Job ID: M.D. Honors Trainee
Agency/Org Name: NYU School of Medicine Department of Medicine
Job Title: NIDDK T35 Medical Student Training Program
Interest Area: Diabetes, digestive disorders, and kidney disease
Focus Area: Anatomy and teaching
City: New York
State: NY
Eligibility Year: Summer after 1st Year of Medical School
Eligibility Description: Medical Students

         Primary Contact
Name: Pauline McGlone
Title: Project Associate, Office of Medical Education
Email: Pauline.mcglone@nyulangone.org

Detailed Information
Job Description: The NYU School of Medicine's NIDDK-funded summer research fellowship is for
                     first year medical students to do basic research in diabetes, digestive disorders,
                     and kidney diseases. The award from the National Institute of Diabetes and
                     Digestive and Kidney Diseases (NIDDK) T35 training grant will provide summer
                     research opportunities to medical students at NYU as well as to students from
                     other medical schools. The grant provides fellowships for students doing
                     basic/clinical research with an NYU faculty mentor with a focus in diabetes,
                     digestive disorders, and kidney diseases. These fellowships, of up to 8 weeks in
                     duration, will provide students with a summer stipend. This fellowship is NOT
                     contingent on your eligibility for work-study funding.

                     If you are interested in pursuing this exciting opportunity, please review the
                     program requirements and list of mentors and research projects available, and
                     then contact the mentor to schedule an appointment to meet with them. Note
                     that this is not an exhaustive list of project titles. In consultation with your
                     mentor, there may be opportunities for other NIDDK projects based on your
                     interests and current work in the mentors' labs. Mentors will then select one
                     student for each available project and ask the student to submit a formal
                     application to the program directors. If you are selected to apply for a project,
                     please submit a completed application to Pauline McGlone
                     (Pauline.mcglone@nyulangone.org). While this is an NYU grant and preference
                     will be given to NYU students, careful review will be given to all applications.
                     The deadline for submitting your early decision application is **January 15,
                     2021**. The regular decision application due date is **February 15, 2021**.

                     If you have any questions about the NIDDK summer research fellowships, please
                     contact Pauline McGlone, NYU School of Medicine, Office of Medical Education
                     at Pauline.mcglone@nyulangone.org.

Salary: Approx. stipend of $4,000
Special Notes: Not contingent on your eligibility for work-student funding
Deadline: February 15, 2021

Application Process:
1. **Review** the List of Research Projects and Mentors
2. **Contact the Mentor**(s) you're interested in working with to receive advancement to the next step in the approval process.
3. Once you receive notification from a Mentor of your advancement for their research project, you **MUST submit a formal application** using this LINK
    1. **Please upload the attached document '2021. NIDDK Application. Project Proposal" to the application link above.**

Attached:
·   2021 Program Information
·   Project Proposal Form for Application
·   List of Projects and Mentors for 2021

NYU School of Medicine
NYU LANGONE MEDICAL CENTER

NIDDK T35 Medical Student
Training Program June – August 2021

Core Competencies and Expectations

Core competencies in a Research Lab Environment
1. Professionalism (behavior that promotes a scholarly, intellectual, cooperative, respectful, productive, safe and ethical lab environment)
2. Ability to read and understand the literature
3. Hypothesis formulation and experimental design
4. Technical lab skills

After the T35 summer project, trainees should be able to:
a) Critically review basic science research papers.
b) Design a research proposal that is realistic and specific.
c) Follow methods, procedures, and techniques. Be familiar with lab equipment.
d) Demonstrate professionalism in a research lab by participating in the intellectual life of the lab, being respectful of and helpful to others, and ethical in decision-making.
e) Demonstrate strong written and oral communication skills by writing clear, concise abstracts, proposal, and papers, and speaking clearly and precisely during talks, group meetings, presentations, and poster sessions.

Program Requirements

Date	Activity
May/June 2020	Attend Orientation: Meet your fellow trainees and Program Directors
June 2021	Finalize your research plan
June 14 - August 13, 2021	Participate in up to 9 weeks of NIDDK-related research
June 14 - August 13, 2021	Attend Seminars and Journal Clubs
September 2021	Submit Progress Report, including project summary, abstract, and survey
May/June 2021	Participate in the Department of Medicine Research Day
January 2023, May 2024, June 2025	Complete surveys

Program Activities

Seminars will be held throughout the summer, and trainees are expected to attend them. Seminars include the following:

- Translational Research in Progress (TRIP) Seminar
- Scientific Integrity and Responsible Conduct of Research Seminar
- Lab Techniques Seminar
- Lab Safety Training
- How to Present at a Journal Club

Journal Club will be held weekly. Trainees will be assigned a date and partner(s). Trainees must submit their article to Dr. Ramasamy and Dr. Munger for approval two weeks before the presentation. They must then circulate their article to the group one week before they present. If trainees cannot present on the day they are assigned, they are responsible for swapping among themselves.

Project Information
Trainee Name:
Mentor Name:
Mentor Department and Division:
Summer 2021 Research Start Date: June 14th, 2021

Project Title:
(A good title is brief and informative. The research hypothesis should be the basis of the title.)

Project Abstract:
(The abstract should include the research question, the rationale for study, the hypothesis, method, and expected main findings. It should be no more than 300 words.)

Project Proposal
Background and Significance:
(State the fundamental problem motivating this area of research and the importance of the project. 500 words maximum)

Hypothesis:
(State the research question, or the concept to be tested. 3-4 sentences)

Specific Aims:
(Concisely state the specific aims of the project. One or two specific aims is recommended. Do not propose more than can be accomplished)

Research Design:
(Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project)

Potential Pitfalls and Alternate Plans:
(Consider potential problems in your approach. List strategies you will use to address these problems if they arise)

References:
(In the main text of your proposal, annotate references and provide a list of these references here. We suggest using the format in the journal Cell to cite references)

<u>Approval</u>

Mentor Signature _____ Date: _____
I approve of the trainee's proposal.

T35 Program Signature _____Date: _____
On behalf of the Advisory Committee, I approve of the trainee's proposal.

This completed application should be no longer than 3 pages, exclusive of references.

If you are a medical student from outside of NYU, please also provide one letter of reference along with your application.

		NYU School of Medicine NIDDK T35 Medical Student Training Program Mentors and Projects for Summer 2021		
Mentor Name	**Project Title**	**Description of Project**	**Number of Students the Project Can Accommodate**	**Contact Information**
Aleman, Jose	Obesity, weight loss, adipose tissue immunology	Apply omic technologies to the study of human disease and metabolism, specifically to the most prevalent metabolic diseases of obesity, Type 2 Diabetes and their common consequence of cardiovascular disease.	1	Jose.Aleman@nyulangone.org
Beasley, Jeannette	Validating a Diet Assessment for Asian Americans (VADA)	The aim of this project is to characterize and validate the adaptation of a dietary screener for Asian Americans.	1	Jeannette.Beasley@nyulangone.org
	BRinging the Diabetes Prevention Program to GEriatric populations (BRIDGE)	This project evaluates strategies for delivering an evidence-based diabetes prevention intervention to older adults.	1	
	USing Metabolomics to Elucidate Nutrition and Dementia pathways (US-MEND)	This project will identify serum nutrient biomarkers associated with cognitive decline using metabolomics and measure associations between nutrient biomarkers and self-reported diet.	1	
Berger, Jeffrey	Thrombosis and Hemostasis; Platelet Biology	Cell biological processes relevant to atherothrombosis and platelet biology across the spectrum of cardiovascular disease	1	Jeffrey.Berger@nyulangone.org
Brown, Ryan	Diffusion tensor imaging in diabetic peripheral neuropathy (DPN)	We are using diffusion tensor imaging (DTI) in a clinical trial to assess peripheral nerve adaptation in response to exercise intervention. The student will have the opportunity to quantify fractional anisotropy, which is associated with fiber density, and the apparent diffusion coefficient, which reflects the architecture of the myelin sheath, using MRI data from DPN participants that have completed a 10-week physical therapy protocol.	1	Ryan.Brown@nyulangone.org
	Machine learning based tool for automatic lower extremity image segmentation	There are currently no available tools to automatically identify muscle groups, bone, and peripheral adipose tissue in lower extremity MR images, which necessitates burdensome and variable manual analysis. The student will work toward addressing this issue by expanding our training dataset and working with our machine-learning team to create and validate a customized convolutional neural network, which will be utilized in a wide range of MRI projects including our clinical trial on exercise intervention in diabetic peripheral neuropathy.	1	
Cadwell, Ken	Downstream consequences of paneth cell abnormalities in Atg16L1 mutant mice	Upon infection with murine norovirus (MNV), mice deficient in the IBD gene Atg16L1 develop Paneth cell abnormalities in the small intestine. The student will determine how antimicrobial activity is altered downstream of this pathology.	1	Ken.Cadwell@nyulangone.org
	Characterization of Atg16L1HM/- mice	Mice that are completely null for the IBD gene Atg16L1 or the autophagy pathway are not viable and cannot be used to investigate the intestine. The student will characterize mice that are genetically engineered to have extremely low levels of expression of the IBD gene Atg16L1.	1	
Chandarana, Hersh	Developing novel MRI technique for functional imaging	Development and application of advance imaging techniques to study pathophysiology of abdominal diseases, with special interest in oncologic imaging and functional imaging including renal and liver function.	1	Hersh.Chandarana@nyulangone.org
Chang, Virginia	Obesity, cardiovascular disease, social disparities, population health	Weight status and other measures of body composition, cardiovascular risk factors, and metabolic syndrome at the population-level, examining various aspects of their causes and consequences, particularly as they relate to social factors.	1	Virginia.Chang@nyulangone.org
Chao, Moses	Trophic factor mechanism for obesity	One of the strongest phenotypes from a deficiency in BDNF is obesity, as well as hyperphagia and insulin resistance. We hypothesize that increases in BDNF result in the conversion of white adipose tissue to brown adipose tissue.	1	moses.chao@nyulangone.org
	The effects of exercise upon metabolism in liver and muscle	This study will uncover the molecular and cellular mechanisms that link physical exercise to metabolic changes. Previous work uncovered increases in ketone bodies (liver) and lactate (muscle), which change patterns of gene expression.	1	
Cronstein, Bruce	Role of adenosine receptors in promoting fat browning	In collaboration with Dr. Elisabetta Mueller we are examining the effect of local and systemic administration of agents that, directly or indirectly, stimulate adenosine A2A receptors in adipose tissue on the formation of brown fat (fat cells with increased mitochondria that actually burn energy) from white adipose tissue as well as regulation of macrophage function and phenotype in adipose tissue.	1	Bruce.Cronstein@nyulangone.org
Ding, Yu-Shin	Effects of sleep restriction on BAT activation in humans	To determine the effects of different amounts of sleep restriction on body's ability to generate heat. Learn how to analyze the PET and MR data obtained from imaging study of brown fat using the NYU newly acquired the state-of-the-art PET/MR combined scanner with simultaneous acquisition.	1	Yu-Shin.Ding@nyulangone.org
	BAT imaging in the RAGE null mouse	To determine if metabolic protection in the RAGE null mouse (i.e., high fat diet-induced obesity) is due to increased energy expenditure (brown fat thermogenesis).	1	

	LDP effect on BAT mass (in collaboration with Drs. Martin Blaser and Chad Trent)	To determine the effect of low-dose penicillin (LDP) on BAT mass in LDP treated animals	1	
Elbel, Brian	Impact of the Built Environment on Child Body Mass Index	This project combines multiple rich datasets to determine the influence of the built environment on childhood obesity in New York City. In particular, features of small areas around each child's home and school, as well as the characteristics of their home and school buildings, are being examined.	1	Brian.Elbel@nyulangone.org
	Using National Sales Data to Understand the Influence of Menu Labeling Policy	This project assesses the impact of menu labeling on items and calories purchased by consumers, and determines the extent to which the impact differs by community demographics, urbanicity of the restaurant location, and characteristics of the purchase.	1	
Feske, Stefan	CRAC channels in Th1 and Th17 cells as mediators of colitis and therapeutic targets	The overall goal of this project is to understand the role of Ca2+ influx mediated by Ca2+ release activated Ca2+ (CRAC) channels in the proinflammatory function of Th17 and Th1 cells and how they control autoimmunity in IBD. Elucidating how SOCE regulates the colitogenic function of T cells will allow us to assess the benefits and risks associated with CRAC channel inhibition as a potent immunosuppressive treatment for IBD.	1	Stefan.Feske@nyulangone.org
Froemke, Robert	Oxytocin and milk ejection	Oxytocin is released from the brain but acts within the body including mammary tissue where this neuropeptide is absolutely required for milk ejection. It is unclear how neural activity of oxytocin neurons relates to nursing; here we will directly measure this in mice.	1	Robert.Froemke@nyulangone.org
Gold-von Simson, Gabrielle	Biomedical Entrepreneurship Skills and Training Educational Program	The Biomedical Entrepreneurship Skills Development Program describes a plan to design, implement, evaluate, and disseminate an educational program at NYU that trains students in Biomedical Entrepreneurship, with a special focus on diabetes, obesity and metabolic diseases, now in year 2. The program aims to expand the skill set of scientists and clinicians who are interested in actively participating in the commercialization of academic discoveries and inventions so they can become successful entrepreneurs in the biomedical industry and bring much needed therapies to market; T35 mentees will work mostly with evaluation and dissemination team.	1	Gabrielle.Gold-VonSimson@nyulangone.org
Goldberg, Ira	Lipid metabolism and macrophage polarization	We will create mice with deletion of two genes required for uptake of lipid into macrophages. We will then test whether loss of lipid uptake prevents macrophage to an alternatively activated (M2-like) phenotype.	1	Ira.Goldberg@nyulangone.org
	Cardiac fatty acid uptake	We have deleted a fatty acid transporter, CD36, in endothelial cells. We will study how this deletion affects uptake of fatty acids in the heart.	1	
Hubbard, Jane	Linking nutrition, stem cells, and reproduction	Nutritional provision impacts germline stem cells in C. elegans via conserved nutrition-sensitive signal transduction pathways (Insulin, TOR and TGFß). We aim to uncover nutritional components that underlie this regulation using a novel genetic screening approach.	2	jane.hubbard@nyulangone.org
Hussain, Mahmood	Effects of miR-30c deficiency on plasma cholesterol and atherosclerosis (HL137202)	To characterize changes in plasma lipids, lipoproteins and atherosclerosis in miR-30c knockout mice	1	Mahmood.Hussain@nyulangone.org
	Role of lipoprotein assembly in the maternal-fetal transport of beta carotene (HD098778)	To study the role of lipoprotein assembly and secretion by placenta in the transport of lipids and fat-soluble vitamins from mothers to fetus	1	
	Circadian regulation of lipoprotein assembly	To understand how circadian rhythms regulate lipoprotein assembly and secretion	1	
	MicroRNAs regulating plasma LDL and HDL	To identify microRNAs that regulate plasma LDL and HDL levels	1	
Ito, Mayumi	Hair follicle regeneration and melanocyte stem cells	Establishment of technologies to examine melanocyte stem cells (McSCs) residing in the bulge region of the adult hair follicle.	1	Mayumi.Ito@nyulangone.org
Islam, Nadia	DREAM intervention – An intervention to prevent and manage diabetes among South Asians in New York City	The fellow will work on the implementation evaluation for the DREAM intervention – an intervention to prevent and manage diabetes among South Asians in New York City. The fellow will conduct qualitative interviews with community health workers (CHWs) and community partners to assess for barriers and facilitators to intervention implementation. The fellow will also assist with coding interviews as well as manuscript preparation based on the results of this project. In addition, the fellow will assist with the cost effectiveness evaluation for the DREAM intervention. The fellow will review and analyze cost-related data for the study.	1	Nadia.Islam@nyulangone.org
Jay, Melanie	Testing the Efficacy of a Technology-Assisted Weight Management Intervention within Patient-Centered Medical Homes: The GEM (Goals for Eating and Moving) Study	The Goals for Eating and Moving (GEM) Study tests the efficacy of a technology-assisted health coaching intervention over 12 months to improve weight management in primary care at the Manhattan VA. Students will have the opportunity to gain experience and help with recruitment and retention, data collection and management, as well as being involved in the planning and implementation of RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) data collection and mixed-methods data analysis.	2	Melanie.Jay@nyulangone.org

Jay, Melanie			melanie.jay@nyulangone.org
	Financial incentive strategies for weight loss in obese patients living in socioeconomically disadvantaged neighborhoods.	FIReWoRk Study is a randomized controlled trial (RCT) testing the comparative effectiveness and cost-effectiveness of financial incentives for weight loss among 795 primary care patients with obesity living in socioeconomically disadvantaged neighborhoods, as compared to the provision of behavior change resources alone. The primary outcomes of this intervention is a ≥5% reduction in baseline weight at 6-months, use of evidence-based weight management programs, and quality of life.	2	
Lee, David	The Impact of the Food Environment and Other Environmental Exposures on the Risk of Diabetes in Rural Settings	This study will perform geographically detailed surveillance in Sullivan County, New York, which is a rural area in the state that faces significant health challenges. This study will assess how diet quality and dietary contaminants may interact to increase diabetes risk in rural communities.	2	David.Lee@nyulangone.org
Li, Huilin	Data analysis of high dimensional microbiome/metagenomic data	In this coming year, my lab is interested in analyzing three longitudinal Integrative Human Microbiome Project (https://hmpdacc.org/ihmp/) cohorts, focusing on the interaction between host and microbiome over time in three conditions: pregnancy and preterm birth, inflammatory bowel disease(IBD), and progression to type 2 diabetes (T2D). Two challenging features we need to deal with using the advanced statistical methods are 1) longitudinal microbiome sampling and survival outcome; and 2) high dimensional, longitudinal measurements of multiple molecules (metabolites, genes, and proteins) in both host and microbiome from the same sets of samples.	1	Huilin.Li@nyulangone.org
Littman, Dan	Human T cell immunity to luminal microbiota	Changes in microbiota are associated with metabolic and inflammatory disease in humans including obesity, inflammatory bowel disease, and rheumatoid arthritis. Our lab identified the ability of segmented filamentous bacteria to induce intestinal Th17 and drive autoimmune arthritis in mouse models, however, the role of microbial derived antigens in shaping the intestinal and systemic CD4+ T cell repertoire is unknown. In this rotation, the student will prepare CD4+ T cell clones from peripheral blood and intestinal tissue and identify clones that specifically respond to naturally processed antigens derived from intestinal bacteria. This work will help develop tools to identify and define the role of microbiota-specific T cells in human disease.	1	Dan.Littman@nyulangone.org
	Visualization of microbial specific Th17 cells in the intestine	How microbial-specific Th17 cell generation occurs in the intestine is not clear. Using a novel Th17-prone, SFB specific TCRTg mouse, we will study how these cells interact with antigen presenting cells microscopically.	1	
	Determination of Th17 cell fate	We have shown that segmented filamentous bacteria (SFB), a commensal microbe, can induce Th17 T cell differentiation in the gut. To find the mechanism of how SFB can skew T helper cell differentiation into Th17, we will examine the fate of "Th17 wanna be" cells in the absence of RORgt after exposure to SFB, by combining RORgt-GFP reporter knock-in mice, RORgt conditional knockout mice, and transgenic mice specific for SFB antigen.	1	
Moore, Kathryn	Role of netrin-1 in adipose inflammation and insulin resistance	The increased accumulation of macrophages and lymphocytes in adipose tissue during obesity propagates chronic inflammation, which is closely associated with systemic insulin resistance, and the development of metabolic syndrome and type 2 diabetes (T2D). Recent studies have explored the mechanisms by which these immune cells arerecruited. However, the signals that cause macrophages to persist in adipose, promoting chronic inflammation, are not understood. We recently uncovered a novel role for the neuronal guidance cue, Netrin-1, in inducing macrophage (Mø) chemostasis and thus blocking their emigration from atherosclerotic plaques. Our preliminary data indicate that Netrin-1 is also increased in adipose tissue from obese mice and humans compared to lean controls. Lethally irradiated wild-type mice reconstituted with Ntn1 null bone marrow display protection against diet-induced adipose inflammation and insulin resistance compared to mice with wild-typemarrow. Based on these data we hypothesize that Netrin-1 critically regulates immune cell trafficking and accumulation in WAT and metabolic dysfunction in HFD feeding, thereby leading to insulin resistance and diabetes. To test this hypothesis, we will determine (1) the mechanisms of Netrin-1 regulation in WAT, (2) the contribution of Mø and Treg derived netrin-1 on WAT inflammation in mouse models of tissue-specific or conditional deletion of netrin1, and (3) whether Netrin-1 targeting using a nanoparticle delivery system improves metabolic parameters in obese mice.	1	Kathryn.Moore@nyulangone.org
Mueller, Elisabetta	Trancriptional regulation of adipocyte function and energy balance	Understanding the transcriptional networks that govern lipid storage and calorie utilization in all adipocyte types in response to intrinsic and extrinsic signals.	1	Elisabetta.Mueller@nyulangone.org
Nazzal, Lama	Role of the gut microbiome in oxalate metabolism	Oxalate is an important molecule associated with multiple human diseases. The human intestinal microbiota protects the host against oxalate-associated toxicity, by oxalate degradation. We aim to explore the role of bacteria in oxalate metabolism in healthy and disease conditions.	2	Lama.Nazzal@nyulangone.org
	The role of the gut microbiome in generation of uremic toxins.	End Stage Kidney Disease affects more than 700,000 in the USA alone. These patients have high risk of mortality from cardiovascular diseases. The aim of our project is to better understand the link between the gut bacteria and possible risk for CVDs in ESKD patients.	1	
Nudler, Evgeny	Sensor mechanisms of HSF activation	The major goal of this project is to understand the molecular mechanism of the heat shock response activation.	1	Evgeny.Nudler@nyulangone.org
	NO signaling in C.elegans	The goal of this project is to identify and characterize new genes that control aging and stress resistance.	1	

Philips, Mark	Direct regulation of hexokinase by Ras	Glucose metabolism is altered in cancer cells but the mechanisms are poorly understood. We have discovered a direct interaction between the most important human oncogene, Ras, and hexokinase, the first enzyme in the glycolytic pathway that phosphorylated glucose. The project available will utilize biochemical methods such as co-immunoprecipitation to characterize the molecular interaction between Ras and hexokinase.	1	Mark.Philips@nyulangone.org
Ramasamy, Ravichandaran	Diabetic cardiovascular complications	Receptor for advanced-glycation end products: key modulator of myocardial ischemic injury.	1	Ravichandran.Ramasamy@nyulangone.org
Ramkhelawon, Bhama	Defective vascular remodeling during aging : role of inflammaging	To investigate why and how age instigated low-grade inflammation (Inflammaging) refrains regeneration capacity of femoral artery following ischemic injury.	1	Bhama.Ramkhelawon@nyulangone.org
	Role of resident macrophages in re-vascularization following ischemic injury	Using genetically modified mice models of resident and monocyte-derived macrophages to investigate their respective roles in assisting re-vascularization in a mouse model of peripheral artery disease (Critical Limb Ischemia (CLI).	1	
Ryoo, H. Don	The role of ATF4 in general stress response.	Amino acid deprivation or excessive misfolded proteins in the endoplasmic reticulum activates a stress response pathway mediated by the transcription factor ATF4. We will use Drosophila to determine precisely how ATF4 is activated, and how this helps the organism resist various forms of cellular stress.	1	HyungDon.Ryoo@nyulangone.org
Schwartz, Mark	Integrating Community Health Workers into Primary Care Teams to improve Diabetes Prevention in Underserved Communities	Cluster randomized trial of a community health worker intervention to prevent Type 2 DM among patients with prediabetes at Bellevue and Manhattan VA primary care patients.	1	Mark.Schwartz@nyulangone.org
Schmidt, Ann Marie	The role of RAGE in diet induced obesity	RAGE and its ligands are highly expressed in the adipose and liver tissue of mice fed for two weeks with high fat diet, that is, a time prior to the development of obesity, and RAGE null mice are protected from diet induced obesity. The goal of the project is to use mice with conditional cell specific deletion of RAGE to test the hypothesis that both inflammatory and adipocyte specific signals mediate RAGE-dependent development of obesity and metabolic dysfunction in mice fed high fat diet.	1	AnnMarie.Schmidt@nyulangone.org
	The role of mDia1 in diabetic nephropathy	The cytoplasmic domain of RAGE binds to the formin mDia1 and mDia1 is required for the actions of RAGE in contributing to the pathogenesis of diabetic nephropathic changes in mice. The goal of the project is to dissect the effects of podocyte RAGE and mDia1 in the development of glomerular disease in diabetic mice.	1	
	The development of small molecule antagonists that block RAGE signaling	We have developed a "high throughput" assay to screen for small molecules that block the interaction of the RAGE cytoplasmic domain with mDia1. In this project, further in vitro and in vivo analysis of lead hit molecules in the assay will be tested.	1	
Segal, Leopoldo	Effects of micro aspiration induced lower airway dysbiosis on Lung Cancer	We have observed that enrichment of the lung microbiome with anaerobes (possible though microaspiration) is associated with up regulation of PI3K/ERK pathways and lung cancer. In this project, we will examine swallowing parameters and lower airway dysbiosis in subjects with lung cancer and smoking controls. We will also evaluate the effects of micro aspiration using a lung cancer mouse model that allows us to study changes lower airway microbiota.	1	Leopoldo.Segal@nyulangone.org
	Evaluation of regional lower airway microbiome in NTM bronchiectasis	We have observed that enrichment of the lung microbiome with anaerobes (possible though microaspiration) is associated with a blunted TNF alpha production to TLR stimulation, an innate immune response commonly impaired in nontuberculous mycobacteria (NTM) disease. In this project, we will examine regional differences in microbiome and host immune response comparing areas of NTM bronchiectasis with airways without significant disease.	1	
Sevick, Mary Ann	Personalized nutrition to reduce racial disparities in weight loss success	Compared to non-Hispanic whites, non-Hispanic blacks have higher rates of obesity and diabetes risks, but are less successful at losing weight and keeping it off. The goal of this study is to determine if a dietary weight loss intervention personalized to reduce postprandial glycemia is better than a standardized weight loss intervention for reducing weight and reducing the downstream risks of diabetes developing and progressing in non-Hispanic blacks.	1	Mary.Sevick@nyulangone.org
	Personalized Dietary Management in Type 2 Diabetes	Limiting blood sugar peaks following meals is an important treatment goal in the management of type 2 diabetes, but evidence is mixed regarding the best dietary approach for achieving this goal. In this study we will evaluate a Mediterranean-type diet that has been personalized to limit blood sugar peaks following meals.		
	Personalized Technology-Supported Counseling to Reduce Glycemic Response in Dietary Weight Loss: the PersonalDiet Study	Limiting post-meal glycemic excursions may be helpful for weight loss success. The purpose of this study is to compare the efficacy of a one-size-fits-all, low-fat, calorie restricted diet with a calorie-restricted diet personalized to reduce postprandial glycemic response in participants with pre-diabetes.	1	
Sigmund, Eric	Advanced diffusion-weighted MRI biomarkers of renal function in healthy kidney and diabetic nephropathy	This project is devoted to applying a comprehensive model to diffusion-weighted MRI contrast in the kidney, judiciously merging separate formalisms capturing microscopic flow and structural anisotropy. The resulting analysis workflow is expected to dramatically enhance diagnostic specificity in complex pathologies like diabetic nephropathy, where separating microstructure, perfusion, tubular flow changes, and water exchange is crucial.	1	Eric.Sigmund@nyulangone.org
Suh, Greg S. B.	Characterization of Post-Ingestive Sugar Sensor in the Brain of Flies	We showed that taste-blind mutants still prefer a sugar solution based on its nutritional content after starvation and identified a candidate sensor that detects the nutritional value of sugar. The project is to characterize the function of the sensor.	1	greg.suh@nyulangone.org
	Identification and characterization of Post-Ingestive Essential Amino Acid Sensor in the Brain of Flies	We recently showed that taste-blind mutants that are insensitive to the taste of umami or protein still prefer a solution containing 10 essential amino acids over 10 non-essential amino acids after protein deprivation. The project is to identify the sensors and characterize their function.	1	
	Understanding the role of the brain CRH system in feeding in Flies and Mice	We demonstrated that CRH system mediates feeding behavior in addition to its known function as stress hormone. Our goal is to understand its role as a feeding stimulant in flies and mice.	1	
Trachtman, Howard	Environmental stressors in pediatric CKD	Impact of environmental chemicals on kidney function in children with CKD Possible interaction with APOL1	1	Howard.Trachtman@nyulangone.org
Wall, Stephen	Community Based Research to Improve Organ Donation Registration among Black Men	This research will lead to increased organ donor registration among black men who visit black owned barbershops using video educational programming and improve understanding as to what video education strategies (targeted versus tailored) are best for encouraging organ donor registration in this setting.	1	Stephen.Wall@nyulangone.org
	Optimizing Educational Video Designs to Improve Minority Organ Donor Registration	This research will lead to increased organ donor registration among Latinos who visit Latino owned barbershops and beauty salons using video educational programming and improve understanding as to what video education strategies (incorporating live footage; ending choices including uplifting, negative consequence, and open ended) are best for encouraging organ donor registration in this setting.	1	