



A MULTI-INSTITUTIONAL CONSORTIUM AT WEILL CORNELL MEDICAL COLLEGE WITH: Cornell University, Ithaca
Cornell University Cooperative Extension, New York City / Hospital for Special Surgery / Hunter College School of Nursing
Hunter Center for Study of Gene Structure and Function / Memorial Sloan-Kettering Cancer Center / NewYork-
Presbyterian Hospital/Weill Cornell Medical Center / Weill Cornell Graduate School of Medical Sciences

VOLUME II

SPRING 2010

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From the Director's Desk:



WELCOME to the spring 2010 issue of the CTSC eNews! We've reached some important milestones in our research mission to foster multidisciplinary, multi-institutional collaborative research to yield new, effective patient treatments, educate and mentor the translational research scientists of the future, and enhance health care to the underserved in our surrounding communities. Since our spring 2009 issue of this newsletter, the CTSC has continued to fund Pilot, Community, Novel and Education mentoring awards. These projects represent researchers from Weill Cornell Medical College and investigators from CTSC partner institutions.

In this issue, we invite you to read about the research accomplishments of CTSC awardees. I am also delighted to announce that the CTSC received three American Recovery and Reinvestment Act (ARRA) Administrative Supplements. An additional three ARRA awards were in partnership with several other CTSA's (Clinical Translational Science Awards). Please read "Translational Research to the Forefront" to find out more about these breakthrough initiatives.

The CTSC continues to reach out into the community with the newly launched Community Education Interactive Video Conferencing Program and the "United We Serve" drive.

Looking ahead to a new decade, our goal is to continue efforts to deepen and broaden our relationships across partner institutions and strengthen community ties to translate science into medical practice. We look forward to continuing to foster translational research while serving the needs of our research community.

Julianne Imperato-McGinley, M.D.

Associate Dean, Translational Research and Education
Program Director, Clinical and Translational Science Center
Abby Rockefeller Mauzé Distinguished Professor of Endocrinology in Medicine
Chief, Division of Endocrinology

Bringing Translational Research to the Forefront through ARRA

By Geraldine Amara

The American Recovery and Reinvestment Act (ARRA) was signed into law by President Obama on February 17, 2009, to preserve jobs while creating new ones, create economic activity and growth, and to invest in scientific advancement.

The Act allocated \$10.4 billion to the National Institutes of Health (NIH) for the support and advancement of biomedical research. The recipients of awards resulting from the act are those with the highest potential for creating scientific progress within two years.

Three Administrative Supplements were awarded directly to the Clinical and Translational Science Center at Weill Cornell

Medical College collaborating with its partners, the Hunter College School of Nursing, the Hunter College Center for Study of Gene Structure and Function, and the Burke Institute.

These projects support the CTSC's key mission, to overcome barriers to biomedical innovation by coordinating novel translational research projects across institutions and disciplines.

(continued on next page)

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The supplements awarded to WCMC come under three National Center for Research Resources (NCRR) designated award categories: Community Engagement, Workforce Development, and Pilot Projects. Three additional awards were given to CTSC investigators who are collaborating with the following institutions: Albert Einstein Medical Center, the University of Florida, and Columbia Presbyterian Medical Center.

Improving Community Health Education through Interactive Video Conferencing

Principal Investigator Julianne Imperato-McGinley, MD, has teamed up with Robert Dottin, PhD, and Donald Tobias, PhD to pioneer a project that explores the use of interactive video conferencing for community education. The purpose is to disseminate medical information to underserved communities on a wide scale. Video-conferencing technology facilitates the improvement of community health education by providing for a novel interactive exchange of real-time information between experts located at separate sites and the multiple communities involved. The primary goal of these presen-

tations is to increase community access to high quality health information by engaging those in underserved communities in discussions on a wide range of health topics. The investigator team, using equipment already in place at the Hunter Gene Center, hopes to improve medical information access to the community.



Jane Seley, NP and David Brillon, MD, Associate Professor, Division of Endocrinology

David Brillon, MD and Jane Seley, NP presented the first discussion with the video conferencing technology which was broadcasted at a church, located in Brooklyn on December 8, 2009. The topic that was covered "Diabetes: What It Is and What You Can Do About It" engaged thirty-five community members for the duration of the discussion.

A second interactive video conferencing event occurred on February 25, 2010 at a community center on the upper east side of the Manhattan. Nimali Jayasinghe, PhD, Assis-

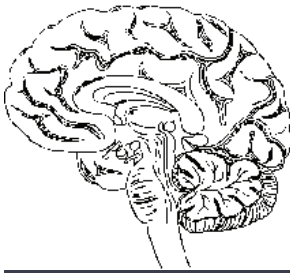
tant Professor of Psychology in the Department of Psychiatry was the speaker and the topic discussed was "Fall Prevention."

The next event is scheduled to broadcast simultaneously to three churches in Jamaica, Queens and the Bronx in March. Future events will be coordinated on a monthly basis.

Hunter College School of Nursing: Encouraging Healthcare Careers

Kristine Gebbie, DrPh, RN, Dean of the Hunter College School of Nursing, City University of New York (HCSO) has partnered with WCMC CTSC to lead a research project that aims to boost student interest in nursing and other allied health professions.

Through a two-year Community Engagement with Nursing and Science (CENS) program, students among minority groups that are traditionally under-represented in health careers are offered mentorship, after-school activities, and summer research internships in scientific research. This pioneering program aspires to create new jobs while increasing student exposure to health careers and research as a contribution to the health of the community.



Drs. Lee and Cho have made significant headway towards their goal to delineate the role of BDNF in the brain's recovery from ischemic stroke.

WCMC and the Burke Institute: Focusing on Stroke

Due in part to the increase of the elderly population in America, the incidence and prevalence of stroke continues to rise. Considerable long-term health burdens have been associated with stroke; it is the leading cause of severe, long-term disability in the U.S. Despite this, few treatment strategies exist that address acute ischemic stroke.

Increasing evidence suggests that synaptic plasticity and remodeling continues to occur for up to several weeks following the initial tissue injury that results from stroke. Francis Lee, MD, PhD from WCMC partnered with Sunghee Cho, PhD at the Burke Research Institute, located in Westchester, to test the hypothesis that stroke-induced secretion of BDNF plays a critical role in the functional recovery from stroke.

Brain-derived neurotrophic factor (BDNF), a widely expressed growth factor in mammalian nervous systems, has received considerable attention in recent years for its role in stress adaptation, neurogenesis, synaptogenesis, and angiogenesis. Though most of the research on

BDNF has focused on its role in neuropsychiatric illnesses, clues into its possible role in the functional recovery from stroke have recently begun to surface.

In other brain regions such as the hippocampus, BDNF has been shown to protect neurons from stress and to support the cellular processes that underlie learning and memory. Studies have shown that *in vivo*, BDNF serves to rescue motoneurons, hippocampal, and substantia nigral cells from traumatic and toxic brain injury. Yet, little is known about the post-ischemic neuroprotective role of BDNF.

Drs. Lee and Cho have made significant headway towards their goal to delineate the role of BDNF in the brain's recovery from ischemic stroke. A common human single nucleotide polymorphism (SNP) of BDNF that is

found only in humans may hold the secret.

In preliminary studies, mice that were genetically- engineered to express the humanized BDNF variant displayed significant impairment in cognitive tasks at six months post-ischemic brain injury, when compared to mice that express the wild type BDNF. Continuing to study "knock-in" mice that express the genetic variant of BDNF may bring us ever closer to understanding the impact of BDNF in the weeks following ischemic stroke. Exploring the molecular mechanisms underlying the role of BDNF in stroke recovery may help to reveal potential targets for drugs and other therapeutic strategies.



Francis Lee, MD, PhD,
Associate Professor,
Department of Psychiatry



Sunghee Cho, PhD,
Associate Professor of Neurology/ Neurosciences,
Burke Medical Research Institute

ARRA Grant Collaborations with CTSA Network Nationwide

Combining expertise across multiple disciplines through the collaboration of esteemed individuals in a trans-institutional manner not only accelerates scientific progress but endeavors to advance the overall health of our nation's economy and its people. As exemplified by WCMC investigators being named as partners with esteemed awardee institutions such as Albert Einstein Medical Center, University of Florida, and Columbia Presbyterian Medical Center for several exciting new projects. Through these partnerships, the WCMC CTSC is an indirect recipient of an additional one million dollars of ARRA funding.

VIVOweb: Social Networking for Researchers

ARRA funds were awarded to the University of Florida, in a partnership with Cornell University, WCMC CTSC, and four other academic institutions to de-

velop a professional social network that opens communication between scientists known as VIVOweb.

VIVOweb is based on technology initially designed at Cornell University. Highly competitive, this \$6 million grant was one of two awarded nationwide and the team is led by Principal Investigator Michael Conlon, Director of Biomedical Informatics at University of Florida Medical Center. Curtis Cole, MD, Director of CTSC Informatics and WCMC Chief Information Officer leads the WCMC team.



Curtis L. Cole, MD
Chief Information Officer

By fostering alliances between scientists, VIVOweb will promote knowledge sharing, thereby speeding the pace of biomedical pro-

gress. The project will bring scientists together through a comprehensive network by presenting data about them including their research focus, publications, awards, and partners. The use of existing biological knowledge is one of the driving forces behind this ontology-driven data management network. VIVOweb seeks to extend VIVOweb to all CTSC investigators.

A Multi Disciplinary Translational Partnership

Ron Silverman, MD, Professor of Ophthalmology at WCMC has partnered with YC Chen, PhD, Professor of Physics at Hunter College received an administrative supplement to the Hunter College Gene Center for their revolutionary collaborative work on developing higher resolution ultrasound images for the clinical examination of the eye and superficial tissues. Their supplement was based on a pilot project initially funded through the CTSC.

Studying Pediatric Diseases: Multi Institutional Collaborations

Working to address one of our nation's most concerning health problems, the increasing prevalence of pediatric hypertension, Patricia Giardina, MD, Associate Director of the CTSC Clinical and Translational Research Unit and Professor of Clinical Pediatrics at WCMC, has teamed up with another NYC CTSA, Harry Shmoon, MD, Program Director of the Institute of Clinical and Translational Research at Albert Einstein College of Medicine of Yeshiva University.

The direct awardee of the ARRA funding, Dr. Shmoon is working to establish a multidisciplinary infrastructure within the CTSA consortium to closely examine the short-term effects of lifestyle modification on this growing problem. Children between the ages of 7 and 18, and diagnosed with essential hypertension, are randomized to either home-based intensive lifestyle modification or standard of care intervention (SCI). Outcomes will be followed using several measures: 24-hour ambulatory blood pressure monitoring, echocardiogram, exercise testing, biomarkers, quality of

life, and nutritional assessment.

Following a baseline assessment, short-term effects of SCI will be assessed by the investigators collecting all of the above data at six-month intervals.



Patricia Giardina, MD, Chief of the Division of Pediatric Hematology/ Oncology

Dr. Giardina has also teamed up with Nancy Green, MD, Columbia University Medical College on another multicenter study with several aims, all of which focus on further delineating the molecular genetics behind sickle cell disease. Partners include Albert Einstein College of Medicine, Yale University, University of Rochester and Children's Hospital Oakland.

A New Tool for Researchers

By Nelena Jackson

A new tool for researchers was launched in November 2009. ResearchMatch is a national volunteer research registry that brings together researchers and willing volunteers who wish to get involved in research studies. This national registry developed by institutions affiliated with the Clinical and Translational Science Awards (CTSA), provides a secure, web-based approach to address a key barrier to advancing research: participant recruitment. The WCMC CTSC is a participant of the thirty-nine member ResearchMatch consortium and encourages individuals to join this volunteer registry. This easy-to-use tool is free and confidential and will increase the availability of research studies to both researchers and research volunteers alike. At this time only the volunteer recruitment component is active. The investigator search function is expected to be available in the spring.

Please pass this information onto potential volunteers. For more information, visit:

www.researchmatch.org?route=weill_cornell.



ResearchMatch is a not-for-profit effort that brings together researchers and people who are willing to learn more about research studies in a secure and convenient manner.

Visit www.researchmatch.org for more information.

CTSC "Call to Service" Drive

"...I am asking you to make a lasting commitment to make better the lives of your fellow Americans - a commitment that must endure beyond one day, or even one presidency. At this moment of great challenge and great change, I am asking you to play your part; to roll up your sleeves and join in the work of remaking this nation. And if you do, then I truly believe a new and better day is within our reach."

*- President-elect Barack Obama,
1/14/09*

Contributed to by Linda Baichoo

"United We Serve" is a nationwide service initiative to help meet growing social needs resulting from the economic downturn. This initiative aims to both expand the impact of existing organizations by engaging new volunteers in their work and to encourage volunteers to develop a sustained,

collaborative and focused effort to promote service as a way of life for all Americans.

Answering President Obama's call to service, the WCMC CTSC with its partner, the Cornell University Cooperative Extension, New York City (CUCE, NYC), collected canned goods and school supplies throughout this past summer. This 81-day initiative inspired communities to come together in service and in remembrance of those who lost their lives on Sept. 11, 2001.

Over 300 items were collected: canned and non-perishable food items, binders, notebooks, pens and pencils. All donated school supplies were distributed to underprivileged children in grades K-12 by The River Fund New York, a Queens-based non-profit organization that is dedicated to providing physical, emotional, and spiritual support to those in need. Donated food items were sent to The Bowery Mission, an organization that has been providing support to New York City's poor and homeless since 1879.

In response to the growing percentage of New Yorkers in need due to the economy, WCMC CTSC again teamed up with CUCE for donations during the 2009 winter holiday season. Holiday gifts in the form of toys and canned food items were collected during the CTSC Holiday Drive. The proceeds from the CTSC holiday drive went to the Bowery's Mission Men's program and the River Fund New York.



Ready for school with supplies in tow.
Photo courtesy of The River Fund

Laboratory Core Service Unveils

By Geraldine Amara

In August 2009, the CTSC Core Lab unveiled the new Sector Imager 2400 (SI2400).

Researchers will be able to use Multi-Array technology and electrochemiluminescence detection to detect biomarkers in single and multiple formats. The customized plates allow multiple analytes to be measured at the same time using small sample volume in addition to developing novel assay formats.

The instrument has capacity for 96- and 384-well single-spot plates in addition to 96-well multi-spot plates. Data is available for researchers to manipulate and customize reports for download or print out.

Yuan Shan Zhu, MD, PhD, Director of the CTSC Core Lab, believes that the new imager provides "great advantage for studies with limited amounts of samples such as blood samples from pediatric cohorts and small animal studies."

He further explains that, "the use of multiplex assays saves money and time for the investigator when compared to conventional ELISA."

Use of the SI 2400 CTSC is available to all investigators in the CTSC. To make a reservation to use the instrument, please click [here](#) for the Reservation Calendar. For more information, email Dr. Zhu at yuz2002@med.cornell.edu.



Yuan Zhu, MD, PhD
demonstrating the use of the Meso 2400.
Photo by Rafeya Khan

Research in the Korean Community

By Louise Holmes

Kunsook Bernstein, PhD, Professor of Nursing at (Hunter College School of Nursing) HCSO received the 2008 CTSC Community Award, for leading a research study that sought to explore both the prevalence and risk factors of depression among Korean immigrants in New York City.

Her findings demonstrated that factors such as social isolation, low socioeconomic status, language barriers and discrimination all contribute to the onset of depression in Korean immigrants. The cohort in Bernstein's study included 304 males and females; most of these subjects immigrated to the United States within the past 10-20 years.

"The research results show a 13.2 percent prevalence of depression among Korean immigrants, which is approximately twice the rate of depression reported in the U.S. general population," Bernstein reported, "Yet many do not seek treatment." The NYC Korean community has grown dramatically over the last nine years, due to new immigration laws, and many experience depression because of acculturative stress.

Whereas most studies find a higher incidence of depression in women than men, Bernstein's study uncovered

that the incidence of depression among Korean male immigrants is closely matched to that of Korean female immigrants.

Bernstein's research has yielded significant results, and as a result has received a CTSC planning award. She has submitted two articles for publication.

Bernstein, herself a Korean native, has remained active in the NYC Korean community since her own immigration to the U.S in the 1970's. To commence her research, she organized conferences in the Korean Community, the first to announce her initial project and enlist support for participation, and the second at the completion of the project to publicize the research outcomes and celebrate the shared success of the community/academic research collaboration. Dr. Bernstein is committed to ensuring that her research makes a difference for this community.

Bernstein launched the study as a "Mental Health Initiative" of the Korean American Behavioral Health Association (KABHA) of which she is a board member, with additional funding from The Beautiful Foundation, a Korean community foundation led by community members to solve and manage problems in their own local community and the Clinical and Translational Science Center.

Co-investigators, Ms. So-Young Park and Dr. Jinah Shin, and research team members lead by Dr. Bernstein, gathered data by working with Korean community organizations such as: churches, Buddhist temples, senior centers, health fairs, and local business agencies. Using the findings from the CTSC Community Award research project, Bernstein applied successfully for a CTSC Planning Grant with Co-Investigator Dr. Heejung Bang, Associate Professor of Public Health at Weill Cornell Medical College. They plan to identify the barriers that prevent Korean immigrants from seeking help –including perceived discrimination, embarrassment over English language skills, and the stigma of admitting they need help. The plan is to develop a tool for health care professionals to use with their patients to measure the barriers and then test it within the Korean community.



Kunsook Berstein, PhD,
Professor of Nursing, Hunter
College
Courtesy of Weill Cornell Medicine





Translational Researcher: Manikkam Suthanthiran, MD

By Nelena Jackson

In his pursuit to unravel the mysteries behind transplantation, Manikkam Suthanthiran, MD, who is one of the pioneers of pancreatic islet cell transplantation, continues to explore new therapeutic and monitoring strategies that are at the cutting edge of transplantation technology. Dr. Suthanthiran's current CTSC project is investigating early kidney rejection by looking at biomarkers of urine and blood samples of transplant patients.

Dr. Suthanthiran draws upon his many roles to formulate hypothesis for his research studies. He states that, "I think we are fortunate in our lab to combine basic and clinical science. In addition to being a transplant physician, I also spend a lot of time running a research laboratory in which we have 15-20 researchers; half are basic scientists and half are clinical so we bridge both basic science and clinical science; for us it is not either or, but

a synergistic combination of both." In addition to his highly productive laboratory, Suthanthiran devotes a significant amount of time to clinical transplantation research, seeking to develop new treatments right at the bedside.

Through patient scheduling, pre and post-procedure assessments, procedural assistance and monitoring capabilities, the services provided by CTSC's outpatient unit have proven pivotal to Suthanthiran's clinical studies. "Patients undergoing biopsy are admitted to the CTSC; without this resource, it would be almost impossible to do the kind of testing we have done over the last decade."

On the horizon, Dr. Suthanthiran's research seeks to improve the management of transplant patients over the long term. "Going forward we are going to be involved in creating tolerance in transplant patients. Once patients receive a transplant, they will need immunosuppressants throughout their lives. We

hope to explore the possibility of stopping immunosuppressants six to nine months after transplantation."

As an experienced author and co-author of numerous publications, Suthanthiran also serves as the editor of the Journal of Transplantation. He presented findings from his research at the American Transplant Congress in Boston from May 30 to June 3, 2009.

Dr. Manikkam Suthanthiran received the prestigious NIH MERIT (Method to Extend Research in Time) award in 2009. Dr. Manikkam Suthanthiran has been elected by his peers for inclusion in the Best Doctors in America® from 1992 to 2010.



**Manikkam Suthanthiran,
MD, Stanton Griffis
Distinguished Professor of
Medicine**

AUTISM

Integrating Genes, Brain and Behavior

Hunter College Annual Symposium

By Nelena Jackson

On January 15, 2010, five hundred eighty members of the scientific community filled the Sylvia and Danny Kaye Playhouse at Hunter College for the 23rd Annual International Symposium. This year's nationally renowned conference was titled "Autism: Integrating Genes, Brain and Behavior." Eleven distinguished guest speakers covered topics addressing the latest statistics, trends, discoveries, and challenges in the Autism Disease Spectrum. The Autism symposium commenced with a welcome from Hunter College President Jennifer Raab. Director of the Center for Study of Gene Structure and Function at Hunter College, Robert P. Dottin, PhD, gave opening remarks and introduced the Program Director of the Clinical and Translational Science Center, Julianne Imperato-McGinley, MD.

Among the nationally recognized speakers were Marshalyn Yeargin-Allsopp, MD from the Centers for Disease Control and Prevention, whose talk was titled, "The Epidemiology and Changing Paradigm of Autism Spectrum Disorders," and Geraldine Dawson, PhD, the afternoon session keynote speaker who spoke on "New Directions in Early Detection and Intervention in Autism." Following the clinical translational pipeline, the morning session covered topics in basic science and technology use in autism animal models, transitioning through the day to clinical practice, and finally into the afternoon session focusing on the psycho-social aspects of the disease. The CTSC in conjunction with the Gene Center at Hunter College sponsored the all day event.

The videotaped conference will be available soon on the CTSC website.

The CTSC is Supported by the NIH NCRR CTSA UL1-RR024996. The Hunter College Gene Center receive support from the NIH NCRR RCMI Award G12-RR-003037.

Jumpstarting Small Business Innovation Research with the NYC Economic Development Corporation

By Geraldine Amara

The overview of the Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR) that was hosted by WCMC CTSC in early 2009 received an overwhelmingly positive review, with many attendees requesting a follow-up program on proposal writing. In response, WCMC CTSC hosted an intensive one-day SBIR Proposal Writing Workshop on October 29, 2009. The workshop, held at the Griffis Faculty Club and presented by the New York City Economic Development Corporation (NYCEDC), drew an attendance of over 100 people, representing not only CTSC, but also several of its partner institutions as well as the pharmaceutical and biotechnology industries. The workshop was lead by NIH SBIR expert, Lisa Kurek, who covered all aspects of SBIR and STTR proposal preparation, giving particular interest to the art of crafting fundable proposals.

CTSC Fast-Track Services

Externally Reviewed and Approved Studies: Short Application

If your project has been approved through an *external peer review process* and you would like to utilize the CTSC, then you can use the "Externally Reviewed and Approved" short application form. The requirements are limited. **Response within 10 days!** Click [here](#) for a full description of the externally reviewed study review process.

Core Use Only: Fast Track Applications

If your protocol doesn't need full CTSC service, there is a fast-tracked application process to *utilize one or more CTSC core services*. If your research needs are limited to one or more of the following core services: biostatistics, research data management services (REDCap), the CTSC General Core Laboratory, and/or the CTSC Molecular Core, apply now to use the above CTSC services.

Response within five days!!

Click [here](#) for a full description of the short form review process.

Do you have an announcement or article you would like to see in our next eNews issue or on the CTSC website? Contact the CTSC at CTSC@med.cornell.edu.



The CTSC e-News is published by the **Clinical and Translational Science Center**
Weill Cornell Medical College
1300 York Avenue, Box 149
New York, NY 10065
Tel: 646.962.8304
Online: <http://www.med.cornell.edu/ctsc>

Copy editor Rita Falbel
Co-editor Nelena Jackson
Co-editor Geraldine Amara
Graphic design and layout by Hamzad Persaud