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**Division of Nutritional Sciences**  
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### **Education**

PhD, 1990, Biochemistry & Molecular Biophysics, Medical College of Virginia, Richmond, VA

Thesis Mentor: Professor Verne Schirch

BS, 1986, Chemistry, Saint Joseph's University, Philadelphia, PA

### **Postdoctoral Training**

1992-94: Nutritional Sciences, University of California at Berkeley, Berkeley, CA

Mentor: Professor Barry Shane

1990-91: Biochemistry & Molecular Biophysics, Medical College of Virginia, Richmond, VA

Mentor: Professor Verne Schirch

### **Academic Appointments**

2005-present: Professor, Cornell University, Division of Nutritional Sciences

2000-present: Adjunct Professor, Department of Biomedical Sciences, College of Veterinary Medicine, Cornell University

2000-05: Associate Professor, Cornell University, Division of Nutritional Sciences

1994-20: Assistant Professor, Cornell University, Division of Nutritional Sciences

### **Administrative Appointments**

Director, Division of Nutritional Sciences, Cornell University, 2005-present

*The Division of Nutritional Sciences is among the largest academic nutrition units globally with 74 academic faculty members with 33 holding tenure-track professorial appointments and an annual operating budget of about \$20 million USD.*

Director, World Health Organization (WHO) Collaborating Centre on Implementation Research in Nutrition and Global Policy: 2015-2020.

*The Cornell Centre supports the WHO through a joint annual 2-week training on systematic reviews in public health nutrition; Technical support for the development of a WHO repository of implementation research in public health nutrition programmes; and Curate the Micronutrients Database of the WHO-hosted Vitamin and Mineral Nutrition Information System.*

## **Professional Appointments**

Vice-President Elect, American Society for Nutrition (ASN), 2013-14

Vice-President, American Society for Nutrition (ASN), 2014-15

President, American Society for Nutrition (ASN), 2015-16

Treasurer, Association of Nutrition Departments and Chairs (ANDP), 1996-15

## **Graduate and other Program Memberships**

### **Graduate Field and Center Appointments, Cornell University**

Nutritional Sciences, 1994-present

Biochemistry, Molecular and Cellular Biology, 1995-present

Program in Neuroscience, 2002-present

Bronfenbrenner Center for Translational Research (BCTR), 2012-present

Comparative Biomedical Sciences, 2015-present

### **NIH Training Grant Memberships, Cornell University**

Chemistry-Biology Interface Grant

Biochemistry and Molecular Cell Biology Training Grant

Nutrition Training Grant

Infant-Maternal Nutrition Training Grant

### **Center Memberships, Cornell University**

Cancer Center of Weill Cornell Medical College and New York-Presbyterian Hospital

## **Awards and Honorary Distinctions**

National Academy of Sciences, Elected Member, 2016

American Association for the Advancement of Science (AAAS) Fellow, Elected, 2014

SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities, 2014

Osborne and Mendel Award, American Society for Nutrition, 2014

Method to Extend Research in Time (MERIT) Award, NIH-NIDDK, 2012

Honorary Member, Golden Key International Honour Society, 2012

E.R.L. Stokstad Award in Nutritional Biochemistry, ASNS, 1999

Cornell University "Outstanding Educator", Selected by Merrill Presidential Scholar Beatriu Reig, Class of 1999, College of Arts and Sciences, Cornell University

Cornell University "Outstanding Educator", Selected by Merrill Presidential Scholar Eric Epstein, Class of 1998, College of Agriculture and Life Sciences, Cornell University

Cornell University “Outstanding Educator”, Selected by Merrill Presidential Scholar Ilya Nasrallah, Class of 1998, College of Arts and Sciences, Cornell University  
Presidential Early Career Award for Scientists and Engineers, Awarded by President William J. Clinton, 1997  
Outstanding Alumnus Award, Medical College of Virginia, 1997  
Cornell University “Outstanding Educator”, Selected by Merrill Presidential Scholar Jessica Hills, Class of 1996, College of Human Ecology, Cornell University  
International Life Sciences Institute “Future Leader in Nutrition”, 1995  
Young Scholar Travel Award (100,000 yen) for the 8th International Symposium on Vitamin B6 and Carbonyl Catalysis, Osaka, Japan, 1990  
John C. Forbes Research in Progress Award, First Place, 1990  
Reverend Joseph Molloy Award in Chemistry, 1986

### **Scientific Advisory Boards and Committees, Panels and Review Teams**

*Chair*, National Institutes of Health, Nutrition Research Task Force Thought Leaders Panel, 2017  
*Chair*, Agricultural Research Service (ARS/USDA) Retrospective Review Panel, 2017  
*Member*, Consensus Study, National Academy of Sciences. *The Development of Guiding Principles for the Inclusion of Chronic Disease Endpoints in Future Dietary Reference Intakes*, 2016  
*Chair*, Workshop, Office of Dietary Supplements, NIH, Bethesda, MD. *Iron Screening and Supplementation of Iron-replete Pregnant Women and Young Children*, 2016  
*Member*, NIDCR/NIH Workshop. Bethesda. MD. *Gene-Environment Interaction in Oralfacial Clefting*, 2016  
*Member*, Space Nutrition Workshop, Johnson Space Center in Houston. *Evaluation of the Current Understanding of the Role of Nutrition in Space, to Define Nutritional Requirements for Future Space Exploration Missions*, 2016  
*Member*, Medical Research Council (MRC) Panel Review of *Nutrition and Human Health Research*, London, England, 2016  
*Member*, Fred Hutchinson Cancer Center, External Advisory Committee, Cancer Prevention Training: Epidemiology, Nutrition, Genetics and Survivorship, Seattle, USA, 2016 - present  
*Member*, Biofotis Scientific Advisory Committee, Chicago USA, 2015 - present  
*Member*, Marabou Foundation Scientific Advisory Committee, Stockholm Sweden, 2015 - present  
*Member*, Marabou Foundation Board, Stockholm Sweden 2015 - present  
*Member*, Chobani Scientific Advisory Committee, New York USA, 2015- present  
*Member*, Supporters of Agricultural Research (SoAR) Foundation, Scientific Advisory Committee, 2015  
*Member*, Committee to Establish a Cochrane Nutrition Field, Cochrane South Africa, Cape Town South Africa, 2015

*Member, Nutrition and Dietary Supplements Committee: PhenX Consensus Measures for Phenotypes and Exposures. National Human Genome Research Institute (NIH) and RTI International, 2014-15*

*Member, Expert Panel: Achieving a Transparent, Actionable Framework for Public-Private Partnerships, National Institutes of Health, International Life Sciences Institute, United States Department of Agriculture, American Society for Nutritional Sciences, 2014-15*

*Member and Subpanel Chair: Expert Panel: Identifying Research Needs for Assessing Safe Use of High Intakes of Folic Acid, National Toxicology Program, National Institutes of Health, 2014-15*

*Chair, External Review Committee: Cyclical program review of Department of Food Science and Human Nutrition, Iowa State University, 2014*

*Member, WHO Guideline Development Group: Optimal Blood Folate Concentrations in Women of Reproductive Age for Prevention of Neural Tube Defects, WHO/HQ Geneva, Switzerland, 2013*

*Member, Committee: Framework for Assessing the Health, Environmental, and Social Effects of the Food System, Institute of Medicine, National Academies of Sciences, 2013-15*

*Member, External Review Committee: Cyclical program review of the School of Dietetics and Human Nutrition, McGill University, 2014*

*Member, External Review Committee: Comprehensive program review of the Department of Nutrition and Toxicology, University of California, Berkeley, 2014*

*Member, Food and Nutrition Board, Institute of Medicine, National Academies of Science, 2007-13*

*Chair, External Review Committee: Comprehensive program review of the Sackler Institute for Nutrition Science, New York Academy of Sciences, 2012-13*

*Member, CDC/WHO Technical Consultation: Optimal Blood Folate Concentrations in Women of Reproductive Age for the Prevention of Neural Tube Defects, Atlanta GA, 2012*

*Member, Board of Directors, American Society for Nutritional Sciences, 2011-present*

*Member, External Review Committee: Comprehensive program review of the Human Nutrition, Food and Exercise Department, Virginia Tech University, 2012*

*Member, Folate Expert Panel: Biomarkers of Nutrition for Development (BOND) Initiative. The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health (NIH)/U.S. Department of Health and Human Services, 2011-14*

*Member, Undernutrition Group, Scientific Steering Committee, The Sackler Institute for Nutrition Science, New York Academy of Sciences, 2011-15*

*Member, International Scientific Advisory Board, Institute for Nutritional Sciences, Shanghai Institutes of Biological Sciences, Chinese Academy of Sciences, 2011-present*

*Advisor to the Board, Britannia Nutrition Institute (BNI), Bangalore, India, 2009-14*  
*BNI is an independent, autonomous, non-profit body that leverages the strengths of Britannia's wide stakeholder network to effect policy changes and social awareness regarding child nutrition.*

*Member, Applied Research and Extension Program Council, Cornell University, 2010-present*

*Chair*, External Review Committee: Comprehensive program review of the Nutritional Sciences Department, Purdue University, 2012

*Member*, External Review Committee: Comprehensive program review of Human Graduate Nutrition Program, Oregon State University, 2011

*Observer*, Thirty-sixth Session of the Committee on World Food Security (CFS), FAO, Italy, 2010

*Member*, NHANES, National Center for Health Statistics, Planning Advisory Panel, 2010

*Member*, Steering Committee for FASEB-sponsored conference: Engaging Basic Researchers in the Translational Research Enterprise, 2010-11

*Member*, Biomarkers of Nutrition for Development: Building a Consensus, National Institute of Child Health and Human Development (NICHD) & UN agencies, Vienna, Austria, 2010

*Member*, State of the Science Panel, Folic Acid, March of Dimes National Office, 2009

*Member*, Expert Advisory Committee: *Hot Topics in Preconception Care: Folate and Beyond*, The Association of Reproductive Health Professionals (ARHP), 2009

*Chair*, Nutrition and Dietary Supplements Committee, PhenX Consensus Measures for Phenotypes and Exposures, National Human Genome Research Institute (NIH) and RTI International, 2008-09

*Member*, External Review Committee: Comprehensive Program Review of the Food Science and Human Nutrition Department, Institute of Food and Agricultural Science, University of Florida, 2009

*Member*, Harmonization of Dietary Standards Expert Committee, United Nations University, Florence, Italy, December 2005

*Member*, Nutrigenomics Workshop Planning Committee, National Academy of Sciences, Institute of Medicine, 2005

*Member*, Technical Consultation on Folate and Vitamin B12 Deficiency, World Health Organization (WHO), Geneva, 2005

*Member*, Maternal Folate Supplementation Expert Committee, Food and Drug Administration, 2003

*Member*, Workshop on Folate Fortification for the Americas, Pan American Health Organization (PAHO) Washington, DC, 2003

*Member*, Workshop on Exploring a Vision: Integrating Knowledge for Food and Health, National Academies of Science, Washington, DC, 2003

### **Professional Development**

College of Agriculture and Life Sciences Faculty Leadership Program, Cornell University, 2010

Effective Interactions in Organizations Workshop, Cornell University, 2005

Thornfield Teaching Workshop, Cornell University, 1998

Academic Leadership Series Workshop, Cornell University, 1998, 1999, 2001

Molecular Biology of the Mouse course participant, Cold Spring Harbor, 1997

Faculty Workshop on Student Stress, faculty participant, Cornell University, 1996

### **Scientific, Honorary and Professional Societies**

Sigma-XI, Cornell University Chapter, 2012-14

American Society for Nutrition, 1998-present

American Association for the Advancement of Science, 1994-present

American Society for Biochemistry and Molecular Biology, 1994-present

American Chemical Society, 1994-96

Philadelphia Organic Chemists Club, 1984-86

Sigma-XI, Saint Joseph's University Chapter, 1985

### **Student Organizations/Advising**

Cornell University March of Dimes Collegiate Council, Faculty Advisor, 2009-present

Cornell Freshman Reading Project, Discussion Leader, 2008-15

Cornell Faculty Fellow, Dining Hall Discussion Leader, 2004

### **Scientific Meetings and Short Courses Organized**

*Organizer:* New York Academy of Sciences, Conference on Distinctive Nutritional Requirements. December 2015

*Organizer:* WHO/Cochrane Collaboration/Cornell University Summer Institute for Systematic Reviews in Nutrition for Global Policy Making, 2014-2015

*Organizing Co-chair:* Keystone Conference – Nutrition and Epigenetics, 2013

*Organizing Chair:* FASEB Summer Conference - Folic Acid, Vitamin B12 and One-Carbon Metabolism, 2004

*Organizing Co-Chair:* FASEB Summer Conference - Folic Acid, Vitamin B12 and One-Carbon Metabolism, 2002

*Chair:* American Society for Nutritional Sciences - Initiative on Graduate Education Ithaca, NY, 2001

### **Conference Advisory Committees**

Marabou Foundation Symposium, Stockholm, Sweden 2015

Living Well to 100 Conference, Tufts University, 2006

Nutritional Genomics Conference, National Academy of Sciences, 2006

International Homocysteine Meeting, 2005, Milan, Italy, 2005

Living Well to 100 Conference, Tufts University, 2004

International Homocysteine Meeting, Basel, Switzerland, 2003

## **Development Activities**

College of Human Ecology Advisory Committee: “Expanding the Nutrition Frontier with Cornell Leading the Way”, 2016

Cornell University Federation Speaker Series Program

Cornell University New Life Sciences Initiative Speakers Series

## **Invited Seminars**

“Arsenic Targets Folate-dependent de novo Thymidylate Synthesis in the Nucleus Leading to Neural Tube Defects”, 11th International Conference on Pathways, Networks, and Systems Medicine. Crete, Greece, June, 2017

“Arsenic Targets Folate-dependent de novo Thymidylate Synthesis in the Nucleus Leading to Neural Tube Defects”, 11th International Conference on Homocysteine and One-Carbon Metabolism. Aarhus, Denmark, May, 2017

“Arsenic Targets Folate-dependent de novo Thymidylate Synthesis in the Nucleus Leading to Neural Tube Defects”, University of Braunschweig. Braunschweig, Germany, May, 2017

“Challenges and Opportunities: Standards of Evidence to Reach Clinical Guidelines and Distinctive Nutritional Requirements” Experimental Biology Conference, Chicago Ill. April 2017

“Arsenic Targets Folate-dependent de novo Thymidylate Synthesis in the Nucleus Leading to Neural Tube Defects” NICHD’s 11<sup>th</sup> Structural Birth Defects Meeting, Bethesda, MD, April 2017

“U.S. Department of Agriculture (USDA) Dialogue with Journal Editors and Scientific Societies on Enhancing Rigor & Reproducibility in the Reporting of Agricultural, Forestry, and Nutrition Research” Webinar, January 2017

“Safety of Folic Acid” Technical Consultation for Folate Status in Women and Neural Tube Defects Risk-Reduction. Micronutrient Initiative, Ottawa, Canada. December, 2016.

“The National Nutrition Research Roadmap: Basic Science and Epidemiology of Nutrition: Scientific Premise of Individual Variances in Nutritional Status and Response to Diet” Webinar sponsored by the American Society for Nutrition. November, 2016

“What Should We Expect from the Food Supply” Beijing Conference on Food Nutrition and Human Health” Beijing, China, 2016

“Nuclear One-Carbon Metabolism” The Folate Receptor Society - 6<sup>th</sup> Biennial Meeting, Breckenridge CO, 2016

“In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration” The Microsoft Research - University of Trento Centre for Computational and Systems Biology, Italy, 2016

- “2016 Global Nutrition Report Launch: US Perspective” Senate Dirksen Office Building, Washington DC, 2016
- “Systems Approaches to Nutrition: Where we are, and where are we going?” American Society for Nutrition Plenary Session: Presidential Symposium. Organizer and Session Chair. Experimental Biology Meeting, San Diego, CA, 2016
- “Functional Roles for Public-Private Partnerships to Support Food and Nutrition Research – Principles and Examples”, Experimental Biology Meeting, San Diego, CA. 2016
- “The Biochemistry and Nutrition of B-Vitamins and Human Health” University of Massachusetts, Boston, McNair program Recruitment Event, Boston, MA, 2016
- “New High-Affinity Targets for an Old Toxin; Arsenic Impairs Folate Metabolism”, Columbia University, NY, 2015
- “Nutrition and Food Research: Positioning us for Success” Association of Nutrition Departments and Chairs Annual Meeting, Pomona, CA, 2015
- “American Society for Nutrition: Alliance with Nutrition Departments and Chairs” Association of Nutrition Departments and Chairs Annual Meeting, Pomona CA. 2015
- “In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration” Keystone Symposium, Human Nutrition, Environment and Health, Beijing, China, 2015
- “In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration” Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa, 2015
- “In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration” 10th International Conference One-Carbon Metabolism, Vitamins B and Homocysteine, Nancy, France, 2015
- “In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration” 11<sup>th</sup> Aegean Conference on Pathways, Networks and Systems, Crete, Greece, 2015
- “Assessing the Real Impacts of Food”, Plenary Presentation, EAT Stockholm Food Forum, Stockholm, Sweden, 2015
- “What should we expect from the food supply”, Plenary Presentation, Chinese Nutrition Society, Beijing, China, 2015
- “In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration” Chinese Nutrition Society, Beijing, China, 2015
- “Folic Acid and Birth Defect Prevention” Cornell Undergraduate Health Cooperative, Sick in America seminar series, Cornell University, 2015
- “What do you expect from the food supply” Public Talk, David H. Murdock Research Institute, Kannapolis, NC, 2015
- “In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration”, University of North Carolina, at Chapel Hill, Nutrition Research Institute, 2015



- "Emerging Topics in Nutrigenomics" Health Canada, Science Symposium IV: Food for Thought: Scientific Advances in Nutrition and Food Safety, Ottawa, Canada, 2015
- "In search of a common pathway for folic acid-responsive neural tube defects, cancers and neurodegeneration", Universite du Luxembourg, Luxembourg Centre for Systems Biomedicine, 2014
- "In Search of a Common Pathway for Folic Acid-Responsive Neural Tube Defects" Ninth Structural Birth Defects Meeting, NIH-NICHD, Bethesda Maryland, 2014
- "What you Eat and Why it Matters: the Future of Food and Graduate Education in the Life Sciences at Cornell University" University of Massachusetts, Boston, McNair program Recruitment Event, Boston, MA, 2014
- "Metabolic Pathways in Folic-acid Responsive Neural Tube Defects" Department of Nutritional Sciences, University of Texas, Austin, 2014
- "One-Carbon Metabolism & Cancer" 4th International Conference on Breast Cancer and Nutrition, Purdue University, Indiana, 2014
- "Healthy Eating for Healthy Living: A Look into the Future" Nutrition and Wellness Symposium, Nassau Community College Biology Club, Nassau Community College, New York, 2014
- "Systems Biology: A Molecular Nutrition Perspective" Molecular Med Tri-Conference, San Francisco, California, 2014
- "Public Health Interventions and Biologically Heterogeneous Human Populations: Nutrition and Birth Defect Prevention" World Health Organization (WHO) Geneva, Switzerland, 2013
- "Nuclear One-Carbon Metabolism & Neural Tube Defects" 8th International Conference on Neural Tube Defects, Austin Texas, 2013
- "Folate-Genome Interactions in Folate-Associated Pathologies" Interdisciplinary Program in Genetics, Iowa State University, Ames, Iowa, 2013
- "Nuclear One-Carbon Metabolism & Neural Tube Defects" University of Massachusetts, Boston, McNair Lecture Series, Boston, 2013
- "Nuclear One-Carbon Metabolism & Neural Tube Defects" 9th International Homocysteine and One-Carbon Metabolism Conference, Dublin, Ireland, 2013
- Cornell Adult University Lecture Series in "Healthy Eating for Healthy Living – From the Womb Ward", July 21-27, 2013
- Lecture Series in "Workshop on Food and Nutrition in Translational Medicine", June 4-7, Fu-Jen University, Taiwan:
- Lecture 1: "Evolutionary Origin of Nutrient-Genome Interactions"
  - Lecture 2: "Mechanisms of Folate-Responsive Neural Tube Defects"
  - Lecture 3: "Folate and Folic Acid in Cancer"
  - Lecture 4: "Nuclear One-Carbon Metabolism in Cancer and Neural Tube Defects"
- "Folic Acid, Birth Defects and Colon Cancer: Is There an Epigenetic Explanation? 25th Annual Virginia A Beal Lecture, University of Massachusetts, Amherst, 2013

"Nuclear One-Carbon Metabolism & Neural Tube Defects" John Scott Memorial Symposium, Trinity University, Dublin, Ireland, 2013

"Nutrition and Epigenetics" BeechNut, Amsterdam, New York, 2013

"Nuclear One-Carbon Metabolism and Neural Tube Defects" Ninth Structural Birth Defects Meeting, NIH-NICHD, Bethesda Maryland, 2013

"Nuclear One-Carbon Metabolism and Neural Tube Defects" Keystone Conference on Nutrition and Epigenetics, Santa Fe, Arizona, 2013

"Folate Versus Folic Acid." Purdue University, February 2013

"Nuclear One-Carbon Metabolism and Neural Tube Defects" Universite du Luxembourg, Luxembourg Centre for Systems Biomedicine, December 2012

"Mouse Models for Biomarker Discovery and Mechanism Elucidation of Folate-responsive Neural Tube Defects and Intestinal Cancer" Office of Dietary Supplements, National Institutes of Health, Bethesda, MD, 2012

"Genetic and Epigenetic Contributions to Human Nutrition and Health: Managing Genome-Diet Interactions" University of Massachusetts, Boston, 2012

"Genetic and Epigenetic Mechanisms Underlying the Relationship Between Folate and Neural Tube Defects" CDC/WHO Technical Consultation: Optimal Blood Folate Concentrations in Women of Reproductive Age for the Prevention of Neural Tube Defects, Atlanta GA, 2012

"Nuclear One-Carbon Metabolism and Neural Tube Defects" FASEB Summer Conference on Folate, Vitamin B12 and One-Carbon Metabolism, Crete, Greece, 2012

"FASEB BOND Session: Presentation of Research Priorities" FASEB Summer Conference on Folate, Vitamin B12 and One-Carbon Metabolism, Crete, Greece, 2012

"*De novo* Thymidylate Biosynthesis at the Replication Fork is Essential to Prevent Uracil Incorporation into DNA" 10<sup>th</sup> International Conference on Pathways, Networks and Systems Medicine, Rhodes, Greece, 2012.

"Linking One-Carbon Metabolism to Epigenetic Regulation" Experimental Biology Symposium on "Nutritional Regulation of Epigenetic Changes" San Diego, CA, 2012

"Folate-Genome Interactions: The Role of Metabolic Compartmentation in Managing Gene Expression and Genome Stability" Distinguished Lecture, The Cancer Institute of New Jersey in New Brunswick, NJ, 2011

"Novel Biomarkers and their Application" Cornell Center for Technology, Enterprise and Commercialization, Ithaca, NY, 2011

"Folate-Responsive Neural Tube Defects: Novel Biomarkers and Causal Pathways", Seventh International Conference on Neural Tube Defects, Austin, TX, 2011

"Genetic and Epigenetic Contributions to Human Nutrition and Health: Managing Genome-Diet Interaction" NESTLE Institute of Health Sciences, Lausanne, Switzerland, 2011

"Genetic and Epigenetic Contributions to Human Nutrition and Health: Managing Genome-Diet Interactions", NESTLE - INMEGEN Nutrigenomics Conference, Mexico City, Mexico, 2011

- “Harmonizing Nutrition Science and Food Systems to Ensure Human Health” 3<sup>rd</sup> Britannia Nutrition Foundation Symposium, Delhi, India, 2011
- “Folate-Responsive Neural Tube Defects: Novel Biomarkers and Causal Pathways” Eighth Structural Birth Defects Meeting, Rockville, MD, 2011
- “Identification of a *de novo* Thymidylate Biosynthesis Pathway in Mammalian Mitochondria” 8th International Conference on Homocysteine Metabolism, Lisbon, Portugal, 2011
- “Folate-Genome Interactions: The Role of Metabolic Compartmentation in Managing Gene Expression and Genome Stability”, 9th International Conference on Pathways, Networks, and Systems Medicine, Chania, Crete, Greece, 2011
- “Nuclear Folate Metabolism and Folate-related Cancers and Developmental Anomalies”, Boston University, Graduate Program in Nutrition, 2011
- “Folate and Cancer Risk: Folate Deficiency and Cancer” Advances and Controversies in Clinical Nutrition Conference, American Society for Nutrition, 2011
- “Folate-Genome Interactions: Managing Gene Expression and Genome Stability”, University of Nebraska, Department of Nutrition, 2011
- “Nuclear Folate Metabolism and Folate-related Cancers and Developmental Anomalies”, Wageningen University, Graduate Program in Nutrition, The Netherlands, 2011
- “Nuclear Folate Metabolism and Folate-related Cancers and Developmental Anomalies.” Institute for Nutritional Sciences, Shanghai Institutes of Biological Sciences, Chinese Academy of Sciences, 2011
- “Folate-Genome Interactions: Managing Gene Expression and Genome Stability” Lands Lectureship, University of Michigan, Department of Biochemistry, 2010
- “Folate-Genome Interactions: Managing Gene Expression and Genome Stability” 7<sup>th</sup> Annual Nestle Symposium, Lausanne, Switzerland, 2010
- “Science, Research and Malnutrition” 2<sup>nd</sup> Britannia Nutrition Foundation Presentation, New Delhi, India, 2010
- “Nuclear Folate Metabolism and Folate-Associated Cancers and Developmental Anomalies”, The University of Wisconsin, 2010
- “Nuclear Folate Metabolism and Folate-Associated Cancers and Developmental Anomalies”, The University of South Carolina, 2010
- “Nuclear Folate Metabolism and Folate-Associated Cancers and Developmental Anomalies”, The Pennsylvania State University, 2010
- “Engineering Agriculture & Food Systems for Public Health in Diverse Populations: Nurture, Nature and the Hippocratic Oath” Beltsville Human Nutrition Research Center USDA/ARS, 2009
- “SHMT1 and the Metabolic Origin of Folate-responsive Neural Tube Defects”, NICHD, NIH, 2009
- “Possible Risks of Folic Acid – What do We Know about Cancer, the Aging Population, Free Folic Acid, High Folic Acid, Low Vitamin B12 ”, State-of-the Science: Folic Acid 2009 Meeting, March of Dimes, White Plains, NY, 2009

- “Engineering Agriculture & Food Systems to Alleviate Malnutrition and Promote Health in Diverse Populations” Britiannia Foundation, New Delhi, India, 2009
- “Engineering Agriculture & Food Systems for Public Health in Diverse Populations: Nurture, Nature and the Hippocratic Oath”, Opening Lecture, 10<sup>th</sup> Congresso Nacional da SBAN (Brazilian Society for Food and Nutrition), September 2009
- “Targeting Maternal Nutrient Interventions for Birth Defect Prevention: Can we reap the benefits while mitigating the risks?” 10<sup>th</sup> Congresso Nacional da SBAN (Brazilian Society for Food and Nutrition), 2009
- “Trafficking of Intracellular Folates” 7<sup>th</sup> International Conference on Homocysteine, Prague, Czech Republic, 2009
- “DNA methylation and Genomic Silencing”, Experimental Biology Symposium on Epigenetics, New Orleans, LA, 2009
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, Cornell University, Division of Nutritional Sciences, 2008
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, FASEB Summer Conference on Folic Acid, Vitamin B12, and One Carbon Metabolism, Lucca, Italy, 2008
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, Rutgers University, 2008
- “Regulation of One-Carbon Metabolism by Ferritin/Iron Through Cap-Independent Translation”, FASEB Summer Conference on Molecular Mechanisms Involved in the Nutrient Control of Cellular Function, Carefree, AZ, 2008
- “Translational Regulation of Folate-Mediated One-Carbon Metabolism by Ferritin: Implications for Neural Tube Defects and Colon Cancer”, Harvard University, Boston, 2008
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, National Chung Hsing University, Taiwan, 2008
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, China Medical University, Taiwan, 2008
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, University of Illinois, Urbana, 2007
- “Mouse Models to Elucidate the Mechanisms of Folate-Related Cancer Pathologies”, NCI Conference on Diet, Epigenetic Events, and Cancer Prevention,” Gaithersburg, MD, 2007
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, Saint Joseph’s University, Philadelphia “Frontiers in Science” lecture, 2007
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, International Homocysteine Conference, Germany, 2007
- “Balancing Genetic and Epigenetic Contributions to Human Phenotypes”, University of Colorado, Boulder, for the *Lillian Foundation Smith Conference for Nutrition Educators*, 2007
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, Cleveland Clinic Cell Biology Seminar Series, 2007

- “Is there a Role for Genomics in Nutrition Curriculum?” American Society for Nutrition, Experimental Biology Nutrition Chairs Breakfast, 2007
- “Integrating New Concepts into Graduate Nutrition Curricula: Strategies for Staying at the Forefront While Maintaining our Nutrition Identity”, American Society for Nutrition Experimental Biology Nutrition Education Committee, 2007
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, USDA Baylor Children’s Research Unit, 2007
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, University of Tennessee Department of Biomedical Sciences, 2007
- “Folic Acid, Birth Defects and Colon Cancer: Managing Gene Expression and Genome Stability”, Michigan State University, Department of Food and Nutrition, 2007
- “A New Model for Capacity Development Targeting Universities through the United Nations University”, Standing Committee of Nutrition Conference, Rome, Italy, 2007
- “One-Carbon Metabolism in Network Dynamics”, New Paradigms in Vitamin B<sub>12</sub> Research and 13<sup>th</sup> Annual Sneha-MRC International Workshop, Lonavala, India, 2007
- “A Mammalian Iron-sensing Internal Ribosome Entry Sequence”, Case Western Reserve University, 2006
- “Folic Acid, Cancer and Birth Defects: Managing Genome Stability and Expression”, Cornell University Department of Food Science, 2006
- “Network Dynamics: Managing Genome Methylation and Integrity”, FASEB Summer Conference on Folic Acid and One-Carbon Metabolism, 2006
- “Nutritional Epigenetics”, National Academy of Sciences, Nutritional Genomics Symposium, 2006
- “New Perspectives on B-vitamin Requirements”, National Academy of Sciences, Institute of Medicine, Washington, DC, 2006
- “Network Dynamics: Managing Genome Methylation and Integrity”, USDA- Western Regional Center, Albany, CA, 2006
- “Network Dynamics: Managing Genome Methylation and Integrity”, Cornell University Division of Nutritional Sciences, Ithaca, NY, 2005
- “Mechanisms of Folate-related Developmental Anomalies”, Institute of Biosciences and Technology, The Texas A&M University System Health Science Center, 2005
- “Nutrition and Developmental Biology: Implications for Public Health”, Marabou Symposium, Stockholm, Sweden, 2005
- “Homocysteine - A Branch Point intermediate in One-Carbon Metabolism” Homocysteine Metabolism - 5th International Conference, Milano, Italy, 2005
- “10-Formyltetrahydrofolate is a Tight-Binding Inhibitor of Methenyltetrahydrofolate Synthetase: Implications for Regulation of Purine Biosynthesis” 13th International Symposium on Chemistry & Biology of Pteridines & Folates, Egmond aan Zee, The Netherlands, 2005

"Partitioning of One-Carbons Between Nucleotide and S-Adenosylmethionine Synthesis: Evidence for Nuclear Folate Metabolism" University of California-Berkeley Department of Nutrition, 2005

"Genetic Variation and Nutritional Requirements", Living Well to 100 Conference, Boston, MA, 2004

"Nutritional Inputs, Genomic Responses: Regulation of One-Carbon Metabolism", University of Wyoming, Biochemistry, Molecular and Cell Biology, 2004

"Folate, Cancer, Genetic Variation and the Food Supply", Cancer and Environment Forum of the Cornell Program on Breast Cancer and Environmental Risk Factors, Ithaca, NY, 2004

"Human Genetic Variation and Nutritional Requirements", XIV International Congress of Dietetics, Chicago, IL, 2004

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", Linus Pauling Institute, Oregon State University, Corvallis, OR, 2004

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", Purdue University Nutritional Sciences, 2004

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", Cornell University Division of Nutritional Sciences, 2004

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", Advancements in Molecular Medicine, Madrid, Spain, 2003

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", International Mouse Genome Conference (IMGC), Germany, 2003

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", Cornell University Department of Biomedical Sciences, 2003

"Rational Design of Mouse Models to Understand Folate-Related Pathologies", Tufts University/USDA Center, 2003

"Identification of a Ferritin-Responsive Internal Ribosome Entry Sequence in the Cytoplasmic Serine Hydroxymethyltransferase Gene", Experimental Biology Meetings, 2003

"Genome Stability", Nutrition and Genome Workshop, EB 2003 San Diego, CA, 2003

"Nutrition, Genetic Variation and the Food Supply", USDA, Beltsville, MD, 2003

"Nutrition, Genetic Variation and the Food Supply", Vassar Brothers Institute, Poughkeepsie, NY, 2003

"Physiology of Folate in Health and Disease" Pan American Health Organization (PAHO) Workshop on Folate Fortification for the Americas, 2003

"Rational Design of Mouse Models to Understand Folate-Related Pathologies" University of Wisconsin at Madison, 2002

"Opportunities for Nutritional Genomics at Land Grant Universities", BoHS Meetings at NASULGC, Chicago, IL, 2002

"Mouse Models of Serine Hydroxymethyltransferase", FASEB Summer Conference, Snow Mass, CO, 2002

- “Nutrition and Genetic Variation” FASEB Experimental Biology Meetings, PIC Symposium, New Orleans, LA, 2002
- “Securing the Future of Nutritional Sciences through Graduate Education” Experimental Biology Meetings Symposium on Graduate Education in the Nutritional Sciences, New Orleans, LA, 2002
- “Nutrition and Genome Stability and Expression” WHO Workshop on Novel Foods, Melbourne, Australia, 2001
- “Bringing Individuality to Public Health Recommendations” NIH Special Conference on Diet, DNA Methylation Processes and Health, Bethesda, MD, 2001
- “Effects of Folate on DNA Methylation” Federal Food and Nutrition Board, Woods Hole, MA, 2001
- “Iron Regulates Folate Metabolism” 6<sup>th</sup> International Conference on the Biology and Chemistry of Folic Acid and Pterins, Bethesda, MD, 2001
- “Regulation of Folate Metabolism by Iron” Wake Forest University Department of Biochemistry and the Comprehensive Cancer Center, 2001
- “Regulation of Folate Metabolism by Iron” University of Alabama at Birmingham, Clinical Nutrition Research Center, 2000
- “Structure, Function and Regulation of Serine Hydroxymethyltransferase”, Medical College of Virginia Institute for Structural Biology, 2000
- “Ferritin Expression Regulates Folate Metabolism” (Session Chair), FASEB Summer Conference, 2000
- “Developmental and Homeostatic Regulation of Folate Metabolism” University of North Carolina Department of Nutrition and Department of Genetics, 2000
- “Structural Characterization and Developmental Regulation of Serine Hydroxymethyltransferase” Cornell University Graduate Field of Biochemistry, Molecular and Cellular Biology, 2000
- “Developmental and Homeostatic Regulation of Folate Metabolism” Cornell University Department of Biomedical Sciences, College of Veterinary Medicine, 2000
- “Regulation of Cytoplasmic Serine Hydroxymethyltransferase Gene Expression” (Session Chair), 10<sup>th</sup> International Symposium on Vitamin B6 and Carbonyl Catalysis, 1999
- “Cytoplasmic Serine Hydroxymethyltransferase Regulates Folate Metabolism and Mediates Nutrient Effects on Gene Expression” Vanderbilt University Program in Nutrition, 1999
- “Cytoplasmic Serine Hydroxymethyltransferase Regulates Folate Metabolism and Mediates Nutrient Effects on Gene Expression” Sloan-Kettering Institute Department of Clinical Nutrition, 1999
- “The Role of Iron in Folate Metabolism” University of Texas at Austin Department of Chemistry and Biochemistry, 1998
- “Does Folate Metabolism Regulate Folate Catabolism?” FASEB Summer Conference, 1998
- “Regulation of Folate Catabolism” University of Illinois Department of Nutrition, 1997

“Regulation of Folate Catabolism” University of Buffalo Medical College Department of Biochemistry, 1997

11<sup>th</sup> International Folate and Pteridine Conference, Berchtesgarden, Germany, 1997 (Invitation Declined)

“Defining the Metabolic Role of Leucovorin” Medical College of Virginia Forbes Day (Keynote Speaker), 1997

“Defining the Metabolic Role of Leucovorin” University of Montreal Oncology Division, April 1997

“Defining the Metabolic Role of Leucovorin” International Life Sciences Institute Scientific Program, Miami, FL, 1997

“Defining the Metabolic Role of Leucovorin” Cornell University Field of Biochemistry Retreat, 1996

“Defining the Metabolic Role of Leucovorin” Cornell University Division of Nutritional Sciences, 1996

“Defining the Metabolic Role of Leucovorin” Colgate University Chemistry Department, 1996

“Defining the Metabolic Role of 5-Formyltetrahydrofolate” FASEB Summer Conference, 1996

“Cytoplasmic Serine Hydroxymethyltransferase: Does its Reaction Mechanism have Implications in Elucidating its Physiological Function?” Cornell University Field of Biochemistry Seminar Series, 1995

“Defining the Metabolic Roles of Mitochondrial and Cytosolic Serine Hydroxymethyltransferase and their Influence on Cellular Homeostasis” Health Science Center at Syracuse Department of Biochemistry, 1994

“Defining the Metabolic Roles of Mitochondrial and Cytosolic Serine Hydroxymethyltransferase and their Influence on Cellular Homeostasis” Cornell University Division of Nutritional Sciences, 1994

“Another Look at the Metabolic Role of Folinic Acid” University of California-Berkeley Department of Nutritional Sciences, 1992

“5-Formyltetrahydrofolate, Biosynthesis and Metabolic Role in One-Carbon Metabolism” Medical College of Virginia Department of Biochemistry, 1991

## **External Support**

### **Current**

National Institutes of Health (NIH) “Nutrition Training” 07/01/12 - 06/30/17 T32-DK007158, Total direct support - \$2,423,253, PI

National Institutes of Health (NIH) “Homeostatic Regulation of Folate Metabolism” 07/01/12-06/31/22 R37DK58144, Total direct support - \$2,150,000, PI

National Institutes of Health (NIH) “Gene-Nutrient Interactions in Neural Tube Defects” 07/01/14-06/30/19, R01 HD059120, Total direct support - \$1,250,000, PI



## Expired

- National Institutes of Health (NIH) "Gene-Nutrient Interactions in Neural Tube Defects" 07/01/09-06/30/14, R01 HD059120, Total direct support - \$1,250,000, PI
- National Institutes of Health (NIH) "Nutrition Training" 12/01/07-11/30/12, T32-DK007158, Total direct support - \$2,423,253, PI
- U.S. Dept. of Agriculture (USDA-NIFA) "Human Nutrient Requirements in Obesity, Pregnancy and Child Development" 7/01/10-06/30/11, Total direct support - \$350,862, PI
- U.S. Dept. of Agriculture (USDA-CSREES), Special Research "Biomarkers for Optimal Human Calcium and Choline Requirements during Pregnancy" 7/15/09-1/14/11, Total direct support - \$351,472, PI
- U.S. Dept. of Agriculture (USDA-CSREES), Special Research, 2006-34324-19780, "Stable Isotope Metabolism and Human Nutritional Requirements" 8/15/06- 8/14/07, Total direct support - \$536,048, PI
- National Institutes of Health, NCI (NIH) "Folate-Genome Interactions in Colon Cancer" 06/01/04-05/31/08, R01 CA105440-01, Total direct support - \$1,961,341, PI
- National Institutes of Health (NIH) "Regulation of Folate Catabolism" 12/01/02-11/30/07, R01 HD35687-01, Total direct support - \$1,000,000, PI
- International Life Sciences Institute (ILSI) "Regulation of 5-formyltetrahydrofolate Synthesis" 01/01/95-12/31/97, Total direct support - \$30,000, PI
- Kraft Foods/American Dietetic Association, "Regulation of Folate Status in Pregnancy" 6/31/97-6/31/98 (with E. Oppenheim), Total direct support - \$5,000, PI
- National Institutes of Health (NIH) "Homeostatic Regulation of Folate Metabolism" 07/01/07-06/31/11, R01 DK58144, Total direct support - \$1,000,000, PI
- U.S. Dept. of Agriculture (HATCH) "Regulation of Glycine Synthesis" 01/01/95-12/31/00, Total direct support - \$50,000, PI
- Bronfenbrenner Life Course Center "A Cohort Study of Homocysteine, Nutrition and Genetics" 07/01/99-06/30/00, Total direct support - \$14,000, Co-PI
- National Institutes of Health (NIH) "Regulation of Serine Hydroxymethyltransferase" 08/01/95-07/31/00, 1R29DK49621, Total direct support - \$347,000, PI
- National Institutes of Health (NIH) "Cysteine Dioxygenase Transgenic Mouse Model" 07/01/00-06/31/01 (PA), Total direct support - \$79,500, Co-PI
- National Institutes of Health (NIH) "Regulation of Folate Catabolism" 07/01/97-06/31/02 HD35687-01, Total direct support - \$823,000, PI
- National Institutes of Health (NIH) "FASEB Summer Conference on Folic Acid, Vitamin B12 and One-Carbon Metabolism" 08/01/02 (R13), Total direct support - \$33,000, Co-PI
- U.S. Dept. of Agriculture (Special Grants Program) "Program Development in Human Nutritional Genomics at Cornell University" 9/01/01 to 8/31/03, Total direct support - \$1,163,650, Co-PI
- U.S. Dept. of Agriculture (HATCH) "Generation of Transgenic Animals for Nutrition Research" 08/01/99-07/31/03, Total direct support - \$30,000, PI

Department of the ARMY, US Medical Research Acquisition Activity, "Direct Effects of Folate Metabolism on Gene Expression on Metastatic Breast Cancer" 6/30/00-5/31/03, Graduate Fellowship for M. Calero, Total direct support - \$66,000, PI

National Institutes of Health, NCI (NIH) "Folate-Genome Interactions in Colon Cancer" 07/31/04, R01 CA105440-01 – Supplement, Total direct support - \$30,000, PI

National Institutes of Health (NIH) "FASEB Summer Conference on Folic Acid, Vitamin B12 and One-Carbon Metabolism" 08/01/04 (R13), Total direct support - \$43,000, PI

U.S. Dept. of Agriculture (Special Grants Program) "FASEB Summer Conference on Folic Acid, Vitamin B12 and One-Carbon Metabolism" 08/01/04, Total direct support - \$15,000, PI

U.S. Dept. of Agriculture (Special Grants Program) "Program Development in Human Nutritional Genomics and Human Nutrition at Cornell University" 9/01/03 to 8/31/05, Total direct support - \$1,163,650, Co-PI

National Institutes of Health (NIH) "Homeostatic Regulation of Folate Metabolism" 07/01/02-06/31/07, R01 DK58144, Total direct support - \$1,250,000, PI

### **Academic Trainees**

#### **Visiting Professors**

Professor Rwei-Fen Syu Huang, Department of Nutritional Sciences, Fu-Jen University, Taipei Shan, Taiwan, 2016

Professor Huan Liu, Department of Nutrition and Food Hygiene, School of Public Health, Tianjin Medical University, 2014-15

Professor Anne Parle McDermott, Dublin City University, 2012

Professor Qinghui Ai, Ocean University of China, 2009-10

#### **Junior Faculty K-Awards**

Rebecca Seguin, 2012-present

#### **Senior Research Associates**

Martha Field, 2016-present

U. Per Flodby, 2002-04

#### **Research Associates**

Martha Field, 2009-present

Elena Kamynina, 2013-present

#### **Postdoctoral Trainees**

Lucia Martiniova, 2010-12

Martha Field, 2006-09

Amanda MacFarlane, 2004-08  
Collynn Woeller, 2007  
Montserrat Anguera, 2003-04  
Xiaowen Liu, 1998-01

#### **Current Graduate Students (Chair)**

Philip James, London School of Hygiene & Tropical Medicine 2016-present  
Erica Lachenauer, Integrative Biomedical Sciences, 2015-present  
Xu Lan, Nutrition, 2014-present  
Ariel Ganz, Nutrition, 2014-present  
James Chon, Biochemistry, Molecular and Cellular Biology, 2014-present  
Ashley Palmer, Nutrition, 2011-present  
Judith Alonzo, Biochemistry, Molecular and Cellular Biology, 2012-present  
Eunice Awuah, Nutrition, 2013-present

#### **Current Graduate Students (Minor Member)**

Sarah Stiles, PhD in Nutrition Candidate

#### **Degree Completed Graduate Students (Chair)**

Jae Rin Suh, PhD in Nutrition, 2000, "Regulation of Folate Catabolism"  
Emia Oppenheim, PhD in Nutrition, 2001, "Cellular Iron Status Influences Folate Metabolism"  
Katherine Herbig, MS in Nutrition, 2001, "Cytoplasmic Serine Hydroxymethyltransferase Mediates Competition between Deoxyribonucleotide Precursor and S-Adenosylmethionine Synthesis in MCF-7 Cells"  
Krista Zanetti, PhD in Nutrition, 2003, "Biochemical Analyses of two Enzymes that Regulate Folate Metabolism"  
Montserrat C. Anguera, PhD in Biochemistry, Molecular and Cellular Biology, 2004, "Folate Catabolism and the Regulation of Intracellular Folate Concentrations"  
Jennifer Gehman, MS in Nutrition, 2006, "Nuclear One-Carbon Metabolism"  
Martha Field, PhD in Biochemistry, Cellular and Molecular Biology, 2006, "Regulation of Methenyltetrahydrofolate Synthetase"  
Collynn Woeller, PhD in Biochemistry, Cellular and Molecular Biology, 2007, "Regulation of Serine Hydroxymethyltransferase by Ferritin and Sumoylation"  
Michael Walsh, MS in Nutrition, 2008, "Fetal Programming Mediated by Serine Hydroxymethyltransferase"  
Anna Beaudin, PhD in Nutrition, 2008, "The Metabolic Origin of Folate-Responsive Neural Tube Defects"

Jennifer Fox, PhD in Biochemistry, Cellular and Molecular Biology, 2009, "Mechanism of the SHMT1 Internal Ribosome Entry Sequence"

Donald Dean Anderson, PhD in Biochemistry, Cellular and Molecular Biology, 2011, "Compartmentation of de novo Thymidylate Biosynthesis at sites of DNA Replication"

Ashley Palmer, PhD in Nutrition, 2016, "Vitamin B12 and Folate Interactions in Nuclear One-Carbon Metabolism".

### **Degree Completed Graduate Students (Minor Member)**

Katie Hootman, PhD in Nutrition, 2015

Angelos Sikalidis, PhD in Nutritional Biochemistry, 2010

Jennifer Page, PhD in Genetics and Development, 2010

Susan Wernimont, PhD in Nutrition, 2010

Tafadzwa Mandimika, PhD in Nutrition, 2008

Xuan-Mai Nguyen, MS and PhD in Nutrition, 2008

Kelly Lorena Wolfe, PhD in Food Science, 2008

Colleen McGrath, PhD in Biochemistry, Molecular and Cellular Biology, 2007

Farbod Raiszadeh, PhD in Nutrition, 2006

Ying Gao, PhD in Nutrition, 2006

Kristin Burns, PhD in Biochemistry, Molecular and Cellular Biology, 2006

Cindy Berman, PhD in Genetics, 2003

Talia Jacob, MS in Nutritional Sciences, 2003

Tang-Long Shen, PhD in Veterinary Medicine, 2003

Lori Driscoll, PhD in Psychology, 2003

Unhee Lim, PhD in Nutritional Sciences, 2002

Krysta Levac, PhD in Nutritional Sciences, 2001

Leigh Gantner, MS in Nutritional Sciences, 2001

Robert Waterland, PhD in Nutritional Sciences, 2000

Oleg Biloukha, PhD in Nutritional Sciences, 2000

Zhi Zang, PhD in Neurobiology, 1997

### **External Graduate Students**

Jordan Lerner-Ellis, PhD in Genetics, 2008, McGill University

Carolina Vegas, PhD in Nutrition, 2006, Tufts University

Erminia Di Pietro, PhD in Biochemistry, 2003, McGill University

Peter Duncan Pawelek, PhD in Biochemistry, 1999, McGill University

Laura Lee Murley, PhD in Biochemistry, 1996, McGill University

### **Undergraduate Research Honors Students**

Jessica Hills, Honors in Nutritional Sciences, 1996  
Sameh Girgis, Honors in Cell Biology, 1996  
Ilya M. Nasrallah, Highest Honors in Neurobiology, 1998  
Beatriu Reig, Highest Honors in Genetics, 1999  
Arjun Joshi, Honors in Human Ecology, 1999  
Nishat Shaikh, Honors in Biology, 2001  
Joyti Sharma, Honors in Nutritional Sciences, 2004  
Renuka Sastry, Honors in Biochemistry, 2004  
Paul Ardigues, Honors in Biochemistry, 2004  
Bridget Tracy, Honors in Nutrition, 2005  
Jennifer Gall, Honors in Nutrition, 2006  
Elena Arabinov, Honors in Biochemistry, 2008  
Rebecca P. Liebenthal, Honors in Nutrition, 2015

### **Howard Hughes Scholars**

Orpheus Williams, 1995  
Ilya M. Nasrallah, 1996-98  
Beatriu Reig, 1996-99  
Timothy Poole, 1997-99  
Renuka Sastry, 2003-05  
Kabir S. Matharu, 2004  
Jennifer Gall, 2004

### **Minority High School Student Training Programs**

Hilary Bright, 2014, Cornell REU Program  
Jodecy Colon, 2013, Cornell REU Program  
Nikhil Devulapalli, 2003  
Hiral Patel, 2002, NASA/Sharp Summer Program  
Kabir S. Matharu, 2001, NASA/Sharp Summer Program  
Ogechukwu Ndum, 1999, NASA/Sharp Summer Program  
Trae Cambel, 1998, NASA/Sharp Summer Program  
Jenny Maldinaro, 1997, NASA/Sharp Summer Program  
Renee Poole, 1996, Ford-Mellon Summer Program

## **Academic Committees**

### **Cornell University Committees**

The University Faculty, Academic Programs and Policies Committee, 2013-present

University Radiation Safety Committee, 2012-present

STEM Faculty Working Group for Graduate Student Diversity Recruitment, 2012-14

Faculty Search Committee, Director of the Tata Institute, 2012

Cornell-in-China Committee, 2011-12

Search Committee, Director, Baker Institute and the Feline Health Center, College of Veterinary Medicine, 2009-10

Reimagining Cornell: Life Sciences Task Force Planning Committee (Chair), 2009

Reimagining Cornell: College of Human Ecology Planning Committee, 2009

Applied Research and Extension Program Council on Quality of Life for Individuals and Families (QoL), 2007-present

College of Agriculture and Life Sciences Task Force on Defining the Land Grant Mission, 2006-07

University Lectures Committee, 2006-07

Graduate Admissions Committee, Field of Biochemistry, Molecular and Cellular Biology, 2005-06.

Executive Committee Member, Center for Vertebrate Genomics, 2004

Search Committee, Associate Director, Microarray Core Facility, 2004-05

Search Committee, Staff, Veterinarian CARE, 2003-04

Search Committee, Dean, College of Human Ecology, 2003-04

Search Committee, Assistant Professor Mammalian Genomics, Molecular Biology & Genetics, 2003-04

Search Committee, Assistant Professor Mammalian Genomics, Biomedical Sciences, 2002-04

Genomics Fellowship Selection Committee, 2002-03

Search Committee, Chair of Molecular Medicine, 2001

Search Committee, Mammalian Genomics, Biomedical Sciences, 2001

Search Committee, Population Genetics, Molecular Biology & Genetics, 2001

Search Committee, Assistant Director of CRAR, 2001

Search Committee, Clinical Veterinarian CRAR, 2001

University Appeals Panel, 2000

Mammalian Genomics Oversight Committee, Committee Chair for the recruitment of seven positions, 1999-00

Search Committee, Assistant Professor, Animal Quantitative Geneticists, 1999

Oncology Advisory Committee, College of Veterinary Medicine, 1999-02

Search Committee, Chair, Biomedical Sciences, 1998-99  
Search Committee, Dean, College of Human Ecology, 1997-98  
Cornell Genomics Initiative, Chair, Mammalian Genomics Subcommittee, 1997-00  
Pluralism and Unity, Faculty Steering Committee, 1998

### **Cornell Departmental Committees (Nutrition)**

Seminar Committee Chair, Field of Nutrition, 2000-02  
Search Committee Chair, Assistant Professor, Mouse Geneticists, 2000-04  
Search Committee, Assistant Professor, Epidemiology, 2000-04  
Small Grants Committee, 1995-98  
Graduate Admissions Committee, 1995-97

### **University Service Activities**

*Member*, Provost Committee for Space Planning for the Life Sciences, 2015  
*Panelist*, How to Write a Successful NIH R01 Grant: Tips for Grant Writing and Understanding the Review Process, 2015, Cornell University Office of Sponsored Programs, 2015  
*Discussion leader*, Responsible Conduct of Research Symposium- Authorship, 2015  
*Discussion leader*, Responsible Conduct of Research Symposium- Human Subjects, 2014  
*Expert*, "Web Nutrition Expert", Cornell Cooperative Extension, 1998-99  
"1894 Memorial Debate" (Judge), 1998  
*Evaluator*, Health Careers Evaluation Committee, 1995-02  
*Evaluator*, "Student Employee of the Year", 1997  
*Presenter*, "Smart-NY Conference" for the Cornell Genomics Initiative, 1999  
*Presenter*, Exhibit on the genomics initiative in the College of Human Ecology at the NASULGC Congressional Reception, "2001 Agricultural Research and Education Serving the Nation in Food and Health", Washington, DC, 2001

### **External Committees/Service**

*Treasurer*, Association of Nutrition Departments and Programs (ANDP), 2005-2015  
*Past-President*, American Society for Nutrition (ASN), 2016  
*President*, American Society for Nutrition (ASN), 2015  
*Vice-President*, American Society for Nutrition (ASN), 2014  
*Vice-President Elect*, American Society for Nutrition (ASN), 2013  
*Council-at-Large Member*, American Society for Nutrition (ASN), 2013  
*Chair*, Standing Committee on Nutrition, Working Group on Capacity Development in Food and Nutrition, 2006-09

*Committee Member, American Society for Nutrition (ASN) Reviews, Papers, and Guidelines Committee, 2009-10*

*Committee Member; Chair, American Society for Nutrition (ASN) Public Policy/Public Information Awards Committee, 2008-09; Chair, 2008*

*Spokesperson, American Society for Nutrition, 2008-09*

*Committee Member; Chair, Public Policy and Communications Committee, American Society for Nutrition (ASN), 2006-09, (Chair, 2007-09)*

*Committee Member; Chair, Nominations Committee, American Society for Nutrition (ASN), Chair, 2007*

*Committee Member; Chair, Graduate Nutrition Education Committee, American Society for Nutritional Sciences (ASNS), 1999-2003 (Chair, 2000-03)*

*Committee Member, Conrad Elvehjem Award Jury, ASNS, 2000*

## **Courses Taught**

NS6200: Translational Research and Evidence-based Policy and Practice in Nutrition, 2 credits, 2012-present

NS 6310: Micronutrients: Function, Homeostasis, and Assessment, 2013-present

NS7040: Grant Writing, 2 credits, 2007-present

NS7030: Graduate Student Seminar, 1 credit, 2008-2010; 2015-present

NS3200: Human Biochemistry, 4 credits, 1998-2006; 2009-2013

NS4750: Molecular Nutrition and Development, 3 credits, 2000-2005, 2010

NS4000: Directed Readings, 1996-present

NS4010: Student Research, 1994-present

BioBM4000: Undergraduate Research, 1995-present

BioG2000: Research Apprenticeship, 2002-present

NS6000: Independent Study – Nutritional Genomics, 2000

BioBM7330: Advanced Biochemistry Lecture Series, 1 credit, Fall, 1998

NS3210: Nutrition and Gene Expression, 2 credits, 1996-99

NS6350: Metabolic Regulation, 2 credits, 1997

## **Editorial/Review**

### **Editor**

Annual Reviews of Nutrition, 2014-present

### **Associate Editor**

Frontiers in Genetics - current

Advances in Nutrition - 2010-13



### **Editorial Boards**

American Journal of Clinical Nutrition, 2008-14

Annual Review of Nutrition, 2006; 2008-14

Journal of Biological Chemistry, 2009-14

Nutrition Reviews, 2002-06

### **Journals (ad hoc reviewer)**

Science, Nature, JAMA Internal Medicine, The Journal of Biological Chemistry, Structure, Gene, Biochemistry, Journal of Clinical Nutrition, Analytical Biochemistry, BBA, Blood, Journal of Molecular Biology, Brain Research, Journal of Nutrition, Analytical Chemistry, Pharmacogenomics, Molecular Genetics and Metabolism, Proceedings of the National Academy of Sciences, Mammalian Genome, Carcinogenesis

### **National Academies Reports**

Optimizing the Process for Establishing the Dietary Guidelines for Americans, The Selection Process, 2017

An Assessment of Research Doctorate Programs in the United States, 2010

Nanotechnology in Food Products, 2009

Nutrigenomics and Beyond - Informing the Future, 2007

### **Edited Volumes (Editor or Co-Editor)**

Food Biotechnology, a special issue of Current Opinion in Biotechnology, 2017

Nutrigenomics and Proteomics in Health and Disease. Wiley. 2017

*Handbook of Vitamins, Fifth Edition.* Taylor and Francis Group, LLC. 2012

### **Granting Agencies (Study Section)**

*Member,* NASA Directed Study Proposal Review Panel, 2015

*Member,* The John A. Milner Fellowship Program Review Team – A Joint Activity of the USDA Beltsville Human Nutrition Research Center (BHNRC) and the NIH Office of Dietary Supplements (ODS), 2015

*Member,* ZES1 LKB-D (CC) NIH Child Health and the Environment Review Committee, Bethesda, MD, 2015

*Member,* The John A. Milner Fellowship Program Review Team – A Joint Activity of the USDA Beltsville Human Nutrition Research Center (BHNRC) and the NIH Office of Dietary Supplements (ODS), 2014

*Chair,* NIH Program Project Review Study Section “Multidisciplinary Program to Dissect the Genetics of Neural Tube Defects” 2014.

Member, NIH Integrative Nutrition and Metabolic Processes Study Section (INMP), 2005-10  
Member, NIH/NCI Special Study Section RFA CA03-001 "Nutritional Modulation of Genetic Pathways Leading to Cancer", U54 Program Projects, 2002

### **Granting Agencies (ad hoc or mail reviewer)**

Canadian Cancer Society

NSERC/CRSNG

NIH, CORBE Program Projects in Developmental Biology

NIH, SBDD Study Section

NIH, Special Study Section, Risk Factors for Vascular Disease

Health Research Council of New Zealand

### **Bibliography**

#### **Original Research Publications**

- Hootman, K.C., Trezzi, J.P., Kraemer, L., Burwell, L.S., Dong, X., Guertin, K.A., Jaeger, C. Stover, P.J., Hiller, K., and Cassano, P.A. 2017. Erythritol is a pentose-phosphate pathway metabolite and associated with adiposity gain in young adults. *Proc. Natl. Acad. Sci.* in press.
- Palmer, A.M., Kamynina, E., Field, M.S., and Stover, P.J. 2017. Folate rescues vitamin B<sub>12</sub> depletion-induced inhibition of nuclear thymidylate biosynthesis and genome instability. *Proc. Natl. Acad. Sci.* in press.
- Misselbeck, K., Marchetti, L., Field, M.S., Scotti, M., Priami, C. and Stover P.J. 2017 A hybrid stochastic model of folate-mediated one-carbon metabolism: Effect of the common C677T MTHFR variant on de novo thymidylate biosynthesis. *Sci Rep.* 7(1):797.
- Bae, S., Chon, J., Field, M.S., Stover, P.J. 2017 Alcohol Dehydrogenase 5 Is a Source of Formate for *De Novo* Purine Biosynthesis in HepG2 Cells. *J Nutr.* 147(4):499-505 PMID: PMC5368588
- Kamynina, E, Lachenauer, ER, DiRisio, AC, Liebenthal, RP, Field, MS, Stover, PJ 2017 Arsenic trioxide targets MTHFD1 and SUMO-dependent nuclear de novo thymidylate biosynthesis. *Proc. Natl. Acad. Sci.* 21;114(12):E2319-E2326 PMID: PMC5373342
- Dixit, R, Nettem, S., Madan, S.S., Soe, H.H., Abas, A.B., Vance, L.D., Stover, P.J. 2016. Folate supplementation in people with sickle cell disease. *Cochrane Database Syst Rev.* 2:CD011130. PMID:26880182
- MacFarlane, A.J., Behan, N.A., Field, M.S., Williams, A., Stover, P.J., Yauk, C.L. 2015. Dietary folic acid protects against genotoxicity in the red blood cells of mice. *Mutat Res.* 779:105-11. PMID:26177356

- Martiniova, L., Field, M.S., Finkelstein, J.L., Perry, C.A., and Stover P.J. 2015. Maternal dietary uridine causes, and deoxyuridine prevents, neural tube closure defects in a mouse model of folate-responsive neural tube defects. *Amer. J. Clin. Nutr.* 101(4):860-9. PMC4381776.
- Field, M.S., Kamynina, E., Watkins, D., Rosenblatt, D.D. and Stover, P.J. 2015. Human mutations in methylenetetrahydrofolate dehydrogenase 1 impair nuclear *de novo* thymidylate biosynthesis. *Proc. Natl. Acad. Sci.* 112(2): 400-5. PMC4299200
- Field, M.S., Kamynina E., Agunloye, O.C., Liebenthal, R.P., Lamarre, S.G., Brosnan, M.E., Brosnan, J.T., Stover, P.J. 2014. Nuclear enrichment of folate cofactors and methylenetetrahydrofolate dehydrogenase 1 (MTHFD1) protect *de novo* thymidylate biosynthesis during folate deficiency. *J Biol Chem.* 289: 29642-50. PMC4207979
- MacFarlane, A.J., McEntee, M.F. and Stover, P.J. 2014 Azoxymethane-induced colon carcinogenesis in mice occurs independently of *de novo* thymidylate synthesis capacity. *J. Nutr.* 144: 419-24. PMC: 4083238
- Ash J.A., Jiang X., Malysheva, O.V., Fiorenza, C.G., Bisogni, A.J., Levitsky, D.A., Strawderman, M.S., Caudill, M.A., Stover, P.J., Strupp, B.J. 2013. Dietary and genetic manipulations of folate metabolism differentially affect prefrontal cortical functions in mice. *Neurotoxicology and Teratology*, 38:79-91. PMC5096640
- Abarinov, E.V., Beaudin, A.E., Field, M.S., Perry, C., Allen, R., Stabler, S., Stover, P.J. 2013. Disruption of *Shmt1* impairs hippocampal neurogenesis and mnemonic function in mice. *J. Nutr.* 143(7):1028-35. PMC: 3681542
- Scotti M., Stella L., Shearer E.J., Stover P.J. 2013. Modeling cellular compartmentation in one-carbon metabolism. *Wiley Interdiscip Rev Syst Biol Med.* 5(3):343-65 PMID: 23408533
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### Invited Narrative Reviews

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### **Abstracts**

Available upon request.

### **Patents**

U.S. National Patent Application Serial No. 11/571,213, based on PCT International Application No. PCT/US2005/02084 7, filed 13 June 2005, for TREATMENT OR PREVENTION OF CANCER OR CARDIOVASCULAR DISEASE WITH METHENYLTETRAHYDROFOLATE SYNTHETASES, claiming priority from U.S. Provisional Application 60/585,293, filed 02 July 2004 (Inventor: Patrick J. Stover)

PCT International Application No. PCT/US12/34963, filed 25 April 2012, for USE OF URIDINE AND DEOXYURIDINE IN THE TREATMENT OF FOLATE-RESPONSIVE PATHOLOGIES, claiming priority of U.S. Provisional Application Serial Nos. 61/478,669, filed 25 April 2011, and 61/515,356, filed 5 August 2011 (Applicant: Cornell University) (Cornell Ref. 5476-03-PC)