Greetings

As I look back on 2018, I would start about the progress we made regarding initiatives that we started in 2017:

- Two seminar series, Biomedical Seminars and Research-in-Progress/Journal Club, are taking place at regular intervals. Last year we invited 19 external speakers as part of these programs. Several researchers from NYU Winthrop presented Research-in-Progress and Journal Clubs.
- Our collaboration with Dr. Ira Goldberg, Chief of the NYU Langone Division of Endocrinology, Diabetes and Metabolism continues to be very fruitful. We had our second annual scientific retreat at his house. He is planning to start a seminar series for postdoctoral fellows where fellows from both NYU Langone and NYU Winthrop will meet and participate at regular intervals. In addition, we continue to seek ways to increase collaborations with the NYU Langone Obesity Center.

The scientific workforce at NYU Winthrop continues to expand. We have added three new Research Associates, one technician, one biostatistician, and one executive assistant. In addition, Dr. Qing (Robert) Miao will be joining us as a Professor. We are looking forward to his arrival and welcoming him to NYU Winthrop.

This year we received three new grants. One is a multiple principal investigator grant between Dr. Loredana Quadro of Rutgers University and Dr. Mahmood Hussain. This grant is to study the role of lipoprotein assembly in maternal-fetal transfer of beta-carotene. The other two grants are postdoctoral fellowships to Drs. Sujith Rajan and Pradeep Yadav from the American Heart Association. Dr. Rajan will explain the physiologic function of microsomal triglyceride transfer protein in adipose tissue. Dr. Yadav will evaluate novel microRNA-30c analogs for the treatment of hyperlipidemia and atherosclerosis. All of these grants will start early 2019. Other news about research at NYU Winthrop has been summarized by Dr. Jacobson in this newsletter.

The significant impact of our affiliation with NYU Langone continues to resonate in very positive ways. The biggest news of 2018 has been about the conception of an idea, submission of an application, a visit from LCME for the new NYU Long Island School of Medicine (NYULISOM), and a very positive evaluation of our application at the end of their visit. Thus, within a short period of time we made remarkable progress in turning a dream of having a medical school at NYU Winthrop into a possible reality. It is very likely that we will have a new class of medical students in 2019.

One element of the new medical school will be the creation of a new research department. The new Department of Foundations of Medicine will be the appointing department for research faculty including those who devote time to teaching medical students. The Foundations of Medicine Department will be chaired by Mahmood Hussain, PhD. It will have three divisions; Basic Science, Clinical/Translational Science and Health Services Research. The new Division of Health Services Research is being created as a direct outgrowth of the NYULISOM, with its focus on primary care and population management. We are now searching for its Division Director as well as a new Director of Biostatistics. Both searches are being carried out in collaboration with key members of the department of Population Health at NYU Langone.

Thus, we anticipate that 2019 will be even more exciting with the inception of new school of medicine, establishment of a new basic science department, addition of new faculty, infusion of new grants, expansion of working force and new scholarly publications.

Mahmood Hussain, PhD, Director
Update on NYU Winthrop Research

Alan M. Jacobson, M.D.
Chief Research Officer
January 4, 2019

This has been a banner year for research at NYU Winthrop. As described elsewhere in this Newsletter, 2018 has brought several noteworthy accomplishments. We have increased our portfolio of NIH and foundation supported grants in both clinical and basic science. These include projects by our junior and senior investigators. They range from studies of diabetes and lipidemias to clinical investigation into novel treatment approaches for Prader-Willi Syndrome. This latter project represents a collaboration of our faculty in Psychiatry and Pediatrics and builds on our nationally recognized clinical treatment program for this condition. Our clinical trials programs are expanding with studies being carried out in clinical departments across the hospital. We have successfully recruited a new scientist to join our Research Institute - Dr Robert Miao. Dr Miao is a distinguished scientist with a strong record of accomplishments and holds two currently funded NIH R01 grants in topics related to diabetes and vascular biology.

We have continued to build our collaborations with our colleagues at NYU through shared planning. These include plans to develop further our diabetes and metabolism research and our new initiative in Health Services Research. Strategic planning in these areas has led to enhanced collaborative recruitment efforts. These include recruiting additional basic and translational research faculty. In addition, the efforts to create a new medical school here at NYU Winthrop have fostered further developments. Incorporated into the Research Institute and the medical school will be a new Foundations of Medicine Department that will encompass both research and teaching and serve as the appointing department for researchers. Since the new NYU Long Island School of Medicine has a major focus on training primary care physicians in direct patient care and also population management, we decided to form a new Division of Health Services Research within the Institute and the Foundations of Medicine Department. A search is underway for its first Director. Finally, our Clinical Research Center is being included in the renewal of NYU’s NIH sponsored Clinical Translational Science Institute.

As we move to fully merge NYU Winthrop into the NYU Langone Health System, this past year has involved significant efforts to fully integrate our people and systems. The first of these efforts has been made to support clinician investigators whose employment shifted as of January 1, 2019. This meant that changes were required in how their research grants and contracts were contracted and managed. This process has been a joint effort of faculty and staff here and those at NYU Langone. We successfully met the challenge and this phase of integration has been accomplished. This year will bring further efforts to complete integration so as to make the functions like our IRB seamlessly fit together with those at NYU Langone.

I appreciate the efforts of all involved to make 2018 a terrific year of accomplishments. As 2018 ended with a flourish, I am looking forward to more exciting development in the next year.

New Staff
Deborah Saporito
Executive Assistant
Titli Nargis
Research Assistant
Shuai Zhang
Research Associate
Kelly Bartley
Technician I
Ankita Srivastava
Research Associate
Qing Miao
Professor
Meredith Akerman
Biostatistician

High School/College Interns
Pardiss Mehrzad
Syosset High School
Austin Cusumano
Chaminade High School
Owen Barthel
Chaminade High School
Daniel Glass
Queens College
Cara Clementelli
MS Candidate LIU
Sarosh Ahmed
MS Candidate LIU
Ali Mahfuz
Graduate Student Volunteer
Aisha Manna-Alsbaie
MS Candidate - Adelphi University
Aisling Cantillon
Undergraduate Student Volunteer
SUNY-Buffalo
Michael Mesbha
High School Research Volunteer
Khaled Al-Thobaiti
Graduate Student Volunteer
Matthew Atwood
George Washington University
Rhui Kaila
MS Candidate Adelphi University
Debduoth Pijush
Biostatistics Volunteer
Areej Alqhtani
Graduate Volunteer

Graduations
Wendy Drewes,
MSN
Clinical Trials Research Program

Departures
Laraib Ijaz
Technician I
Sunil Kumar
Research Associate
NYU Winthrop and Chaminade High School Partner for Summer Research Program

NYU Winthrop has a long history of training the next generation of young minds to a career in science and medicine. This commitment to education has been fortified with the establishment of a Summer Research Internship program between NYU Winthrop and Chaminade High School. This year, two Chaminade seniors, Owen Barthel and Austin Cusumano, kicked-off the new partnership and spent their summer vacations performing cutting-edge diabetes and cardiovascular research at NYU Winthrop in the laboratories of Louis Ragolia, PhD and Mahmood Hussain, PhD. We look forward to receiving future students and a long lasting relationship.

Dr. Qing (Robert) Miao

Dr. Qing Robert Miao, a professor of surgery and pathology at the Medical College of Wisconsin (MCW) will join our research center at the beginning of 2019. Dr. Miao received PhD in chemistry from Dalian Institute of Physical Chemistry, Chinese Academy of Sciences in 1995 and PhD in Biochemistry and Molecular Biology in 2002 from the Medical University of South Carolina. Dr. Miao is internationally recognized for his research on elucidating the biological functions of the Nogo-B receptor (NgBR) and its roles in the pathogenesis of human diseases. NgBR is a cell surface receptor that was identified by Dr. Miao during his postdoctoral training in Dr. William Sessa’s laboratory at the Yale School of Medicine. He has been on the faculty of MCW since the end of 2007. His continuous work at the MCW demonstrated that NgBR is an essential gene required for the development and he showed that loss of NgBR causes the early embryonic lethality as well as abnormalities of brain blood vessels and lipid metabolism.

Dr. Miao’s significant contribution to science is elucidating the unique properties of the NgBR to bind prenylated proteins. His recent publication demonstrated that NgBR binds prenylated Ras and regulates plasma membrane translocation of Ras, which is a crucial cell process required for many receptor tyrosine kinase-mediated pathways. This innovative discovery not only reveals why NgBR is an essential gene for development but also opens a new research avenue in developing a new therapeutic approach targeting the concurrent receptor tyrosine kinase-mediated pathways.

Dr. Miao’s innovative research program successfully connects their bench work with human diseases and strengthens the translational aspect of their research through the collaboration with clinical colleagues. Based on the determination of physiological defects happened in NgBR tissue-specific knockout mice, Dr. Miao’s research team successfully established several unique animal models for elucidating the pathogenesis of human diseases, such as nonalcoholic fatty liver diseases (NAFLD), NAFLD-related insulin resistance, diabetes vascular complications. To elucidate the underlying molecular mechanism, Dr. Miao’s team focuses on the roles of post-translational modification in modulating the biological functions of nuclear receptors, which are master players for metabolism regulation. Dr. Miao’s career establishment is evidenced by the continuous success of NIH and AHA funding as well as the Mid-Career Investigator Award from the American Heart Association’s Council on Peripheral Vascular Disease. His consistent research excellence not only will bring additional expertise and extramural funding, but also will increase research opportunities both in our center and campus-wide.

INTERESTS

Abnormalities of lipid and glucose metabolism, diabetes vascular complications, roles of Nogo-B receptor in regulating nuclear protein post-translational modification and metabolism
News

Nazeeh Hanna, MD
Dr. Nazeeh Hanna, Chief of Neonatology at NYU-Winthrop Hospital, and the President of the American Society for Reproductive Immunology (ASRI), was the co-chair of the 38th annual international meeting of the ASRI held in Shanghai, China in June 2018. The meeting brought together more than 400 research scientists and health care providers from 25 countries including several NIH representatives. There were 70 platforms and 140 poster presentations providing the most updated and cutting-edge scientific advances in the field of reproductive health-associated disorders. It was also announced that the American Journal for Reproductive Immunology, the official journal of ASRI is now ranked as one of the Top 10 Journals in Reproductive Biology. Dr. Hanna received the 2018 Distinguished Service Award from the American Society for Reproductive Immunology.

Dr. Hanna was recognized by New York Magazine Top Doctor by Castle Connolly (June, 2018)
Dr. Hanna was appointed as the Associated-Editor (October, 2018).
The American Journal for Reproductive Immunology, listed as one of the top 10 Journals in Reproductive Biology.

Mahmood Hussain, Ph.D.
Appointed as Chair of Integrative Nutrition and Metabolism NIH study section
Delivered Plenary Lecture 2: 50th Annual Scientific Meeting of the Japan Atherosclerosis Society, Osaka, Japan, July 13, 2018; Intestinal lipid absorption: Control of lipids and atherosclerosis
Delivered lecture at 50th Annual Scientific Meeting of the Japan Atherosclerosis Society Luncheon Seminar in Osaka, Japan; July 12, 2018; Targeting MTP to treat hypercholesterolemia and atherosclerosis

Xiaoyue Pan, PhD
Invited speaker in FASEB SRC “Immunological Aspects of Metabolic Syndrome”; August 12-17 2018; Snowmass, CO.

Morgan Peltier, PhD
Invited Talk at the Preterm Birth International Collaborative (PREBIC). December 10, 2018 in Galveston, TX.

Lou Ragolia, PhD
NYU Winthrop Hospital and Progenity, Inc. are in the final negotiation stages of a licensing and development agreement for a biomarker for assessing preterm birth. A joint Provisional Patent Application # 20180003713 “Biomarkers for Assessing Preterm Birth” was filed with the United States Patent and Trademark Office; Filing Date: January 2018; Role: Inventor

Grants

Alan M. Jacobson, MD
NIH NIDDK DP3DK114821-01; Effects of biomedical risk factors on neuro-cognition using MRI; Long term follow-up of the diabetes control and complications trial/epidemiology of diabetes interventions and complications study cohort; 7/5/2017 – 3/31/2022; Total Award: $3,824,120;

NIH NIDDK 2U01DK094176-06; Director, Cognitive Reading Center; Epidemiology of diabetes interventions and complications study cohort; Annual Direct Cost: ~$226,741; Project Period: June 01, 2017 – March 31, 2021; Total award: $1,536,000

Mahnood Hussain, PhD
NIH NHLBI 1R01 HL 137202-01A1; Effect of mir-30c deficiency on plasma cholesterol and atherosclerosis; Annual Direct cost: $250,000; Project Period: June 01, 2017 – March 31, 2021; Total award: $1,536,000

VA Merit BX004113-01A1; MicroRNAs regulating plasma LDL and HDL; Annual Direct Cost: ~$226,741; Project Period: July 01, 2018 – June 30, 2022; Total award: $906,965

NIH/RHS094778A; Role of lipoprotein assembly in maternal-fetal transfer of beta-carotene; Annual Direct Cost: $150,000; Project Period: April 01, 2018 – March 31, 2024; P.I.: M. Mahmood Hussain; Priority Score: 19; Percentile ranking: 3

Xiaoyue Pan, PhD
NIH R56HL 137912; Circadian Regulation of Atherosclerosis; Annual Direct Costs: $250,000; Duration/Total Award: 10/1/2017 -9/30/2019

Morgan Peltier, PhD
NIH NIEHS RO1ES023116; Flame retardants and adverse pregnancy outcomes (FRAPPO); Annual Direct Cost: $500,000; Duration/Total Award: Oct 01, 2013 – May 31, 2018/$2,418,024; Project Period: 10/01/2013 – 05/31/2018; Co-PIs: Morgan R. Peltier/Darios Gatakou (Kaiser-Permenante, Southern California); Total award: $720,559.

Lou Ragolia, PhD
American Heart Association: Grant-in-Aid #15GRNT22420001; 2015/01/01-2018/12/31; “The Effects of Sleeve Gastrectomy on Cardiovascular Disease associated with Diabetes and Obesity”; $66,000/yr; Total award: $198,000.
The George Link Jr. Foundation: “Role of L-PGDS in Cardiovascular Disease and Obesity”; Total Award $ 90,000.00

Sujith Rajan
American Heart Association: Role of microsomal triglyceride transfer protein in adipose tissue; Annual Direct Cost: $52,216; Project period: Jan 01, 2019 – Dec 31, 2020; Total Award: $106,532

Allison Reiss, MD
American Heart Association: Grant-in-Aid #16GRNT26430014; 2016/01/01-2018/12/31; “Method of treating and cholesterol transport regulation: Impact of treatment regimen in diabetes and metabolic syndrome”; $66,000/yr; Total award: $198,000.
American Heart Association: Association-wide Research Program
Publications

**John Aloia, MD**


**Donald Brand, MD**


**Nazeeh Hanna, MD**


Maureen L. Kim, Caroline Maloney, Natalia Klimova, Ellen Gurzenda, Xinhua Lin, Yoko Arita, Melissa J. Fazzari, Treasure Walker and Nazeeh Hanna. Repeated lipopolysaccharide exposure leads to placent al endotoxin tolerance. AJRl-09-18-233. Accepted for publication, American Journal of Reproductive Immunology, Oct 2018

Alexandra Vinci, Bianca Fornier Karber, Shahidul Islam, Nazeeh Hanna and Amrita Nayak. “A Quality Improvement Intervention To Decrease Hypothermia In The Delivery Room Using a Checklist” Accepted for publication, Pediatric Quality and Safety PQS-D-18-00044R3

**M. Mahmood Hussain, PhD**


Shahidul Islam, MPH


Qing Robert Miao, PhD


J. Holcomb; E. Perry; N. Spellmon; M. Doughan; Y. Zhang; J. Wan; S. Chakravarthy; W. Shang; Qing Robert Miao; Z. Yang. SAXS Analysis of a Soluble Cytosolic NgBR Construct including Extracellular and Transmembrane Domains. PLoS One, 2018, 13(1): e0191371. PMID: 29346419.


Wang, Liming; Dong, Chengyong; Liu, Ying; Jiang, Keqiu; Wang, Haibo; Qu, Weikun; Zhang, Chi; Liang, Rui; Gao, Zhenming; Zhao, Baofeng; Qing Robert Miao; Shao, Shujuan. Nogo-B receptor promotes human hepatocellular carcinoma cell growth via the Akt signal pathway. Journal of Cellular Biochemistry, in press. PMID: 29904947.

Pin Gao; Xiang Wang, PhD; Ying Jin; Wenquan Hu, PhD; Yajun Duan, PhD; Aiping Shi; Ye Du; Dong Song; Ming Yang; Sijie Li; Bing Han; Gang Zhao; Hongquan Zhang*; Zhimin Fan*; Qing Robert Miao*. Nogo-B receptor increases the resistance to tamoxifen in estrogen receptor-positive breast cancer cells. Breast Cancer Research. accepted. *Co-corresponding authors

Xiaoyue Pan, Ph.D.


Morgan Peltier, PhD


Lou Ragolia, PhD


Allison Reiss, MD


