



# Center for Clinical and Translational Science e-NEWSLETTER

## Center News

### CCTS Community Engaged Research Pilot Project Partnership Paves the Way for U.S. Health and Human Services Nutrition Innovation Grant

By Rhonda G. Kost, MD, Andrea Ronning, MA, RDN and Kimberly S. Vasquez, MPH

The Administration for Community Living (ACL) of the US Department of Health and Human Services recently announced the awardees for innovative projects that will enhance the quality, effectiveness, and outcomes of nutrition services programs provided by the national aging services network. The project from Carter Burden Network (CBN), a senior services organization with locations in Upper Manhattan and Roosevelt Island, in collaboration with The Rockefeller University (RU) and Clinical Directors Network (CDN) was one of five successful proposals from among 39 eligible applications. The CBN/RU/CDN consortium will receive approximately \$500,000 over two years.

Annually, Congress appropriates funds to ACL to support community living, and ACL provides these funds to organizations that conduct research or provide services for older adults and people with disabilities. The executive summary for the grant—Innovations in Nutrition Programs and Services describes the grant as “...a competitive grant awarded under the Older Americans Act (OAA) Title IV authority to increase the evidenced-based knowledge of OAA nutrition providers, drive improved health outcomes for program recipients by promoting higher service



The Rockefeller University Center for Clinical and Translational Science, Clinical Directors Network, and Carter Burden Network Stakeholders (2017)

quality, and increase program efficiency through innovative service delivery models.” Through this grant program, ACL aims to identify innovative and promising practices that can be scaled across the country and to increase use of evidence-informed practices within nutrition programs. The aims of the RU-CBN-CDN grant entitled, “Improving cardiovascular health through implementation of a DASH-diet-based multi-component intervention with senior

services programs serving low income and minority seniors,” were informed directly by the preliminary findings of a pilot project conducted at CBN by the three partnering institutions in the previous two years that demonstrated that hypertension was nearly universal and levels of blood pressure control were low for these seniors.

The CBN, RU, and CDN community-academic collaboration formed in 2016 seemed to be the perfect opportunity to

continued on Page 9

### Bernadette Capili PhD, NP-C, New Director of the Heilbrunn Family Center for Research Nursing

By Hospital Leadership



Bernadette Capili PhD, NP-C

Bernadette Capili, PhD, NP-C joined Rockefeller University Hospital in September 2018 as the Director of the Heilbrunn Family Center for Research Nursing.

Dr. Capili’s area of research focuses on cardiovascular disease prevention, healthy weight management, and chronic symptom management. She has examined the effects of diet on the metabolic complications of HIV and risk factors for cardiovascular disease in HIV. Her research also includes investigating

traditional methods of healing such as herbal therapies and acupuncture to reduce cardiovascular risk in HIV and chronic symptoms. As a clinical researcher and clinician, Dr. Capili focuses on identifying patient-related outcomes in her studies to determine the efficacy of various treatment modalities. Her goal is to identify and test outcome measures that can be translated across clinical settings and healthcare disciplines.

continued on Page 10

## 2018 CCTS Clinical Scholar Graduate Yehuda Cohen Awarded K23 Grant

By Michelle Romanick



Yehuda Cohen, MD

Dr. Yehuda Cohen, recent graduate of the Rockefeller University Center for Clinical and Translational Science Master's degree in Clinical and Translational Science was selected to receive a Mentored Patient-Oriented Research Career Development Award (K23). The K23 award provides support program is to support the career development of individuals with a clinical doctoral degree who have the potential to develop into productive, clinical investigators and who have made

a commitment to focus their research endeavors on patient-oriented research.

Dr. Cohen's project entitled, 'Exploring the Dynamics and Composition of The Latent HIV Reservoir by Analyzing the Diversity of the Replication-Competent Reservoir.' This five-year project is funded by the National Institute of Allergy and Infectious Diseases was awarded in July 2018. Dr. Cohen's mentor is Dr. Michel Nussenzweig, Zanvil A. Cohn and Ralph M. Steinman Professor and Head of the Laboratory of Molecular Immunology.

Dr. Cohen's research focuses on understanding the hidden "reservoir" of HIV in patients, since eradicating this source of virus is key to curing the disease. He has made major advances in improving the assay used to detect the viruses in the reservoir and has shown that the reservoir contains a greater diversity of viral subtypes than previously appreciated.

His grant award summary is 'Despite tremendous advances in the treatment of HIV, approximately 6000 new infections

occur each day, and new prophylactic or curative strategies are needed to halt the epidemic. The greatest barrier to achieving a cure for HIV infection is the presence of a reservoir of latently infected cells that reactivate upon the cessation of antiretroviral therapy. We propose to implement a novel assay to increase our understanding of the composition, location, and dynamics of this reservoir in order to better design and test curative strategies.'

Dr. Cohen's will use the award to continue his research at Rockefeller University with a future plan to transition to a faculty position at one of New York City's academic medical centers.

---

## Rockefeller University Hospital Team Explores Collaboration Opportunities with Cornell Tech

By Roger Vaughan, MS, DrPh

On July 24, 2018, Barry Collier, MD, Rhonda Kost, MD, Jonathan Tobin, PhD, Roger Vaughan, MS, DrPH, Rita Devine, MPA, RN, Harry Grossman, MBA, Riva Gottesman, MPA, RHIA, and Donna Brassil, MA, RN, CCRC went to the Cornell Tech campus on Roosevelt Island to meet with Associate Dean and Professor of Computer Science at Cornell Tech, Deborah Estrin and JP Pollak, PhD, Senior Researcher-in-Residence. Dr. Estrin, who also holds an appointment as a Professor of Public Health at the Weill Cornell Medical College, and Dr. Pollak were eager to share the academic activities at Cornell Tech Campus and learn how they could benefit from collaborations with Rockefeller University Hospital researchers.

Cornell Tech is a revolutionary model for graduate education that fuses

technology with business and creative thinking. When fully completed, the campus will include two million square feet of state-of-the-art buildings, over two acres of open space, and will be home to more than 2,000 graduate students and hundreds of faculty and staff.

It was clear that there were multiple opportunities for synergistic collaborations, as each Cornell Tech student will need to complete a data project, and the unique nature of many of the Rockefeller research projects could benefit from novel analytic interrogation and descriptive approaches.

Two concrete steps emerged after that summer meeting:

- There was a follow up meeting with Cornell Tech professor of Operations Research and Information Engineering, Nathan Kallus, to review a menu of

data projects ongoing at Rockefeller University Hospital that might serve as candidates for analytic collaborations. Dr. Kallus distributed these potential projects to Cornell Tech faculty; some appropriate for short term masters student projects, some more appropriate for PhD students, while others likely Post-doctoral fellow/faculty projects.

- Director of Biostatistics at Rockefeller University, Dr. Roger Vaughan, will teach a course on Health Services Research on the Cornell Tech campus as part of a degree requirement for Cornell Tech students in the Spring of 2019. Dr. Vaughan's teaching role will provide an excellent source of ongoing inter-institutional communication to identify opportunities for collaboration.

# Germ City: Microbes and the Metropolis

By Tukisa Smith, M.D., M.S.

The Rockefeller community does not have to search far for a glimpse into New York City's rich history of epidemic disease. From the historic Rockefeller Hospital, which reminds us of treatment breakthroughs, to our East River views of Roosevelt Island, which once housed the Goldwater Hospital established for those with long-term effects of epidemic outbreaks including post-polio syndrome, Rockefeller scientists cannot escape the awareness of microbial pathogenesis and its impact on population health. But for the average New Yorker, the city's longstanding battle against epidemics, which dates back to the 1700s with the Yellow Fever outbreak, is not so palpable, until now.

The Rockefeller Clinical Scholars visited the exhibition entitled "Germ City: Microbes and the Metropolis," which is organized by the Museum of the City of New York in collaboration with The New York Academy of Medicine and part of Wellcome's international project Contagious Cities. It explores the interplay between urban populations and pathogens from a historical perspective. Germ City blends digital interactives with archived publications, curated artifacts, and contemporary artwork to capture the societal and cultural impacts

that New York City epidemics have had on infectious disease treatments, hygiene, activism and public health and policy. The exhibit's highlights on disease containment include accounts of the forced isolation of Mary "Typhoid Mary" Mallon on North Brother Island in the East River from 1915-1938 and artist Jordan Eagles's sculpture entitled "Blood Mirror," a provocative piece created to commemorate the ethical considerations surrounding the AIDS crisis and the U.S. Food and Drug Administration's 1983 ban on blood donations from gay and bisexual men. Despite identifying historical blunders relating to disease containment, the exhibit successfully depicts the impact of medical advances, changes in infrastructure, and public policy aimed toward the prevention and minimization of disease transmission.

To promote epidemic preparedness, Walgreens and Duane Reade partnered with The Academy and the Museum of the City of New York to offer a courtesy pop-up flu shot clinic prior to the anticipated panel discussion to commemorate the 100th anniversary of the global influenza pandemic of 1918. Historian of Science Alan Kraut moderated a discussion between infectious disease specialist and

researcher Dr. Nicole Bouvier and the New York Times best-selling author John Barry who wrote "The Great Influenza: The Story of the Deadliest Pandemic in History." Discussions included the impact of the Influenza pandemic and its legacy on the present day. The sobering reality of how pathogens undetected by the human eye can devastate a metropolis such as New York City continues to fuel research for better strategies for prevention, treatments, and policy implementation. As we continue to fight newly emerging and reemerging diseases, public awareness and education will continue to remain cornerstones of disease prevention. Exhibits like Germ City provoke contemplation regarding both the resilience and the fragility of the human condition. The Germ City exhibit remains open to the public through April 28, 2019 at the Museum of the City of New York.



Rockefeller University CCTS Community

## Meet the Scholar: Jason Hawkes, M.D.

By Michelle Romanick



Jason Hawkes, MD

Dr. Jason Hawkes joined the Clinical Scholars Program at Rockefeller University in 2016. He received his medical degree from the University of Utah and completed an internship in internal medicine at the University of Washington/Boise VA Medical Center. Dr. Hawkes returned to Utah for his dermatology residency and graduated from the program's 2+2 Translational Research Track.

Often interest in research stems from early exposure in high school and college or a family member's career as a clinician and/or researcher, but Dr. Hawkes's first real research experience was in 2008 at the NIH as part of the Howard Hughes Medical Institute (HHMI)-NIH Research Scholars program. He was selected to participate in this program after completing his 2nd year of medical school as he wanted to explore the life of a physician-scientist. He was also contemplating transferring into the MD/PhD program and thought the experience would assist with this decision. At the NIH, Dr. Hawkes became aware of Dr. Steven Rosenberg's work in treating metastatic melanoma using a person's own immune cells via a process called adoptive cell transfer. This experience had a profound impact on him and was, ultimately, the reason he pursued dermatology and the research area of treating inflammatory skin conditions with novel biological therapies.

Dr. Hawkes met Dr. James Krueger, Head of Laboratory of Investigative Dermatology at Rockefeller University, when he was in the dermatology research track at the University of Utah. Dr. Hawkes heard Dr. Krueger speak at national meetings and knew Dr. Krueger as one of the leading scientists in the field of psoriasis. Dr. Hawkes invited

Dr. Krueger to speak at the University of Utah's Department of Dermatology Grand Rounds and was tasked with creating a meeting agenda during his visit. Dr. Hawkes took that opportunity to schedule a brief one-on-one meeting with Dr. Krueger to introduce himself and to discuss some of his own psoriasis research and ideas. It was during that meeting that Dr. Krueger invited Dr. Hawkes to consider joining the Clinical Scholars program and to pursue his research ideas in Dr. Krueger's lab.

Dr. Hawkes is studying an uncommon subtype of "acute" psoriasis called guttate psoriasis in an effort to learn more about the early immune events of this heterogeneous disease. Guttate psoriasis is an eruptive, small plaque variant of psoriasis that typically occurs in adolescents or young healthy adults. It nearly always follows Group A streptococcal pharyngitis. While guttate psoriasis tends to be a self-limited disease, approximately one-third of patients go on to develop plaque psoriasis, highlighting at least some shared biologic and/or genetic influences between the two subtypes. Patients with guttate psoriasis also tend to respond very well to anti-psoriatic medications approved for plaque psoriasis. The primary purpose of his research is to better elucidate the molecular profile and immune cell populations driving guttate psoriasis and better understand its relationship to plaque psoriasis. His pilot study is designed to shed light on the pathophysiology and natural history of psoriasis, thus potentially opening the door to novel therapeutic strategies.

Dr. Hawkes shared his expectation for his experience as a member of the Clinical Scholars program and his experience as Chief Clinical Scholar:

"My primary expectation when I joined the Clinical Scholars program was to have an opportunity to learn the science of psoriasis from Dr. Krueger and to focus on my research interests in an academic environment that is largely protected from the demands of the clinic. I had opportunities to explore human translational and bench-top research activities that were not available to me in Utah, and this has provided me with insights into the types of academic and educational activities that will be most enjoyable and rewarding to me in my future career.

The most important lesson I have learned during my time in the Clinical Scholars program is just how critical the physician's perspective and insight are for shaping truly meaningful research that improves the human condition. This lesson has helped me focus on research questions that have the potential to directly improve patient care and the development of skills that are complementary to my clinical training.

The most educational aspect of the Clinical Scholars program for me has been an introduction to the conduct of clinical trials and human subjects research. I have been the beneficiary of the broad experiences of the Clinical Scholars program administrators, IRB/ACCTS members, nursing, and Krueger Laboratory staff who have helped me to better understand the scientific and regulatory aspects of conducting clinical trials. With their assistance, I was able to successfully conduct several industry- and investigator-initiated research protocols as the principal investigator and feel confident I could do the same at another institution in the future."

When asked to describe the Clinical Scholars program in one sentence, Dr. Hawkes's response was, "A 3-year comprehensive bootcamp learning the skills necessary to conduct meaningful human subject research in an institution with a rich history of scientific discovery."

Dr. Hawkes will be applying for an academic position in a dermatology department that will allow him to leverage his clinical interests and prior research training to develop an inflammatory skin disease clinic and research program dedicated to uncovering biologic mechanisms and new treatment modalities for these severe skin conditions. He also has an interest in resident and medical student education and hopes to find opportunities to incorporate this interest into his future clinical and research activities.

# New Clinical Scholars Join the Center for Clinical and Translational Science (CCTS)

By Michelle Romanick

On July 1, 2018, six new Clinical Scholars joined the Rockefeller University Clinical Scholars Program. They are Drs. Ohad Bentur, John Frew, Christian Gaebler, David Knorr, Rochelle Maxwell, and Ying Wang.



**Ohad Bentur, MD, MHA**

**Mentor:** Dr. Barry Coller

**Laboratory:** Allen and Frances Adler Laboratory of Blood and Vascular Biology

**Research Interest:** Dr. Ohad Bentur's research interest is in thrombosis and hemostasis and has involved clinical studies of venous thromboembolism and its prevention alongside basic research in vascular injury and endothelial dysfunction.

**Current Research Protocol Title:** Identification of genetic modifiers that ameliorate the clinical severity of patients with hemophilia

**Bio:** Dr. Ohad Bentur received his MD from the Technion-Israel Institute of Technology, Israel and his MHA from the Ben Gurion University of the Negev, Israel. He completed his internal medicine residency and hematology fellowship at the Tel Aviv Medical Center, Israel. As a Clinical Scholar, Dr. Bentur will focus on molecular analysis of patients with bleeding disorders and genotype-phenotype correlation analysis in these patients. He will try to identify genetic modifiers in patients with less severe bleeding symptoms than expected based on the severity of their coagulation abnormality.



**John Frew, MD**

**Mentor:** Dr. James Krueger

**Laboratory:** Laboratory of Investigative Dermatology

**Research Interest:** Dr. John Frew's research interest is the study of chronic inflammatory skin diseases, such as hidradenitis suppurativa, psoriasis, atopic dermatitis, and alopecia areata, and the primary immune mechanisms driving their development.

**Current Research Protocol Title:** Inflammatory mediators in hidradenitis suppurativa

**Bio:** Dr. John Frew received his MD from the University of South Wales, Australia. He completed his dermatology residency with the Australasian College of Dermatologists, Australia. As a Clinical Scholar, Dr. Frew will study Hidradenitis Suppurativa, a debilitating and largely neglected inflammatory skin disease. He will focus on the mechanisms of innate immune dysregulation with the goal of unravelling the complex contributions of genetic factors and environmental triggers such as smoking, obesity and metabolic syndrome. He will also examine the role of alterations to the microbiome in perpetuating the ongoing inflammatory cascade in this disorder with the aim of identifying and developing new treatments for this disease.



**Christian Gaebler, MD**

**Mentor:** Dr. Michel Nussenzweig

**Laboratory:** Laboratory of Molecular Immunology

**Research Interest:** Dr. Christian Gaebler's research focuses on antibody-mediated immunotherapy and the impact on HIV-1 latency.

**Current Research Protocol Title:** Characterization of the intact HIV-1 latent reservoir by real-time PCR.

**Bio:** Dr. Christian Gaebler received his MD and completed his internal medicine and infectious disease residency from the Charité-Universitaetsmedizin, Germany. As a Clinical Scholar, Dr. Gaebler is studying broadly neutralizing antibodies to HIV-1. Such anti-HIV-1 antibodies have been shown to effectively control virus replication in animal model systems and in human antibody treatment studies. His current research focuses on the characterization of the HIV-1 latent reservoir.

[Continued on page 6](#)

## New Clinical Scholars Join the Center for Clinical and Translational Science (CCTS)



**David Knorr, MD, PhD**

**Mentor:** Dr. Jeffrey Ravetch

**Laboratory:** Leonard Wagner Laboratory of Molecular Genetics and Immunology

**Research Interest:** Dr. David Knorr's research focuses on improving immune therapy of cancer by activating CD40 on immune cells with specifically-engineered antibodies.

**Current Research Protocol Title:** A phase 1, open-label study to assess the safety and tolerability of the Fc-engineered variant 2141-V11 in patients with tumors of the skin amenable to intratumoral injection.

**Bio:** Dr. David Knorr received his MD and PhD from the University of Minnesota. He completed his internal medicine residency research track at Weill Cornell Medical College and his hematology/oncology fellowship at the Memorial Sloan Kettering Cancer Center. As a Clinical Scholar, Dr. Knorr will focus on improving immune therapy of cancer by activating CD40 on immune cells with specifically-engineered antibodies. This has the potential to provide another class of drugs that can help the immune system attack and kill cancer cells.



**Rochelle Maxwell, MD**

**Mentor:** Agata Smogorzewska

**Laboratory:** Laboratory of Genome Maintenance

**Research Interest:** Dr. Rochelle Maxwell's research interest is in gene mutations in the Fanconi Anemia pathway, and their contribution to oncogenesis.

**Bio:** Dr. Rochelle Maxwell received her MD from the Columbia University College of Physician and Surgeons, New York. She completed her pediatric residency and her pediatric hematology/oncology fellowship at Children's Hospital at Montefiore Medical Center. As a Clinical Scholar, Dr. Maxwell will study genetic factors that increase susceptibility to both oncogenesis and cancer treatment-related toxicities. Her specific research interest is identifying the functional mechanism by which alternations in genes causing Fanconi anemia increase the risk of developing malignancies.



**Ying Wang, MD, PhD**

**Mentor:** Kivanç Birsoy

**Laboratory:** Laboratory of Metabolic Regulation and Genetics

**Research Interest:** Dr. Ying Wang's research focuses on how mitochondrial dysfunction affects the cellular metabolism and behavior of cancer cell immunity, including cancer progression and metastasis.

**Current Research Protocol Title:** Mitochondrial DNA mutation and heteroplasmy in human thyroid cancer.

**Bio:** Dr. Ying Wang received her Bachelor of Medicine from Fudan University Shanghai Medical College, People's Republic of China and PhD from Columbia University Graduate School of Arts and Sciences. She trained in internal medicine at Fudan University Affiliated Zhongshan Hospital, Shanghai. As a Clinical Scholar, Dr. Yang will focus on how mitochondrial dysfunction affects the cellular metabolism and behavior of cancer cell immunity, including cancer progression and metastasis.

# Entrepreneurship Curriculum Dinner with Venture Capitalist Geoffrey Smith

By Jason Hawkes, MD

As part of the Clinical Scholars program's ongoing entrepreneurship curriculum, Clinical Scholars and Faculty hosted a dinner on September 6, 2018 with Geoffrey Smith. Mr. Smith is the current founder and managing partner for Digitalis, a venture capital firm that invests in healthcare-related technologies. He also represents Digitalis as a Director of CareDox, GRO Biosciences, and Elemental Machines, and as a Board Observer of Second Genome.

Mr. Smith has been a venture capitalist since the early 1990s, with a particular interest in healthcare-related technologies. He is co-founder and General Partner of Ascent Biomedical Ventures, a New York City-based venture capital firm focused on early-stage life sciences investments. He also represents Ascent on the Board of Directors for Azevan Pharmaceuticals, BlinkBio, and Orchestra BioMed, and is a Board Observer of Vivasure Medical.

In addition to his many roles in biomedical ventures, Mr. Smith has maintained professional relationships

and ongoing collaborations with several academic institutions and hospitals. He is a Visiting Scholar at Rockefeller University and an adjunct faculty member at the Rockefeller University Center for Clinical and Translational Science. He also serves as a member of the Scientific Advisory Board for Brigham & Women's Hospital in Boston. Previously, he was the founding Director of the Mount Sinai Institute of Technology and a Professor in the Department of Population Health Science and Policy at the Icahn School of Medicine at Mount Sinai.

During his recent visit to Rockefeller University, Mr. Smith shared with the Clinical Scholars his personal experiences as an entrepreneur and manager of several venture capital funds. He provided an overview of the role of venture capital in medicine and science and insights into this fast-paced area of work. He also discussed with Scholars several real-world examples of successful and unsuccessful healthcare-related technologies and research ideas. He challenged Scholars to never stop trying to solve the most difficult clinical or research problems in

their respective fields as the answers to these questions are likely to be the most impactful. He also encouraged Scholars to not be afraid of failing and to pursue research questions about which they were most passionate.

Towards the end of the evening, Mr. Smith discussed the variety of ways physician-scientists can provide potential solutions to improve human health with the venture capital firms by supporting the development of novel research and technology. Scholars were also asked to offer their suggestions for the development of a future, pilot externship with Mr. Smith's company as a way of educating physician-scientists about the inner workings of venture capital. He welcomed Scholars to arrange a visit to his office, where they would also have an opportunity to pitch their own research ideas and discuss areas of need in their respective fields of work. Overall, the Clinical Scholars' event was an excellent overview and introduction to the potential synergy between entrepreneurship, venture capital, and the research activities at Rockefeller University.



Mr. Geoffrey Smith (center) with members of the Center for Clinical and Translational Science Leadership, Clinical Scholars, and Clinical Directors Network

# Hospital Leadership Tours River Building

By Rita K. Devine MPA, RN

On Thursday, September 6, 2018, 15 adventurers donned hard hats, day glow vests, and sensible shoes to set out for a tour of the new River Building. Although still under construction, following the guidance of Ana Heghes, Project Manager of Planning and Construction, we covered all 2 acres of the Stavros Niarchos Foundation – David Rockefeller River Campus. Despite the ongoing construction, we could still appreciate the well thought-out details of design, ecology, beauty, and function. The open floorplan of the 135,000 sq. ft. Marie-Josée and Henry R. Kravis Research Building showcases the flexibility offered for the changing needs of researchers. The magnificent gardens of the green roof offer stunning views of the East River and seating areas to collaborate or contemplate. We look forward to the campus opening ceremony in the spring.





seemed to be the perfect opportunity to satisfy the requirements of this grant. The goal of Rockefeller community/academic partnerships is to foster projects that accelerate translation by fostering teams that develop projects with mechanistic, clinical, and patient-centered aims. Through a series of exploratory discussions to articulate priorities, align aims, and test feasibility, the partners developed a pilot study, “Engaging Carter Burden Center for the Aging in a Community Academic Partnership to Understand the Biological, Environmental and Personal-level Correlates of Successful Aging in Place.” The study enrolled 218 clients at two CBN sites in East Harlem for collection of physiological, psychosocial, and nutritional data. 83% of the participants were overweight or obese, 33% reported a history of diabetes, and 84% had uncontrolled blood pressure (BP). The prevalence of uncontrolled BP was startling, and even higher than expected. Cardiovascular Disease (CVD) poses significant health risks for seniors, with two thirds of those aged 60 to 79, and approximately 85% of those 80 and over having one or more forms of CVD. Blood pressure is one of the major modifiable risk factors for cardiovascular morbidity and mortality, with even moderate reductions playing a major role in preventing future cardiovascular events.

CBN, in partnership with RU and CDN, will address seniors’ cardiovascular risk through implementation of a dietary intervention at two of its senior centers - the Leonard Covello Senior Program in East Harlem and the Carter Burden Luncheon Club on the Upper East Side. Senior centers serve as critical resource hubs for seniors, offering a spectrum of health, nutritional, social service, art, and recreational programming. With support from the NYC Department for the Aging (DFTA), which will be a partner in the evaluation, CBN provides over 240,000 meals annually to low income and minority seniors in NYC, many of whom report food insecurity.

The project will implement the National Heart, Lung, and Blood Institute’s (NHLBI’s) Dietary Approaches to Stop Hypertension (DASH) diet through meals provided at senior centers and study the impact of this intervention

on blood pressure control. The DASH diet has been tested by two major NHLBI-funded studies, demonstrating its ability to lower blood pressure in as little as 14 days. The diet is largely plant-focused – rich in fruits, vegetables, and nuts, with supplementary inclusion of non-fat and low-fat dairy products, whole grains, poultry, fish, lean meats, and heart-healthy fats. Breakfast and lunch menus at Covello and lunch menus at the Luncheon Club will be adjusted with the help of RU Bionutritionists and the RU chef to be DASH–concordant, while respecting the cultural and taste preferences of clients.

The DASH Diet will be implemented through a multicomponent approach. The intervention will begin with Town Hall meetings, led by the RU Community Engagement Specialist, with CBN participants and staff. The food, diet and cooking concerns that are expressed by the participants at the Town Hall meetings will be reviewed by the RU Bionutritionists and the CBN staff. The Bionutritionists will then work with the CBN chefs to make the menus DASH Diet concordant. The Bionutritionists and chef will provide recipe tasting, recipe demonstrations, and education on the DASH diet. A plate-waste study will be conducted with the assistance of dietetic interns to inform recipe change and minimize waste. Health educators from CDN will provide information and training on BP self-monitoring using automated home blood pressure monitors that will be provided to the participants, as well as the importance of antihypertensive medication adherence, and strategies to help improve medication adherence.

The study plans to recruit and consent 200 participants, all of whom will receive Bluetooth-enabled home blood pressure monitoring kits. They will be trained on how to use the devices and encouraged to take BP readings at home and to share these home readings with their clinicians, thus improving self-monitoring, self-efficacy, and healthcare engagement. There will also be on-site telehealth monitoring of BP and other biometric measures (i.e., pulse, body weight, and blood oxygen saturation). The primary outcome will be the reduction of BP as measured by a reduction in mean systolic BP and increase in hypertension

control rates. Seven secondary outcomes will be explored: 1) leverage and growth of a sustainable, multi-stakeholder partnership, 2) implementation of DASH–concordant meals, 3) optimization of client acceptance of the intervention, 4) support of cognitive and behavioral change, 5) provision of positive feedback and enhancement of self-efficacy, 6) enhancement of the value of nutritional service programs by reducing waste, and 7) implementation of a scalable and sustainable monitoring and evaluation system. The partners are currently exploring the possibility of adding mechanistic questions (e.g., biomarkers) that may relate to blood pressure and reflect the impact of the DASH diet on inflammation and cardiovascular disease, which will lead to better understanding of the mechanism of action of the DASH diet.

This study represents a unique combination of community-centered and people-centered care, studied within a comparative effectiveness framework, with embedded mechanistic measures. It comprises a novel, full-spectrum approach to translational research that the RU-CDN Community Engaged Research Core has been developing over the last several years. This research is now being extended to address food insecurity, a key component of the social determinants of health, in partnership with agencies beyond the healthcare delivery system. The outcomes of the DASH Diet intervention will also serve to inform the broader aging services network and the healthcare community about the impact of senior center congregate meal service on health outcomes.

## Rockefeller Historical Vignette: Discovering the First Cancer-Causing Virus

By Elizabeth (Betsy) Hanson



Rous, Peyton

Courtesy of the Rockefeller Archive Center

In 1911 Peyton Rous (1879-1970) made the startling discovery that a virus could cause cancer. A farmer had brought him a hen with a large lump in her breast. Rous, a pathologist, diagnosed the lump as a sarcoma—a tumor of cells in the connective tissue. He first tested whether the tumor could be transplanted into chickens closely related to the original one. It could, and with each passing, the tumor became more aggressive. To find out whether an infectious agent caused the cancer, Rous prepared an extract—he minced a sample of the tumor tissue in saline solution and passed this through a

filter to eliminate bacteria and tumor cells. Then he injected the extract into healthy chickens. Contrary to his expectations, it produced new tumors!

Describing these experiments, Rous suggested that the tumor-inducing agent was "a minute parasitic organism"—a virus. At the time Rous did this research, however, viruses were poorly understood and the causes of cancer were even more mysterious. It was more than 50 years later, in 1966, that the significance of Rous's discovery was recognized with a Nobel Prize.

The assertion that a virus could induce tumors was so controversial that,



These flasks were used by Rous in mid 1930s

after a few more studies, Rous abandoned cancer research until the 1930s, when his colleague at the Rockefeller Institute, Richard Shope, discovered another tumor caused by a virus—a papilloma, or wart, found in rabbits. Rous returned to studying cancer, keeping alive the viral theory of cancer causation. Only in the 1950s was the so-called Rous sarcoma

virus widely adopted as a tool, because—unlike chemicals or radiation—it reliably and reproducibly induced tumors. In the 1960s a gene called src was identified as producing the protein that leads to tumors. Decades after Rous's original description, the Rous sarcoma virus, now known to be a retrovirus, remains important in research.

Peyton Rous received the BA from The Johns Hopkins University in 1900, and the MD from that university's Medical School in 1905. After teaching pathology at the University of Michigan, he joined the Rockefeller Institute in 1909, becoming a full member (professor) in 1930. He remained at Rockefeller his entire career. Among dozens of awards and honorary degrees, he received the National Medal of Science (1965), the Lasker Award (1958), and the Nobel Prize (1966). He served as editor of the Journal of Experimental Medicine.

### Selected Publications

Rous P. Transmission of a malignant new growth by means of a cell-free filtrate. JAMA, 1911, 56:198

Rous P. A sarcoma of the fowl transmissible by an agent separable from the tumor cells. J Exp Med, 1911, 13:397-411

Rous P. The virus tumors and the tumor problem (Harvey Lecture). Am J Cancer, 1936, 28:233-271

## Bernadette Capili PhD, NP-C, New Director of the Heilbrunn Family Center for Research Nursing

Continued from page 1

Dr. Capili is the recipient of several awards, including the Nicholas Rango HIV Primary Care Fellowship, sponsored by the New York State AIDS Institutes; a National Research Service Award Individual Pre-doctoral Fellowship, sponsored by the National Institutes of Health (NIH); the Columbia University Dean's Distinguished Post-Doctoral Research Fellowship, Irving Research Fellows Program, sponsored by the Clinical Translation Science Award/NIH/National Center Resource Resources; and the Distinguished Young Alumni Award from Columbia University. Dr. Capili has served as an

advisory member for the American Heart Association/HIV Academy of Medicine on HIV and Cardiovascular Disease and the federal advisory committee Health IT (HIT) Usability and Safety Work Group. She is also a reviewer for numerous peer-reviewed journals and scientific reviewer for federal agencies.

Dr. Capili's vision for the Heilbrunn Family Center for Research Nursing is to be a core resource to advance research nursing. The development of innovative programs and collaborations with leading experts in the field will

provide the foundation to achieve this goal. Dr. Capili's immediate focus will be to cultivate and promote a network of clinical nurse researchers in-house and deliver scholarly outcomes that will enhance the mission of the Heilbrunn Family Center for Research Nursing. Dr. Capili can be reached at 212-327-8405 and her email is e: bcapili@rockefeller.edu. Please just us in welcoming her to Rockefeller University.