2007
Network of Minority Research Investigators Membership Directory

National Institute of Diabetes and Digestive and Kidney Diseases

Contents

Mission Statement

The Office of Minority Health Research Coordination of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has established a communication network of current and potential biomedical research investigators and technical personnel from traditionally underserved communities: African-American, Hispanic American, American Indian, Alaska Native, Native Hawaiian, and other Pacific Islanders. The major objective of the Network is to encourage and facilitate participation of the members of underrepresented racial and ethnic minority groups in the conduct of biomedical research in the fields of diabetes; endocrinology; metabolism; digestive diseases; nutrition; and kidney, urologic, and hematologic diseases. A second objective is to encourage and enhance the potential of the underrepresented minority investigators in choosing a biomedical research career in these fields. An important component of this network is the promotion of two-way communications between Network members and NIDDK.

Through the Network of Minority Research Investigators (NMRI), NIDDK will elicit recommendations for strategies to enhance the opportunities of and to implement mechanisms for supporting minority investigators in biomedical research. The NMRI will advance scientific knowledge and will contribute to the reduction and eventual elimination of racial and ethnic health disparities.

NIDDK Executives

Griffin P. Rodgers, M.D., M.A.C.P.

Director
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Building 31, Room 9A52
31 Center Drive, MSC 2560
Bethesda, MD 20892-2560
Telephone: (301) 496-5741
Fax: (301) 402-2125
Email: griffinr@extra.niddk.nih.gov

Dr. Rodgers is the Director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the National Institutes of Health (NIH), a position he has held since April 1, 2007, after holding the post of Acting Director for 1 year. As Director, Dr. Rodgers oversees a national research program in diabetes, endocrinology, and metabolic diseases; digestive diseases and nutrition; and kidney, urologic, and hematologic diseases, the goal of which is to improve the health and quality of life for all Americans. Prior to leading the Institute, Dr. Rodgers served as its Deputy Director from 2001, a position that he still holds. An active researcher, Dr. Rodgers also is Chief of the Molecular and Clinical Hematology Branch of the NIDDK's Intramural Research Program.

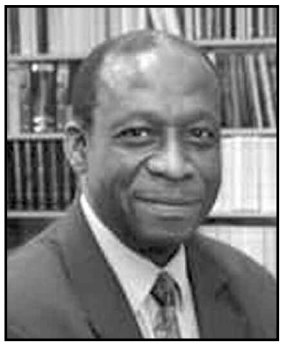
A native of New Orleans, Louisiana, Dr. Rodgers received his undergraduate, graduate, and medical degrees from Brown University in Providence, Rhode Island. He was an intern, resident, and chief resident in internal medicine at Barnes Hospital and the Washington University School of Medicine in St. Louis, Missouri. His fellowship training in hematology was in a joint program of the NIH, The George Washington University, and the Washington Veterans Administration Medical Center. Dr. Rodgers has also recently received a Master of Business Administration degree with a concentration in the Business of Medicine from The Johns Hopkins University in Baltimore, Maryland.

Dr. Rodgers is widely recognized for his contributions to the development of the first effective—and now Food and Drug Administration (FDA)-approved—therapy for sickle cell anemia. He has served as the principal investigator (PI) in clinical trials to elevate pharmacologically fetal hemoglobin to counteract the deleterious molecular and cellular effects present in the red cells of these patients. Dr. Rodgers' basic research has focused on understanding the molecular basis of how these drugs induce gamma-globin gene expression. His laboratory also focuses on the identification and characterization of early markers of hematopoietic stem cell lineage-specific differentiation, and on the application of hematopoietic stem cell-based approaches to thalassemia and sickle cell disease, including transplantation and gene therapy strategies.

Dr. Rodgers has been honored for his research with numerous awards, including the Public Health Service Physician-Researcher of the Year and Hildrus A. Poindexter Awards, the Richard and Hinda Rosenthal Foundation Award, the Arthur S. Flemming Award, and Mastership in the American College of Physicians, among others.

Dr. Rodgers has served as a Distinguished Lecturer and has delivered several named lectures nationally and internationally. He has published more than 150 original research articles, numerous reviews, book chapters, books, and monographs. He is a member of the editorial board of several scientific journals.

Dr. Rodgers served as Governor to the American College of Physicians for the Department of Health and Human Services (DHHS), and is a member of the American Society of Hematology, the American Society for Clinical Investigation, and the Association of American Physicians. He is the Chair of the Hematology Subspecialty Board, and is a member of the American Board of Internal Medicine Board of Directors.



Lawrence Y. Agodoa, M.D.

Director
Office of Minority Health Research Coordination
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 653
6707 Democracy Boulevard, MSC 5454
Bethesda, MD 20892-5454
Telephone: (301) 594-1932
Fax: (301) 594-9358
Email: agodoal@mail.nih.gov

Lawrence Agodoa is a Program Director at the National Institutes of Health (NIH) and a Professor of Medicine in the F. Edward Herbert School of Medicine, Uniformed Services University of the Health Sciences (USUHS). His current duties include the following:

- Director, Office of Minority Health Research Coordination at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH
- Director of the End-Stage Renal Disease Program in the Division of Kidney, Urologic, and Hematologic Diseases
- Program Scientist and Coordinator of the Multicenter Clinical Study, The African-American Study of Kidney Disease and Hypertension Cohort Study
- Co-Project Officer of the End-Stage Renal Disease Database, the United States Renal Data System.

Dr. Agodoa graduated from the Cornell University College of Medicine in 1971. He completed his internship and residency training in internal medicine at the University of Washington Hospital in Seattle, Washington, and a 3-year training program in clinical and biomedical research in nephrology and renal pathology. Dr. Agodoa was Chief of the Nephrology Service at the Madigan Army Medical Center in Tacoma, Washington, from 1976 to 1981. In 1981, he returned to the University of Washington and completed 2 years of clinical and research training in rheumatology and immunology. In 1983, Dr. Agodoa was assigned to the Walter Reed Army Medical Center as Assistant Chief of the Nephrology Service and the Nephrology Training Program and was also appointed to the Faculty of Medicine at USUHS. In 1985, he was appointed Director of the Military Medical Research Fellowship at the Walter Reed Army Institute of Research.

In 1987, Dr. Agodoa was appointed Director of the Clinical Affairs Program in the Division of Kidney, Urologic, and Hematologic Diseases, NIDDK. He was also a research scientist in the Laboratory of Cell and Molecular Biology, NIDDK, from 1987 to 1992.

Executive Committee Members

E. Dale Abel, M.D., Ph.D.
Associate Professor of Medicine and Biochemistry
Division of Endocrinology, Diabetes, and Metabolism
Investigator, Program in Human Molecular Biology and Genetics
University of Utah School of Medicine
Building 533, Room 3410B
15 North, 2030 East
Salt Lake City, UT 84112
Telephone: (801) 585-0727 (Office)
(801) 585-3635 (Direct)
Fax: (801) 585-0701
Email: dale.abel@hmbg.utah.edu

Lawrence Y. Agodoa, M.D.
Director
Office of Minority Health Research Coordination
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 653
6707 Democracy Boulevard, MSC 5454
Bethesda, MD 20892-5454
Telephone: (301) 594-1932
Fax: (301) 594-9358
Email: agodoal@mail.nih.gov

Winnie Martinez
Program Analyst
Office of Minority Health Research Coordination
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 648
6707 Democracy Boulevard, MSC 5454
Bethesda, MD 20892-5454
Telephone: (301) 435-2988
Fax: (301) 594-9358
Email: martinezw@mail.nih.gov

Judith Podskalny, Ph.D.
Program Director
Training and Career Development Program
Nutritional Sciences Branch
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 667
6707 Democracy Boulevard, MSC 5450
Bethesda, MD 20892-5450
Telephone: (301) 594-8876
Email: jp53s@nih.gov

Griffin P. Rodgers, M.D., M.A.C.P.
Director
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Building 31, Room 9A52
31 Center Drive, MSC 2560
Bethesda, MD 20892-2560
Telephone: (301) 496-5741
Fax: (301) 402-2125
Email: griffinr@extra.niddk.nih.gov

Elizabeth Singer
Director
Office of Communications and Public Liaison
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Building 31, Room 9A06
31 Center Drive, MSC 2560
Bethesda, MD 20892-2560
Telephone: (301) 496-3583
Fax: (301) 496-7422
Email: singerb@niddk.nih.gov

Program Planning Committee Members

Chair

Carlos Isales, M.D.
Professor of Medicine
Department of Medicine
Medical College of Georgia
1120 15th Street, CA-1018
Augusta, GA 30912
Telephone: 706) 721-0692
Fax: (706) 721-8727
Email: cisales@excite.com

Members

E. Dale Abel, M.D., Ph.D.
Associate Professor of Medicine and Biochemistry
Division of Endocrinology, Diabetes, and Metabolism
Investigator, Program in Human Molecular Biology and Genetics
University of Utah School of Medicine
Building 533, Room 3410B
15 North, 2030 East
Salt Lake City, UT 84112
Telephone: (801) 585-0727 (Office)
(801) 585-3635 (Direct)
Fax: (801) 585-0701
Email: dale.abel@hmbg.utah.edu

Ricardo Azziz, M.D.
Chairman
Department of Obstetrics and Gynecology
Cedars-Sinai Medical Center
8635 W. Third Street, Suite 160-W
Los Angeles, CA 90048
Telephone: (310) 423-7433
Fax: (310) 423-3470
Email: azzizr@cshs.org

Odilia Bermudez, Ph.D.
Assistant Professor
Department of Public Health and Family Medicine
Tufts University
136 Harrison Street
Boston, MA 02111
Telephone: (617) 636-2194
Fax: (617) 636-4017
Email: odilia.bermudez@tufts.edu

Eddie Greene, M.D.
Associate Professor of Medicine
Divisions of Nephrology and Hypertension
Mayo Clinic College of Medicine
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 255-6916
Fax: (507) 266-9315
Email: greene.eddie@mayo.edu

Eva McGhee, Ph.D.
Assistant Professor
Department of Medicine
University of California at San Francisco
Medical Sciences Building, Room S420
Box 0654
521 Parnassus Avenue
San Francisco, CA 94143-0654
Telephone: (415) 476-3931
Fax: (415) 476-9364
Email: emm.mcghee@ucsf.edu

NIDDK Representatives

Lawrence Agodoa, M.D.
Director
Office of Minority Health Research Coordination
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 653
6707 Democracy Boulevard, MSC 5454
Bethesda, MD 20892-5454
Telephone: (301) 594-1932
Fax: (301) 594-9358
Email: agodoal@mail.nih.gov

Winnie Martinez
Program Analyst
Office of Minority Health Research Coordination
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 648
6707 Democracy Boulevard, MSC 5454
Bethesda, MD 20892-5454
Telephone: (301) 435-2988
Fax: (301) 594-9358
Email: martinezw@mail.nih.gov

Judith Podskalny, Ph.D.
Program Director
Training and Career Development Program
Nutritional Sciences Branch
National Institute of Diabetes and Digestive and
Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 667
6707 Democracy Boulevard, MSC 5450
Bethesda, MD 20892-5450
Telephone: (301) 594-8876
Email: jp53s@nih.gov

Oversight Committee Members

Chair

Virginia Sarapura, M.D.
Associate Professor of Medicine
Department of Medicine
University of Colorado Health Sciences Center
P.O. Box 6511, MS-8106
Aurora, CO 80054
Telephone: (303) 724-3931
Fax: (303) 724-3920
Email: virginia.sarapura@uchsc.edu

Members

Mario Ascoli, Ph.D.
Professor
Department of Pharmacology
The University of Iowa
51 Newton Road, 2-139 BSB
Iowa City, IA 52242
Telephone: (319) 335-9907
Fax: (319) 335-8930
Email: mario-ascoli@uiowa.edu

Shirley Blanchard, Ph.D.
Associate Professor
Department of Occupational Therapy
Creighton University
Boyne 142
2500 California Plaza
Omaha, NE 68178
Telephone: (402) 280-5921, ext. 5921
Fax: (402) 280-5692
Email: sblancha@creighton.edu

Healani Chang, Dr.P.H.
Program Director
MARC U*STAR Program
Pacific Biosciences Research Center
University of Hawaii
1993 East-West Road, CSA-002
Honolulu, HI 96813
Telephone: (808) 956-2146
Fax: (808) 956-2892
Email: healani@pbrc.hawaii.edu

Daisy De Leon, Ph.D.
Associate Professor
Center for Health Disparities
Loma Linda University
11012 Campus Street, CSP
Loma Linda, CA 92399
Telephone: (909) 558-4300, ext. 42757
Fax: (909) 558-0475
Email: ddeleon@llu.edu

Eddie Greene, M.D.
Associate Professor of Medicine
Divisions of Nephrology and Hypertension
Mayo Clinic College of Medicine
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 255-6916
Fax: (507) 266-9315
Email: greene.eddie@mayo.edu

Carlos Isales, M.D.
Professor of Medicine
Department of Medicine
Medical College of Georgia
1120 15th Street, CA-1018
Augusta, GA 30912
Telephone: (706) 721-0692
Fax: (706) 721-8727
Email: cisales@mcg.edu

Charmaine Stewart, M.D.
Assistant Professor
Department of Internal Medicine
Mayo Clinic
200 First Street, S.W., 19 E
Rochester, MN 55905
Telephone: (507) 284-3917
Fax: (507) 284-0538
Email: stewart.charmaine@mayo.edu

Leah Tolosa, Ph.D.
Assistant Director
Center for Advanced Sensor Technology
Technology/Research Center
University of Maryland, Baltimore County
5200 Westland Boulevard
Baltimore, MD 21227
Telephone: (410) 455-3432
Email: leah@umbc.edu

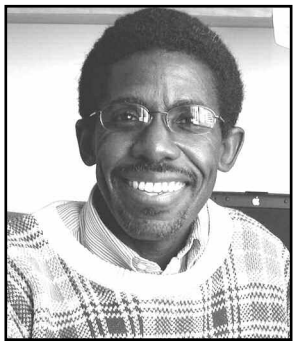
Bessie Young, M.D.
Assistant Professor
Department of Medicine
University of Washington
VA Puget Sound Health Care System
1660 S. Columbian Way, 152-E
Seattle, WA 98108
Telephone: (206) 277-3586
Fax: (206) 764-2563
Email: youngb@u.washington.edu

NIDDK Representatives

Winnie Martinez
Program Analyst
Office of Minority Health Research Coordination
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 648
6707 Democracy Boulevard, MSC 5454
Bethesda, MD 20892-5454
Telephone: (301) 435-2988
Fax: (301) 594-9358
Email: martinezw@mail.nih.gov

Judith Podskalny, Ph.D.
Program Director
Training and Career Development Program
Nutritional Sciences Branch
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Two Democracy Plaza, Room 667
6707 Democracy Boulevard, MSC 5450
Bethesda, MD 20892-5450
Telephone: (301) 594-8876
Email: jp53s@nih.gov

NMRI Members



E. Dale Abel, M.D., Ph.D.

Associate Professor of Medicine and Biochemistry
Division of Endocrinology, Diabetes, and Metabolism
Investigator, Program in Human Molecular Biology and Genetics
University of Utah School of Medicine
Building 533, Room 3410B
15 North, 2030 East
Salt Lake City, UT 84112
Telephone: (801) 585-0727
Fax: (801) 585-0701
Email: dale.abel@hmbg.utah.edu

Research Interests

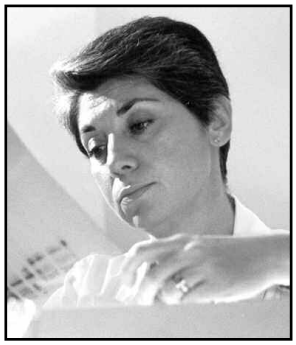
My research is focused on elucidating the molecular mechanisms that are responsible for cardiac muscle injury in diabetes. The laboratory is examining the role of altered insulin signaling and altered fatty acid and glucose utilization and the role of mitochondrial dysfunction. My research is supported by grants from the National Institutes of Health, American Diabetes Association, American Heart Association, and Juvenile Diabetes Research Foundation.

Olubunmi Afonja, M.D.

Assistant Professor of Pediatrics
Department of Pediatrics
New York University School of Medicine
460 First Avenue, 8th Floor
New York, NY 10016
Telephone: (212) 263-6428
Email: afonjo01@popmail.med.nyu.edu

Research Interests

My major research interests are the identification of retinoid-regulated genes in breast cancer, the role of *HOXA7* and *MEIS1* homeobox genes in acute myeloid leukemia, and the characterization of the growth inhibitory effects of histone deacetylase inhibitors and proteosome inhibitors in T-cell leukemia/lymphoma.



Lydia Aguilar-Bryan, M.D., Ph.D.

Associate Professor of Medicine and Molecular and Cell Biology
Division of Diabetes, Endocrinology and Metabolism
Baylor College of Medicine
One Baylor Plaza, Room 700B
Houston, TX 77030
Telephone: (713) 798-3462
Fax: (713) 798-3810
Email: lbryan@bcm.edu

Research Interests

We have for several years been interested in understanding the molecular mechanisms by which glucose stimulates insulin secretion, in particular the role that ATP-sensitive K^+ channels (K_{ATP}) play in this process. Our laboratory cloned the high-affinity sulfonylurea receptor (SUR1), the regulatory subunit of this channel, and we have been screening for mutations in patients with insulin secretory abnormalities, such as permanent neonatal diabetes, type 1 and type 2 diabetes, and hyperinsulinemic hypoglycemia, and have been doing structure-function studies. It has become clear that mutations in SUR1 result in more than an ion channel defect; to this end, we have been identifying other players that stimulate or inhibit glucose-stimulated insulin secretion and the process of how they are altered as a result of the lack of K_{ATP} channel activity. Islet cells contain α cells that secrete glucagons, and recently, it has become clear that these channels also regulate glucagon release. We have also worked on the role that these channels may play in the apoptotic process or preconditioning effect in pancreatic β cells and in the brain. We generated an SUR1 knockout mouse that has become an interesting model in which to study insulin secretion in the absence of K_{ATP} channels.

Marybeth Allian-Sauer, M.D.

Fellow
University of Colorado at Denver Health Sciences Center
13001 E. 17th Place
P.O. Box 6511, MS 8106
Aurora, CO 80045
Telephone: (303) 552-6249
Email: marybeth.allian-sauer@uchsc.edu

Research Interests

My research interests are diabetes and metabolism.

Francisco H. Andrade, Ph.D.

Assistant Professor
Department of Physiology
Chandler Medical Center
University of Kentucky
800 Rose Street
Lexington, KY 40536
Telephone: (859) 323-6576
Email: paco.andrade@uky.edu

Research Interests

My research interests include skeletal muscle function and metabolism, integrated biochemical and physiological approaches to the study of prototypical and atypical skeletal muscles and the process of how they are altered by age, neuromuscular disorders, and the study of preferentially targeted or spared motor groups to determine protective strategies.

Maria Rosario (Happy) G. Araneta, Ph.D.

Assistant Professor
Departments of Family and Preventive Medicine and Pediatrics
University of California, San Diego
9500 Gilman Drive, #0607
La Jolla, CA 92093
Telephone: (858) 822-3559
Fax: (858) 534-8625
Email: haraneta@ucsd.edu

Research Interests

My research interests include type 2 diabetes, diabetes-related complications, insulin resistance, and the metabolic syndrome among Filipino-Americans. My additional interests include ethnic disparities in visceral fat accumulation; adipocytolines; type 2 diabetes among Filipino, African-American, and Caucasian women; and metabolic abnormalities among HIV-infected children.

Jamy D. Ard, M.D.

Assistant Professor
Division of Clinical Nutrition and Dietetics
Department of Nutrition Sciences and Medicine
University of Alabama, Birmingham
441 Webb Nutrition Sciences Building
1675 University Boulevard
Birmingham, AL 35294-3360
Telephone: (205) 934-5564
Fax: (205) 934-7050
Email: ardj@uab.edu

Research Interests

I have been conducting research on lifestyle modification since 1995, my third year as a medical student at Duke University. Since then, I have worked on National Heart, Lung, and Blood Institute (NHLBI)-funded multicenter trials, including the Dietary Approaches to Stop Hypertension (DASH), DASH-sodium, Lifestyle Interventions for Blood Pressure Control (PREMIER), and Weight Loss Maintenance Trials. During 2000-2001, I was supported by a minority supplement to PREMIER (HL60570-S1). During this period of time, I made significant scientific contributions to the project by developing and conducting three ancillary studies: (1) a general clinical research center-supported study of the effect of the PREMIER behavioral interventions on insulin sensitivity, (2) a focus group study of the cultural appropriateness of PREMIER for African-Americans, and (3) a study of the effect of the acculturation of African Americans on outcomes in PREMIER.

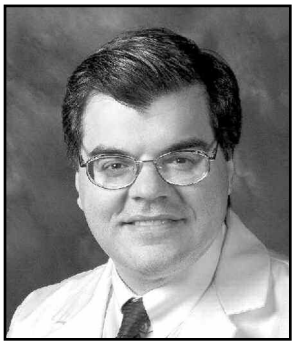
At the University of Alabama at Birmingham, I continue to conduct research in obesity and behavior modification and am currently the Principal Investigator (PI) of several studies aimed at improving cardiovascular disease risk factors in African-American populations using culturally appropriate interventions.

Mario Ascoli, Ph.D.

Professor
Department of Pharmacology
College of Medicine
The University of Iowa
51 Newton Road, 2-139 BSB
Iowa City, IA 52242
Telephone: (319) 335-9907
Fax: (319) 335-8930
Email: mario-ascoli@uiowa.edu

Research Interests

Research in my laboratory is driven by the hypothesis that the binding of agonist to the lutropin and follitropin receptors (LHR and FSHR) results in the activation of multiple signaling pathways and that these pathways, either alone or in combination, stimulate the proliferation and differentiation of their respective target cells (Leydig and Granulosa cells).



Ricardo Azziz, M.D.

Chair in Obstetrics and Gynecology
The Helping Hand of Los Angeles
Chair
Department of Obstetrics and Gynecology
Cedars-Sinai Medical Center
Professor and Vice-Chair
Department of Obstetrics and Gynecology
Professor
Department of Medicine
David Geffen School of Medicine
University of California, Los Angeles
8635 W. Third Street, Suite 160-W
Los Angeles, CA 90048
Telephone: (310) 423-7433
Fax: (310) 423-3470
Email: azzizr@cshs.org

Research Interests

My research interests include the study of the polycystic ovary syndrome (PCOS); insulin action in adipocytes; the role of the adrenal in hyperandrogenic disorders; the nonclassic adrenal hyperplasias (NCAH); the genetics of hyperandrogenic disorders, including PCOS and NCAH; the treatment of hirsutism; and the regulation and physiology of adrenal androgens.

Edwina S. Baskin-Bey, M.D.

General Surgery Residency
Research Fellow: NIH Training Grant 2003-2006
Mayo Clinic College of Medicine
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 284-0686
Fax: (507) 284-0762
Email: baskinbey.edwina@mayo.edu

Research Interests

I am mainly interested in the role of inhibition of apoptosis in steatotic livers after cold ischemia and warm reperfusion injury.

Odilia I. Bermudez, Ph.D.

Research Scientist
USDA Human Nutrition Research Center on Aging
Assistant Professor
Friedman School of Nutrition Science and Policy
Tufts University School of Medicine
136 Harrison Street
Boston, MA 02111
Telephone: (617) 636-2194
Fax: (617) 636-4017
Email: odilia.bermudez@tufts.edu

Research Interests

The overall goal of my research is to better understand the role of dietary and nutritional factors in the health and well-being of the aging population. Current areas of research include the investigation of health, nutrition, diet, and disability patterns of elderly diverse groups; the development and application of culturally and linguistically appropriate methodologies in research with minority elderly groups, especially Hispanic elders with type 2 diabetes; and the assessment of factors making elderly groups more prone to suffer certain nutrition-related health problems and of measures that might contribute to the improvement of the general well-being of the aging population.

Ernesto Bernal-Mizrachi, M.D.

Assistant Professor of Medicine
Division of Endocrinology, Diabetes and Lipid Research
Washington University School of Medicine
Box 8127
660 S. Euclid Avenue
St. Louis, MO 63110-1010
Telephone: (314) 362-7693
Fax: (314) 747-2692
Email: ebernal@im.wustl.edu

Research Interests

In type 2 diabetes, it has become evident that the main determinant for an individual to become diabetic is the ability of the pancreas to increase insulin production. The increase in insulin production results from an increase in the number of insulin-producing cells (β cells). The major interest of my laboratory is the investigation of the mechanisms involved with the regulation of β cell mass. We have generated genetically modified mice to study the role of β cell replication, neogenesis, and apoptosis. More specifically, I will study the mechanisms involved with the proliferative responses induced by Akt and the role of this kinase in the adaptation to animal models of diabetes. These experiments will elucidate new mechanisms involved with the development and/or cure of diabetes by augmenting our knowledge of the regulation of the life and death of β cells, a key factor for diabetes.

Shirley A. Blanchard, Ph.D.

Assistant Professor
Department of Occupational Therapy
Creighton University
Boyne 142
2500 California Plaza
Omaha, NE 68178
Telephone: (402) 280-5921, ext. 5921
Fax: (402) 280-5692
Email: sblancha@creighton.edu

Research Interests

My research interests include obesity and depression in African-American women. I am investigating the use of faith-based institutions to prevent and reduce the health risks associated with obesity. By providing culturally relevant health education programs in the community of the church, African-Americans are empowered to change health behaviors and ultimately to reduce health disparities.

Arleen F. Brown, M.D., Ph.D.

Assistant Professor
Division of General Internal Medicine and Health Services Research
Department of Medicine
Geffen School of Medicine
University of California, Los Angeles
911 Broxton Plaza, Room 205
Los Angeles, CA 90024
Telephone: (310) 794-6047
Email: abrown@mednet.ucla.edu

Research Interests

I am a general internist and health services researcher with an interest in quality of care for older adults and underserved populations with diabetes and other chronic conditions. My work has focused on clinical-, health care system-, social-, and individual-level determinants of health for persons with diabetes. One project involved the development of evidence-based guidelines on care for older adults with diabetes. I am also working on projects to improve diabetes and hypertension self-management skills in older African-Americans and Latinos with diabetes and to improve the detection and treatment of geriatric conditions among these patients. Another area of interest is how the built and social environments may influence the health of persons with chronic conditions.

Lynda M. Brown, Ph.D.

Assistant Professor
Department of Nutrition
University of North Carolina, Greensboro
P.O. Box 26170
Greensboro, NC 27412-6170
Telephone: (336) 256-0320
Fax: (336) 334-4129
Email: lmbrown6@uncg.edu

Research Interests

As a postdoctoral fellow at the Obesity Research Center at the University of Cincinnati, I investigated the interactions among several key factors that determine whether or not animals become obese. These included gender (e.g., we have found that males and females respond differently to adiposity signals), dietary fat (e.g., we have found that rats maintained on a high-fat diet are resistant to the catabolic actions of insulin and leptin in the brain), and the presence or absence of specific genes important in the regulation of energy homeostasis.

One of my major areas of investigation was central insulin resistance caused by high-fat diets. I wrote a research proposal and subsequently received an award from the NIH to conduct these experiments.

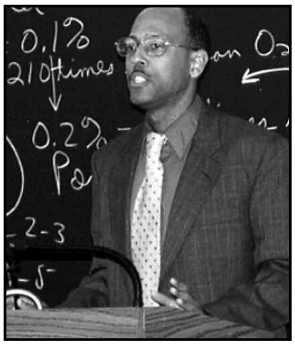
The objective of the research I have initiated at the University of North Carolina (UNC) at Greensboro is to develop an animal model of middle-aged humans, a time when estrogen levels decline in women and the incidence of obesity and its complications increases, and to evaluate fundamental questions related to body fat and sex differences. I will compare central leptin sensitivity in male and female rats that are middle-aged to determine the role of estrogen in determining visceral fat as well as the brain's sensitivity to leptin. These objectives will allow me to establish novel techniques to ask important questions of the association between aging, estrogen levels, and body fat as individuals end their reproductive capacity (mimicking menopause in women).

Terry Ann Brown-Bryan, Ph.D.

Postdoctoral Fellow
Department of Physiology and Pharmacology
Loma Linda University School of Medicine
Risley Hall, Room 106
11041 Campus Street
Loma Linda, CA 92350
Telephone: (909) 558-4000, ext. 47035
Fax: (909) 558-0119
Email: tbrown@llu.edu

Research Interests

Metabolic Syndrome X, characterized by insulin resistance, dyslipidemia, obesity, and hypertension, affects more than 70 million Americans. Current pharmacologic treatments of metabolic disorders associated with Syndrome X generally require the use of multiple drugs. Recently, imidazoline compounds are emerging as single therapuetic agents for conditions associated with Syndrome X, by centrally stimulating the I1-imidazoline receptor (I1R) to lower blood pressure, and positively affecting insulin resistance, glucose tolerance, and lipid metabolism. Therefore, my research objective is to unravel the mechanisms by which imidazoline compounds exert their beneficial effects on insulin action and type 2 diabetes using both pharmacological and molecular biology tools. The guiding hypothesis of my laboratory is that these compounds provide a putative crosstalk between the insulin receptor and imidazoline receptor signaling pathways.



Gregory Wm. Buck, Ph.D.

Assistant Professor of Biology and Biomedical Sciences
Department of Life Sciences
Texas A&M University, Corpus Christi
Room CS251
6300 Ocean Drive, Unit 5802
Corpus Christi, TX 78412-5802
Telephone: (361) 825-3717
Fax: (361) 825-3719
Email: gregory.buck@tamucc.edu

Research Interests

My research interests include: transcriptional regulation of genes in Vibrio vulnificus; health disparities of persons infected with Vibrio or methicillin-resistant Staphylococcus aureus—do Hispanics have greater risk of Vibrio infection if diabetic, with renal insufficiency, iron overload compared to Caucasian population; antimicrobial activity of northern Mexican plants and herbs; and DNA repair in enteric bacteria.

Sherri-Ann M. Burnett-Bowie, M.D.

Instructor in Medicine
Endocrine Unit
Massachusetts General Hospital
Thier 1051
50 Blossom Street
Boston, MA 02114
Telephone: (617) 724-5594
Fax: (617) 726-1703
Email: sburnett-bowie@partners.org

Research Interests

My research is focused on defining the physiology of a new phosphate-regulating hormone (FGF-23), the relationship between vitamin D deficiency and insulin resistance, and clinical trials of treatments for osteoporosis.

Marco E. Cabrera, Ph.D.

Associate Professor
Department of Pediatrics
Director
Pediatric Exercise Laboratory
Case Western Reserve University
RBC-389, MS-6011
11100 Euclid Avenue
Cleveland, OH 44106-6011
Telephone: (216) 844-5085
Fax: (216) 844-5478
Email: mec6@cwru.edu

Research Interests

My main interest is to gain a quantitative understanding of metabolic regulation during conditions that challenge ATP homeostasis (e.g., exercise, ischemia, and hypoxia) to improve functional capacity in a variety of populations, such as astronauts, children with chronic disorders, and healthy sedentary/active children and adolescents.

Carmen Castaneda-Sceppa, M.D., Ph.D.

Associate Professor
School of Nutrition
Research Scientist
Nutrition, Exercise Physiology, and Sarcopenia Laboratory
Jean Mayer USDA Human Nutrition Research Center on Aging
Tufts University
711 Washington Street
Boston, MA 02111
Telephone: (617) 556-3081
Fax: (617) 556-3083
Email: carmen.sceppa@tufts.edu

Research Interests

My research interests include: 1) the role of protein intake and physical activity in the maintenance of muscle mass and function in older adults; 2) the development of multifaceted approaches to investigate the cause of sarcopenia and muscle wasting and to evaluate the effects of different physiologic and/or pathologic perturbations on age-related muscle loss and disability; and 3) diet and physical activity interventions that alone or combined will improve protein nutritional status and muscle mass and function, which is especially important for underrepresented diverse populations, such as Hispanic and Chinese communities. The long-term goal of my research is to contribute to the understanding of the mechanisms associated with sarcopenia and muscle wasting and to validate the use of preventive and/or therapeutic approaches to reverse the loss of muscle mass. In addition, I am interested in disseminating these research findings widely between scientific and lay audiences.

Maria G. Castro, Ph.D.

Professor of Medicine
David Geffen School of Medicine
University of California, Los Angeles
Co-Director
Gene Therapeutics Research Institute
Department of Medicine
Cedars-Sinai Medical Center
Davis Building, Room 5090
8700 Beverly Boulevard
Los Angeles, CA 90048
Telephone: (310) 423-7302
Fax: (310) 423-7308
Email: castromg@cshs.org

Research Interests

My research goal is to develop gene therapy strategies for the treatment of neuroendocrine disorders, such as pituitary disease, brain tumors, and chronic neurodegenerative disorders. My research group has developed novel gutless adenovirus vectors and has pioneered *in vivo* gene transfer into the pituitary gland and the central nervous system. I am particularly interested in understanding the cellular and molecular mechanisms that mediate long-term transgene expression and the immunological basis, which determines the interactions between viral vectors and their target tissues. I am also pursuing preclinical testing of these novel gene therapies as a prelude to clinical trials in humans.

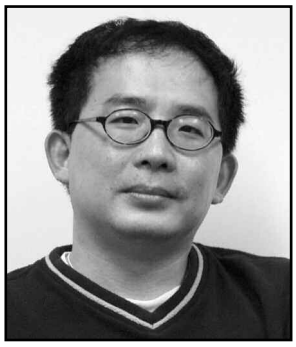
I serve on the editorial boards of *Gene Therapy, Current Gene Therapy, Journal of Endocrinology, Journal of Molecular Endocrinology, Pituitary*, and *Journal of Neuromolecular Medicine*. I am a recipient of National Institutes of Health grants to develop novel gene therapy approaches to treat brain diseases, such as Parkinson's disease and brain cancer. I have published more than 125 original research articles and have published in high-impact journals, such as *Nature Medicine, Proceedings of the National Academy of Sciences of the USA, Nature Biotechnology, Endocrinology*, and *Journal of Clinical Endocrinology and Metabolism.*

Healani K. Chang, Dr.P.H.

MARC U*STAR Program Director
Associate Research Specialist
Pacific Biosciences Research Center
Adjunct Associate Professor
Division of Ecology and Health
John A. Burns School of Medicine
University of Hawaii, Manoa
1993 East-West Road, CSA-002
Honolulu, HI 96813
Telephone: (808) 956-2146
Fax: (808) 956-2892
Email: healani@pbrc.hawaii.edu

Research Interests

My research interests include the clinical and epidemiological study of insulin-resistance and cardiovascular disease risk factors among adult Native Hawaiians and Hawaii's other multiethnic populations. A new initiative proposes a patient-centric web-based diabetes program to improve glycemic control and reduce diabetes complications.



Wei-Chun Chin, Ph.D.

Assistant Professor
School of Engineering
University of California, Merced
P.O. Box 2039
Merced, CA 95344
Telephone: (209) 228-8668
Fax: (209) 228-4047
Email: wchin2@ucmerced.edu

Research Interests

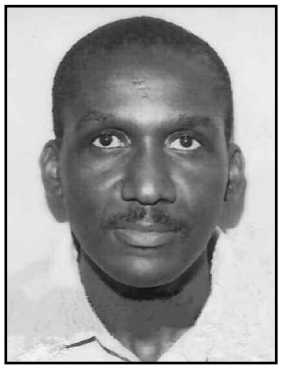
My research interests include pancreatitis (premature activation of trypsin), mucin secretion, intracellular Ca^{2+} signaling, and cell-based biosensors, and I have focused on Ca^{2+} signaling, especially at the subcellular level, such as in the secretory granules and endoplasmic reticulum. I have worked on various aspects of Ca^{2+} signaling on airway goblet cells, ciliated cells, brain epidermal cells, and mast cells. Recently, I became interested in the initiating mechanisms of acute pancreatitis. I believe that intracellular Ca^{2+} plays a critical part in initiating the premature activation of trypsin, which could lead to acute pancreatitis.

Valeria Cohran, M.D.

Clinical Research Fellow
Cincinnati Children's Hospital Medical Center
3333 Burnet Avenue
Cincinnati, OH 45229
Telephone: (513) 636-4200
Email: valeria.cohran@cchmc.org

Research Interests

My clinical research interests include intestinal rehabilitation and bone mineral density in children. My research project during my fellowship was a randomized controlled trial to determine if a bisphosphonate, risedronate, will improve bone mineral density in nonambulatory patients. I started a new study to determine the effects of TPN on bone mineral density in children receiving TPN for ≥ 6 months. As part of my Master's degree in epidemiology, my thesis will evaluate the impact of NEC on the neurodevelopmental outcome of a cohort of premature infants.



Conrad R. Cole, M.D.

Assistant Professor of Pediatrics
Division of Pediatric Gastroenterology, Hepatology, and Nutrition
Department of Pediatrics
School of Medicine
Adjunct Assistant Professor
Department of Health Policy and Management
Rollins School of Public Health
Emory University
2015 Uppergate Drive
Atlanta, GA 30322
Telephone: (404) 727-2461
Fax: (404) 727-4069
Email: conrad_cole@oz.ped.emory.edu

Research Interests

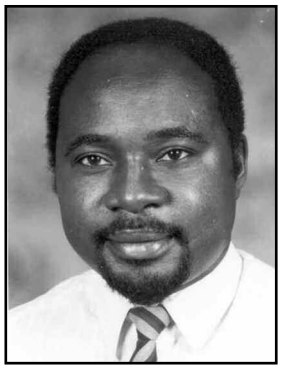
My interest is in clinical nutrition and nutritional epidemiology research. I am specifically interested in the micronutrient status of preschool children because of the long-term effect of deficiencies that occur during this crucial period. I am also interested in understanding the clinical, metabolic, and molecular effects of bacterial overgrowth in children with history of surgical short bowel syndrome in order to improve their nutritional status and overall outcome.

Leonor Corsino, M.D.

Endocrinology Fellow
Division of Endocrinology, Metabolism, and Nutrition
Department of Medicine
Duke University Medical Center
#3924
307 Trent Drive
Durham, NC 27710
Telephone: (919) 684-8111
Fax: (919) 681-7796
Email: corsi002@mc.duke.edu

Research Interests

My research interests include Diabetes Mellitus (DM) type 2 as it pertains to the Hispanic population, the genetics of DM type 2 in Hispanics, and the prevention of microvascular complications in the Hispanic population with diabetes.



Samuel Dagogo-Jack, M.D.

Professor of Medicine
Division of Endocrinology, Diabetes, and Metabolism
Associate Director
General Clinical Research Center
University of Tennessee Health Science Center
D334 Coleman College of Medicine Building
956 Court Avenue
Memphis, TN 38163
Telephone: (901) 448-2608
Email: sdj@utmem.edu

Research Interests

My laboratory has ongoing studies and collaborations in such areas as the pathobiology of early glucose abnormalities leading to prediabetes; the prevention of type 2 diabetes and the epidemiology of diabetes complications; and leptin regulation and its role in human metabolic pathophysiology.

Daisy Delgado DeLeon, Ph.D.

Associate Professor
Center for Health Disparities
School of Medicine
Loma Linda University
11012 Campus Street, CSP
Loma Linda, CA 92399
Telephone: (909) 558-4300, ext. 42757
Fax: (909) 558-0475
Email: ddeleon@llu.edu

Research Interests

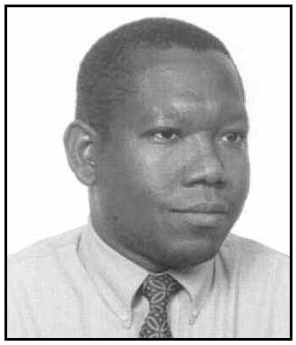
My research interest includes the role of insulin-like growth factors in breast cancer. The main interest of our laboratory is to evaluate the role of IGF-II in breast cancer development and the progression of metastasis. We have demonstrated that expression of IGF-II stimulates cancer growth and enhances the secretion of cathepsin D, an enzyme associated with poor prognosis in breast cancer patients. Of great interest is our recent observation that IGF-II is also important in the establishment of breast tumors. Breast cancer tumors can be developed in SCID and NUDE mice without the requirement of estrogen when the tumors secrete pro IGF-II. We are currently identifying the mechanism involved with this effect.

Aymin Delgado, M.D.

Clinical and Research Fellow
Combined Program in Pediatric Gastroenterology and Nutrition
Children's Hospital of Boston and Massachusetts General Hospital
Harvard Medical School
300 Longwood Avenue
Boston, MA 02115
Telephone: (617) 355-6058
Email: adelgado1@partners.org

Research Interests

Contributing to the scientific understanding of common gastrointestinal conditions that affect individuals throughout the world is extremely important to me. As a fellow at Children's Hospital and Massachusetts General Hospital in Boston, I have had the opportunity to study certain aspects of chronic hepatitis C virus (HCV) infection. I have spent a considerable amount of my time investigating the underlying pathogenetic basis for the association between HCV and diabetes mellitus. I have performed both cross-sectional and longitudinal studies of liver transplant recipients to evaluate the contribution of HCV to insulin resistance among adults. I also have performed translational studies involving the evaluation of glucose and insulin tolerance among HCV-transgenic mice. I intend to extend my investigations to the pediatric population. In the near future, I also plan to study therapeutic interventions to reduce insulin resistance and its associated morbidity among individuals infected with HCV.



Lincoln Edwards, Ph.D.

Assistant Professor of Physiology and Pharmacology and Dental Education
Schools of Medicine and Dentistry
Loma Linda University
11041 Campus Street
Loma Linda, CA 92650
Telephone: (909) 558-4300, ext. 42923
Email: lpedwards@llu.edu

Research Interests

My research interests include the role of imidazoline compounds in type 2 diabetes and hypertension. By elucidating the signal transduction pathways coupled to I1-imidazoline receptors, we hope to gain insight into the mechanism by which imidazoline compounds lower blood pressure and exert antidiabetic effects.

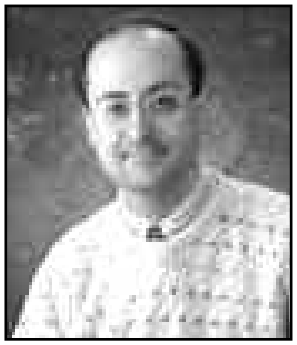
N. Joseph Espat, M.D.

Professor and Chief of Surgical Oncology
Roger Williams Medical Center
825 Chalkstone Avenue
Providence, RI 02908
Telephone: (401) 456-2461
Email: jespat@uic.edu

Research Interests

My main research interest involves the omega-3 fatty acid regulation of tumor-associated inflammation. The laboratory is focused on defining the mechanisms for n-3 lipid-mediated MAPK pathway regulation of proinflammatory cytokines and transcriptional factor activation.

My parallel focus is defining antiproliferative mechanisms for n-3 lipids in pancreatic cancer as stand-alone therapy or in combination with chemotherapy.



Robert Ferry, Jr., M.D.

Tenured Associate Professor
Division of Pediatric Endocrinology and Diabetes
Department of Pediatrics
The University of Texas Health Science Center, San Antonio
Room 540F-4
7703 Floyd Curl Drive, MSC 7806
San Antonio, TX 78229-3900
Telephone: (210) 567-5283
Fax: (210) 567-0492
Email: bob@uthscsa.edu

Research Interests

My research is focused on diabetes melitus and its complications, the endocrine sequelae of childhood cancer, and growth disorder in children.

Gregory L. Florant, Ph.D.

Full Professor
Department of Biology
Colorado State University
200 W. Lake Street
Fort Collins, CO 80523
Telephone: (970) 491-7627
Fax: (970) 491-0649
Email: florant@lamar.colostate.edu

Research Interests

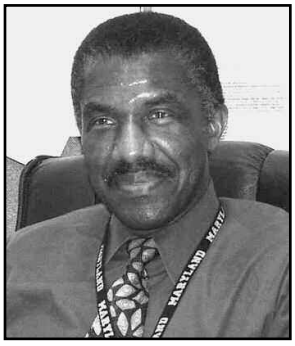
My research interest is in the area of energy metabolism. In particular, I am interested in studying animal models that can help us understand obesity, diabetes, and food intake. I study mammals that hibernate, because they undergo dramatic body mass cycles that are primarily based on fat storage and utilization. In addition, I work on hormone cell signaling in fat and muscle cells, because this is an important part of how nutrients are used.

Martin Frank, Ph.D.

Executive Director
American Physiological Society
9650 Rockville Pike
Bethesda, MD 20814-3991
Telephone: (301) 634-7118
Fax: (301) 634-7241
Email: mfrank@the-aps.org

Research Interests

My research interests include excitation-contraction coupling in cardiac muscle and the effects of pharmacological interventions on the electrophysiology of isolated atrial muscle and the movement of calcium within the tissue.



Renty B. Franklin, Ph.D.

Professor
Division of Molecular and Cell Biology
Biomedical Sciences Dental School
University of Maryland, Baltimore
650 W. Baltimore Street, Room 7029
Baltimore, MD 21201
Telephone: (410) 706-7259
Email: rfrankli@umaryland.edu

Research Interests

My interests are in prostate cancer and prostate biology. This research involves hormone regulation of gene expression in prostate epithelial cells and the mechanisms and regulation of Zn uptake by prostate epithelial cells.

Crystal A. Gadegbeku, M.D.

Assistant Professor
Division of Nephrology
Department of Internal Medicine
University of Michigan Medical Center
Simpson Memorial Institute
Room 310
102 Observatory Street
Ann Arbor, MI 48109
Telephone: (734) 764-5178
Email: cgadegve@umich.edu

Research Interests

My research interests include the study of cardiovascular disease in chronic kidney disease (CKD) and the mechanisms of hypertension in CKD.

Carlos A. Garcia, M.D., Ph.D.

Postdoctoral Associate
Diabetes Research Institute
University of Miami
Beckman Coulter, Inc.
11800 S.W. 147th Avenue
Miami, FL 33196
Telephone: (305) 949-6762
Email: cgarcia5@med.miami.edu

Research Interests

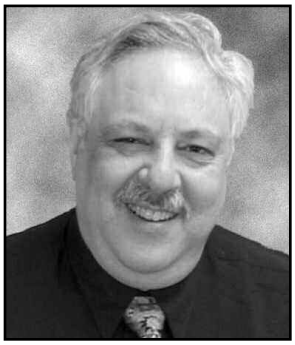
We are focused on the role of proinsulin expression into the mechanism of immunological tolerance. We found expression of type 1 diabetes autoantigens on the monocyte surface membrane from human and mouse peripheral blood and spleen and on light density cells from thymus that directly transcribe self-molecule genes. Maturation of blood monocytes into mature dendritic cells from control and type 1 diabetes patients also shows autoantigen expressions. Experiments are running to evaluate the functional role of those cells and to determine the distribution of proinsulin antigen on peripheral blood in a group of type 1 diabetes patients.

Tiffany L. Gary, Ph.D.

Assistant Research Professor
Department of Epidemiology
Bloomberg School of Public Health
East Baltimore Campus
Johns Hopkins University
615 N. Wolfe Street, Room E6531
Baltimore, MD 21205
Telephone: (410) 614-8280
Fax: (410) 955-0863
Email: tgary@jhsph.edu

Research Interests

I have Master's and doctoral degrees in clinical epidemiology from the Johns Hopkins University Bloomberg School of Public Health and have experience in epidemiological research, clinical trial design and conduct, and medical claims data analysis, mostly in the disease area of diabetes. I have gained experience in applied epidemiology as a postdoctoral fellow at the Centers for Disease Control and Prevention. I have a particular dedication toward improving the health of ethnic minorities and focus my professional work around issues of minority health and social/environmental determinants of chronic disease. I have participated in various minority health training programs and volunteer activities as well as conducted community-based research in African-Americans with type 2 diabetes for the past 7 years. I have also participated in teaching efforts in the African-American community by helping to teach an introduction to epidemiology course at Tougaloo College in Jackson, Mississippi.



Sidney H. Golub, Ph.D.

Professor Emeritus
Department of Microbiology and Molecular Genetics
College of Medicine
Past Executive Director
Federation of American Societies of Experimental Biology
University of California, Irvine School of Medicine
Irvine, CA 92697-4025
Telephone: (949) 824-9319
Fax: (949) 824-8598
Email: sgolub@uci.edu

Research Interests

Currently, my interests focus on issues of science policy and research ethics. My laboratory research program has followed two closely related themes: the *in vitro* regulation of cytotoxic cells by cell interactions and regulatory cytokines and the *in vivo* expression of cytotoxic cell function in cancer patients.

Eddie L. Greene, M.D.

Associate Professor of Medicine
Division of Nephrology and Hypertension
Department of Internal Medicine
Mayo Medical School
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 255-6916
Fax: (507) 266-7891
Email: greene.eddie@mayo.edu

Research Interests

Mechanisms of glomerulosclerosis and atherosclerotic cardiovascular disease in patients with chronic renal failure can be attributed in part to dysregulation of cellular proliferation, extracellular matrix production, and cellular migration. Efforts underway in our laboratory focus on understanding how hormonal and growth factor signaling are involved with the progression of chronic renal failure and associated cardiovascular disease. With our collaborators, the laboratory investigates signal transduction cascades initiated by cell surface and plasma membrane receptors in renal and vascular cells to elucidate how the signals for abnormal growth are elicited and subsequently transmitted to downstream effectors. Signaling pathways are mapped by using serotonin, bradykinin, angiotensin II, and aldosterone receptors as ligands for their respective receptors. Some of the state-of-the-art methodologies currently used in the laboratory to support our investigations include the production and maintenance of renal cell culture(s); cell transfection techniques; Western blotting; fluorescence and bioluminescent resonance energy transfer studies, to study protein-protein interactions; and assays for evaluating cellular proliferation, cell migration, extracellular matrix production, oxidant production, and transcriptional regulation. Our studies are designed to define new pathways that can be targeted therapeutically to slow the progression of chronic renal failure and its associated cardiovascular comorbidities.

Ruben Bonilla Guerrero, M.D., Ph.D.

Instructor in Medicine
Research Associate
Center for Basic Research in Digestive Diseases
Mayo Clinic College of Medicine
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 538-6971
Email bonilla.ruben@mayo.edu

Research Interests

I am committed to a career in basic and translational research in the field of digestive diseases, with a main focus in liver cancer. Hepatocellular carcinoma (HCC) is a leading cause of cancer death worldwide, accounting for approximately 600,000 deaths per year. The molecular mechanisms leading to the development of this malignancy remain unclear. Known risk factors for the development of HCC include cirrhosis due to chronic hepatitis B virus (HBV) or chronic hepatitis C virus infection or co-infection, alcoholic cirrhosis, hemochromatosis, and exposure to dietary aflatoxins. Chronic HBV infection is one of the most important risk factors for HCC development. There is a high rate of HBV infection worldwide, with an incidence of more than 50 million new cases a year and a prevalence of more than 350 million HBV surface antigen-positive chronic carriers. HBV is a DNA virus that almost invariably integrates into the human host genome during persistent viral infection. Viral integration sites occur throughout the genome; thus, it has been presumed that there are no preferred sites of HBV integration.

My two main focuses of research are: (1) that the sites of oncogenic viral integration are nonrandom and (2) that hepatocyte clones containing the HBV integrations that confer them with a growth advantage are selected during carcinogenesis. For this, the identification and sequencing of the HBV sites of integration as well as the measurement of the alteration in the cell function that these genes regulate will be the two main strategies for my research.

B. Michelle Harris, Ph.D.

Assistant Professor
Department of Biological and Environmental Sciences
University of the District of Columbia
Building 44
4200 Connecticut Avenue, N.W.
Washington, DC 20008
Telephone: (202) 274-5739
Fax: (202) 274-5577
Email: bharris@udc.edu

Research Interests

I recently completed a dissertation project titled, "The Relationship of Low Birth Weight and Current Obesity to Diabetes in African-American Women." We are currently conducting a Robert Woods Johnson Foundation Active Living Research-funded project titled, "The Availability of Healthy Foods, BMI, and Dietary Patterns in Urban Adolescents." In this project, we examine the associations among adolescents' perceived and objective availability of healthy foods, the physical environment, and BMI. I will continue to explore the metabolic syndrome and will examine various approaches to reducing its negative impact on the health of minority populations. I have a strong interest in epidemiologic studies that may shed light on ways to reduce health disparities. Currently, I am working to expand research opportunities among undergraduate students in the fields of nutrition and related sciences.

Robert S. Hoover, Jr., M.D.

Associate Vice-Chair for Diversity
Assistant Professor of Medicine
Section of Nephrology
Department of Medicine
University of Chicago
5801 S. Ellis
Chicago, IL 60637
Telephone: (773) 834-8778
Fax: (773) 702-5818
Email: rhoover@medicine.bsd.uchicago.edu

Research Interests

I consider myself to be a molecular physiologist. My work currently focuses on regulation of the thiazide-sensitive sodium chloride cotransporter by phosphorylation. In general, I am interested in the molecular explanations of the physiology of ion transport processes.

Courtney W. Houchen, M.D.

Assistant Professor of Medicine
Division of Gastroenterology
School of Medicine
Washington University in St. Louis
660 S. Euclid Avenue
St. Louis, MO 63110
Telephone: (314) 362-8955
Email: chouchen@im.wustl.edu

Research Interests

I am interested in studying the role of PGE2 signal transduction through PGE2 receptors in the modulation of the crypt epithelial cell response to cytotoxic and genotoxic injury. We are also interested in the role of PGE2 and PGE2 receptors in tumor initiation, progression, and response to radiation and chemotherapy.

Sergio Huerta, M.D.

Assistant Professor of Surgery
University of Texas Southwestern Medical Center
4500 S. Lancaster Road
Dallas, TX 75216
Telephone: (214) 857-1800
Fax: (214) 857-1891
Email: sergio.huerta@utsouthwestern.edu

Research Interests

Our research efforts are focused on understanding the mechanisms leading to tumor-cell radiation-resistance, which could lead to increased rates of recurrence, lower mortality and decreased adverse effects of radiation therapy by appropriate radiosensitizing interventions.

Since apoptosis is a crucial mechanism by which the vast majority of cytotoxic interventions elicit a therapeutic response, our laboratory is interested in determining: (1) the factors that lead to resistance to radiation-induced apoptosis, and (2) the possible mechanism for radiosensitization.

Our research protocol involves *in vitro*, *in vivo*, and *ex vivo* models of rectal carcinogenesis. Our *in vitro* studies suggest that resistance to radiation-induced apoptosis is at least in part mediated by elevated levels of inhibitors of apoptosis survivin and XIAP and decreased levels of Smac-Diablo and AIF. *In vivo* and *in vitro* studies suggest that rectal cancer cells and colon cancer xenografts may be radiosensitized by use of a nitric oxide donor (DETA/NONOate). *Ex vivo* studies suggest that AIF is decreased in advanced metastatic tumors (stage III/IV) compared to non-metastatic tumors.

Melissa Hagan Hughes, Ph.D.

Assistant Professor
North Carolina A&T State University
109A Hines Hall
1601 E. Market Street
Greensboro, NC 27411
Telephone: (336) 285-2059, ext. 1109
Fax: (336) 256-2395
Email: mhagan@ncat.edu

Research Interests

My research interests include minority health disparities and the relationship between birth weight and complications from diabetes (specifically type 1 diabetes).

Carlos M. Isales, M.D.

Professor of Orthopaedic Surgery, Medicine, and Cell Biology
Chief
Program in Regenerative Medicine
Associate Director
Institute of Molecular Medicine and Genetics
Medical College of Georgia
1120 15th Street, CA-1018
Augusta, GA 30912
Telephone: (706) 721-0692
Fax: (706) 721-8727
Email: cisales@mcg.edu

Research Interests

Our laboratory is working to understand the hormonal links between nutrient ingestion and bone formation. We have identified several hormones of interest—in particular, glucose-dependent insulinotropic peptide, an enteric hormone that rises on nutrient ingestion and appears to be able to both stimulate bone formation and inhibit bone breakdown. We are using a variety of genetic models to study this link.

LaDonna Jones, Pharm.D.

Assistant Professor
Department of Pharmacotherapy and Outcomes Science
Loma Linda University School of Pharmacy
11262 Campus Street, West Hall 1330
Loma Linda, CA 92350
Telephone: (909) 558-7530, ext. 87530
Fax: (909) 558-7927
Email: lajones@llu.edu

Research Interests

My research interests involve outcomes associated with the incidence and prevention of medication events within an acute care setting. I am also interested in pharmacists' interventions associated with the impact of patient care as a whole.

Ethan Kellum, M.D.

Research Resident
Department of Orthopaedics
Medical College of Georgia
P.O. Box 31545
Augusta, GA 30903
Telephone: (901) 484-0837
Email: ekellum@gmail.com

Research Interests

The overall goal of our research is to elucidate the major factors that contribute to bone formation during growth, development, and aging in order to develop more effective preventative strategies for osteoporosis.

Nyingi M. Kemmer, M.D.

Staff Physician
VA Medical Center
Assistant Professor of Medicine
Division of Digestive Disease
University of Cincinnati Medical Center
222 Piedmont Avenue, Suite 6000
Cincinnati, OH 45219
Telephone: (513) 584-1000
Email: nyingi.kemmer@uc.edu

Research Interests

My research interest is in health outcomes of patients pre- and post-liver transplantation.

Miyong Kim, Ph.D.

Associate Professor
Robert Wood Johnson Executive Nurse Fellow
School of Nursing
Johns Hopkins University
525 N. Wolfe Street
Baltimore, MD 21205
Telephone: (410) 614-1443
Email: mkim@son.jhmi.edu

Research Interests

My main research interest involves cardiovascular risk reduction, including diabetes mellitus management in the immigrant population.

Mark Andrew Lawson, Ph.D.

Associate Professor
Department of Reproductive Medicine
University of California, San Diego
9500 Gilman Drive
La Jolla, CA 92093-0674
Telephone: (858) 822-4128
Email: mlawson@ucsd.edu

Research Interests

We are investigating the molecular mechanisms of hormone action in the pituitary, with a special emphasis on factors controlling reproductive function. Current studies are focused on understanding the role of hormone action in regulating translation initiation and mRNA utilization. We are also interested in the mechanism of endocrine diseases affecting reproduction, such as polycystic ovary syndrome and type 2 diabetes. Our long-term interest is in understanding the integration of multiple hormone signaling pathways in the regulation of endocrine cell function.

Janice Lea, M.D.

Associate Professor
Department of Medicine
Emory University
1440 Clifton Road, N.E.
Atlanta, GA 30332
Telephone: (404) 727-5640
Fax: (404) 686-4995
Email: jlea@emory.edu

Research Interests

My research interests include mechanisms of regulation of sodium transport, specifically regulation of sodium-potassium-ATPase by calcineurin and by angiotensin II. I am studying how it regulates sodium transport. The ultimate goal is to understand how volume-sensitive hypertension is produced. I have a special interest in the pathophysiology of hypertension in African-Americans, a population that has much more severe hypertensive sequella, including a very high incidence of end-stage renal disease. I am a coinvestigator of the NIH-AASK (African-American Study of Hypertension and Kidney Disease), which is studying the effects of different levels of blood pressure control as well as different classes of antihypertensive medications on the progression of renal disease.

Mary Lopez, Ph.D.

Instructor in Pediatrics
Division of Endocrinology
Children's Hospital Boston
Harvard Medical School
Karp Building, Room 4212
300 Longwood Avenue
Boston, MA 02062
Telephone: (617) 919-2862
Email: mary.lopez@tch.harvard.edu

Research Interests

The current focus of my laboratory is studying the effect of insulin and insulin-like growth factors in fetal growth and brain function. We are currently examining the signaling pathways by which insulin-like growth factors affect carbohydrate metabolism in the fetus and also neuronal death in the brain. My research is currently being supported by the National Institute of General Medical Sciences.

Jesus M. Lopez-Guisa, Ph.D.

Resident Assistant Professor and Scientist
Department of Pediatric Nephrology
University of Washington and Children's Hospital and Regional Medical Center
307 Westlake Avenue North, Suite 300
Seattle, WA 98109
Telephone: (206) 987-6037
Fax: (206) 987-7310
Email: jesus.lopez-guisa@seattlechildrens.org

Research Interests

The research in our laboratory focuses on the molecular mechanisms of renal interstitial fibrosis, particularly those changes occurring during the inflammatory and fibrotic stages. To study renal interstitial fibrosis, we use the unilateral ureter obstruction (UUO), Adriamycin, and protein overload models, and for diabetic nephropathy, we use the streptozotocin (Stz) and db-/- models. We established that Timp-1 deficiency does not alter the degree of interstitial fibrosis in the murine protein overload or UUO models, possibly due to a genetic redundancy with other genes, such as Timp-2. We established the important fibrogenic role of PAI-1, proving its importance as a fibrosis-promoting gene. Similar results were observed in two diabetic nephropathy models (Stz and db-/-) in combination PAI-1+/+ and PAI-1-/- mice. Our most recent results using PAI-1++/++ mice demonstrated the importance of PAI-1 in renal fibrosis; these mice developed significantly more fibrosis than the wild-type mice. We reported that the *uPAR* gene attenuates the renal fibrosis, possibly mediated by a urokinase-dependent, yet plasminogen-independent, system. We have demonstrated the importance of the gp-130 family of cytokines during the renal inflammatory process prior to the chronic fibrotic stage. Our preliminary results indicated the profibrotic role of gp-130 and its role as an "alternative" receptor for uPA in the absence of uPAR. We have initiated our studies on the IL-6 family of cytokines and the metabolic syndrome, with a particular focus on the role of macrophages during the inflammatory process.

Ted Mala, M.D.

Director
Tribal Relations
Southcentral Foundation
Director
Traditional Healing Clinic
Alaska Native Medical Center
4501 Diplomacy Drive
Anchorage, AK 99508
Telephone: (907) 729-4955
Email: tmala@scf.cc

Research Interests

I am committed to the integration of traditional healing with that of allopathic medicine. In addition, I am involved with research in public health and rural health. I was the first Secretary General of the International Union of Circumpolar Health and am a founder of the Institute for Circumpolar Health Studies at the University of Alaska Anchorage. I work with many Tribes and on reservations throughout the United States and Canada.

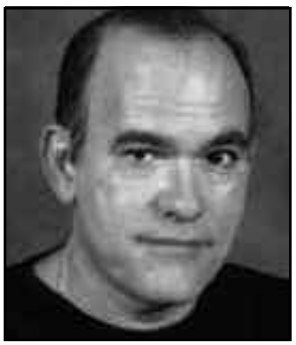
Currently, we are setting up a research center at Southcentral Foundation for Alaska Natives to use to address our own health disparities by preparing our own people to go into research fields at all levels.

Jorge A. Marrero, M.D.

Assistant Professor of Medicine
Director
Multidiciplinary Liver and Tumor Program
University of Michigan
3912 Taubman Center, SPC 5362
Ann Arbor, MI 48109
Telephone: (734) 615-4628
Fax: (734) 936-7392
Email: jmarrero@umich.edu

Research Interests

My main research interest is the early detection of hepatocellular carcinoma. I am studying novel biomarkers and am working toward validating them for clinical use. I am also studying the risk factors for the development of this tumor so that novel biomarkers can be applied to the high-risk groups.



Mario B. Marrero, Ph.D.

Associate Professor
Vascular Biology Center
Medical College of Georgia
1459 Laney Walker Boulevard
Augusta, GA 30912
Telephone: (706) 721-2983
Fax: (706) 721-9799
Email mmarrero@mcg.edu

Research Interests

Research in my laboratory is directed towards elucidating the mechanisms of action of the vasoactive peptide angiotensin II (Ang II), and the growth factors insulin and platelet-derived growth factor (PDGF), and how they regulate proliferation and differentiated functions of cells and tissues. The major focus is on the control of protein kinase cascades because phosphorylation is used repeatedly to regulate protein function.

Caroline B. Marshall, M.D.

Assistant Professor
Division of Nephrology
Department of Medicine
University of Washington School of Medicine
Box 356521
1959 N.E. Pacific Street
Seattle, WA 98195
Telephone: (206) 543-7216
Fax: (206) 685-8661
Email: cmars@u.washington.edu

Research Interests

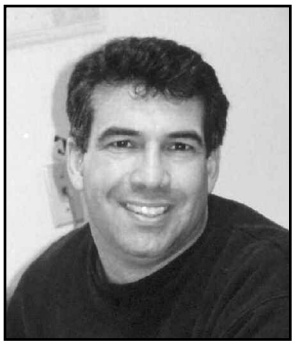
My research interests include cell cycle regulatory proteins and the initiation and progression of focal segmental glomerulosclerosis, and obesity-related glomerulopathy.

Raul Martinez-Zaguilan, Ph.D.

Associate Professor
Department of Physiology
Texas Tech University Health Sciences Center
3601 4th Street, Room 5A169
Lubbock, TX 79430
Telephone: (806) 743-2562
Fax: (806) 743-1512
Email: raul.martinezzaguilan@ttuhsc.edu

Research Interests

My laboratory is interested in understanding the significance of vacuolar type proton ATPases in angiogenesis, diabetes, and cancer. These pumps are typically located in acidic organelles. However, in highly angiogenetic and metastatic cells, they are expressed also at the cell surface. In diabetes and poorly metastaic cells, these pumps are underexpressed at the cell surface. We use fluorescence optical approaches to study the function of these pumps. For the experimental model, we used cell lines and animal models of angiogenesis and cancer.



John Enrique Mata, Ph.D.

Assistant Professor, Senior Research
Department of Biomedical Sciences
College of Veterinary Medicine
Oregon State University
293 Magruder Avenue
Corvalis, OR 97331
Telephone: (541) 737-6874
Email: john.mata@oregonstate.edu

Research Interests

My research interests are centered around the barriers of drug delivery and the ways in which we may circumvent or modulate these barriers. This work includes the use of natural products to prevent the absorption and/or activation of carcinogens and to modulate the absorption and metabolism of drugs. Intestinal health may also rely, in part, on the regulation of transporters within the intestine. My laboratory is interested in the use of natural plant products as both functional inhibitors and as gene expression modulators. Another line of research is the development of unique pH-activated peptides as delivery agents that will respond to the low pH found in tumors and will deliver macromolecules, which are useful in the diagnosis of and in therapeutic approaches for solid tumors.

Eva M. McGhee, Ph.D.

Assistant Professor
Department of Medicine
University of California, San Francisco
P.O. Box 31934
San Francisco, CA 94131
Telephone: (415) 476-3931
Fax: (415) 791-0278
Email: evamc1@yahoo.com

Research Interests

My research has two main research interests. The first is to study E6/E7 proteins of the high-risk human papillomaviruses (HPVs) that are associated with more than 95 percent of anogenital cancers. E6/E7 oncoproteins are consistently expressed in cervical cancer, and continued expression of E6/E7 is necessary for the induction as well as the maintenance of the transformed state. The main thrust of our studies is to determine chromosome instability and DNA repair mechanisms that are associated with E6/E7 protein's influence on cancer. A second interest of the laboratory is to delineate the function of genetic factors involved in diabetes, obesity, and kidney tumors.

Juanita L. Merchant, M.D., Ph.D.

Professor of Internal Medicine and Molecular and Integrative Physiology
Division of Gastroenterology
University of Michigan
Biomedical Science Research Building, Room 2051
109 Zina Pitcher Place
Ann Arbor, MI 48109-2200
Telephone: (734) 647-2944
Fax: (734) 763-4686
Email: merchanj@umich.edu

Research Interests

My interests include transcriptional control of gastrointestinal peptides and gastric and colon cancer, gastrointestinal inflammation, regulation of acid secretion, and regulation of gene expression through chromatin remodeling.

Bernard V. Miller III, M.D.

Research Instructor of Medicine
Physician in Clinical Weight Management
Center for Human Nutrition
Division of Geriatrics and Nutritional Science
Department of Internal Medicine
School of Medicine
Washington University in St. Louis
660 S. Euclid Avenue
St. Louis, MO 63110
Telephone: (314) 629-9023
Email: bvmiller@im.wustl.edu

Research Interests

There are known racial differences with regard to the metabolism of glucose, lipids, and lipoproteins. Most important to body weight is free fatty acid metabolism. Weight loss with a conventional low-fat weight reducing diet in African Americans is more often less successful than in Caucasians; and relative weight reduction is less even after gastric bypass surgery. Implementing weight loss programs in the community that works for obese African Americans is very important to combat the ill health effects of obesity, type 2 diabetes, and coronary heart disease that plague this segment of our community more than Caucasians. Dr. Miller has devoted his research career to studying the physiology of weight loss and the racial metabolic differences that may influence body weight and effective treatment strategies for weight loss in obese African Americans.

Carlos A. Molina, Ph.D.

Assistant Professor
University of Medicine and Dentistry of New Jersey Medical School
65 Bergen Street
Newark, NJ 07107
Telephone: (973) 972-4197
Email: molinaca@umdnj.edu

Research Interests

Researchers have made excellent progress in understanding the molecular culprits of prostate cancers by developing animal model systems in which the expression of oncogene or the tumor suppressor gene is altered in prostate cells. However, until now, to our knowledge nobody has developed an animal model for prostate cancer in which the prostatic malignancies are the cause of hormonal imbalances from the testis, as is the case in most humans.

In our laboratory, a mouse model was engineered to specifically express a protein, termed inducible cAMP early repressor (ICER), in testicular cells that are responsible for hormonal production. ICER is a negative regulator of certain genes involved with hormonal production. These mice develop prostatic lesions and die from renal complications at between 10 and 14 months of age. The physiology and timing of the malignancy appear to be similar to human cases. Currently, the objective of my laboratory is the characterization of this mouse model, with the rationale being that this model resembles more closely human prostatic lesions than in previously developed mouse models and, hence, will aid in the understanding of the hormonal regulation of prostate cells and their conversion to malignant cells. The understanding of hormonal dependency, regulation, and abnormality of prostatic tissue will not only increase our knowledge of prostate cancer but also will pave the way to our understanding of other hormonally dependent cancers, such as breast and ovarian cancers.

Daniel H. Moralejo, D.V.M., Ph.D.

Acting Assistant Professor
Department of Comparative Medicine
School of Medicine
University of Washington
Box 357710
1959 Pacific Street, N.E., HSB K-165
Seattle, WA 98195
Telephone: (206) 221-4587
Fax: (206) 543-3169
Email: moralejo@u.washington.edu

Research Interests

Diabetes and obesity are interacting complex diseases, where the genetic and environmental factors control the development. We are using a different strain of congenic rats with the following natural mutated genes *Cckar, Lepr,* and *Gimap5* to elucidate the molecular mechanism of diabetes, obesity, and diabesity.

Evangeline Motley, Ph.D.

Associate Dean
School of Graduate Studies and Research
Associate Professor
Division of Cardiovascular Biology
Department of Biomedical Science
Meharry Medical College
1005 D.B. Todd Boulevard
Nashville, TN 37208
Telephone: (615) 327-6533
Email: emotley@mmc.edu

Research Interests

My research interests involve signal transduction in the vasculature as it relates to cardiovascular diseases, atherosclerosis, and diabetes. We are currently studying the signaling mechanisms by which angiotensin II and other vascular pathogens, such as reactive oxygen species and lysophosphatidylcholine, lead to vascular insulin resistance. We are also looking at endothelial dysfunction and the role that thrombin plays in nitric oxide production.

Jesús Rivera Nieves, M.D.

Associate Professor
Mucosal Inflammation Program
Division of Gastroenterology
Denver Health Sciences Center
University of Colorado
4200 E. 9th Avenue, BRB 742A, B158
Denver, CO 80206
Telephone: (303) 315-5619
Fax: (303) 315-7180
Email: jesus.rivera-nieves@uchsc.edu

Research Interests

Crohn's disease (CD) is a chronic inflammatory condition of the intestine that affects more than 1 million people in North America. The disease is characterized by dense inflammatory infiltrates that affect any segment of the gastrointestinal tract, but most commonly the small intestine (terminal ileum). Cells of the granulocytic, monocytic, and lymphocytic lineages are active participants in the chronic inflammatory process. Their recruitment from the blood is regulated by adhesion molecules and chemokine receptors on their cell surfaces that interact with molecules expressed on intestinal endothelium and enable them to migrate to the intestine. These adhesive pathways represent attractive therapeutic novel strategies that, if appropriate, may ameliorate inflammation by interfering with leukocyte recruitment. Our recent work has demonstrated that, in chronic inflammation, these recruitment pathways are redundant and that when specific molecules are blocked or genetically absent, other molecules compensate for their deficiency. Using novel mouse models of chronic ileitis that in its pathological features recapitulate many of the characteristics of the human disease, we have been dissecting the specific adhesive pathways that, when targeted, may ameliorate intestinal inflammation. Given the similarities between the disease of our mouse models and that of patients with CD, our studies may provide important future leads to treat this devastating disease.

Keith C. Norris, M.D.

Vice President for Research
Clinical Research Center
Charles R. Drew University of Medicine and Science
11705 Deputy Yamamoto Place, Suite B
Lynwood, CA 90262
Telephone: (323) 249-5702
Email: knorris@ucla.edu

Research Interests

My research interests include the impact and outcomes of chronic kidney disease in African-American and Latino populations, the role of vitamin D and calcium management in chronic kidney disease, the mechanisms and epidemiology of hypertension and cardiovascular risk factors, the systems approach to and self-management of hypertension and diabetes, transcendental meditation in cardiovascular disease, and health disparities.

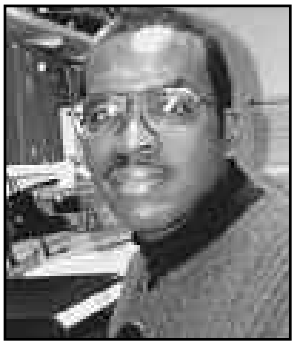
Fiemu Nwariaku, M.D.

Associate Professor and Vice Chair for Research
Department of Surgery
University of Texas Southwestern Medical Center
5323 Harry Hines Boulevard, MS 9156
Dallas, TX 75230-9156
Telephone: (214) 648-9968
Fax: (214) 648-4784
Email: fiemu.nwariaku@utsouthwestern.edu

Research Interests

Our research program currently examines the mechanisms that regulate endothelial cell-cell and cell-matrix adhesion during inflammation and angiogenesis. We have also identified important intracellular (endothelial cell) mechanisms that regulate endothelial proliferation and migration during angiogenesis. We are specifically interested in the role of intracellular oxidant generation and the effect of such oxidants on adherens junction proteins.

Secondly, we continue to examine mechanisms by which metastatic tumor cells detach from their primary location, circulate, and avoid death before implanting in a new location as a metastasis. My overall career goal is to develop a high-quality program in clinical translational research.



Roland A. Owens, Ph.D.

Chief, Molecular Biology Section
Laboratory of Molecular and Cellular Biology
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Building 8, Room 307
8 Center Drive, MSC 0840
Bethesda, MD 20892-0840
Telephone: (301) 496-3359
Fax: (301) 402-0053
Email: ro6n@nih.gov

Research Interests

Adeno-associated virus type 2 (AAV2) is a naturally defective human parvovirus that is being developed as a vector for gene therapies to treat diabetes and many other diseases. AAV2 requires co-infection with a helper virus, usually an adenovirus or herpesvirus, for efficient productive infection. It is, therefore, also a good model system for the study of virus-virus interactions. In the absence of a helper virus, AAV2 DNA integrates into the host genome with a strong preference (70%-90% of the time) for a 2-4 kb region of human chromosome 19 (the only example of site-specific integration in a mammalian virus system).

The long-range goals of my group are to understand AAV2's life cycle, with a special emphasis on the roles of the viral Rep proteins, and to use this understanding to exploit AAV as a gene therapy vector for chronic diseases, such as diabetes. Our recent work has included characterization of AAV2-chromosome 19 integration junctions and the testing of AAV2-based gene delivery vectors in pancreatic islets.

Orhan K. Öz, M.D., Ph.D.

Associate Professor
Department of Radiology
University of Texas Southwestern Medical Center
5323 Harry Hines Boulevard, MS 9153
Dallas, TX 75390-9153
Telephone: (214) 648-2881
Fax: (214) 648-2727
Email: orhan.oz@utsouthwestern.edu

Research Interests

My research interests include the regulation of bone mass and metabolism by estrogens, the regulation of calcium handling in the kidney by estrogens, and the application of *in vivo* imaging to study the expression and function of specific molecules and disease pathogenesis.

Henri K. Parson, Ph.D.

Director, Microvascular Biology
Strelitz Diabetes Institutes
855 W. Brambleton Avenue
Norfolk, VA 23510
Telephone: (757) 446-7976
Fax: (757) 446-5868
Email: parsonhk@evms.edu

Research Interests

My research interests are to make advances in diabetic neuropathy research by understanding the mechanistic defect in microvascualr dysfunction. We have made great strides in understanding the mechanisms involved in diabetic neuropathy and will continue to make advances by using innovative techniques and compounds to elucidate the specific physiologic pathways involved in the disordered microcirculatory system in diabetes. Continuous efforts to correlate microvascular dysfunction with the metabolic syndrome excersise, and other disorders will help to develop novel treatments and behaviors to stop or slow the progression of diabetic neuropathy. In addition, continous efforts to incorporate studies that investigate cultural and socioeconomic disparities in African Americans will illuminate the causes of increased diabetic ulcerations and amputations in minority populations.

Rocio I. Pereira, M.D.

Assistant Professor of Medicine
Division of Endocrinology
University of Colorado at Denver and
Health Sciences Center
MS-8106
P.O. Box 6511
Aurora, CO 80045
Telephone: (303) 724-3032
Fax: (303) 724-3031
Email: rocio.pereira@uchsc.edu

Research Interests

My research interests include adipose tissue dysfunction in obesity and insulin resistance. I am currently working on a human study looking at the regulation of the production and secretion of adiponectin as it relates to insulin signaling in the adipocyte.

Jon D. Piganelli, Ph.D.

Assistant Professor
Diabetes Institute
Rangos Research Center, Room 5102 A
Department of Pediatrics
Children's Hospital of Pittsburgh
University of Pittsburgh
3460 Fifth Avenue
Pittsburgh, PA 15213
Telephone: (412) 692-7498
Fax: (412) 692-8131
Email: jdp51@pitt.edu

Research Interests

My laboratory studies T cell-mediated effector mechanisms of β-cell destruction in type 1 diabetes. Type 1 diabetes is an autoimmune process whereby T cells recognize pancreatic-cell antigens and initiate a leukocyte infiltrate that produces proinflammatory cytokines and reactive oxygen species (ROS), ultimately causing β-cell destruction. β-cells have a reduced capacity to scavenge ROS and are, therefore, very sensitive to their actions. My laboratory focuses on understanding how the generation of ROS intermediates in chronic inflammation leads to pathological states in inflammatory-mediated autoimmune disease. We are also interested in how the immune system uses the generation of ROS during immune activation to synergize the innate and adaptive immune response. Understanding how ROS facilitate the activation of the immune response allows us to exploit these pathways through therapeutic intervention.

Rosita Rodriguez Proteau, Ph.D.

Associate Professor of Pharmaceutics and Toxicology
College of Pharmacy
Oregon State University
203 Pharmacy Building
Corvallis, OR 97331-3507
Telephone: (541) 737-5786
Fax: (541) 737-3999
Email: rosita.proteau@oregonstate.edu

Research Interests

My research interests include the following three areas of study:

1. *Drug Metabolism by Intestinal Flavin Monooxygenases (FMOs):* The characterization of intestinal FMOs in human duodenum, jejunum, ileum, and colon and in continuous cell lines from the intestinal and colonic origin is being investigated.
2. *Drug-Dietary Flavonoid Intestinal Absorption Interaction:* The exposure of humans to dietary flavonoids, which can influence drug absorption by altering the P-glycoprotein (Pgp)-dependent or Pgp-independent transport mechanisms (drug-dietary interactions), is being studied. Also, because the flavonoids generally occur in plants, such as the glycosylated derivatives, studies will also be conducted with glycosylated flavonoids on Pgp-dependent and Pgp-independent transport.
3. *Genetic Determinants of Intestinal Drug Absorption:* Because the expression of variant alleles associated with drug absorption and metabolism is often correlated to ethnicity, studies evaluating the expression of variant alleles associated with drug absorption and metabolism on intestinal transport and metabolic activity are being investigated, as well as gender differences on transport and metabolism.

F. Bridgett Rahim-Williams, Ph.D., M.P.H., M.A.

Research Assistant Professor
Department of Community Dentistry and Behavioral Science
Pepper Scholar in Aging
Department of Aging and Geriatric Research
University of Florida
P.O. Box 103628
Gainesville, FL 32610-3628
Telephone: (352) 273-5980
Fax: (352) 273-5985
Email: brahimwilliams@dental.ufl.edu

Research Interests

My research interests include: ethnic identity and pain sensitivity; ethnic differences in pain sensitivity and diabetes self-management; chronic disease self-management; minority health disparities and public health policy; and cultural competence in health care service delivery and applied public health practice.

My activities focus on ethnicity and pain and an understanding of the mechanisms of ethnic differences in pain responses by investigating perceptual and physiological responses to experimental pain stimuli in African-Americans, Hispanics, and non-Hispanic whites.

María A. Ramos-Román, M.D.

Assistant Professor
Division of Endocrinology and Diabetes
Department of Internal Medicine
University of Texas Southwestern Medical Center, Dallas
5323 Harry Hines Boulevard
Dallas, TX 75390-8858
Telephone: (214) 648-2375
Fax: (214) 648-4854
Email: maria.ramos-roman@utsouthwestern.edu

Research Interests

My interest focuses on the mechanisms of disease in ketosis-prone atypical diabetes mellitus.

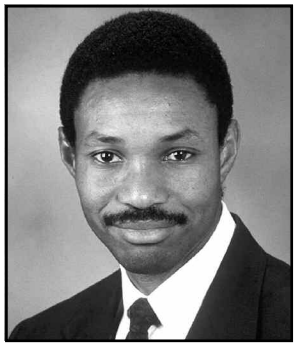
Titus Reaves, Ph.D.

Assistant Professor
Department of Cell Biology and Anatomy
Medical University of South Carolina
Basic Science Building, Room 619
173 Ashley Avenue
Charleston, SC 29412
Telephone: (843) 792-9372
Fax: (843) 792-0664
Email: reaves@musc.edu

Research Interests

My research interests involve epithelial cell biology and neutrophil (PMN) migration. PMN migration is the immune system's first line of defense against infection, serving as a major component of the acute innate inflammatory response. When an inflammatory response is initiated at the epithelium, PMN must exit the bloodstream and traverse the endothelium, lamina propria, and tight junction to finally reach the lumenal side of the epithelium. PMN transepithelial migration is a multi-step receptor-mediated process and common in inflammatory diseases in several systems. In the gastrointestinal (GI) system, this primarily consists of Crohn's disease and ulcerative colitis. These are collectively referred to as inflammatory bowel diseases.

The pathology reveals large numbers of PMN located at the lumenal epithelial surface, presumably migrating into the intestinal lumen. These activated migrating PMN release proteases cause extensive damage to the surrounding tissue. Thus, dysregulated PMN transmigration likely plays a central causative role in the disease process. Therefore, we investigate the protein receptors that modulate neutrophil transmigration into the lumen of the gut. Currently, we have a particular focus on toll-like receptors and their interaction with DAP-associated activating proteins and how this interaction leads to PMN activation and migration. In addition, the epithelium also plays a role in efficient PMN migration into the intestinal lumen. Studies have shown that when exposed to inflammatory cytokines, the GI epithelium becomes more immunogenic, and PMN migration through this epithelium may be altered. Consequently, the primary focus of my research is to understand the molecular events that regulate PMN migration and the process of how the epithelium interacts with PMN to facilitate such migration.



Lewis R. Roberts, Ph.D.

Assistant Professor of Medicine
Director
Hepatobiliary Neoplasia Clinic
Division of Gastroenterology and Hepatology
Mayo Clinic
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 538-4877
Fax: (507) 284-0762
Email: roberts.lewis@mayo.edu

Research Interests

Research in my laboratory is focused on the molecular pathogenesis of hepatocellular carcinoma. My current projects include the function of WW domain containing oxidoreductase, the FRA16D common fragile site gene, in liver carcinogenesis; cloning and characterization of genes at the sites of hepatitis B virus integration in hepatitis B virus-induced liver cancers; and modulation of heparin-binding growth factor signaling in hepatocellular carcinoma by hSulf1 sulfatase.

Rudolph A. Rodriguez, M.D.

Associate Professor of Medicine
Division of Nephrology
Primary and Specialty Medicine Service Line
Director
VA Puget Sound Medical Center
Nephrology and Renal Dialysis Unit
U.S. Department of Veterans Affairs
Building 100, Room 5B113
1660 S. Columbian Way
Seattle, WA 98108
Telephone: (206) 277-3282
Fax: (206) 764-2022
Email: rudy.rodriguez@va.gov

Research interests

Two of my research interests include the interaction of HIV and kidney disease, and the interaction of race, kidney disease outcomes, and geography. For unclear reasons, HIV associated nephropathy is seen almost exclusively in African Americans and the outcomes of these HIV Infected patients remains poor. We hope to characterize this population better from a standpoint of risk factors, delivery of health services, and outcomes. My second interest is to better characterize the renal health services provided in racially segregated areas. Despite similar insurance coverage, dialysis patients living in racially segregated areas seem to have different rates of transplantation and the health services provided seems to differ in comparison to non-racially segregated areas.

Jose R. Romero, Ph.D.

Assistant Professor of Medicine
Associate Physiologist
Division of Endocrinology/Hypertension
Brigham and Women's Hospital
Harvard Medical School
1723 Washington Street
Boston, MA 02115
Telephone: (617) 732-4948
Fax: (617) 732-5764
Email: jrromero@rics.bwh.harvard.edu

Research Interests

The main research goal of my laboratory is to define the signal transduction pathways involved with the regulation of cation transport mechanisms across the cell membrane as they affect human cardiovascular disease. The central hypothesis for our research is that cellular cation metabolism plays a major role in the pathophysiology of cardiovascular disease by regulating the production of reactive oxygen species, nitric oxide, and cellular volume. To this end, we are currently studying the role of cellular magnesium homeostasis in the pathophysiology of diabetic complications and the dysregulation of the renin-angiotensin-aldosterone system on the *in vivo* regulation of K^+ and Mg^{2+} transporters. Furthermore, because of our expertise in cation metabolism in erythrocyte volume regulation and its role in the pathophysiology of sickle cell disease, we maintain a productive collaboration with Dr. Ronald Nagel from the Montefiore Medical Center, with whom we are studying the *in vivo* role of nitric oxide on the Ca^{2+}-activated K^+ channel and the K^+/Cl^- cotransporter in mice and humans.

Yvonne Romero, M.D.

Assistant Professor
Division of Gastroenterology and Hepatology
Department of Epidemiology
Chair
Coalition for Diversity
Office of Faculty Development
Department of Internal Medicine
Mayo Clinic
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 284-2467
Fax: (507) 266-9081
Email: romero.yvonne@mayo.edu

Research Interests

My research interests include Barrett's esophagus, esophagus cancer, and genetic epidemiology.

Francisco J. Rosales, M.D., Sc.D.

Mead Johnson Nutritionals
2400 W. Lloyd Expressway
Evansville, IN 47721
Telephone: (812) 429-8832
Email: francisco.rosales@bmf.com

Research Interests

I have five primary research interests: (1) effects of the acute phase response (inflammation) on the dynamics and utilization of micronutrients—vitamins A and E and the minerals iron, zinc, and selenium; (2) development of animal models of acute and chronic inflammation using endotoxin or interleukin-6; (3) evaluation of nutritional indicators of vitamin A status in human populations; (4) development and evaluation of biomarkers of inflammation; and (5) implementation and evaluation of community and clinical trials of micronutrient supplements.

Sylvia E. Rosas, M.D.

Assistant Professor
Renal-Electrolyte and Hypertension Division
University of Pennsylvania School of Medicine
1st Floor Founders, Room 113
3400 Spruce Street
Philadelphia, PA 19104
Telephone: (215) 615-3446
Fax: (215) 615-3447
Email: sylvia.rosas@uphs.upenn.edu

Research Interests

My primary research focus is cardiovascular disease in patients with chronic kidney disease or on renal replacement therapy (dialysis or transplantation), including novel risk factors (e.g., homocysteine, Lp(a), C-reactive protein) and noninvasive cardiovascular procedures to identify high-risk individuals. I have also contributed to research on erectile dysfunction, another frequent complication in dialysis subjects.

Guadalupe A. Rupert, R.N.

Clinical Instructor
Department of Pediatric Endocrinology
Today Study Clinical Coordinator
University of Texas Health Science Center, San Antonio
1313 Guadalupe Street, Suite 205
San Antonio, TX 78207
Telephone: (210) 562-5849
Fax: (210) 562-5232
Email: rupertg@uthscsa.edu

Research Interests

My research interests include diabetes research in children with type 1 and type 2 diabetes mellitus and educational tools for minority children and families to educate them about disease management and patient care.

Irma H. Russo, M.D.

Chief
Molecular Endocrinology Section
Breast Cancer Research Laboratory
Fox Chase Cancer Center
333 Coppman Avenue
Philadelphia, PA 19111
Telephone: (215) 728-4781
Email: i_russo@fccc.edu

Research Interests

Primary prevention of breast cancer is the main goal of our laboratory. To accomplish this objective, we have focused on two main aspects of carcinogenesis: (1) the mechanisms that determine a higher susceptibility of the undifferentiated breast to be transformed by known or still-unknown carcinogens; and (2) the induction of differentiation as a physiological mechanism for inhibiting cancer initiation and progression. We have capitalized on the known fact that complete differentiation of the breast induced by the hormones of pregnancy reduces the lifetime risk of breast cancer and on the identification of a "window" of high susceptibility of the breast to be transformed by a carcinogen. This "window," which extends from the initiation of ovarian function to the first pregnancy, can be modified by endogenous influences or by environmental exposures during childhood and puberty. Thus, primary prevention of breast cancer requires the development of novel strategies based on an understanding of the normal physiological mechanisms that control breast development in their interaction with specific environmental exposures that could disrupt critical endocrinological pathways, leading to an increase in susceptibility or refractoriness to cancer initiation.

Omaima Sabek, Ph.D.

Assistant Professor
Department of Acute and Chronic Care
University of Tennessee
920 Madison Avenue, Suite 501
Memphis, TN 38136
Telephone: (901) 448-3604
Email: osabek@utmem.edu

Research Interests

Omaima Sabek, Ph.D.

Research Interests

My research interests encompass islet, acute pancreatitis, and allograft rejection studies. 1) Our center has isolated human islets from more than 350 cadaver donors to improve human islet recovery, engraftment, and functioning, with an emphasis on donor variables, isolation methods, and islet preservation. We have developed a culture media that can maintain human islet in culture for up to 2 months without compromising islet viability. We also have identified a gene expression profile that can predict islet function, with an interest in improving islet vascularization (angiogenesis) and suppressing host-specific and nonspecific immune response. 2) Regarding acute pancreatitis, we have studied the systemic manifestations of acute pancreatitis, particularly the effects of neutralization of TNF- with monoclonal antibody on the morbidity and mortality associated with acute pancreatitis. 3) Experiments to monitor allograft rejection in renal, pancreas, and islet transplant recipients have identified HLA-DRA mRNA upregulation as a marker for renal acute rejection; in addition, we have been the first to report the possibilities of using a noninvasive method to monitor the increase in T-cell activation markers gene expression as a marker of pancreas allograft rejection.

Zoila Vichot Sánchez, Ph.D.

Assistant Professor
College of Nursing
HRSA Minority Faculty Fellow
University of Tennessee Health Science Center
920 Madison Avenue, Suite 507N
Memphis, TN 38163
Telephone: (901) 448-1939
Email: zsanchez@utmem.edu

Research Interests

My overall program of research focuses on improving health outcomes in diabetes and pre-diabetes Hispanics residing in Tennessee using translational participatory research. The emphasis is on developing and implementing diabetes culturally sensitive family-centered interventions and designing culturally centered educational courses for health care providers and community lay persons.

Darleen Sandoval, Ph.D.

Research Assistant Professor
University of Cincinnati
Building E, Room 317
2170 E. Galbraith Road
Cincinnati, OH 45237
Telephone: (513) 558-1601
Fax: (513) 558-8990
Email: darleen.sandoval@uc.edu

Research Interests

I am currently studying the impact of exercise on subsequent responses to hypoglycemia in type 1 diabetes mellitus patients. I also am using an animal model to study the mechanisms for autonomic, neuroendocrine, and metabolic failure with repeated hypoglycemia.

Virginia Sarapura, M.D.

Associate Professor
Division of Endocrinology
Department of Medicine
University of Colorado Health Sciences Center
P.O. Box 6511, MS-8106
Aurora, CO 80045
Telephone: (303) 724-3931
Fax: (303) 724-3920
Email: virginia.sarapura@uchsc.edu

Research Interests

My research has focused on several areas. As a trainee, I learned the basic tools of molecular biology research and began to investigate the mechanism of expression of the subunit of the pituitary glycoprotein hormones under the guidance of Dr. E. Chester Ridgway and his Ph.D. associates, Drs. William Wood and David Gordon. I collaborated in other projects within the laboratory, including the regulation of thyrotrope cell growth by thyroid hormone. I have also explored other areas of investigation, including the expression of the glycoprotein hormone-subunit gene in solid tumors, specifically lung cancer.

Jamil Bennette Scott

Ph.D. Candidate
Biological and Biomedical Sciences Program
Division of Medical Sciences
Harvard Medical School
Molecular and Vascular Medicine Unit
Beth Israel Deaconess Medical Center
330 Brookline Avenue
Boston, MA 02215
Telephone: (617) 667-0578
Fax: (617) 667-2913
Email: jamil_scott@student.hms.harvard.edu

Research Interests

My broad area of interest is developmental biology. Specifically, I study organogenesis, the process by which organ primordia form during embryo development. My thesis focuses on the development of the indifferent gonad in the chicken embryo, examining the tissue interactions and molecular signals required to give rise to this specific organ primordium. In particular, I am studying the requirement of the mesonephros, the second primordial kidney, in the specification of the indifferent gonad.

Abdirashid Shire, Ph.D.

Research Fellow
Mayo Clinic
Guggenheim Building
200 First Street, S.W.
Rochester, MN 55905
Telephone: (507) 284-2845
Fax: (507) 284-0762
Email: shire.abdirashid@mayo.edu

Research Interests

My interests include DNA hypermethylation. This epigenetic event that inactivates gene expression through addition of a methyl group at the 5' carbon position of the cytosine base is catalyzed by DNA methyltransferases (DNMTs). In cancer, promoter hypermethylation is an important mechanism for transcriptional silencing of tumor suppressor genes and occurs during the early stages of cancer. Additionally, chromatin modifications, such as histone deacetylation, affect local chromatin structure and, together with DNA hypermethylation, contribute to inactivation of gene expression. Therefore, I am interested in identifying novel epigenetic targets that may potentially be useful markers for cholangiocarcinoma.

Additionally, I am interested in the Sulfatase 1 (SULF1) gene, which is downregulated in a significant proportion of human hepatocellular carcinoma (HCC) tissues and HCC cell lines. SULF1 is a plasma membrane associated sulfatase, and the HCC cell lines lacking SULF1 expression are more resistant to the induction of apoptosis. Conversely, forced expression of SULF1 significantly decreases cell growth and increases the sensitivity of HCC cell lines to pro-apoptotic agents. SULF1 therefore may either inactivate a cell survival pathway or activate a cell death pathway. Cell survival signaling by a number of growth factors, particularly fibroblast growth factor (FGF), is dependent on the sulfation state of cell surface heparan sulfate glycosaminoglycans (HSGAGs). Therefore, we are working on a methodology for the quantitative characterization of HSGAGs purified from HC using mass spectrometry techniques. This will eventually allow us to carefully examine the effects of SULF1 on the structure of cell surface HSGAGs from cancer cell lines.

Charmaine Stewart, M.D.

Assistant Professor
Division of Gastroenterology and Hepatology
Mayo Clinic
200 First Street, S.W., 19E
Rochester, MN 55905
Telephone: (507) 284-3917
Fax: (507) 284-0538
Email: stewart.charmaine@mayo.edu

Research Interests

My research interests include the pathophysiology of cognitive impairment in hepatic encephalopathy.

Kristina D. (Munoz-Flores) Thiagarajan, Ph.D.

Program Manager
Oak Ridge National Laboratory
P.O. Box 2008, MS 6253
Oak Ridge, TN 37831-6253
Telephone: (865) 241-5214
Fax: (865) 574-9869
Email: thiagarajakd@ornl.gov

Research Interests

My research interests include the study of molecular immunogenetics in women with autoimmune diseases and/or who have received organ transplants.

Bolaji Thomas, Ph.D.

Research Associate
Department of Medicine
University of Pennsylvania
502 Hamilton Walk
Philadelphia, PA 19104
Telephone: (215) 823-5800, ext. 5054
Email: bolaji@mail.med.upenn.edu

Research Interests

My interests concern the population genetics analysis of complement regulatory genes in sickle cell disease. Their role in complement activation, disease pathogenesis, and severe anemia during crisis is a major focus of interest. An additional interest is to understand the pathogenesis of severe malaria infection alongside intra-ethnic and inter-ethnic genomic variability in the *CR1* gene and the process of how this affects disease pathogenesis and outcome.

Leah Tolosa, Ph.D.

Assistant Director
Center for Advanced Sensor Technology
Technology/Research Center
University of Maryland, Baltimore County
5200 Westland Boulevard
Baltimore, MD 21227
Telephone: (410) 455-3432
Email: leah@umbc.edu

Research Interests

My research interests include the development of novel protein-based biosensors for biomedicine and biotechnology. Specifically, we are developing optical sensors from the ATP-binding cassette transporter family of proteins. These proteins are responsible for the influx and efflux of nutrients and toxins through the cell membrane. Our group employs a multidisciplinary approach in addressing all aspects of transforming these proteins into useable biosensors, including instrumentation, immobilization, and the synthesis of chemical probes.

Kimberly P. Truesdale, Ph.D.

Research Assistant Professor
Department of Nutrition
University of North Carolina, Chapel Hill
CB #7461 McGavran Greenberg Hall
Chapel Hill, NC 27599
Telephone: (919) 966-2327
Email: kim_truesdale@unc.edu

Research Interests

I am an epidemiologist in the Department of Nutrition at the University of North Carolina at Chapel Hill. My research focuses on examining the causes and consequences of obesity and energy imbalance. I have conducted obesity-related data analysis using data from four large longitudinal datasets: the Atherosclerosis Risk in Communities (ARIC) Study, the Coronary Artery Risk Development in Young Adults (CARDIA) Study, the People's Republic of China (PRC)Study, and the Aerobics Center Longitudinal Study (ACLS). I have experience with anthropometric, diet and physical activity data, as well as data examining several aspects of adiposity. I am currently investigating the associations between obesity and weight change and cardiovascular disease, diabetes, depression, hospitalizations, and all-cause mortality. I am particularly interested in health disparities research.

Chinweike Ukomadu, M.D., Ph.D.

Attending Physician
Brigham and Women's Hospital
Instructor in Medicine
Harvard Medical School
75 Francis Street
Boston, MA 02115
Telephone: (617) 732-6287
Email: cukomadu@partners.org

Research Interests

My studies focus on how the cell cycle regulates liver cell proliferation. I am interested in understanding how quiescent hepatocytes re-enter and traverse the cell cycle. We have two areas of study in the laboratory. (1) We are using large-scale siRNA screens to identify factors essential for hepatocyte exit from quiescence (G0-G1 transition). We have identified a novel cyclin and its associated kinase activity that is important during this phase of liver regeneration. (2) We also have developed a partial hepatectomy-induced liver regeneration model in zebra fish. We are performing studies to identify whether the proliferative cells are progenitor cells or de-differentiated hepatocytes. Using this model we have identified a cell-cycle regulated protein, UHRF1, that is essential for liver regeneration. We are interested in identifying the molecular interactors of this protein and examining its role in liver development, regeneration, and hepatocarcinogenesis in both zebra fish and mamalian systems.

Ileana Vargas, M.D.

Assistant Clinical Professor of Pediatrics
Pediatric Endocrinologist
Naomi Berrie Diabetes Center
Columbia University
1150 St. Nicholas Avenue
New York, NY 10021
Telephone: (212) 851-5494
Email: iv29@columbia.edu

Research Interests

I am currently interested in intervention and prevention strategies with respect to pediatric obesity and type 2 diabetes in youth.

Asikiya Walcourt, Ph.D.

Assistant Professor and Research Scientist
Center for Sickle Cell Disease
Department of Physiology and Biophysics
Howard University
Seely G. Mudd Building, Room 404
520 W Street, N.W.
Washington, DC 20059
Telephone: (202) 806-7793
Email: awalcourt@howard.edu

Research Interests

My major research interest is to understand the role of hemoglobin S and other variant hemoglobins in malaria chemotherapy. My research focus has been to elucidate the mechanism of action of antimalarials, such as artemisinin and new lipophilic iron chelators in sickle cell malaria. Other areas of interest include neurophysiology, electrophysiology, the patch clamp, neurodegenerative diseases, neurogenetics, neuropharmacology, and ion channels.

Karol E. Watson, M.D., Ph.D.

Assistant Professor of Medicine/Cardiology
Co-Director
UCLA Program in Preventive Cardiology
David Geffen School of Medicine
University of California, Los Angeles
Los Angeles, CA 90095
Telephone: (310) 794-7121
Fax: (310) 206-9133
Email: kwatson@mednet.ucla.edu

Research Interests

My research interests are: vascular biology, cardiovascular epidemiology, and lipid metabolism.

Bessie A. Young, M.D.

Assistant Professor
Department of Medicine
University of Washington
VA Puget Sound Health Care System
1660 S. Columbian Way, 152-E
Seattle, WA 98108
Telephone: (206) 277-3586
Fax: (206) 764-2563
Email: youngb@u.washington.edu

Research Interests

My research involves the investigation of racial and ethnic differences in kidney disease presentation and progression, specifically diabetic nephropathy epidemiology, disease progression, and disease management. We are currently conducting research on racial and ethnic differences in diabetic nephropathy, diabetic end-stage renal disease, and complications among those with diabetic nephropathy in a health care setting of comparable access to care and treatment.

Eric P. Zorrilla, Ph.D.

Assistant Professor
Committee on the Neurobiology of Addictive Disorders
Harold L. Dorris Neurological Research Institute
The Scripps Research Institute
Maildrop: SP30-2400
10550 N. Torrey Pines Road
La Jolla, CA 92037
Telephone: (858) 784-7416
Fax: (858) 784-7405
Email: ezorrilla@scripps.edu

Research Interests

My research interests focus on understanding motivated behavior, emphasizing brain reward and stress neurocircuits that control food intake, drug or ethanol addiction, and behavioral responses to stress.

María Luisa Zúñiga, Ph.D.

Assistant Professor
Division of International Health and Cross-Cultural Medicine
School of Medicine
University of California, San Diego
9500 Gilman Drive, MC0927
La Jolla, CA 92093
Telephone: (619) 681-0689
Email: mzuniga@ucsd.edu

Research Interests

My research focus concerns improving the health of the Latino populations living with HIV/AIDS in the U.S.-Mexico border region. I apply the principles of community-based participatory research to partner with community agencies in my research projects.

Specific research topics on which I work include: HIV/AIDS stigma; health care access issues faced by persons newly immigrated to the United States; and health issues of persons living in the U.S.-Mexico border region, including binational access to health care for Mexican-origin persons living with HIV. In 2005, I received a 5-year Scientist Development Award for New Minority Faculty from the National Institute of Mental Health (K01 MH072353). I will study the barriers to recruiting persons living with HIV/AIDS into clinical trials.

My work also includes a study of barriers and facilitators to clinical trial recruitment in HIV-positive Latinos in the U.S.-Mexico border region, a prevention intervention study with HIV-positive persons in the University of California, San Diego Owen Clinic, and the completion of a 5-year descriptive study of health care access for Latinos living with HIV in the U.S.-Mexico border region.

National Institute of Diabetes and Digestive and Kidney Diseases
Network of Minority Research Investigators Workshop and Annual Meeting

Bethesda North Marriott Hotel and Conference Center
Bethesda, Maryland
April 19–20, 2007

THURSDAY APRIL 19, 2007

Introduction and Welcoming Remarks

Lawrence Agodoa, M.D., Director, Office of Minority Health Research Coordination (OMHRC), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH), Bethesda, MD

Dr. Lawrence Agodoa welcomed participants to the annual meeting of the Network of Minority Research Investigators (NMRI). He acknowledged and thanked all those who helped make the workshop possible. He introduced Dr. Griffin Rodgers, newly appointed Director of NIDDK.

Welcoming Remarks

Griffin Rodgers, M.D., M.A.C.P., Director, NIDDK, NIH

Dr. Rodgers welcomed participants and expressed how proud he is of the NMRI, and the excellent program developed for this workshop. He provided an overview of NIDDK and research opportunities that exist in a time of reduced resources. The mission of NIDDK is broad because of the wide range of activities, from basic research to clinical trials, and the number of conditions and diseases covered under the mission. NIDDK is working from the perspective of integrating research from "bench to bedside." This idea may be exemplified by looking at the role of obesity in the etiology of type 2 diabetes, which in turn leads to increased risk for kidney disease. The trend for obesity is increasing in the American public and may be a major contributor to many chronic diseases. Understanding the molecular basis of obesity, and other factors such as gut microflora, may help reduce the prevalence of diabetes in America. If diabetes rates continue to increase, there may be as many as 50 million Americans with type 2 diabetes by the year 2050, compared to the current 21 million.

What has been encouraging is research that has shown progress against many diseases through prevention, diagnosis, and treatment. NIDDK-funded clinical trials, such as the Diabetes Prevention Program (DPP) and Diabetes Prevention Program Outcomes Study (DPPOS) have shown the effectiveness of lifestyle changes and treatment with metformin in delaying the onset of type 2 diabetes. Studies of glucose monitoring have shown promising results for maintaining beneficial glucose levels. Imaging studies of beta cell function are allowing researchers to make better quantitative assessments of the effect of prevention and treatment regimens. Genetic studies of a possible genetic phenotype for diabetes may lead to individual or customized treatment. Each of these areas of research requires support when allocating resources from the Institute.

Recent data show that end-stage renal disease (ESRD) rates are increasing more slowly, in contrast to the dramatic increases in incidence seen in the past decade. Although this is good news, an analysis of the data indicate that certain population groups, such as African Americans, are seeing higher rates of increase. These data exemplify the need to increase research in areas that affect minority or subpopulations.

Dr. Rodgers concluded his presentation by describing two education programs—the National Diabetes Education Program (NDEP) and the National Kidney Disease Education Program (NKDEP)—that NIDDK supports to disseminate and translate research findings to the community. The NIDDK also has mentoring programs, like the NMRI, to bring new investigators into research areas supported by the Institute.

Questions

A participant asked Dr. Rodgers to comment on the NIDDK budget. Dr. Rodgers responded that he is cautiously optimistic after participating in the recent House and Senate budget hearings. There has been a slight increase in funding for Fiscal Year 2007, which allowed NIDDK to maintain the payline, and there is optimism about the level of funding for Fiscal Year 2008. He asked participants to do their part—to talk to their policymakers or work with voluntary health organizations—to engage them on funding issues and the importance of NIH research. Another participant asked if Dr. Rodgers could describe metrics being used for determining the level of NIDDK support for NMRI. Dr. Rodgers said that NMRI meets the mission of NIDDK, and with the need for more diversity among our investigators, there will be a discussion of expanding NMRI. Metrics such as the number of NMRI participants qualifying for grants and receiving promotions within their institutions are important metrics used to gauge NMRI success.

A few participants asked if NIDDK has programs to fund new investigators, such as adding points to the application. Dr. Rodgers said that there are programs and there has been talk of adding more incentives for those applying for funding. Dr. Judith Podskalny explained some of the definitions used for "new investigator." To be a new investigator, the person can not have had an R01, but could have had fellowships, career awards, or many other types of awards.

To a question of whether women and/or minorities get special consideration by NIH in the awarding of grants or other funding, Dr. Rodgers commented that the Institute has a lot of flexibility to encourage awards to groups to foster diversity, although there is no fixed number of awards that go to one group or another.

A participant asked if there are programs for immigrant researchers. Dr. Podskalny addressed this issue by explaining that the new K99/R00 award can be given to immigrants or citizens, although the investigator receiving the award must be on a tenure track at an academic institution. Any R-award is available under this program. Dr. Rodgers added that the NIDDK website is being updated to make funding information more clear. Dr. Podskalny described the Computer Retrieval of Information on Scientific Projects (CRISP) database as an additional resource for information for selecting mentors. The CRISP database may be viewed at http://crisp.cit.nih.gov.

A participant asked if grant application scores are available for those who submitted unsuccessful applications. Dr. Rodgers explained that the Center for Scientific Review (CSR) is responsible for doing that, and one concern that has been raised is that unscored applicants do not get adequate feedback. As for bridge funding, Dr. Rodgers said that the NIH is looking at investigators with grants up for renewal for the first time. This appears to be a critical time for investigators to drop out of the submission process. The bridge award is being targeted, in part, at these investigators. It is a 1-year award, and the nominations come from program staff within the institutes involved based upon criteria set forth by the Office of Extramural Research.

Keynote Address on Leadership

Honorable Louis Sullivan, M.D., Past Secretary of the U.S. Department of Health and Human Services

Dr. Sullivan thanked Dr. Agodoa for the opportunity to address the NMRI and said that it is an important program. He commented that Dr. Rodgers is the third African American to hold the position of Director at an NIH institute. The numbers of minority health professionals in many fields is increasing, but further progress is needed. This can be enhanced by developing leadership skills among minority researchers to have a maximum impact in the organizations represented in the workshop. The minority population in the United States represents approximately 25 percent of the population. Recent data show that among health professionals, only 6 percent of physicians, 9 percent of nurses, and 5 percent of dentists belong to a minority population. This is a disconnect with the number of minorities in the overall population. Dr. Sullivan asked participants to work to change this situation by working to bring more minority members of the population into the health professions.

Leadership characteristics required to achieve results include:

- **Vision**—The ability to see a new reality, a solution to a problem, and to dream of a better tomorrow.
- **Courage**—The ability to work to make your vision come true, to continue in the face of skepticism, criticism, and ridicule.
- **Focus**—The ability to clearly define your goals.
- **Determination**—To not be deterred by roadblocks or set backs; always finding a way around.
- **Persistence/Perseverance**—The ability to stick to your beliefs in the face of roadblocks.
- **Honesty/Integrity**—Your word is your bond; you say what you think; this is essential to develop people's trust.
- **Team Building**—Great goals require collaboration; the ability to sell your idea to others; the ability to recognize and utilize talents in others.
- **Commitment to Excellence**—Preparing thoroughly and thoughtfully; getting all information possible; planning well and then executing.
- **Ability to Communicate**—Being able to describe your vision and its compelling logic.
- **Ability to Motivate**—Inspiring others to follow your lead.
- **Ability to Listen**—Understanding and respecting others and their opinions.
- **Flexibility**—Being able to modify your approach and change it when required.

Dr. Sullivan offered his observations that he has found two common sayings to be true in his experience: (1) Chance favors the prepared mind—be well prepared, and (2) All great leaders were first followers but were mentored. He implored participants to keep working to improve the public health. As a cautionary example, he explained that some of the goals set in Healthy People 2000, a policy document of the Department of Health and Human Services that set goals for achieving a healthier society, were not

met. There is a lot of work still to be done to meet the goals, now that it is almost time to begin setting goals for 2020.

Questions

A participant asked what Dr. Sullivan sees as the major health problems in the future. According to Dr. Sullivan, diabetes, drug use, and other problems common today will continue be important in the future. Prevention still offers the greatest hope for improving public health, and this is being emphasized in more recent editions of Healthy People. Changing behavior to improve health will be critical to future progress against disease. In addition, health professionals need to address the issue of poverty and its impact on health. These are important issues for Healthy People 2020.

A participant asked Dr. Sullivan to discuss the role of globalization and migration of populations on health. Dr. Sullivan commented that this is an issue in the United States; among the poor health issues are the same as those seen in poor countries. The second issue is an issue of manpower. From 1956 to 1981, 46 new medical schools were opened in the United States; this represents one-third of the medical education programs in the United States. Today, we need nurses, physicians, and other health professionals and there is no word on this coming from our government. How this impacts globalization is that we import more health professionals from some countries than they have inside their country. This is draining resources from where they are needed.

A participant asked how current health professionals can inspire the next generation to pursue careers in science and medicine. Dr. Sullivan said that much can be done, such as instituting programs to increase diversity in health professions. He is working with a program that sends professionals into schools to encourage students to consider health professions. Much of the past success in directing students to medicine and science was provided by federal leadership, which is sorely missing today.

Overview of the Day's Activities and Introduction of Senior Members of the Network

Dr. Agodoa

Dr. Agodoa asked each senior member of the network to introduce themselves and describe their area of research. He emphasized that senior investigators in the network are the strength of the program because these are the individuals who will mentor the next generation of minority researchers.

After the introductions, Dr. Agodoa acknowledged and thanked Ms. Winnie Martinez, Program Officer for NMRI; Dr. Podskalny for her work on the NMRI Executive Committee; Mike Edwards from the Review Branch; Dr. Frances Ferguson, Program Director for the Minority Supplement Program; and Dr. Frank Hamilton, Program Director for the Digestive Diseases Division at NIDDK.

Dr. Agodoa said that NMRI is a network for the participants. Although NIDDK provides resources for the Network, participants run and participate in it, as well as develop the program for meetings. This year's workshop was chaired by Dr. Carlos Isales, Professor of Medicine at the Medical College of Georgia, who helped develop the agenda.

Dr. Isales provided background on the evolution of NMRI programs at the annual workshop. There was an attempt to make the workshop more open for interaction among participants than in previous workshops. Outreach efforts have been expanded to encourage participation and scientific sessions have been scheduled to provide information on the types of research currently conducted by Network

members. Dr. Isales asked that members think of other ways to encourage participation, and recruit new members.

A participant asked about opportunities for other minority Investigators to join NMRI. Dr. Agodoa said that for the present, membership will be restricted to those investigators carrying out NIDDK mission related research, although it may be expanded in the future to other NIH institutes. Dr. Isales added that, in the future, NMRI may expand funding opportunities to undergraduates or graduate students to encourage them to enter the science fields relevant to the Network.

Scientific Sessions

Molecular Mechanisms in Diabetic Nephropathy

Mario B. Marrero, Ph.D., Medical College of Georgia

Dr. Marrero presented background information to show that renal failure is a common and serious complication of longstanding diabetes mellitus, which is the most common cause of end-stage renal failure requiring dialysis. Diabetes accounts for almost 40 percent of all new dialysis patients. The incidence of renal failure caused by diabetes is rising dramatically in the United States, especially in minorities (e.g., African Americans, Hispanics, and Native Americans). Diabetic nephropathy refers to a characteristic set of structural and functional kidney abnormalities that occur in patients with diabetes, which lead to ESRD. These structural abnormalities include hypertrophy of the kidney, an increase in the thickness of glomerular basement membranes, accumulation of extracellular matrix components in the glomerulus, and tubular atrophy and interstitial fibrosis.

Dr. Marrero described research conducted on the vasoactive peptide angiotensin II (ANG II), which has been implicated in the pathogenesis of diabetic renal disease. Recent findings suggest that both high glucose and ANG II activate intracellular signaling processes leading to growth via the JAK/STAT pathway. It is possible that the JAK/STAT signaling cascade is important in the progression of diabetic nephropathy, possibly through its effects on the ANG II-mediated kidney mesangial cell growth. To test this hypothesis, an investigation was conducted to determine if the activation of the JAK/STAT signaling cascade by ANG II is altered by hyperglycemia in glomerular mesangial cells. Results of this study indicated that ANG II-induced activation of the JAK/STAT pathway was enhanced under high glucose conditions in vitro, and high glucose-induced growth, as measured by DNA and collagen IV synthesis, was blocked by JAK2 antisense. These results provide evidence that activation of the JAK/STAT pathway by high glucose and/or ANG II may be of importance in the increased accumulation of matrix proteins, collagen IV synthesis, and cell proliferation that is seen in diabetic nephropathy.

Further results from studies investigating the activation of the JAK/STAT pathway by ANG II in vivo (diabetic rat) and alterations caused by high glucose indicate that ANG II mediates the activation of JAK2, and that JAK2 phosphorylation is an important step in diabetic nephropathy.

Hypertension and Kidney Disease

Janice Lea, M.D., Emory University, Atlanta, GA

Dr. Lea presented information on the role of hypertension and kidney diseases among African Americans, and a review of the African American Study of Kidney Disease and Hypertension (AASK). The incidence rate of ESRD, which has hypertension as a critical risk factor, has continued to increase in the minority population. Interestingly, data from large national databases, such as NHANES III, shows that reduced kidney function in the early stages of kidney disease is higher in Caucasians; in later stages,

African Americans and other minorities have higher rates. Dr. Lea reviewed the relationship between cardiovascular disease (CVD) and chronic kidney disease (CKD), and interventions (e.g., ACE inhibitors [ACE I]) that have been shown to stop progression.

Dr. Lea provided background information about the AASK study and data showing that ANG II blockers are effective in African Americans. The AASK study was conducted to investigate patients with hypertension as their cause of renal disease, and to see if lowering blood pressure would inhibit the progression to CKD. Results of the trial indicated that patients in the ACE I group had lower levels of progression to ESRD.

A mechanism for the AASK results may involve the reduction of proteinuria. Analyses of data from the AASK study indicated that changes in low levels of proteinuria (microalbuminuria) are predictive of ESRD in nondiabetic kidney disease. In addition, this analysis indicated that the association of early changes in proteinuria with subsequent renal outcomes suggests that the effects of antihypertensive agents on proteinuria should be considered when selecting agents for their potential to slow renal disease progression.

Dr. Lea presented information on an ancillary AASK study to investigate the association between metabolic syndrome and the rate of CKD progression to ESRD in African-Americans with hypertensive renal disease. Results of this study indicated that none of the components of metabolic syndrome predicted outcomes, including ESRD and mortality. When the components were looked at cumulatively, there was an increased risk of progression to ESRD.

Dr. Lea provided the following summary:

- African Americans with CKD in the AASK Study have a prevalence of metabolic syndrome of 41 percent based on National Cholesterol Education Program (NCEP) standards.
- African Americans with hypertensive CKD and metabolic syndrome have a 37 percent higher risk of reaching the composite clinical endpoints of glomerular filtration rate (GFR) decline, ESRD, or death.
- These findings persisted after adjusting for other factors known to influence renal outcomes, except for proteinuria, including adjustments for the blood pressure goal group and antihypertensive therapy group.

This is the first prospective study reporting that metabolic syndrome predicts the rate of CKD progression; further studies are needed to confirm this association and should include more specific measures of insulin resistance; these findings may explain some of the variability observed in the progression to ESRD, and may provide a new target for treating CKD in a high risk group.

Dr. Lea suggested that strategies to reduce the risk of CKD in African Americans include education, early detection of kidney disease, adequate treatment of hypertension and diabetes, adequate access to health care, proper dietary habits, and more clinical research in African-Americans to better understand the increased risks. She said that her involvement with the NIDDK NKDEP has helped her address some of the needed strategies.

Lunch Table Topics and Mentoring

Concurrent sessions were held during lunch. Each participant was assigned to participate in one session. Brief summaries of these sessions are presented in this section.

Health Services Research and Epidemiology

The breakout group began by having each participant introduce themselves and discuss their area of research. There was a wide variety of backgrounds and experiences represented. For example, a participant discussed research on the widespread impact of vibrio bacteria, strains of which cause cholera and food poisoning. One participant suggested a study comparing the rates of vibrio infection between Caucasians and Hispanics in terms of morbidity by age group. This could address many aspects of public health, including diabetes. Epidemiologic studies may be able to show some association between vibrio infection and diabetes.

Nephrology
Jesús López-Guisa, Ph.D., University of Washington

Choosing a mentor is a critical part of career development. Good mentors can provide advice not only on research, but also on matters personal, financial, and political—science has politics. A good mentor should have some knowledge of the mentee's field of research, should be a good scientist, have a strong publication record, some standing in the community, and behave in an ethical and professional manner. Not all researchers excel at training others; information from others concerning a researcher's ability and willingness to train young scientists is valuable.

It is important that young investigators are not used by their mentors as a "pair of hands." This is a common occurrence, and it can be difficult for young investigators to speak against this at the start of the relationship and even more difficult to change. A mentor should be distinct from the supervisor, because it is difficult to speak honestly with the person who pays the salary.

Networking at meetings and other events can lead to development of important contacts and additional mentoring relationships. These events may be especially useful for finding mentors from other fields who may someday serve as collaborators on research projects. Recently, NIH has funded grants with multiple PIs who have different fields of expertise, in recognition that some projects may require different kinds of knowledge.

NIH staff advise that mentors not be included on R01 applications. This will help the young investigator appear independent.

Breakout Session: Mock Study Section

Study Section 1—Chair: Janice Lea, M.D., Emory University
SRA: Michael Edwards, Ph.D., NIDDK
Study Section 2—Chair: Robert Ferry, M.D., The University of Texas Health Science Center
SRA: Michele Barnard, Ph.D., NIDDK
Study Section 3—Chair: Marco Cabrera, M.D., Case Western Reserve University
SRA: Maria Davila Bloom, Ph.D., NIDDK
Study Section 4—Chair: Mario Marrero, Ph.D., Medical College of Georgia
SRA: James Hyde, Ph.D., NIDDK

Each Mock Study Session was held concurrently. The mock sessions were comprised of sample grant submissions presented to a study session for critical review. The following summary is a compilation of information taken from each of the sessions.

The study session chair presented background information, key points, and advice for developing a successful grant, which is "a reward for past productivity and the likelihood for future success." They highlighted particular review criteria that must be strong for a winning proposal.

General Advice

- Read and understand the instructions for a given grant. If the rules are not followed, the grant might not get scored and, therefore, not get funded.

- Present information clearly and justify what is planned and why it is necessary. A grant is an investment, and only if the reviewers understand what the grant is about can they be convinced that the project is doable and holds promise to produce a return on the investment.

- Ensure ease of readability. Use a large-sized font and add emphasis where appropriate. For example, statements such as "We propose" and "My hypothesis states" could be placed in bold font. Color also is useful for emphasis and differentiation, such as in figures.

- Figures help to convey complex information. Legends should be explained clearly to permit the figures to stand alone from the body text. A visual project timeline is a good complement to the text to show when specific aims will be completed.

- Avoid typos and other errors and explain information as explicitly as possible. If jargon is used, spell it out; the clearer and easier the grant is to read, the better.

- A newspaper style format, with four or five lines per paragraph, separated by one blank line, makes for an easy read.

- It can be helpful to have a friend or someone unfamiliar with the topic read the grant to ensure that it is understandable; thus, preparing the grant well ahead of submission time is essential. It also is useful if the investigator reads a copy of a successful grant application in the same research category, and to read the reviews that the grant received.

- For new investigators, demonstrating the independence of their research can be an issue. To document independence, a letter from the mentor indicating that the research is independent, but the mentor is willing to provide advice as a colleague, can be included in the grant application. A letter from the department chair confirming that the applicant has independent research and/or office space and status similar to that of a faculty member also could be included.

- The NIH grant review process begins with assignment of the grant application by referral officers. The grant is assigned to an Institute for funding purposes (grants are assigned primary Institutes, and also may be assigned to one or more secondary Institutes) and to a study section for scientific review. The grant is then sent to the Scientific Review Administrator, who organizes and runs the study section meeting. A copy of the grant also is sent to the relevant Institute and assigned to a Program Officer.

- Study sections and the names of reviewers on each section can be found at the Centers for Scientific Review website (www.csr.nih.gov). Study sections have standing members and also individuals who serve as invited guests for each round of applications. A video that shows (mock) study section proceedings also is available at the NIH website.

- Advice on grant preparation, submission, and the application process also can be obtained from the Program Officer or Scientific Review Administrator in charge of the grant.

- On the cover letter accompanying the grant, it is permissible to name peers who should not review the grant. However, specifically requesting a reviewer will ensure that that person will NOT review the grant.

- If an applicant believes his grant was assigned to the wrong Institute, the applicant should contact a Program Officer at the desired Institute, who then will contact the assigned Institute to discuss if the assignment should be changed.

- Reviews include primary and secondary reviewers and one or two readers. The primary and secondary reviewers submit extensive comments on the grant, the readers submit briefer comments. The applicant will receive these comments nearly verbatim in the summary statement, which is provided by the Scientific Review Administrator.

- Applicants have three chances to receive an R01 grant. After submission, two revisions are permitted. Reviewers will receive the new application and the summary statement from the original application; thus, re-submissions should address the issues raised in the summary statement. Program Officers are present at the study section meetings and receive the summary statements. Applicants are permitted to discuss their summary statements with Program Officers, who may be able to provide additional advice concerning the summary statement suggestions.

- If an applicant has not previously received an R01, he is considered a New Investigator. Grants submitted by New Investigators have more generous paylines. There is a strong emphasis across NIH to fund new investigators during these challenging financial times.

Areas of Coverage in the Grant

- Budget: Supply a reasonable budget that details and justifies all expenditures. Typically, 80 percent of the budget will be directed toward personnel.

- Specific Aims: State the Aims carefully, treat them independently from one another, and relate each one to the overall project hypothesis. Young investigators tend to focus their attention on producing a very impressive first Aim, with subsequent Aims receiving increasingly less attention. State the results that are expected from each experiment and indicate next steps to be taken with the anticipated results. Include information on potential problems and provide alternative approaches.

- Preliminary Data: Include convincing preliminary data to support the research plan. Nonsignificant results should be presented only with reason; for example, the finding of an nonsignificant number of animal deaths from a compound safety trial is a positive result to include.

- Innovation: Convince the reviewers that the work being proposed is novel. It is the reviewer's job to determine if a study is significant and warrants funding. The reviewer also will gauge if the proposal is trendy or if it is truly innovative. A study can be innovative without challenging an existing paradigm with an ultra-risky proposal. Any risk in the proposal should be mitigated. Another "fatal flaw" is to propose research that is undoable or already has been done.

- Plans: Spell out all details with plans. For example, if a particular reagent is necessary, explain how and where it will be obtained and include that information in the budget.

- Human Subjects and Vertebrate Subjects: For each category, explain in detail how pain and suffering and all relevant, associated aspects will be managed appropriately.

- Future Research: Give an indication of the directions in which the research will move if the Aims are achieved.

- Statistical Analyses: Have a statistician review the statistical analyses. Correct analyses particularly are important if the study involves a set of human subjects; in such studies, power analyses are critical to justify the inclusion of a certain number of patients. Statisticians who conduct analyses for the grant can be paid for their work and/or receive coauthorship on the grant.

Career Development Awards (K Awards)

- K Award applications are rated one-third on the investigator, one-third on the research plan, and one-third on the mentor and environment. The review committee will take into account that a junior investigator has less experience than someone more senior; however, listing more experienced co-investigators on the application will provide cachet. Those seasoned researchers will be viewed as people who can provide guidance. The proposed research must be different enough, innovation-wise, from that of the mentor, to hold promise to sustain the applicant for a future independent career.

- In general, an investigator completing a fellowship or postdoctoral term should apply for a K Award; however, more experienced investigators (e.g., a faculty member who might already have received past awards) also can apply for these awards. K Awards provide up to 5 years of support until an individual becomes an independent investigator, at which point he or she can apply for an NIH Research Project Grant (R01). Some individuals will apply for an R01 without having gone through the K Award process; it is a personal decision.

Other Awards

- There are numerous types of fellowships for which independent investigators can apply. Foundation awards also provide another funding mechanism.

- Exploratory Centers Grant (P20) and Cooperative Clinical Research Grant (U10): Each type of collaborative effort-based grant has its own set of rules. For community outreach grants, the investigator will need 20 to 30 letters of support from the city, health department, local churches, and schools to demonstrate their plan to reduce health disparities in the community.

- New investigators must be given the benefit of the doubt that they will accomplish what it is they set out to do in their proposal. On the other hand, senior investigators have less to prove or explain in their proposal because they already have demonstrated themselves through past research. Each NIDDK division has a review group that assesses K Award and Institutional Research Training Grant (T32) applications. These grants are intended for applicants who have completed doctoral training fairly recently (usually within the last 5 years). An investigator should explain in their application the reasons for any gaps between award applications; for example, time devoted to beginning a family or serving an Army commitment.

Scoring the Grant

It was explained that being a reviewer has prestige because the role is viewed as "contributing to something larger than you." Serving on a review committee also is beneficial because it affords the chance to hear about common mistakes made in grant applications (e.g., being too ambitious or having an unrealistic timeline or workload). The following points were reviewed related to the application scoring process:

- During the study section, each reviewer will vote on the grant and provide a rating. The ratings will be averaged to provide a final score.

- If there are 50 grants and 20 reviewers, each person will review at least 10 to 15 grants, being a primary reviewer on one grant, a secondary reviewer on another, and likely a discussant on a third. A discussant does not necessarily prepare a critique, but reads the grant more thoroughly. A concise review should not be more than three pages in length.

- It is important that investigators respond constructively and directly to criticisms of their work, just as one would respond to a journal article critique.

Resources

The Career Development Workshop, hosted by The Endocrine Society, provides a venue through which trainees can examine their own career paths. This year's workshop will be held in Toronto, Ontario, Canada (http://www.endo-society.org/endo/development/career.cfm). Approximately 120 trainees attend each year, learning about topics such as how to select a mentor and how to teach an undergraduate course.

There are helpful books for career development, including At the Bench: A Laboratory Navigator by Kathy Barker. This book discusses how to run a research project, manage people, and handle personnel issues.

Members Scientific Presentations

Function-Promoting Anabolic Interventions: Diet and Exercise

Carmen Castaneda-Sceppa, M.D., Ph.D., Tufts University

Loss of lean muscle mass can be caused by aging (sarcopenia), disease, or disuse. Sarcopenia occurs in 15 to 35 percent of older persons. Recent studies indicate that skeletal muscle is a pool for amino acids (i.e., protein), and that loss of this pool influences morbidity and mortality. Morbidity occurs at the loss of 5 percent skeletal muscle mass; mortality can occur at the loss of 40 percent or more of skeletal muscle mass. Adequate protein intake can alleviate loss of muscle mass and increase muscle size as well as muscle function.

Resistance training, a non-pharmacologic anabolic therapy, is an exercise modality also known to reverse the loss of muscle mass and strength. For people with diabetes, resistance training (e.g., weight lifting) can increase lean body mass and improve glycemic control, as well as insulin sensitivity. Studies of resistance training, muscle wasting, and chronic kidney disease indicate improved total body potassium levels, body cell mass, and reduced levels of IL-6 associated with inflammation.

Currently, diet and exercise are the most beneficial lifestyle interventions to counteract sarcopenia and muscle wasting. However, future studies are needed to better characterize the structural and functional consequences of sarcopenia, as well as its mechanisms, in the setting chronic disease conditions leading to muscle wasting.

Proton ATPases in Angiogenesis and Diabetes
Raul Martinez-Zaguilan, Ph.D., Texas Tech University Health Science Center

This basic research study investigated the role of proton ATPase (H+-ATPase) in cancer and diabetes complications. Cells have H+-ATPases at the plasma membrane (pmV-ATPases) that allow cells to maintain an alkaline environment conducive to growth, angiogenesis, and metastasis. When the density of pmV-ATPase is decreased, cells become poorly metastatic and microvascular endothelial cells become poorly angiogenic. Dr. Martinez-Zaguilan described a study to investigate whether pmV-ATPases determine proton gradients and proton waves that are important for the acquisition of a more invasive and angiogenic phenotype.

In the study, microvascular endothelial cells from diabetic BB rats (a model for type 1 diabetes) were used to determine the fusion of pmV-ATPases in the plasma membrane. Gain and loss of function experiments were conducted to under- and over-express proton ATPases. Results indicated that pmV-ATPase is important for the acquisition of a more angiogeneic and metastatic phenotype.

Ectopic Expression of the Glycoprotein Hormone -Subunit in Lung Cancer
Virginia Sarapura, M.D., University of Colorado Health Science Center

The glycoprotein hormone α-subunit is produced in the pituitary in gonadotropes and thyrotropes and in the placenta. Ectopic secretion of α-subunit from solid tumors (e.g., pancreas, lung, and colon) has been observed. The normal free α-subunit is thought to play a role in lactotrope differentiation in the pituitary, prolactin production in the placenta, testosterone production in the testes, and inhibition of stromal cell differentiation to smooth muscle cells in the prostate.

The free α-subunit is present in approximately one-third of lung cancer tumors. In ChaGo cells (human lung cancer-derived cell line), its expression has been found to be influenced by butyrate and cyclohexamide. Molecular biology studies of the α-subunit promoter have been conducted to identify the regions that are important for expression. Ectopic α-subunit expression in ChaGo lung cancer cells does not require elements important in eutopic sites, but appears to require the –307/–270 region. The –307/–270 region specifically binds ChaGo nuclear proteins and contains sequences homologous to Ets-1 and PEA-3 consensus binding sites. In addition, Ets-1 expression appears to be inversely correlated with α-subunit expression in lung cancer, and may be a repressive factor. Conclusions drawn from these results include the following:

- Ectopic α-subunit expression in lung cancer, and probably also in other malignant tumors, occurs by unique mechanisms that appear to be different from those in eutopic sites.
- Elucidating this is important because α-subunit expression may impact tumor growth and responsiveness to treatment.

Familial Barrett's Esophagus
Yvonne Romero, M.D., Mayo Clinic

Dr. Romero provided background on phenotypes of reflux including reflux esophagitis, hiatal hernia, Barrett's esophagus and esophageal adenocarcinoma. She provided evidence for familial aggregation of gastroesophageal reflux disease (GERD) symptoms, reflux esophagitis, and Barrett's esophagus (BE). Dr. Romero presented unpublished results from a family study showing that despite the usual independent predictors for Barrett's esophagus (male sex, advanced age, GERD symptoms of prolonged duration), there first degree relatives of patients with Barrett's has a 2-fold increase in BE. The prevalence of

BE does not appear to be increasing. The increase in reported cases stems from increased access to endoscopy and physician recognition.

Dr. Romero and her team have completed their first linkage analysis in familial Barrett's esophagus kindreds. They have identified susceptibility loci for Barrett's esophagus and esophagus cancer, and on separate chromosomes, loci for familial GERD symptoms, hiatal hernia and reflux esophagitis.

Dr. Romero provided a description of the Esophageal Adenocarcinoma and Barrett's Esophagus (EABE) Registry, a large bank of prospectively collected fresh-frozen and formalin-fixed tissue, blood, demographic, symptom, and risk factor data. Its purpose is to facilitate the identification of: (1) genetic pathways important in the neoplastic transformation from BE to adenocarcinoma of the esophagus (ACA); (2) novel biomarkers of risk, early detection, and response to treatment; and (3) novel therapeutic or chemoprevention targets.

Altered Renal Handling of Calcium and Aromatase Deficiency

Orhan Öz, M.D., Ph.D., The University of Texas Southwestern Medical Center

The prevalence of calcium stone disease is higher in men until approximately 55 to 60 years of age, at which time the prevalence becomes equal by sex. This change in prevalence among women may be brought on by menopause, which is responsible for a lack of estrogen to facilitate the reabsorption of calcium in the renal tubules. Hormonal control of calcium reabsorption primarily occurs in the distal tubule cell; the majority of the calcium reabsorption may occur in the proximal tubule, but this is mostly passive.

Dr. Öz described a model of aromatase deficiency in mice. Aromatase is the only protein in the body that converts androgens to estrogens, and is a member of the cytochrome P450 superfamily and a product of the CYP19 gene. A study using wild type (WT), aromatase deficient mice (ArKO), and ArKO mice treated with estradiol showed that ArKO mice have increased urinary calcium levels compared to WT mice. Estradiol-treated mice had normalized calcium excretion. Expression analyses were conducted to determine the changes in expression brought on by differences in estrogen level. Expression of many of the molecules involved in calcium reabsorption in the distal tubule was decreased in ArKO mice. Estradiol treatment corrected the deficiencies.

Further studies on the glycoprotein klotho, which is predominantly expressed in distal tubule cells of the kidney, were described. Aberrantly low levels of this glycoprotein leads to multiple disorders, including arteriosclerosis, skin atrophy, abnormal calcium homeostasis, and shortened life span. These expression experiments indicated that estrogen down-regulates klotho in the kidneys of mice. Concerns raised by these findings are that patients taking aromatase inhibitors may be at risk for hypercalciuria. Further studies are needed to address these concerns.

Dinner Meeting: Why Is It Important for Minorities to Participate in Biomedical Research?

Keynote Speaker: Roland A. Owens, Ph.D., Chief, Molecular Biology Section, Laboratory of Molecular and Cellular Biology, NIDDK, NIH

Dr. Owens opened the talk by pointing out that minorities are fighting a war on two fronts. First, it is crucial that people in power believe in the importance of including minorities in research. And second, minorities have to work to convince young adults in the community that, despite the difficulties they may encounter along the way, becoming contributing members of the biomedical research community is worthwhile.

There were two overarching themes in this presentation:

- Health disparities research is good science that leads to good medicine.
- It's important for "us" to be "in the room."

While the first point is widely accepted, it is often more difficult to convince people of the importance of the second. Why is it so important for minorities to be "in the room?" Dr. Owens shared two stories that highlight the importance of minority participation in health care planning and research:

- When the National Center for Human Genome Research was to become an institute, the first name proposed was the National Institute for Human Genome Research. An African American friend of Dr. Owens pointed out that the acronym for this proposed name would be NIHGR. The new institute was named the National Human Genome Research Institute (NHGRI).

- Dr. Owens attended a gene therapy conference a few years ago and witnessed a philosophical discussion about the ethics of giving people gene therapies that may involve risk and what constitutes a treatment versus an enhancement. One participant suggested race change gene therapy as a potential enhancement. Another said changing a person from Black to White could be justified as a treatment if one considered the difference in life span between Blacks and Whites. Dr. Owens was one of two African Americans in the room.

Dr. Owens then discussed how training more minorities can help improve health disparities research:

- Adds skills to motivation. Those who have seen health disparities firsthand can do something to eradicate them.
- Provides trainees with access to health information. Trainees will know where to find credible health information.
- Creates a cadre of minority individuals capable of truly informed consent in clinical research. More minority PhDs means there are more minorities who truly understand consent forms and the risks associated with research.
- Creates conduits through which health information can be disseminated. Minority trainees will share health information with their friends and family.
- Training a person for a good-paying job could be sufficient to improve their long-term health. Numerous studies have shown that socioeconomic status is associated with health status.
- Investigator-Driven Research. Researchers develop new ideas for studies and then seek grant funding support.

Dr. Owens then discussed the work of some prominent minority researchers:

- Griffin P. Rodgers, M.D. Dr. Rodgers identified hydroxyurea as a treatment for sickle cell disease.
- John D. Carpten, Ph.D. Dr. Carpten's participation in a workgroup resulted in the inclusion of African American families in research to identify prostate cancer susceptibility genes. Because of this, researchers were able to identify genetic markers unique to African Americans.
- James E. K. Hildreth, M.D., Ph.D. Dr. Hildreth's research showed that cholesterol is important for the envelopes of HIV. Dr. Hildreth later found that a simple, inexpensive chemical can strip cholesterol out of the viral capsids. Dr. Hildreth is working to develop an ointment that a woman can apply vaginally to help protect herself from HIV.
- Georgia M. Dunston, Ph.D. Dr. Dunston's research identified HLA region heterogeneity in American Blacks and contributed to a dramatic reduction in the organ rejection rate among African Americans.

Genetics and Race

While there is no genetic basis for race, it is important to remember that race as a social construct can have genetic and medical consequences.

Tips for advancement:

1) Those who make their bosses look good get promoted.
2) Do not underestimate the social aspects of science. Minority researchers need to put forth a greater effort than majority researchers. Minority researchers also need to maintain a professional network and a minority network.
3) Be smart about your committee work and outside activities. Don't do too much. If possible, stay in your areas of expertise. Work to support your boss and the boss of your boss, but no higher.
4) When pushing for change, keep it positive and about the science.

Questions

A participant asked how to respond if a superior, such as the president of your academic institution, asks you to take part in something for which you do not have the time. Dr. Owens explained that this actually was the case for him today. It is important to give a science-based answer, and respond by saying something such as, "I would love to participate, but my research is at a critical stage. I'm at a point where I'm going to be able to produce some publications, which will qualify me for a grant, which will bring more money into the university if I can focus on my research right now instead of being on this committee."

FRIDAY, APRIL 20, 2007

Introduction and Welcome

Dr. Agodoa

Dr. Agodoa thanked everyone for their active participation in the sessions and breakouts yesterday. He began by saying that one important aspect of NMRI is to see progress in promotions or new funding for Network participants. He asked that participants tell the group of promotions or new funding acquired during the year since the last NMRI annual meeting. Another area to stress in NMRI is to collect the number of publications authored by Network members. A list will be collected and made a part of the record.

At the end of the introductory session, the Network members were divided into two breakout groups, senior and junior investigators.

Breakout Sessions for Junior Investigators

NIH Roadmap and Clinical and Translational Science Awards (CTSA) Initiative: Transforming Biomedical Research Into Clinical Practice To Improve the Health of Our Nation's People

Anthony Hayward, M.D., Ph.D., National Center for Research Resources (NCRR), NIH

Dr. Hayward described the CTSA Initiative as an enormous new venture that will transform the opportunities for clinical research in the US. Because clinical research is expensive, grant support needs to be cost-effective. NIH supported General Clinical Research Centers (GCRCs) in the past but found that these supported between one-third and one-fifth of the human subjects' research at many awardee sites. This led to discussions regarding how to improve this situation and how to improve the needs of the research enterprise. What resulted was the CTSA, a joint effort between the NIH Roadmap and NCRR.

The CTSA was designed along the following four tenets. It was to be:

- Integrative (across health disciplines; between scientific areas; into the community; and foster engagement and participation)
- Translational (from the laboratory to clinic to community to laboratory)
- Educational (scientists, health care providers, and the community)
- Provide resource infrastructure (NIH funded research, non-NIH funded research, and public-private partnerships)

Goals of the CTSA included increasing research in chronic disease, especially to address the aging baby boomer population, co-morbidity, and a change in focus. It also addressed population diversity with a focus on minority health issues.

Dr. Hayward explained the timelines for release of RFAs for the CTSA Initiative and the funding levels. Each CTSA award can provide up to $6 million in total costs per year plus combined costs of certain NIH awards. Awards from NCRR may be K12, K30, and M01 (GCRC); from the NIH Roadmap, awards include T32 and K12. The goal is to make 60 awards by 2012 with an annual cost of around $500 million. As of September 2006, the CTSA Consortium had been started with 12 awards and 52 planning grants.

Eligibility requirements for a CTSA include:

- Domestic institutions conducting clinical and translational research
- Graduate schools offering higher degrees in clinical research
- Outreach opportunities, such as those that a minority academic health centers could bring (note that Minority Institutions may apply independently or partner with other research institutions)
- A wide range of opportunities offered through a CTSA
- Participation by multiple schools (e.g., nursing, pharmacy, dentistry, engineering)

CTSA application guidelines require that the applications are designed around key functions and/or core elements; include educational opportunities, such as career development, degree granting, and mentor training; provide support for pilot studies in translation and other key functions; integrate basic and clinical sciences across disciplines; and facilitate access to the research infrastructure.

Dr. Hayward described the progress made in 2006 and early 2007 to develop the consortium. The first and second principal investigators meetings have been held, and a Steering Committee has been established to identify needs, goals, and priorities for the CTSA; serve as a forum to share experiences; and serve as a platform to adopt common standards.

Questions

A participant commented about the possibility of having interactions between the NMRI and the CTSA, since some of the goals appear to be similar. Dr. Hayward responded that the CTSA is a trans-NIH group and is focused specifically on having each of the training programs within NIH that work with CTSAs, to meet and share ideas.

Another participant asked Dr. Hayward to explain "community involvement." Dr. Hayward commented that it would be different at each institution. The manner in which the grants were to be spent would be specified during the application process, and specific costs should be put into the application at the beginning.

Selling Your Science—Getting Published

Martin Frank, Ph.D., Executive Director, American Physiological Society
Keith Norris, M.D., Charles R. Drew University of Medicine and Science

Dr. Frank presented information on criteria for journals and the types of articles that are considered by journal editors. He offered his view of the role of publication from the perspective of an editor. He discussed the importance of choosing the right journal, reading and following the Author Instructions, proofing and editing the article before submission, and not being discouraged if the article is rejected. He discussed the peer review process and its importance, and noted that most accepted articles are returned to authors for revisions before a final commitment to publish.

Dr. Frank suggested that it is appropriate to initially submit a manuscript to a highly prestigious journal. Although no one likes to be rejected, it is important to attempt to publish in the highest quality journal possible. He provided a list of reference books and websites that could be helpful to those completing a manuscript for submission.

Dr. Frank presented some of the pitfalls suffered by authors. He suggested the following helpful hints for increasing the likelihood of acceptance by journals and reviewers:

- Look at past editions of the journal to see what types of articles are being published. Make sure your topic has not been covered thoroughly in recent issues.

- Review the journal impact—how often articles from that journal are cited by other, top-notch journals, by visiting the following website: http://portal.isiknowledge.com/portal.cgi.

- Carefully review the "Instructions for Authors"; following these instructions can have a positive impact on reviewers and editors.

Dr. Norris presented information on publishing or for those unsure about publishing. The main goal of publishing is to share research of value that ultimately will improve health care and advance understanding of biomedical science—good science will be published. Common reasons for failure include a weak hypothesis, lack of originality, poor study design and statistical analysis, a conclusion that does not match results, or the lack of a clear indication that the research is important and will advance the field. Otherwise good articles may fail to be published because they were submitted to an inappropriate journal, were poorly written (grammar and spelling errors, inconsistencies), have outdated references, or do not follow journal guidelines. Bad research is almost always rejected, sensational research is sometimes accepted even if badly written, but most research falls into a gray zone; thus, a well-written article increases the chances that the research will be published.

Journal articles usually are composed of an abstract, introduction, methods section, results, and discussion:

- **Abstract:** The abstract may be all that most people read; it should tell the whole story, influence the editor and reviewer, and set the tone for the entire article.

- **Introduction:** The introduction should include reasons the study is important, a selective review of pertinent literature, and a sharply focused hypothesis. The introduction can indicate if the research is novel or confirmatory, and if confirmatory, explain how the research may fill a gap in the existing knowledge base.

- **Methods:** The methods should specifically describe what was done, in a level of detail that allows replication or assessment of the validity of the findings. Any statistical analyses should be described precisely and completely. If new or extensive measures or procedures are used, these can be described in detail in the appendix.

- **Results:** The results section should begin with an overview of the findings. Any tables should be understandable without reference to the text.

- **Discussion:** This section should succinctly restate the main findings and move quickly to broader conclusions. Details around the major findings should be provided and related to the existing literature. Any limitations of the study also should be discussed in this section. The discussion section should be restricted to interpretation, not overstatement, of the results and should include implications for practice or research.

Tips for success include seeking input and criticism from co-authors, colleagues, and mentors. A well-written cover letter to the editor can help explain why a paper is significant, and point out important gaps in research that the data may fill. Authors also can suggest potential reviewers; authors should cite potential reviewers when appropriate and should be aware of who may have published recently in the journal on a related topic. If a paper is rejected, respond to reviewers' comments promptly and address suggested changes.

This session was repeated for senior investigators in another breakout. That session will be referenced to this summary.

Breakout Sessions: Career Development Workshops

Each participant chose two of five breakout sessions to attend during this time period.

Managing Laboratory Growth and Remaining Focused

Sherri-Ann Burnett Bowie, M.D., Massachusetts General Hospital

Managing a laboratory takes a leader (e.g., PI or senior investigator) who has a clear purpose, appropriate experience, and an approach that allows for efficient and competent leadership. The leader is responsible for creating a shared vision, culture, organizational rhythm, pride, and incentives that keep a laboratory focused on priorities and goals. Much has been written about leadership style; no single style is best for every laboratory or situation. Dr. Burnett Bowie reviewed characteristics of leaders described in a book by Daniel Golman. Leadership styles have a diversity that may be quantified according to management approach.

There are some commonalities among management styles that lead to effective management. These include communication, collaboration, and cooperation. How a leader approaches these aspects should be based on the vision and mission of the laboratory.

Many effective leaders espouse the importance of regular meetings with staff, a hands-on approach to completing tasks, and applying the same expectations to themselves as they apply to their staff. Other critical areas of effective leadership include maintaining an open door policy, maintaining good relations with your own supervisors, involving staff in budget discussions, and making sure everyone understands hiring and termination policies.

An effective manager has a plan for conflict resolution in place before conflicts arise. The ability to negotiate during conflicts is critical for reaching resolutions that are deemed fair and equitable by all involved parties. An effective leader will recognize the conflict resolution style that suits them, will apply decisions fairly, and will conduct followup actions that were negotiated during the conflict resolution discussions.

There are critical questions that must be kept at the forefront of every management style. They include:

- How do I know when to take on more responsibilities or tasks?
- What is success and how do I know when it occurs?
- What goals (i.e., short-term, intermediate-term, and long-term) can be set that will make the best use of staff, but also push them for maximum growth?
- How is my day spent?

Good leaders understand the priorities for the operation of their laboratory, but also understand that priorities for the staff may differ. It is important to focus on the resources available to expand the experiences and skills of laboratory staff.

Dr. Burnett Bowie also recommended or referred to books by Kenneth Thomas and Ralph Kilmann (on conflict resolution), G. Richard Shell (on negotiations), and Kathy Barker (on management skills for a laboratory investigator).

Mentor: Finding or Being a Great One

Robert Ferry, M.D., The University of Texas Health Science Center

Mentors offer guidance by fostering and encouraging young minority investigators, so that they become known, publish quality manuscripts, and advance their careers. If this is not happening then there is a problem with the mentoring relationship. A structured mentoring support system and access to resources are needed for the success of this relationship. Mentors must provide the leadership, knowledge, and training to ensure new investigators possess the necessary skills to excel at public speaking on their science topic and grant writing. Mentors should anticipate potential pitfalls for their mentees.

An important part of the career development for the young minority investigator is finding a good, supportive mentor. As the investigator, having something in writing that states these are the expectations, ("this is what I am willing to do for you" and "this is what I want from you", structure the mentoring relationship in many valuable ways. Structure sets time lines and milestones. Written expectations can reduce the adverse consequences of inevitable conflicts (which are usually minor, but often escalate when folks are stressed). Mentors may or may not be your role model(s). You need to identify their strengths and weaknesses as well as your own. Some mentors perform superbly at basic research, others at clinical investigation, community outreach, fund raising (grant writing or philanthropy), or advocacy (for patients, for research themes, or for your career).

You need to examine the mentors around you and consider this a formal relationship and not simply a privilege or an honor to be working alongside someone. The mentor is usually more important than the project, because the mentoring relationship long outlives the project. Good support allows the investigator to grow. Your mentor(s) will probably change as your career changes (for examples, an expansion for a promotion or a retreat for chronic illness or to support a spouse's career). Written expectations (preferably signed and dated by both the mentee and mentor) always trump recollections of oral conversations and verbal commitments.

Great mentors are: savvy (not naïve), selfless (not predatory), patient (not harried), always available (not aloof despite time and distance), optimistic (not depressing), and trustworthy (not gossiping). Most mentors are over-extended and under-funded. Great mentees: are focused (not hummingbirds chasing trends or trendy people), are explicit (able to express their career goals), follow through on commitments (submit timely manuscripts and grant applications; execute research and clinical obligations with professionalism), respond maturely to constructive criticism (not petulant), and are emotionally stable. Most mentees are: developing multiple skills sets, occasionally unsure of themselves or the project, financially stressed, seeking affirmative guidance, willing to learn more, most distressed by disagreements of any kind (perceived or real) with mentors, and puzzled how and when to time their independent break from their mentor(s) in academic or geographic terms.

The workshop explored each of these themes in greater detail with discussion of individual situations posed by the participants. Confidential discussions were conducted at the conference (after the workshop) as initiated by participants.
Items for future meetings:

- Affordable professional speakers/trainers who are focused on public speaking, coaching, and grant writing (like NMRI, the Trainee Career Development Workshop of The Endocrine Society each June is a fantastic forum)
- Interactive/mock review sessions where participants give a 1-3 minute introduction to their research and see how other participants are engaged

- Presenter on electronic submissions for grants (common error review) (tutorial is on the website)
- More travel grants for trainees to attend workshops

Balancing Clinical Duties with Your Research Effort

Fiemu Nwariaku, M.D., The University of Texas Southwestern Medical Center

This group began its session by discussing how to balance their individual responsibilities. An important step in this process is to determine what the individual institution and/or department values are and then map out the process of balancing clinical, research, and administrative functions. When analyzing a department, look closely at who you interact with on a day-to-day basis. You want to make sure you know who your partners, nurses and technicians are, and identify partners, nurses, technicians, and others. Most people recommend balancing their time among the various functions of their job by dedicating time by weeks (e.g., 2 weeks on and 2 weeks off) or days (e.g., every Monday for 8 weeks) to work in the lab, the clinic/hospital, or the office. Once a successful schedule is created, communicate this schedule to the nursing staff, so they can schedule patient consults appropriately. You cannot be expected to be available all the time, but you also cannot be gone for prolonged periods. Your patients and colleagues will not respond well to prolonged periods of clinical inactivity unless that is your job description in the Department or Division. You also must know what your individual goals are, how to prioritize, and when to get help; re-evaluate goals often and change when necessary. For clinic assistance, some recommend hiring a nurse coordinator to handle the day-to-day functions. This person can return patient calls, call patients with normal lab results, etc. For assistance in the lab, one should use lab assistants and mentors. Briefly mentioned was a book worth reading and implementing into individual departments titled "Academic Sciences at Work."

A strategy for setting priorities includes dividing tasks into four categories. The categories, and examples of common tasks that may be classified in each category, include the following:

- Not urgent and not important—most emails; weekend plans of lab members; and the Super Bowl pool.
- Not urgent but important—ongoing experiments; preparing for a committee meeting; and next month's grant deadline.
- Urgent but not important —"You've go mail" alert; ringing telephone; and inquiring colleague.
- Urgent and important—a lab fire and tomorrow's grant deadline.

Suggestions for managing time in a way that improves the ability to be a productive researcher includes making time to teach so that young minds of students will challenge you to improve your research; serve on a few committees, but do not let them overwhelm you, and keep research focused, ask important questions or address important research problems, and make sure time is adequate to allow the focus to remain on scholarship.

Breakout Sessions for Senior Investigators

Committee Memberships: Orientation for Those Senior Members Who Would Like To Join the Network of Minority Research Investigators (NMRI) Oversight or Planning Committees

Carlos Isales, M.D.; Bessie Young M.D.; Eva McGhee, Ph.D.; Jesús López-Guisa, Ph.D.; and Mario Ascoli, Ph.D.

Dr. Isales explained the process for appointing NMRI committee members and chairs. Members of the Planning Committee serve for 2 years, with one-half of the members rotating off each year; the purpose is to allow almost everyone involved in NMRI to participate in these important committees. He reviewed the regions as designated by NMRI and upcoming meetings, including the NMRI Southern Regional Meeting in October. There will be monthly conference calls with South Region Planning Committee members before the October meeting.

Dr. Isales asked for a discussion of regional meetings and wanted members to consider where the next regional meeting should be held after the Southern regional meeting. NMRI members from the Midwest and West regions indicated that they would begin thinking about where to hold their meetings.

Dr. Sarapura reported that the Oversight Committee has a mission of overseeing activities that are essential for maintaining the Network. Although the mission is broad, it includes the following.

- Promoting mentoring relationships
- Identifying new members and conducting outreach to societies
- Establishing groupings of Network members by interest and location
- Organizing informal gatherings at meetings or conferences of other organizations
- Evaluating the effectiveness of the Network
- Confirming that Network members are working in areas of interest to NIDDK

Dr. Sarapura reported that the committee met during the last annual meeting, but has not met in the ensuing year since the meeting. She asked for recommendations for the chair of the committee. This year current members may remain on the committee if there are no recommendations for new members. The committee is planning a few conference calls to discuss initiatives to increase participation in the Network. Of concern this year is the number of people who committed to attend the meeting but did not show up.

Ms. Martinez provided information about the regional meeting. She said that the Network would extend invitations to researchers in the region and offer to pay them to attend the NMRI regional meetings. They must, however, have NIDDK funding to take part. There may be some exceptions, but that decision will be made based on the needs of the NMRI.

Dr. Isales stressed that one of the most important recruitment strategies is bridging gaps between NMRI and professional scientific organizations. He asked participants to recognize that they should be recruiting within their organizations and institutions.

Funding Opportunities: Orientation for Senior Members on Minority Research Funding Opportunities: R01 Minority Supplements, R25, K08, K24, or Volunteer for NIH Study Sections as Grant Reviewers. Frank Hamilton, M.D., M.P.H., Branch Chief, Digestive Diseases Branch, NIDDK, NIH

Dr. Hamilton described the mission and goals of NIH and the resources and funding options available to investigators. NIH's mission is to uncover new knowledge that leads to better health for everyone. NIH's

goal is to acquire knowledge to help prevent, detect, diagnose, and treat disease and disability. To this end, NIH supports peer-reviewed research, conducts research in intramural laboratories, trains new investigators, and develops and disseminates credible health information based on scientific discovery. The NIH budget for Fiscal Year 2006 was $28.6 billion; $23.8 billion of this supported extramural research. NIH's Web site provides health information for researchers and the public. PubMed Central/Medline, supported by the National Center for Bioinformatics at NIH, provides online access to scientific journals.

NIH funds research through grants, cooperative agreements, and interagency agreements. Grants are the most commonly used funding mechanism. It is important to recognize that NIH is undergoing a period of reduction in funding, which will impact the number and amount of grants and other awards given out by all the NIH Institutes. Dr. Hamilton explained funding mechanisms available through NIH, described their differences, and provided strategies for maximizing success in obtaining funding.

The R-series awards include:

- **R01s:** major research grant mechanism, budget is requested by the investigators, renewed in study sections in the Center for Scientific Review (CSR), renewable.

- **R21s:** solicited by program announcements (PAs) or Requests for Applications (RFAs), fund exploratory research, institute-specific, budgets are usually limited to $275,000 over 2 years, reviewed in standard study sections in CSR, not renewable.

- **R03s:** small grants, usually $50,000-$100,000 per year for 2 or 3 years, renewed in Institute study sections, not renewable (R03s are being phased out by some Institutes and Centers). You are considered a new investigator when you apply for an R03, if you have not had an R01 before.

- **Cooperative agreements** (also called U01s) are large awards (up to $1 million per center) that involve multiple sites; NIH staff usually is involved in the design of studies funded through cooperative agreements. Internal NIH clearance and review is required for U01 funding.

Advantages and disadvantages exist for each funding mechanism:

- **R01s (unsolicited):** receipt dates are 3 times per year; funding is based on priority score/percentile rank, program relevance and balance, and "new investigator" status; multiple CSR committees review the applications; applications are tailored to the investigator's research interest; an investigator has 3 attempts to receive funding; highly competitive.

- **RFAs:** single receipt date, funding is based on funds available and the number of applications received; study sections are specific to the RFA; the RFA funds research of interest to the Institute (restricted areas of research); only one chance to be funded; competition depends on the number of applicants. An advantage of the RFA is that there is a set amount for the award, a set number of awards to be given, and expertise on the panel that will review the submission.

- **PAs:** receipt dates are 3 times per year; funding is based on priority score/percentile rank, program relevance, and balance; reviewed through CSR; funds research of interest to the Institute; funding is tied to the usual payline.

Some relevant NIDDK R21 and R03 programs that are current include R03s for K08/K23 awardees; R21 Health Disparities in NIDDK Diseases (PA-06-182); and R21s for pilot studies to support the divisions (e.g., DDN, DEM, and KUH) (PA-06-181). Contact program staff in the relevant division before submitting

these applications. Based on the current funding climate at NIH, it may be best to apply for an R01 rather than these grants.

Applicants can request more than one Institute to review their application, request a specific study section, indicate areas of expertise needed for adequate review, and indicate individuals or groups with a major conflict of interest. Applicants should never name desired reviewers. It also is beneficial to find out what is currently being funded by visiting the CRISP database at http://crisp.cit.nih.gov.

Dr. Hamilton also described strategies to increase the chances of success in obtaining funding:

- Apply in response to an RFA, because these are "set-aside" funds and scores are not percentile ranked;
- Apply for small grants (R21s) because Institutes are more willing to take a chance if the cost is not high, and fewer senior investigators apply for small grants;
- Apply for pilot and feasibility funds, if available; as a co-principal investigator; or as part of a program project;
- Apply for non-NIH grants (private foundations, professional societies, drug companies, etc.);
- Write clearly and have a coherent study design with a significant purpose.

Dr. Hamilton concluded with an overview of review criteria for a successful grant:

- Significance: Does the study address an important problem? How will scientific knowledge be advanced?
- Approach: Are design and methods well-developed and appropriate? Are problem areas addressed?
- Innovation: Are there novel concepts or approaches? Are the aims original and innovative?
- Investigator: Is the investigator appropriately trained?
- Environment: Does the scientific environment contribute to the probability of success? Are there unique features of the scientific environment?

Dr. Hamilton encouraged participants to sign up for the NIH GUIDE ListServ at: http://grants.nih.gov/grants/guide/listserv.htm, which provides a Table of Contents with links to Program Announcements, Notices, and RFAs, and is updated weekly. He also referred participants to http://www.grantsnet.org, which provides information on sources of funding outside of NIH.

Internal Promotion and Tenure Committee
Carlos Isales, M.D., Medical College of Georgia
Greg Florant, Ph.D., Colorado State University

Senior investigators reviewed three examples of promotion applications from assistant professor to associate professor and from associate professor to professor. After discussing personal experiences of those who have achieved full professorship, it was determined that most academic centers require extensive experience in each aspect of importance to academic life: teaching, research, and service. Applications

for promotion and/or tenure are generally reviewed by a faculty committee that spends significant time reviewing the application. Other key points included the following:

- At some schools, the chance of being promoted from associate to full professor is increased if letters of recommendation are submitted indicating that the person has an international reputation; for moving from assistant to associate, the department may only require that one submit letters indicating a national reputation.

- Put together a complete application, including documentation showing that the applicant has participated in a wide range of committees, grants, and other activities that show commitment to a field of study.

- Many of the reasons for receiving or not receiving a promotion are out of the applicant's control (e.g., lack of funding or lack of an open position). Knowing when to apply is critical.

- Know the institution and its expectations for promotion and tenure. All universities and medical schools have a faculty handbook or manual that carefully outlines the procedures and timeline for promotion to associate or full professor. In addition, maintain communication with your department chair and/or Dean regarding your chances of being promoted.

- Publications in good journals are very important in some academic centers. If this is the case, make sure those expectations are met. Being a first author is important to show responsibility for the research or study, even if the manuscript is a review article.

- Participating in national and international meetings, as a speaker or planning member, can enhance reputations in a particular field of interest.

Journal Review and Editing: Opportunities for Journal Reviewers and Editors

Keith Norris, M.D., Charles R. Drew University of Medicine and Science
Martin Frank, Ph.D., Executive Director, American Physiological Society

[NOTE: This presentation is a repeat of a session for Junior Investigators (see pages 81-84). Only specific information unique to the discussion of the session is provided here.]

Dr. Frank discussed the new paradigm in journal publishing—Open Access through PubMed Central (http://nnlm.gov/rsdd/ejournals/)—that allows free access to journal articles after a set amount of time (e.g., 3 months or 6 months). This is having a significant impact on small journals that depend on subscriptions, although all journals could suffer loss of subscription. In addition, the impact on authors is likely to be significant. Open Access journals often must charge significant fees for publication of manuscripts. For example, NIH estimates that fees to publish the approximately 65,000 articles produced regarding NIH research could cost more than $200 million per year. Although not a large percentage of the overall NIH budget, this $200 million is likely to be more than is budgeted for publications in most grants and awarded funding, and could go toward funding more research.

Dr. Frank also provided tips for serving as a reviewer. A good review should provide clear, concise, consistent, useful, and constructive recommendations to the author and the editor of the journal. Reviewers should read the manuscript carefully, note its potential value and strengths, and describe any concerns. Reviewers should agree to review only those manuscripts they can complete on time, maintain confidentiality, review manuscripts in their own area of expertise only, and review manuscripts in a constructive and collegial manner. Plagiarism, conflicts of interest, and biases should be avoided.

Lunch Breakout Sessions

Chairs for the Breakout Session

Healani Chang, Dr.P.H., University of Hawaii
Mario Ascoli, Ph.D., The University of Iowa
Eva McGhee, Ph.D., University of California at San Francisco
Leah Tolosa, Ph.D., University of Maryland, Baltimore County

Each of the breakout sessions was given the following questions to address during discussions at lunch:

- How can the annual workshop be improved?
- What topics should be covered in future workshops?
- How can the network become more active and viable (outside of the context of the annual workshop)?
- How can we recruit additional members to the network?

Each facilitator met with a small group and led a breakout session. The compilation of ideas developed in each of the breakout sessions is presented below. This compilation also was presented by facilitators during the afternoon plenary session.

How can the annual workshop be improved?

- Everyone enjoyed the mock study section but suggested organizing them the way it was organized last year, with participants receiving the proposals in advance.
- Guidelines should be given to facilitators before their session to make sure their presentations or directions are geared to the existing audience. This is especially true for breakout sessions.
- There should be a third track in the organization of the meeting, aside from seniors and juniors, that allows individual mentoring for people working on manuscripts, grants, and promotion packets. The third track could run concurrently with other sessions.
- It was strongly suggested that the NMRI should continue to have nationally-known speakers to raise the profile of the Network, and to encourage more people to attend.

What topics should be covered in future workshops?

- Keep these topics on the agenda at each meeting—tenure, funding, mentoring.
- Have more scientific presentations but make them shorter. Use the concept of a theme for each meeting, such as diabetes or gastrointestinal studies.
- It was stressed that scientific sessions are valuable. Suggested scientific sessions included genetics, stem cells, and physical activity.
- Guidance on post-award management of funds to assist new investigators in budgetary efficiency would be useful.
- Information and discussions on cost extensions and no-cost extensions were requested.
- Include a session on team organization and how to keep everyone happy once the research grant is being implemented.
- Include a session on time management (i.e., Dale Carnegie).
- Include a session on conflict resolution.
- A session to provide guidance on electronic submission for grants and other funding would be helpful.

How can the network become more active and viable (outside of the context of the annual workshop)?

- The NMRI committees need to become more active and supportive of the Network. It appears that the organizational structure of the NMRI is adequate to ensure more activity if the committees become more active.
- Much discussion took place regarding investigators who commit to come to the NMRI meetings but do not. This is an important issue and strategies need to be developed

How can we recruit additional members to the network?

- Include mentors who may not be minorities, but who may have research geared toward underrepresented minorities or who are willing to mentor minority investigators. An important place to look for these individuals is among those investigators who have minority supplements.
- Consideration should be given to include post docs or graduate students as attendees.

Afternoon Plenary Session

Update on NIDDK Outreach Efforts
Elizabeth Singer, NIDDK, NIH

Ms. Singer presented outreach efforts by NIDDK and NIH to inform the public about important research results. The public has shown that they are desperate to find out about legitimate research that can impact their health. If results of NIDDK do not reach their intended audiences, there is little point in conducting research. NIH has a number of audiences, including patients, health professionals, science reporters, Congress, and the general public. NIH communicates with these audiences through publication of research manuscripts, and also through social marketing approaches involving the mass media, partnerships with the public and private sectors, and community outreach programs.

NIDDK has three national clearinghouses for disseminating information: the National Diabetes Information Clearinghouse, the National Digestive Diseases Information Clearinghouse, and the National Kidney and Urologic Diseases Information Clearinghouse. Each of these resources provides web information, toll-free numbers, electronic newsletters, and print copies of information. NIDDK also has started the Endocrine and Metabolic Diseases and Hematologic Diseases clearinghouses to address increased requests for information in these areas. In addition, the Weight-Control Information Network (WIN) has been funded by NIDDK for the past 13 years, and has become very important in disseminating information about obesity.

The NIDDK information network would have little to disseminate without results from clinical trials that inform health care professionals on how to prevent, diagnose, treat, and manage disease. Results from NIDDK-funded trials such as the Diabetes Control and Complications Trial (DCCT) for type 1 diabetes and the Diabetes Prevention Program (DPP) for type 2 diabetes are examples of clinical trials that produced important findings that have been, and continue to be, translated to the public. Much of the translation occurs through social marketing through NIDDK programs, such as the National Diabetes Education Program (NDEP). This program has three target audiences: people with diabetes and their families; health care providers; and payers, purchasers, and health care policymakers. Focus group research led to the development of four media campaign themes: 1) importance of family support, 2) being around for family as a motivation for better care, 3) reminders to patients that diabetes is a serious condition, and 4) diabetes is a manageable disease. Media campaign products are developed in this effort by ad hoc work groups, who provide a framework for to develop messages to communicate

research results to specific target audiences; these work groups also provide a built-in dissemination apparatus. Language-appropriate materials for controlling diabetes also were developed to promote diabetes control. In addition, NDEP has developed a variety of educational materials including websites for health care professionals, and work site wellness programs for employers.

An example of a prevention public campaign based on the DPP results is "Small Steps, Big Rewards: Prevent Type 2 Diabetes." The goals of the campaign were to create awareness that type 2 diabetes can be delayed or prevented in people with pre-diabetes; identify those at risk for pre-diabetes; define the term "pre-diabetes;" describe indications for testing patients at risk for pre-diabetes; and describe how providers can help patients with pre-diabetes. The GAMEPLAN Toolkit provided materials for health care providers, including a risk assessment tool, materials describing the program "Walking…A Step in the Right Direction," a food diary, and a calorie counter. Targeted publications were designed to reach high-risk populations, including African Americans Hispanic/Latinos, Asian American/Pacific Islanders, American Indians, older Americans, children and pregnant women.

The Centers for Disease Control and Prevention (CDC), which co-sponsors the NDEP with NIDDK has diabetes prevention and control programs in each of the 50 states, and each one is tasked with communication in communities.

Alarming recent research findings have been reported that describe an "obesity epidemic" in the United States. There is a clear connection between obesity and type 2 diabetes. Data indicate that increasing obesity in U.S. children is leading to increasing type 2 diabetes. To help address these issues, NIDDK participates in the trans-NIH Strategic Plan for NIH Obesity Research which sponsors basic, clinical, translational, and behavioral research. NIDDK's Weight-control Information Network (WIN) develop materials about improved nutrition and physical activity. WIN also sponsors outreach activities, such as Sisters Together: Move More, Eat Better which reaches out to African American women through local hair salons after school programs, Parent Teacher Associations, recreations centers and community health centers to provide information and advice on weight control.

Another program co-sponsored with the National Heart, Lung and Blood Institute and the National Institute of Child Health and Human Development is We Can! Ways to Enhance Children's Activity and Nutrition. Close to 200 locations in the United States participate in this program, which provides technical assistance and materials to community programs housed in doctor's offices, parks and recreation departments, and the YMCA; the program works with parents and children to promote the goals of enhanced physical activity and better understanding of nutrition. Although there are no magic bullets regarding weight control, the best advice is "Move More; Eat Better."

Another significant clinical trial with results that have been disseminated through the NIDDK information network is the African American Study of Kidney Disease (AASK), whose results are disseminated through the National Kidney Disease Education Program. The message from AASK is that kidney failure is an important problem among African Americans, and that there are strategies to treat kidney disease and prevent End Stage Kidney Failure

Additional information on any of the programs or clinical trials described are available at NIDDK's website, http://www2.niddk.nih.gov/, and at the NDEP website, www.ndep.nih.gov. Ms. Singer offered to work with the NMRI if members would like information or support in developing a communication plan.

Business Meeting and Committee Reports

Oversight Committee Report
Dr. Sarapura

Dr. Sarapura, chair of the NMRI Oversight Committee, provided information on the committee and its role in outreach to recruit and maintain membership in NMRI. She said that anyone was interested in being on the committee should contact her.

Update on Western Region Meeting and Plans for Southern Region Meeting
Dr. Isales

Dr. Isales reported that the NMRI Western Regional Meeting was held in Seattle, WA, on November 6–7, 2006. This was a pilot for regional meetings to see if these would encourage more participation.

The next regional meeting will be the NMRI Southern Regional Meeting in Atlanta, GA, on October 3–5, 2007. A planning committee has been established and has been making progress in developing the agenda and outreach efforts for recruiting speakers and attendees. Dr. Isales indicated that the next regional meeting after the Southern Region will be the NMRI Midwest Regional Meeting. He asked for input on suggestions for a location and volunteers for a planning committee.

Summary of Lunch Meeting Feedback and Discussion of Future Goals for NMRI

During this session, facilitators from the breakout groups held during lunch summarized their discussions around each of the presented questions. The compiled summary of these breakout sessions may be found on pages 91-92.

Other Business

Dr. Ferry announced that the Endocrine Society has programs for training that have been in place since 1998. There will be a career development workshop held the day before the Endocrine Society's annual meeting in Toronto in June 2007. There are travel grants available, and he asked those interested in attending to contact him using information in the program book.

Wrap-Up
Dr. Agodoa

Dr. Agodoa thanked everyone for attending the meeting. He asked that those completing the evaluation form list changes in position or tenure, as well as grants received or manuscripts published, since the last annual meeting.

He commented that he would like suggestions from participants on how to make sure those who have committed to attend do in fact attend. The NMRI will need to address this problem, and he asked for anyone with suggestions to let him know. A short discussion ensued that generally was supportive of being corrective; although the Network is voluntary, financial commitments are being made by NIDDK that could be better used for someone else to attend. One participant did suggest that many other NIH meetings require the individual to buy their own airline or train ticket, and guarantee their hotel room on their credit card, and request reimbursement after the meeting.

Dr. Agodoa concluded that he would draft a letter to notify members that they will need to attend the meeting if they make the commitment. This also will be placed on the NMRI website after passing the language past the chairs.

Adjournment

The meeting adjourned at 2:45 p.m.

National Institute of
Diabetes & Digestive &
Kidney Diseases