets with individuals and with diverse groups of women on campus and presents a University Lecture.

2010-2011 Southwestern Medical Foundation's Ida M. Green Distinguished Visiting Professorship Nancy Andrews, M.D., Ph.D., who is Professor of Pediatrics and Dean of Duke University School of Medicine, was scheduled to be honored but unfortunately her trip was cancelled because of inclement weather.

2009-2010 Southwestern Medical Foundation's Ida M. Green Distinguished Visiting Professorship
Joan S. Brugge, Ph.D. gave the University Lecture on February 3, 2010 that was entitled, *Extracellular Matrix Regulation of Cell Survival and Metabolism.*

Joan Brugge is the Chair of the Department of Cell Biology at Harvard Medical School. Dr. Brugge graduated with a B.A. in biology from Northwestern University and she received her Ph.D. in virology from the Baylor College of Medicine. During her postdoctoral training at the University of Colorado with Raymond Erikson, she isolated the protein coded for by the viral and cellular forms of the *src* gene. Currently, Dr. Brugge's laboratory is investigating normal processes that regulate cell proliferation, survival, and migration during morphogenesis and elucidating how oncogenic insults during tumorigenesis disrupt these processes to the advantage of tumor cells.

Dr. Brugge has held full professorships at the State University of New York, Stony Brook, and the University of Pennsylvania, where she was also named as an investigator of the Howard Hughes Medical Institute. In 1992, Dr. Brugge left academia to help launch a new company, ARIAD, to focus on research aimed at developing new drugs targeting signaling pathways in disease. She subsequently returned to academia by joining the faculty of the Department of Cell Biology at Harvard Medical School in 1997 and became the Chair in 2004. Dr. Brugge has received numerous awards recognizing her scientific accomplishments including an NIH Merit Award, an American Cancer Society Research Professorship and the Senior Career Recognition Award from the American Society of Cell Biology; she has been elected to the American Academy of Arts and Sciences, the National Academy of Sciences and the Institute of Medicine.

2008-2009 Southwestern Medical Foundation's Ida M. Green Distinguished Visiting Professorship

Carol Greider, Ph.D.

University Lecture February 4, 2009: "Telomerase and the Consequences of Telomere Dysfunction"

Carol Greider is the Daniel Nathans Professor and director of the department of molecular biology and genetics at the Johns Hopkins University School of Medicine. Her pre-eminent discovery of the enzyme telomerase and subsequent studies on telomere function in the cell have transformed the fields of aging and cancer research. As a graduate student in the laboratory of Elizabeth Blackburn, Carol Greider first described telomerase in Tetrahymena, a pond-dwelling protozoan containing thousands of chromosomes. She continued on to extensively characterize the functional regions of Tetrahymena telomerase. With colleagues, she established a link between telomere length and replicative capacity of cells, and also provided important insight into the role of aberrant telomerase activity in cancer cells. More recently, Dr. Greider has been characterizing chromosome rearrangments in yeast to explore the genetic requirements for chromosome stability. Her laboratory has also generated telomerase null mice to dissect the role of telomere length in stem cell viability. Dr. Greider's research also has taken a clinical bent in studies of dyskeratosis congenita, a rare, inherited disorder related to stem cell failure.

Dr. Greider earned a Ph.D. in molecular biology from the University of California, Berkeley. She began her postdoctoral studies at Cold Spring Harbor Laboratory on Long Island, N.Y., where she later became an investigator. She joined the faculty at Johns Hopkins in 1997. Dr. Greider is a member of the National Academy of Sciences and the recipient of numerous awards including the 2006 Albert Lasker Award for Basic Medical Research, which she shared with her former mentor, Elizabeth Blackburn, Ph.D., of the University of California, San Francisco, and with Jack Szostak, Ph.D., of Harvard Medical School.

2007-2008 Southwestern Medical Foundation's Ida M. Green Distinguished Visiting Professorship

Christine E. Seidman, M.D.

University Lecture February 6, 2008: "Human Cardiomyopathies: From Genes to Mechanisms"

Christine Seidman is a Professor in the Departments of Medicine and Genetics at Harvard Medical School and Director of the Cardiovascular Genetics Service at Brigham and Women's Hospital in Boston. In her research, Dr. Seidman effectively integrates clinical medicine with molecular and genetic technologies to unravel the relationship between genes and human disease. Her work on congenital heart disease and familial cardiomyopathies has defined multiple pathways involved in heart development and identified gene mutations that lead to pathologic remodeling of the human heart. Her lab recently discovered that mutations in genes that regulate myocardial glycogen metabolism can lead to a previously unexplained form of cardiac hypertrophy. These findings not only provide a novel mechanism for the pathology of cardiac hypertrophy, but are also valuable in developing clinical strategies for patients with glycogen storage cardiomyopathy. Dr. Seidman's work on cardiovascular disease as well as her research on hearing loss and lymphedema demonstrates the successful translation of basic research discoveries into improved disease treatment and better patient care.

Dr. Seidman received her M.D. from George Washington University School of Medicine in 1978. She completed her residency training in Internal Medicine at John Hopkins Hospital and received subspecialty training in cardiology at the Massachusetts General Hospital. In 1987, she joined the staff at Brigham and Women's Hospital. Dr. Seidman is currently an Investigator of the Howard Hughes Medical Institute and was recently elected a member of the National Academy of Sciences. Dr. Seidman is a recipient of the 2002 Bristol-Myers Squibb Award, which she shared with her husband, Jonathan Seidman, Ph.D., with whom she has actively collaborated on the genetic bases of cardiac disorders for more than 20 years.

2006-2007 Southwestern Medical Foundation's Ida M. Green Distinguished Visiting Professorship
University Lecture: February 22, 2007, "Unraveling Smell"
Linda Buck, Ph.D.

UT Southwestern Medical Center alumna, Linda Buck, Ph.D., is Associate Director and Member of the Basic Sciences Division at the Fred Hutchinson Cancer Research Center, Investigator of the Howard Hughes Medical Institute (HHMI) and affiliate professor of physiology and biophysics at the University of Washington School of Medicine, Seattle. Her research concentrates on mechanisms through which the brain detects chemicals in the environment and subsequently processes these signals into odor perceptions and behaviors. Dr. Buck's seminal discovery of a large family of G protein-coupled receptor genes dedicated to detecting odors paved the way for further genetic and molecular studies of the olfaction process. She has also elegantly demonstrated the combinatorial properties of odorant receptors in sensing odors and characterized similar chemical receptor families, such as taste and pheromone sensors. It is for this work that Dr. Buck shared the 2004 Nobel Prize in physiology or medicine with Dr. Richard Axel. Their studies have provided insight into the organization of sensory circuits and impacted the study of neural perception. Currently, Dr. Buck's laboratory also studies factors that underlie aging and lifespan.

Dr. Buck earned a B.S. in psychology and microbiology at the University of Washington in Seattle and a Ph.D. in microbiology at UT Southwestern Graduate School of Biomedical Sciences under the mentorship of Dr. Ellen Vitetta. Dr. Buck carried out postdoctoral training at Columbia University in the laboratory of Dr. Ben Pernis and then Dr. Axel. In Dr. Axel's lab she initiated studies on olfactory receptors. After joining the faculty of Harvard Medical School as assistant professor in 1991, Dr. Buck rose through the ranks to professor of neurobiology and HHMI investigator in 2001. In 2002, she returned to the Seattle to join the Fred Hutchinson Cancer Research Center as an investigator of HHMI. She has received additional awards and accolades, including the Gairdner Foundation International Award and the Perl/UNC Neuroscience Prize. In 2003, she was inducted into the National Academy of Sciences, and in 2006 she was elected into the Institute of Medicine.

2005-2006 Southwestern Medical Foundation's Ida M. Green Distinguished Visiting Professorship
March 22, 2006
Carla J. Shatz, Ph.D.
Department Chair and Nathan Marsh Pusey Professor of Neurobiology at Harvard Medical School
"Dynamic Interplay between Nature and Nurture in Brain Wiring during Development".

Dr. Carla Shatz is the Nathan Marsh Pusey Professor of Neurobiology at Harvard Medical School. The focus of her research is to elucidate the cellular and molecular mechanisms whereby the brain detects and processes visual information. Her research on how precise neural connectivity occurs has provided important insights into processes that occur in children during development and in learning. Because many of these connections initially form in utero, this research has emphasized the critical importance of the early prenatal and neonatal developmental periods. The results of these studies have broad implications for our understanding of the normal development of the human brain, including the processes of learning and memory, of neurological birth defects such as cerebal palsy and dyslexia, and of epilepsy. Dr. Shatz earned a B.A. in chemistry from Radcliffe College, a M. Phil. in physiology from University College London, and a Ph.D. in neurobiology at Harvard Medical School under the tutelage of Nobel Laureates David Hubel and Torsten Wiesel. Dr. Shatz completed her postdoctoral training in the neuroscience laboratory of Dr. Pasko Rakic at Harvard Medical School. Ater a very productive academic career at both Stanford University and University of California, Berkeley, Dr. Shatz returned to Harvard, where she is an investigator at the Howard Hughes Medicla Institute. She has received numerous awards throughout her research career and is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the Institute of Medicine.

2004-2005 Distinguished Visiting Professorship
March 2, 2005
Beatrice Hahn, M.D.
Professor of Medicine and Microbiology
University of Alabama at Birmingham
"Tracing the Origin of the AIDS Pandemic"

Dr. Beatrice Hahn is Professor of Medicine and Microbiology at the University of Alabama at Birmingham where she serves as Co-Director of the Center for AIDS Research. Just five years after receiving her M.D. from the University of Munich Medical School, Dr. Hahn was first to describe the in vivo genetic variability of HIV-1, now recognized as the source of its drug and immune escape mechanisms. Dr. Hahn has since reported the first attenuated HIV-2 strain, provided phylogenetic evidence for the sooty mangabey origin of HIV-2, and discovered the origin of HIV-1 in west central African chimpanzees. These findings have led to new insights into the zoonotic origins of HIV. Her lab's current focus is to use the origins and evolution of HIV types 1 and 2 to develop an AIDS vaccine. HIV types 1 and 2 both cause AIDS in infected individuals but differ in their geographic origins, protein structure, antigenicity, nucleotide sequence, and in vivo pathogenicity. Dr. Hahn's laboratory is currently studying the genetic variability of the two viruses, the impact of this on vaccine design and therapy, and is performing genetic and biological analysis of naturally occurring attenuated or highly pathogenic variants of HIV. She has been named one of the 100 Most Cited Scientists in Microbiology and Immunology (1993-2004) and, in 2002, Discover Magazine named her as one of the 50 Most Important Women in Science.

2003-2004 Distinguished Visiting Professorship
February 4, 2004
Pamela Bjorkman, Ph.D.
Executive Officer & Professor of Biology

HHMI, California Institute of Technology
"Immunoglobulin Receptor Structure and Function From Molecules to Cells"

Dr. Pamela Bjorkman is the 2004 recipient of the Distinguished Visiting Professorship Honoring Women in Science and Medicine, which is sponsored by the Southwestern Medical Foundation. Dr. Bjorkman is a structural biologist who has pioneered the use of x-ray crystallography for structural and functional studies of cell surface proteins involved in recognition of foreign molecules in the immune system. Her work has focused on MHC (major histocompatability complex) class I homologues and their role in the transfer of antibody-mediated immunity from mother to fetus. She also has characterized an MHC Class I homologue (termed HFE) involved in iron metabolism, which is mutated in patients with hereditary hemochromatosis, and another involved in the fat depletion of cachexia, a wasting syndrome associated with terminal illness. In the case of the latter, she purified and solved the crystal structure of a protein called ZAG and is characterizing its role in lipid metabolism. Dr. Bjorkman is a member of the National Academy of Sciences and has received the William B. Coley Award for Distinguished Research in Fundamental Immunology, the Gairdner Foundation International Award for achievements in medical science, and the Paul Ehrlich and Ludwig Darmstaedter Award.

2002-2003 Distinguished Visiting Professorship
December 11, 2002
Anna Lok, M.D.
Professor of Internal Medicine and Director of Clinical Hepatology
University of Michigan Medical Center
"Unraveling the many faces of Hepatitis B"

Dr. Anna Lok is a Professor of Internal Medicine and the Director of Clinical Hepatology at the University of Michigan Medical Center. Her research focuses on the epidemiology and treatment of hepatitis B and C viruses. Millions of people worldwide are infected and are at risk for hepatitis-associated cirrhosis and hepatocellular carcinoma. Dr. Lok has made seminal contributions to our understanding of the natural history of hepatitis B and the role of hepatitis B virus genotypes and variants in the outcome of chronic hepatitis B infection. She has also made contributions to the treatment of hepatitis-induced diseases. She is currently testing new antiviral therapies for hepatitis B, developing cost-effective methods for preventing recurrent hepatitis B infection following liver transplantation, and studying the long-term effects of interferon treatment in patients with hepatitis C. During her distinguished career, she has received numerous awards for research and teaching.

2000-2001 Distinguished Visiting Professorship
April 11, 2001
Mina Bissell, Ph.D.
Director, Life Science Division, Lawrence Berkley National Laboratory
"The Structural Basis of Tissue Specificity: The Role of the Extracellular Matrix in Normal and Malignant Breast Tissue"

Dr. Mina Bissell is the Director of the Life Sciences Division at the Ernesto Orlando Lawrence Berkeley National Laboratory. Her research focuses on the question of how cellular differentiation

and tissue-specific gene expression are maintained and why they go awry in cancer. The unifying hypothesis of her work is that the unit of function in higher organisms is neither the genome nor the cell alone, but the three-dimensional architecture of tissues. She has developed unique model systems to study gene expression in the context of whole tissues. "Designer microenvironments" are created using the mammary gland as a model. Her studies show that the composition of the extracellular matrix and the ratio of integrins, matrix metalloproteinases and their inhibitors play important roles in tissue-specific gene expression, growth, morphogenesis, apoptosis and cancer.

1999-2000 Distinguished Visiting Professorship
October 6,1999
Elaine Fuchs, Ph.D.
Professor of Basic Sciences, HHMI, University of Chicago
"Beauty is Skin Deep: Mechanisms of Growth & Differentiation in the Skin"

Dr. Elaine Fuchs, Amgen Professor of Basic Sciences, Department of Molecular Genetics and Cell Biology, Investigator, Howard Hughes Medical Institute, University of Chicago. The overall goal of Dr. Fuchs' research is to understand the molecular mechanisms that underlie development and differentiation of the epidermis and its appendages, and to elucidate how these processes go awry in various human diseases of the skin, including genetic diseases and skin cancer. As a protein chemist and cell biologist, Dr. Fuchs has focused on characterization of epidermal proteins, the keratins, and their genes. Through a multifaceted approach that includes expression of mutant forms of keratins in transgenic mice, she and her colleagues have uncovered the genetic bases for a number of human genetic disorders of the skin that arise as a consequence of defects in these proteins. This reverse genetic approach has led Dr. Fuchs' group to an understanding of the proteins that are specific to epidermal function. This work also has led them to define the genetic bases for disorders that arise from defects in proteins related to those studied in the skin, but whose expression resides in muscle and the nervous system. Such diseases include certain subclasses of amyotrophic lateral sclerosis (Lou Gehrig's disease) and myopathies. Dr. Fuchs has received numerous honors and awards, including the Senior Women's Career Achievement Award of the American Society for Cell Biology, membership in the American Academy of Arts and Sciences, the Institute of Medicine of the National Academy of Sciences, and the National Academy of Sciences.

1998-1999 Distinguished Visiting Professorship
February 11, 1998
Elizabeth H. Blackburn, Ph.D.
Professor of Biochemistry and Biophysics, University of California at San Francisco
"Cross-talk Between the Telomere and Telomerase: Implication for Cancer and Aging"

Dr. Elizabeth Blackburn is a leader in the field of telomere biology. Her group was the first to identify a telomere transferase, now known as telomerase. Telomerase modifies the ends of chromosomes, and thus has important implications in aging and cancer. Dr. Blackburn has investigated the molecular biology and biochemistry of telomeres and telomerase in a variety of model organisms. Recently, she identified a novel function of telomeres in completing the separation of anaphase chromosomes during mitosis. Dr. Blackburn's work is an excellent example of how basic research in simple organisms advances our understanding of human aging and cancer.

Dr. Blackburn received a B.Sc. and M.Sc. from the University of Melbourne and her Ph.D. from the University of Cambridge where she worked in Fred Sanger's laboratory on the nucleic acid sequence of bacteriophage. Her postdoctoral research at Yale University in the laboratory of Joe Gall initiated her career-long interest in chromosome structure and function. In 1978, she joined the Department of Molecular Biology at the University of California, Berkeley. She moved to the University of California, San Francisco in 1990 and in 1993 became the Chair of the Department of Microbiology and Immunology.
Dr. Blackburn is active in woman's issues and serves as an outstanding mentor for young scientists. She is the current president of the American Society for Cell Biology, a fellow of the Royal Society of London, and a foreign associate of the National Academy of Sciences. She currently serves on the editorial boards of four major scientific journals.

1995-1996 Distinguished Visiting Professorship
November 12, 1996
Flossie Wong-Staal, Ph.D.
Professor of Medicine and Biology, University of California at San Diego
"HIV & AIDS: Towards a Cure"

Dr. Flossie Wong-Staal is a leader in the field of human retroviruses. She began her work on the mechanisms of leukemogenesis by the human T-cell leukemia virus. These studies were among the first to analyze the biochemical and biological aspects of human retroviruses. Her focus broadened when the second clinically important human retrovirus, the human immunodeficiency virus (HIV-1), was discovered. Her laboratory has made major contributions towards characterizing the genetic structures of these viruses, including a determination of the function of critical viral regulatory proteins. Dr. Wong-Staal's recent work is directed at using gene therapy to inhibit HIV replication. She has developed novel and exciting methodologies that have the potential for clinical applications. Dr. Wong-Staal is very active in the global effort to diagnose and control HIV infection. She has chaired numerous international meetings on AIDS and serves on many national and international advisory panels. She currently is on the editorial boards of eight major scientific journals. Dr. Wong-Staal is an excellent example of a scientist who uses basic scientific approaches to dissect the molecular mechanisms of a human disease and capitalizes on this knowledge to develop novel therapeutic strategies. Dr. Wong-Staal received her Ph.D. degree from the University of California, Los Angeles. She joined the National Cancer Institute in 1976 and became Chief of the Section on Molecular Genetics of Hematopoietic Cells in 1982. She moved to the University of California, San Diego in 1990, where she holds the Florence Riford Chair in AIDS Research and is Professor of Medicine in Biology. Dr. Wong-Staal was elected to the Institute of Medicine in 1994.

1994-1995 Distinguished Visiting Professorship
September 21, 1995
Helen M. Blau, Ph.D.
Director, of Microbiology and Immunology, Stanford University School of Medicine, Stanford, CA.
"Differentiation and Growth Control in Myoblast: Application in Gene Therapy"

Dr. Helen M. Blau is a leader in the field of tissue-specific gene expression and has applied her expertise in cell and developmental biology to gene therapy and molecular medicine. Her success with

myoblast transplantation in mice may pave the way for a powerful therapeutic approach for the treatment of muscle and nonmuscle diseases. Dr. Blau received a B.A. degree from the University of York in England and a Ph.D. degree from Harvard University. After completing a postdoctoral fellowship in Genetics at the University of California, San Francisco, she joined the faculty of Stanford University School of Medicine in 1978 as an assistant Professor of Pharmacology. She was promoted to Professor of Molecular Pharmacology in 1991. Dr. Blau has received many awards recognizing her excellence in teaching and contributions to science. These include Fellow of the American Association for the Advancement of Science in 1991, Women in Cell Biology Senior Career Recognition Award for the American Society of Cell Biology in 1992 and a visiting Professorship at the Curie Institute and the Pasteur Institute in 1995. She is the president of the Society for Developmental Biology and the organizer of several major conferences including the Annual Meeting of the American Society for Developmental Biology in 1995 and the Keystone Symposium on Gene Therapy in 1997. She is a member of a NIH committee overseeing gene therapy clinical trials and the Basic Science Council of the American Heart Association.