EXECUTIVE VICE CHANCELLOR

Distinguished Lecture Series

This Fall, Executive Vice Chancellor for Academic Affairs Selma Botman is introducing a distinguished lecture series that will bring renowned scholars and researchers in different disciplines, from history to neuroscience and ecology, for a day of events, meetings and get-togethers with CUNY students and faculty. Each visit is being co-hosted by a CUNY campus and co-sponsored by the New York Times. After spending the day with faculty and students at the host institution, the visiting scholar will deliver an hour-long public lecture on a topic of contemporary interest at the CUNY Graduate Center. The lecture will be followed by a reception at the Graduate Center and an invitation-only dinner at the New York Times building.

The distinguished lecture series will commence on October 26th, 2005 with a visit to CUNY by Professor Elizabeth Thompson, distinguished scholar of Middle Eastern History at the University of Virginia. The complete line-up of confirmed speakers, date of lecture, and host institution, during the current academic year is given below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Distinguished Scholar</th>
<th>Co-Host</th>
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<tr>
<td>October 26, 2005</td>
<td>Elizabeth Thompson, Professor of Middle Eastern History at the University of Virginia</td>
<td>History Department, City College</td>
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<td>November 16, 2005</td>
<td>Saidiya Hartman, Professor of English, University of California, Berkeley</td>
<td>Anthropology Program, Graduate Center</td>
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<td>February 22, 2006</td>
<td>Josh Sanes, Director of the Center for Brain Science, Harvard University</td>
<td>Biology Department, Hunter College</td>
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<tr>
<td>March 22, 2006</td>
<td>Carl Safina, President of the Blue Ocean Institute, Cold Springs Harbor</td>
<td>CUNY Institute for Research on the City Environment at Queens College</td>
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(Continued on page 2)

IRB MEMBER AND STAFF TRAINING

Human Subjects Protections Symposium

The CUNY Office of Research Conduct held the second annual full-day training Symposium for Institutional Review Board (IRB) members and staff on September 8, 2005, at Baruch College. IRBs are guided by federal regulations for the ethical conduct of research involving human subjects. The regulations mandate that the IRBs receive continuing, comprehensive training in human research subjects protections.

(Continued on page 4)
Ofer Tchernichovski  (Continued from page 1)

These findings in particular, and the study of developmental song learning in birds in general, provide a unique model system for examining the process of developmental learning in humans such as speech acquisition, because it allows researchers to follow behavioral and brain changes continuously during an entire development (1 month in birds as opposed to about 5 years in humans). It is a rapidly expanding area of research that has been made possible by combining behavioral experiments on juvenile zebra finches with modern signal analysis techniques—an approach pioneered by Dr. Tchernichovski and his colleagues.

Dr. Ofer Tchernichovski joined the Biology Department at City College in 2001 as an associate professor, where he is now the head of the Laboratory of Animal Behavior. After completing his B.Sc. in Biology at the Tel Aviv University, he pursued two degrees simultaneously—a Doctor of Veterinary Medicine degree at the Hebrew University and a Ph.D. degree in Zoology at the Tel Aviv University under the guidance of Professor Ilan Golani. Professor Golani’s lab is credited with the discovery of the “warm-up” phenomenon—one of several known observations that are now being bridged through Dr. Tchernichovski’s current studies related to sleep-associated oscillation in performance and its role in developmental learning. Additionally, under Professor Benjaminji, his second advisor, Dr. Tchernichovski received training in exploratory signal analysis—a skill that has been instrumental in developing his research approach and helping him to obtain the first atomic description of song learning in birds.2

After completing his doctorate, a Mary Flager Cary Charitable Trust postdoctoral fellowship brought Dr. Tchernichovski to Professor Fernando Nottebohm’s laboratory at the Rockefeller University in 1996. Professor Nottebohm’s laboratory was a pioneer in the characterization of brain circuits used for vocal learning and song production in birds.3 In 1999, following the conclusion of his postdoctoral fellowship, Dr. Tchernichovski became an assistant professor at Rockefeller’s laboratory of animal behavior—a position he held prior to his arrival at City College’s biology department.

The process of vocal learning in songbirds is complex and lengthy. While offering a useful model for understanding the process of development of the human brain, analyzing it requires an integrative and comparative approach that combines behavioral and neurobiological analysis. To overcome the technical, computational and experimental hurdles, Dr. Tchernichovski and colleagues have adopted a distributive research effort whereby experimental data is shared and simultaneously used in the analysis of different aspects of vocal learning in songbirds across five other laboratories: Dr. Partha Mitra (Cold Springs Harbor), Dr. David Vicario (Rutgers University), Dr. Mark Schmidt (University of Pennsylvania), Dr. Franz Goller (University of Utah) and Dr. Santosh Helekar (Baylor College of Medicine).

These parallel efforts have dramatically reduced the experimental time it would have taken if each lab were to pursue their line of research independently, thereby increasing significantly, the rate of discovery for each research group. These and other collaborations have produced some ancillary benefits as well. Noteworthy among them is the development and extension of Sound Analysis—an integrated system for studying animal vocalization. The system includes operant training with playbacks, a smart recorder that automatically recognizes songs, a variety of online and offline sound analysis toolboxes and an integrated database system with easy exporting of data to MS Excel and to Matlab.4 Sound Analysis allows researchers to automatically trace vocal changes during development.

Professor Tcherichovski’s current research is being supported by several grants from the National Institute of Health (NIH). His research team, which is comprised of two postdoctoral fellows, four doctoral students and one masters student, is pursuing fundamental research on five different aspects of vocal learning in songbirds: cultural evolution, perceptual plasticity, neuroinfomatics, computational neuroscience, and gene expression during developmental learning.

Dr. Tchernichovski is a recipient of the 2003 and the 2004 CUNY Recognition in honor of outstanding scholarly achievement. Results from his collaborative research in vocal learning, in addition to having appeared in Nature, have also been published in distinguished venues such as Science and the Proceedings of the National Academy of Sciences. Some of his collaborative works have also been highlighted in broader media including The New Yorker, BBC, Newsday and the Discovery Channel.

2. See http://ofer.scri.cuny.edu/html/ofer.html
3. See http://www.rockefeller.edu/labheads/nottebohm/nottebohm-lab.html
CUNY COLLABORATIVE INCENTIVE RESEARCH GRANT PROGRAM ROUND 12

35 Faculty Win Award

Thirty-five faculty members from thirteen campuses were among the winners of Round 12 of the CUNY Collaborative Incentive Research Grant Program, which received a record number of applications this year. A total of seventy collaborative research proposals were submitted involving one hundred sixty five CUNY faculty members. The review process was overseen by a faculty review committee chaired by the University Dean for Research. Each proposal was reviewed by two external experts who ranked and critiqued them based on their innovation, technical feasibility and potential for generating external funding.

Based mostly on the numerical rankings and comments of the external experts, the review committee deliberated over the proposals that received exceptional or strong recommendations for funding. Unfortunately, the budget available for the program could not cover all such proposals given the large number of excellent submissions. The committee recommended two measures to increase the number of awards: eliminating the provision of summer salary and postponing the research equipment grant program for this year. Thus thirteen awards were made. However, some highly ranked and very innovative proposals could not be funded. The title of the winning proposals and names of the faculty members are given below:

<table>
<thead>
<tr>
<th>Proposal Title</th>
<th>Faculty</th>
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<tr>
<td>74th Street Jackson Heights and Flushing, Ethnographies of Two NYC Subway Stations in Their Urban Environment</td>
<td>Stephanie Tonnelat, Sociology, College of Staten Island</td>
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<td>William Kornblum, Sociology, Graduate School</td>
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<td>Bio-Mimetic Approaches to Quadrupedal Robot Locomotion</td>
<td>Simon Parsons, Computer &amp; Info. Science, Brooklyn College</td>
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<td>Zhong Xiao, Electrical Engineering, City College</td>
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<td></td>
<td>Theodore Raphan, Computer &amp; Info. Science, Brooklyn College</td>
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<td>Civil Society in Cuba: Past and Present Transitions</td>
<td>Margaret Crahan, History, Hunter College</td>
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<td>Alfonso Quiroz, History, Baruch College</td>
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<td>Computational and Experimental Biophysical Studies of Immunologically Active Truncated Human Thiorredoxin</td>
<td>Maria Tasayco, Chemistry, City College</td>
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<td>Marco Ceruso, Chemistry, College of Staten Island</td>
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<td>CUNY Collaboration in Mathematical Logic</td>
<td>Arthur Apted, Mathematics, Baruch College</td>
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<td>Joel Hamkins, Mathematics, College of Staten Island</td>
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<td>Roman Kossak, Mathematics, Bronx Community College</td>
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<td>George Leibman, Mathematics, Bronx Community College</td>
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<td>Russell Miller, Mathematics, Queens College</td>
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<td>Hans Schoutens, Mathematics, New York City College of Technology</td>
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<td>Effective Properties of Carbon Nanotube-Reinforced Composites</td>
<td>Jacqueline Li, Mechanical Engineering, City College</td>
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<td>Andy Zhang, Mechanical Engineering Technology, NYC Tech</td>
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<td>Ferdun Delale, Mechanical Engineering, City College</td>
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<td>Emotional Self-Regulation in Preschoolers: The Interplay of Reactivity and Control</td>
<td>Tracy Dennis, Psychology, Hunter College</td>
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<td>Angela Crossman, Psychology, John Jay College of Criminal Justice</td>
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<td>Nurper Gokhan, Social Science, LaGuardia Community College</td>
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<td>Mechanism of Action of Ribosome Inactivating Proteins (RIPs): Applications to Anti-viral Therapy &amp; Bioterrorism Toxins</td>
<td>Diana Friedland, Science, John Jay College of Criminal Justice</td>
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<td>Dixie Goss, Chemistry, Hunter College</td>
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<td>Prenatal Cocaine Exposure Induces AMPA Receptor Dysfunction</td>
<td>Hau-Yan Wang, Physiology &amp; Pharmacology, City College</td>
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<td>Christopher Chan, Physiology &amp; Pharmacology, City College</td>
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<td>Jose Ramirez, Biology, College of Staten Island</td>
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<td>Problems at the Interface of High Energy and Condensed Matter Physics</td>
<td>Dimitra Karabali, Physics, Lehman College</td>
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<td>V. Nair, Physics, City College</td>
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<td>Alexis Polychronakos, Physics, City College</td>
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<td>Allan Frei, Geography, Hunter College</td>
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<td>Tunable Optical Systems Based on Bragg Multiple Quantum Structures</td>
<td>Alexander Lisiansky, Physics, Queens College</td>
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<td>Gregory Aizin, Physical Sciences, Kingsborough Community College</td>
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<td>Which Welfare Policy Instruments are Crucial for Women's Labor Supply Decisions?</td>
<td>Akinori Tomohara, Economics, Queens College</td>
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<td>Xanning Ye, Accounting, Baruch College</td>
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DEAN’S CORNER

CUNY Advanced Science Research Center

The important role of research at this University was emphasized once again this month with the announcement that Professor Robert J. Aumann, a City College alumnus, won the 2005 Nobel Prize in Economic Sciences, along with Thomas C. Schelling, for research on game theory. The University is extremely proud of all twelve graduates who have excelled to become Nobel Laureates and is ever more committed to supporting the research efforts of our current and future faculty. Chancellor Goldstein, in recognizing the importance of science, technology, and engineering to our future, has embarked on a mission to support “the decade of science at CUNY.” A vital part of this effort is the planning of the University’s Advanced Science Research Center (ASRC). This facility will be built on the south campus of City College, and will provide laboratory space and core facilities to support the research efforts of scientists across our campuses. With a projected completion date of 2009/2010, the ASRC will support research in five key areas: photonics, structural biology, nanoscience, biosensing/environmental sensing and neuroscience. With fifty percent or more of this center being dedicated to core facilities, we intend to provide high-end instrumentation that will allow many of our scientists to progress with their research endeavors and facilitate the development of integrated research collaborations. Examples of the types of core facilities that will be incorporated into the Center include NMR, Imaging, Proteomics, Diagnostics and Fabrication, and Vivarium. As we move forward with the programming phase of this facility, we encourage your input and suggestions regarding the type of facilities that we should consider in order to promote these research areas and ensure that we are equipped to take our research initiatives into the next decade.

Gillian Small, Ph.D.
University Dean for Research
In order to fulfill that mandate, CUNY provides a full-day training opportunity each fall. The agenda items and speakers are selected to address topics of interest identified over the past year. Many of the presentations are intended to be provocative, rather than prescriptive. The IRBs often encounter issues that are very unique, without a black and white answer. These presentations provide the attendees with more to think about when conducting the review of a challenging application.

The Symposium began with welcoming comments from Executive Vice Chancellor Selma Botman. IRB members are volunteers to the boards and service on the boards is time-consuming. IRB staff members provide the administrative support for the board. EVC Botman expressed gratitude for the fine work that the IRB members and staff do in the name of protection of human subjects. EVC Botman also spoke about the long-standing Multi Campus Review Policy. This policy was enacted in 2001 to reduce unnecessary and duplicative reviews. As the CUNY research enterprise grows, more research is proposed with human subjects. The number of these studies that are conducted on more than one CUNY campus is also growing. The CUNY Multi-Campus Review Policy, in most cases, will allow a single campus review and simple concurrence by the other campuses for approval.

President Jeremy Travis of John Jay College of Criminal Justice spoke on the importance of the IRB structure to protect those who volunteer to be research subjects. President Travis is well versed in the need for oversight by the IRB and the role it is expected to play in protecting human research participants. His research experience focused on issues facing the prison population. Prisoners are a special protected class in the federal regulations because of their vulnerability to coercion and the special circumstances encountered in incarceration. He spoke of human subjects protections issues as human rights issues.

Moira Keane, the Director of the University of Minnesota’s Research Subjects’ Protection Programs, spoke on IRB issues in oral history research, and the challenging issues in obtaining informed consent from potential research subjects who may be either non-English speaking or illiterate. She reminded the audience that non-English speaking or illiteracy does not mean that the ability to make an informed decision is necessarily impaired. Henry Solomon, the Chair of the New York City Department of Education IRB, addressed ways CUNY IRBs can better interface with the NYCDOE IRB in order to make the IRB application process smoother for researchers.

While the Symposium highlighted some well known outside speakers, the program also drew from experts within the CUNY family. Linda Ware from City College moderated a session focused on Educational Research, with presentations by Dr. Pritchard, Dr. Solomon, Nancy Hemmes (Queens College IRB Chair), and Jane Davis of CUNY’s Office of the General Counsel. Presentations by Richard Schwartz (Graduate Center IRB Chair) and Sherryl Browne Graves (Hunter IRB Chair) were the focus of a session on children’s issues, moderated by Alexandra Miletta (City College).

Martin Wallenstein (John Jay IRB Chair) moderated a session on challenging issues for IRB reviewers during which Edward Paulino (John Jay) and James Moore (Queens College IRB) made presentations on oral history, ethnographic, and anthropologic research. In her remarks prior to this session, University Dean for Research Gillian Small reaffirms that the IRB, rather than the researcher, makes the determination whether oral history projects meet the federal definition of human subjects research and whether IRB review is necessary. This session on challenging review issues generated a very lively discussion on ethics and protecting human subjects from very real risks of harm.

With widespread computerization of data, it is obvious that more must be done to protect the electronic storage of the study data. Data are now stored on laptops and portable storage devices, both subject to loss. Brian Cohen, CUNY’s Chief Information Officer, spoke about data security, all the ways it can fail, and how to evaluate if a research plan includes sufficient protections.

The program concluded with a presentation by Dr. Wallenstein on IRB regulations and journalism. Dr. Wallenstein not only is the Chair of John Jay’s IRB; he is also an attorney and the Chair of John Jay’s Department of Speech, Theatre, and Media Studies. He began the presentation with this question “Is there a conflict between First Amendment concerns and IRB regulations when it comes to journalistic research?” He went on to discuss the questions “When is journalism considered research?” and “When do the regulations apply?”
New Graduate Research Grants Program

This fall, CUNY launched a new Graduate Research Grants Program for doctoral students in their second through seventh years of study. The Program is intended to foster a research-oriented academic culture among Ph.D. students and to encourage interdisciplinary discourse at the CUNY Graduate Center by: (a) providing incentives for students, early in their careers, to model and meet the requirements for succeeding in the competition for funds by clearly defining a problem, a project, and a realistic budget; (b) providing an occasion for faculty-student mentoring relationships that are oriented around the concrete problems of proposing, planning for, and executing research; and (c) furthering student professional progress by providing funds for pre-doctoral research publications, presentations, and professional networking.

CUNY Ph.D. students in good standing can apply for funding to support such research-related activities as: data collection, compensation for human subjects, research-related software, fees to use professional libraries and databases, travel necessary for research, as well as funds for attending conferences at which students can present their research findings. Individual awards are available for up to $1,500.

For the first year, Competition #1, the deadlines for submission of application to the respective Executive Officer is 5PM on Tuesday, October 25, 2005. Program recommendations of eligible proposals will be forwarded to Discipline Cluster committees by November 15, 2005, with award notification to students no later than Tuesday, January 10, 2006 and funds available by Wednesday, February 1, 2006. Students will have 12 months to complete their research projects.

In subsequent years, contingent upon funding, it is projected that the competition will take place with similar deadline dates. Competition #2 will be announced early in the fall semester of 2006 for the award year February 1, 2006-January 31, 2007.

Paper copies of the application are available in the Office of Research and Sponsored Programs, the Student Affairs, and in the Offices of the Doctoral Student Council at the Graduate Center.

Questions about the program and the application process should be directed to Vice President of Research and Sponsored Programs Brian Schwartz at bschwartz@gc.cuny.edu.

Queens College

New Confocal Microscope and Biolistic Unit

A $371,000 grant was awarded through the Major Research Instrumentation Program of the NSF to CUNY Queens College under the direction of Dr. Corinne Michels for the purchase of a confocal microscope and a biolistic unit for the Core Facility for Imaging, Cell and Molecular Biology. The new confocal microscope replaces the existing outdated instrument and the biolistic unit is a new addition to the Core Facility.

The new equipment will be available to CUNY researchers and will greatly enhance scientific research at Queens College. The proposed research projects that will benefit from this instrumentation include: the unraveling of neuronal morphology as a means to reveal precise anatomical and functional connections between neuronal cells and between areas of the nervous system; the study of the localization and trafficking of proteins within cells under various conditions or carrying mutations; and the examination of the effect on the function of plant and animal cells of genes transferred into cells with the biolistic unit or manipulated using genetic methods. (Courtesy of Dr. Thomas Strekas, Queens College)

A New Chapter for Cell Death Society in Iran

Responding to requests from scientists in Iran and taking advantage of her experience in organizing meetings, Dr. Zahra Zakeri of Queens College and Drs. Abolhasan Ahmadiani, and Nader Maghsoudi of Iran organized the First International Symposium of Molecular Technology at the Shaheed Beheshti University of Medical Sciences, Tehran, Iran on July 31-August 2.

Based on its obvious success—250 scientists and students had registered but by the end of the meeting there were 500 in attendance—the team has already begun to plan the second meeting for year 2007. Fifteen speakers coming from the U.S.A., France, Italy, Spain, Sweden, Iran, and Brazil presented both a short course on the application of the most modern biotechnology to biomedical issues involving cell death and cell division, and lectures on the more technical aspects of their research. The speakers included leaders in the fields of immunology, neuropathology, and AIDS research. The meeting was supported by a new initiative entitled “Scientists Without Borders.” (Courtesy of Dr. Zahra Zakeri, Queens College)
CUNY Mass Spectrometry Facility Wins Major Awards from NSF and NIH

The CUNY Mass Spectrometry Facility located at Hunter College provides mass spectral services to approximately 25 research labs at CUNY (e.g. City College, Staten Island, Brooklyn, Queens, Lehman, New York City College of Technology) and 10 labs from other institutions and companies (Cornell Medical, Mt. Sinai, Seton Hall University, Fordham University, North Shore Research Institute, New York State Institute for Basic research, Sandoz Pharmaceutical).

In 2003 the facility compiled the results of a questionnaire sent to over 100 CUNY faculty requesting opinions on what type of mass spectral services were needed. The results brought out two major areas that could not currently be addressed. Researchers wanted access to advanced protein digest analysis and high-resolution mass spectral capabilities. Funding for the first area was obtained with the help of a $417,000 NSF Major Research Instrumentation (MRI) grant for an ion trap mass spectrometer system. Dr. Charles Michael Drain of Hunter College was the Principal Investigator (PI). The four Co-PIs were Dr. Clifford Soll, Dr. Lynn Francesconi, and Dr. Dixie Goss of Hunter College and Dr. Ruth Stark of the College of Staten Island. Dr. Joni Seeling of Queens College was a participating scientist. The NSF review panel indicated that it "was very impressed with all aspects of this proposal, and there was strong consensus that it was one of the best proposals in this review."

The NSF MRI Grant will provide funding for a state of the art ion trap mass spectrometry system with a variety of ionization sources and a capillary high performance liquid chromatography (HPLC) system. The facility plans to purchase an Agilent Technologies LC/MSD Trap XCT Ultra mass spectrometer, the most sensitive and advanced in Agilent’s line of ion trap instruments. The instrument has a mass range of 50-4000 m/z and can perform 5 stages of automated ms/ms. The Ultra version of the instrument has a higher speed data processor that can identify 60-80% more peptides from protein digests than the other versions. Various ionization sources including matrix-assisted laser desorption ionization (MALDI) and a combination electrospray/atmospheric pressure chemical ionization (APCI) source will be available. Complex separations can be accomplished on the Agilent 1100 Capillary HPLC system that is part of this package. Funding will also provide various protein and peptide analysis software packages including Agilent’s Spectrum Mill proteomics database.

Funding for the second area was obtained through a $409,000 NIH Shared Instrumentation Grant (SIG), which will allow the purchase of a high-resolution time of flight mass spectrometer system. The Principal Investigator for the grant was Dr. Clifford Soll of Hunter. Key personnel included Dr. Robert Bittman of Queens, Drs. Charles Drain, David Foster, Lynn Francesconi, Richard Franck, Akira Kawamura, David Mootoo, Maria Tomasz, and Yujia Xu of Hunter and Dr. Fred Naider of College of Staten Island.

The NIH SIG Grant will provide funding for a state of the art high-resolution time of flight (TOF) mass spectrometry system with a variety of ionization sources and a capillary high performance liquid chromatography (HPLC) system. Plans are being made to purchase an Agilent Technologies LC/MSD TOF mass spectrometer. The instrument has a mass range of 70-12,000 m/z with resolution greater than 10,000 at m/z 2722. This instrument will provide mass accuracy of greater than 3ppm along with providing molecular formula confirmations. Various ionization sources including matrix-assisted laser desorption ionization (MALDI) and a combination electrospray/atmospheric pressure chemical ionization (APCI) source will be available. Complex separations can be accomplished on the Agilent 1100 Capillary HPLC system that is part of this package. Funding will also provide various protein and peptide analysis software packages including Agilent's Spectrum Mill proteomics database. Analysis of intact proteins up to 200K can be accomplished utilizing electrospray ionization, which multiply charges the protein followed by deconvolution of the resulting data.

The instrumentation will be installed and available for use during the next year. For further information contact: Cliff Soll (212) 650-3590 or cliff.soll@hunter.cuny.edu. (Courtesy of Dr. Cliff Soll, Hunter College)

Acquisition of Beckman ProteomeLab XL-I Characterization System

NSF awarded a $372,000 Major Research Instrumentation grant for the acquisition of a state-of-the-art Beckman ProteomeLab XL-I analytical ultracentrifuge (AUC) to Professor Yujia Xu of the Department of Chemistry at Hunter College. This shared instrument will support multidisciplinary research of biomacromolecules at Hunter College and at the City University of New York. The AUC instrument will complement the existing shared instrument facilities at CUNY and further support the CUNY initiative for Macromolecular Assembly. Applications of this instrumentation include research in the area of association and ligand binding of proteins, the molecular assembly of macromolecules, oligomerization states of regulatory proteins and of intramembrane proteins, protein-RNA interactions and the design and the characterization of functional nanotubes based on molecular recognition of biomolecules. The research activities and collaborations fostered by the acquisition of the AUC instrument will also provide a productive environment for both graduate and undergraduate students, and help to recruit talented students to the research community of CUNY. (Courtesy of Dr. Yujia Xu, Hunter College)
CITY COLLEGE

Honors Student Gary Chan Wins EPA Fellowship for Engineering Project

Gary Chan, a third-year civil engineering, was one of 15 undergraduates nationwide awarded a Greater Research Opportunity grant from the U.S. Environmental Protection Agency (EPA). The fellowship provides up to $17,000 in academic support annually plus up to $7,500 for a three-month summer internship at an EPA facility.

The award to Mr. Chan, who resides in Brooklyn and is enrolled in the Honors Program, will support continuation of a research project he began one year ago to study the potential benefits of green roofs in the urban environment as part of an innovative City College program in environmental entrepreneurship.

Mr. Chan’s research entails creating a green roof, or vegetated rooftop, on 200 square feet of Steinman Hall, the 45 year-old eight-story building housing the School of Engineering. The green roof will be monitored for a year before the data is evaluated.

“Green roofs are emerging as a very effective means of addressing many of the environmental concerns that exist in today’s urban centers,” Mr. Chan explained. “My aim is to demonstrate how they can play a dramatic role in confronting the problems of storm water runoff.”

Mr. Chan began the project last year in collaboration with Civil Engineering Professor Megan B. Wiley, one of his mentors and a co-founder of the Environmental Engineering Entrepreneurship Partnership (EEP) program. (Courtesy of Ellis Simon, City College)

Time-of-flight Mass Spectrometer for the Chemistry Department

With the help of a $191,000 award to Professor Mahesh Lakshmam from NSF’s Major Research Instrumentation (MRI) Program, the Department of Chemistry at City College will acquire a time-of-flight mass spectrometer.

Research programs that will be supported by this instrument include a) metal catalysis and metal catalyzed synthesis of novel nucleoside entities, carcinogen-nucleoside adducts and studies on site-specifically modified DNA; b) selective vinyl and aryl fluorination, synthesis of specifically fluorinated hydrocarbons and their metabolites, studies of conformational and biological modulation by fluorine; c) fate of organic xenobiotics in the environment and elucidation of relevant reaction mechanisms; d) studies on ligand-protein interactions as well as synthetic drug-like molecules; e) structural studies of integral membrane proteins of medical relevance; and d) synthesis and studies of furanose-based novel ene-diynyl antibiotic analogs.

The results from these research studies are projected to have an impact in a number of areas including environmental chemistry and synthetic chemistry.

CITY COLLEGE

Researchers Seek Buried Evidence of Early African-American and Irish Settlement

Archaeologists from Barnard College and the City College, in cooperation with the New York Historical Society, have renewed their exploration of Seneca Village, the 19th century African-American and Irish immigrant settlement in Central Park - focusing their search on evidence of burial grounds and residential areas.

Using ground-penetrating radar, the researchers hope to reveal evidence of old building foundations, privies and cemeteries during the three-day expedition that begins this morning and runs through Friday, August 12. Professors Nan Rothschild of Barnard, Diana Wall of City College, and Cynthia Copeland, intermediate and high school programs coordinator for the New York Historical Society, are conducting the research. Professor Larry Conyers of the University of Denver, the foremost scholar in the use of radar instrumentation in archaeological research, will direct work on the site.

Founded in 1825, Seneca Village was Manhattan’s first significant community of African-American property owners. It was located between 82nd and 89th Streets and Seventh and Eighth Avenues in an area that is now part of Central Park. In the 1840s, European immigrants, primarily Irish, began to move into the village. In 1855, approximately 264 people lived there, two-thirds of whom were African-American. Then, the homes were demolished by the city under eminent domain laws to make way for Central Park. At the time, newspapers described the houses as “shanties,” but they were, in fact, homes built in one of the few places African-Americans were able to buy land. Because at the time only property owners were permitted to vote, some of the landowners might have bought the land in order to vote. The village also included three churches, several cemeteries, and a school.

“One of the promises of the archaeological study of modern cities is that it allows us to find out about the ways of life of people whose lives never got recorded, such as the African-Americans and early European settlers who lived in Seneca Village,” said Wall.


The project has received funds from the National Science Foundation to City College, as well as grants from Columbia University’s Institute for Social and Economic Theory and Research and the Professional Staff Congress-City University of New York (PSC-CUNY) Research Award Program. (Courtesy of Ellis Simon, City College)
Physicists Discover ‘Magnetic Flames’ In Molecular Magnets Exhibit Properties Similar To Real Fire

In a groundbreaking experiment, researchers from City College and Lehman College have measured the speed of magnetic avalanches and discovered that the process is analogous to the flame front of a flammable substance. The discovery of a “magnetic flame” could make it easier for engineers to study the dynamics of fire.

Magnetic avalanches occur when the polarity of a molecular nanomagnet is changed suddenly and sufficient energy is released to cause a chain reaction that changes the polarity of the other molecular nanomagnets in a crystal.

Yoko Suzuki, a graduate student at the City College, devised an experiment to measure the progress of a molecular avalanche through a crystal of Mn12 (manganese) acetate using an array of tiny micrometer sized Hall sensors placed underneath the specimen. Ms. Suzuki observed that the avalanche began at one end of the crystal and propagated at speeds of a few meters per second in the form of a “flame” front that released magnetic energy into the crystal.

“Molecular nanomagnets are the first-known magnetic materials in which the magnetic energy density is sufficient to ignite a ‘magnetic flame,’” said Dr. Myriam P. Sarachik, Distinguished Professor of Physics at CCNY and Ms. Suzuki’s mentor. “This could open a potentially important new road for investigating the dynamics of fire in flammable substances because, unlike chemical burning, magnetic burning is non-destructive, reversible and more readily controlled.”

The investigation into the propagation of magnetic avalanches grew out of a theory suggested by Eugene Chudnovsky and Dmitry Garanin. Dr. Chudnovsky, Distinguished Professor of Physics at Lehman College, collaborated with Ms. Suzuki and Professor Sarachik in the present work.

A paper reporting the discovery of “magnetic burning” by Ms. Suzuki, Professors Sarachik and Chudnovsky and coauthors has been accepted for publication in Physical Review Letters. In addition to CCNY and Lehman College, scientists from the Weizmann Institute in Israel and the University of Florida participated in the project, providing the Hall sensors and crystals, respectively. (Courtesy of Ellis Simon, City College)

New Conference on Plant Metabolic Engineering

In July, Dr. Eleanore Wurtzel, Professor of Biological Sciences at Lehman College, founded and Chaired a new international and interdisciplinary scientific research conference sponsored by the Gordon Research Conferences (GRC) on the topic of Plant Metabolic Engineering. This was accomplished together with her Vice-Chair, Dr. Erich Grotewold, of Ohio State University. In order to organize this new conference, a proposal was submitted to the GRC that justified the importance of developing a venue to stimulate interdisciplinary collaboration needed to advance this new field of Plant Metabolic Engineering.

For over the past 50 years, the GRC organization has been sponsoring prestigious, highly exclusive conferences that attract scientific leaders to present research at the forefront of science. Held at the Tilton School in New Hampshire, this five-day conference on Plant Metabolic Engineering attracted over 135 scientists from academia, industry, and government laboratories located worldwide. Approximately forty invited speakers and discussion leaders presented research and new ideas to stimulate discussion of key scientific problems in the field. Conference attendance was by invitation only with diverse representation from all career levels and from various scientific environments. To accomplish this, Dr. Wurtzel supplemented GRC funding by obtaining funding from a variety of sources, including government (NIH, NSF, DOE, USDA, and NASA), industry and academia, which included CUNY.

This Gordon Research Conference on Plant Metabolic Engineering will continue as one of the ongoing GRC conferences and will be held again in two years, organized and Chaired by this year’s Vice Chair and a newly elected Vice Chair, Dr. Joe Chappell of The University of Kentucky. Professor Wurtzel will advise in the future organization and continue as the representative to the Council of the Gordon Research Conferences. This pattern of handing over the baton, so to speak, will allow the conference to develop and evolve as the field changes over time. (Courtesy of Dr. William Tramontano, Lehman College)

Lewis and Jack Rudin Center for Criminal Justice Partnerships

The Rudin Foundation awarded a $500,000 grant to the Lewis and Jack Rudin Center for Criminal Justice Partnerships, located at the John Jay College of Criminal Justice. These funds are a commitment from the Rudin Foundation to create a new research center that partner with various City and State law enforcement agencies and assist them in improving service delivery by providing research and technical assistance. Currently there are five separate partnerships: NYPD, NYSOCA, NYCDOC & DOP, NY County District Attorney, and NYS Criminal Justice Coordinators Office.

Some of the topics that the Center will review as a result of these partnerships are Identity Theft, Domestic Violence, Delinquency Prevention, and Recidivism. Efforts will be also spent in mapping out court community services and conducting their evaluations. Additional topics will be reviewed and researched based on the requests by the partners and the Rudin Foundation. (Courtesy of Susy Mendes, John Jay College of Criminal Justice)
Intelligent Systems Research Brings New Collaborations in Behavioral Neuroscience and Robotics

Studies of intelligent systems is helping bridge several independent lines of research at Brooklyn College, garnering considerable internal and external grant support and fostering exciting inter-disciplinary collaborations. Intelligent systems research at the college is led by Department of Computer and Information Science Professors Simon Parsons and Elizabeth Sklar, who co-direct the Brooklyn College Agents Laboratory. The laboratory focuses on interactions in multi-agent systems—studying methods by which agents interface with and adapt to each other and their environment, in both embodied and virtual states, and with human collaborators. This work is funded through a grant from the NSF.

At her own lab, Dr. Sklar directs research that is built around modeling human activity with agent-based technologies. She is currently heading the "simEd" project, which frames the education system as a multi-agent simulation. The purpose of the research is to build abstract models based on statistics, such as test scores and student-teacher ratios, and on computational representations of human behavior, such as pedagogical methods and learning styles.

Dr. Parsons directs research on rational decision-making in multi-agent systems, focusing on communication and coordination, decision-making under conditions of uncertainty, and learning and adaptation in complex environments. The motivation for his research comes from the desire to build robust intelligent systems, which are capable of solving real problems in complex and uncertain conditions. A prime candidate for this line of research has been mobile robotics—an area of research where Dr. Parsons has built important collaborations with Distinguished Professor Theodore Raphan, also in the Department of Computer and Information Science, and Professor Frank Grasso in the department of Psychology.

Dr. Raphan directs the Institute of Neural and Intelligent Systems. His research has been supported continuously for the past 23 years by grants from the NIH and NASA to study the vestibular system and its relation to balance and locomotion. This research has led to the developments of novel models of gaze stabilization during movement in three-dimensional space, head movement during locomotion and its relation to vestibular mechanisms, and, leg and foot movements during locomotion. The latter is being applied to investigate the effects of drugs and deep brain stimulation (DBS) on locomotion, in collaboration with researchers at Mount Sinai School of Medicine. Efforts in intelligent agent database management (Dr. Ira Rudowsky) and Early-College outreach programs (Dr. Chaya Gurwitz) are also being pursued as part of the institute activities.

Dr. Grasso directs the Biomimetic and Cognitive Robotics Lab where he is presently overseeing three research projects. First of these studies animal behavior and implements this behavior on robots by testing octopus inspired soft manipulator robots. Soft manipulators do not have any hard parts, which makes them flexible and allow hyper-redundant degrees of freedom. His second project involves Marine Chemotactic research, which studies behavioral mechanisms for localizing chemicals in turbulent environments. These mechanisms are studied in marine animals and implemented in robots. Dr. Grasso’s third project examines coordination among groups of robots that are trying to achieve a common goal. This work models behavioral mechanisms of cooperative strategies of ants, bees and social vertebrates. Some of these works are funded through grants from DARPA.

In August of this year, Drs. Simon, Raphan and Grasso’s research collaboration was awarded a $213,000 Major Research Instrumentation grant by the NSF. This project, enhancing a humanoid bipedal robot with vestibular and vision sensors, aims at creating Bipedal Robot Facility for research on making robots walk in a dynamically stable, and thus more human fashion. This work utilizes gaze stabilization as a control strategy for a dynamically stable gait, a difficult unsolved problem in robotics.

Research collaborations in robot motion have now extended to other CUNY campuses as well. Drs. Parsons and Raphan have joined in a collaborative research effort with Dr. Jizhong Xiao of the Department of Electrical Engineering at City College to develop a quadrupedal robot enhanced with an artificial sensor, which senses linear and angular acceleration. This research effort is being made possible by virtue of a $40,000 grant from the CUNY Collaborative Incentive Research Program. (Courtesy of Dr. Theodore Raphan, Brooklyn College)
**OCTOBER 26, 2005**

**EVC Distinguished Lecture Series: Women’s Rights and the Hazards of Intervention in the Middle East**

CUNY Faculty and Students are invited to attend the Distinguished Lecture Series that is being co-hosted by the Executive Vice Chancellor for Academic Affairs, City College, and the New York Times. Dr. **Elizabeth F. Thompson**, from the University of Virginia, will deliver the inaugural lecture entitled, “Women’s Rights and the Hazards of Intervention in the Middle East,” on October 26, 2005 at 4:00 pm in Room 4406 at the Graduate Center. The lecture will address women's roles in constitutional movements of the 20th century Middle East, and the consequences of foreign intervention for the fate of those movements and women's rights.

Dr. Thompson earned her doctorate in Middle Eastern history at Columbia University in 1995. Her book, *Colonial Citizens: Republican Rights, Paternal Privilege, and Gender in French Syria and Lebanon* (2000), received the Joan Kelly award from the American Historical Association and the First Book prize from the Berkshire Conference of Women Historians. She has received a Carnegie Corporation fellowship this year to write a new book, *Struggles for Justice in the Middle East*.

To register for the event please and obtain information about upcoming lectures in this series, please visit: [www.cuny.edu/research](http://www.cuny.edu/research).

**NOVEMBER 11, 2005**

**Fostering women’s Success in Science**

The Equity Studies Research Center of Queens College/CUNY in collaboration with campus wide faculty has organized this conference to increase the success of women in the area of science. This conference has been designed to raise awareness of science-driven occupations held by women today, and to give teachers insight and training on how to instruct their female students. The conference will consist of a keynote speaker, a panel discussion, a poster session, and six different topic strands: Teacher as Researcher, Women Scientists, Equitable Curriculum, Informal Science, Formal Science, and Hands-On Science.

The Keynote Speaker of the conference is historian of education Dr. **Kim Tolley**, an associate professor in the School of Education and Leadership at Notre Dame de Namur University, California. She has authored several books. Her research interests include the history of science and schooling, and her experience with science education is long standing and multi-faceted.

This conference is made possible through the sponsorship of the National Science Foundation in collaboration with Equity Studies Research Center (ESRC), Sisters in Science Equity Reform Project (SISERP), NIH USTAR (MARC) Queens College, International Cell Death Society (ICD), and Queens College. To obtain further information about the conference please click here or send an email to Ms. Victoria Dell’Era at Victoria.Dellera@qc.cuny.edu.

**DECEMBER 3-6, 2005**

**IRB Professional Meeting in Boston**

PRIM&R and ARENA are the professional organizations affiliated with human research protections programs. PRIM&R stands for Public Responsibility in Medicine and Research. ARENA is the membership organization of IRB professionals, the Applied Research Ethics National Association. The 2005 annual conference will be held in Boston December 3-6, 2005. Information about the conference may be found at [http://www.primr.org/education/2005_HRPP/overview_HRPP05.html](http://www.primr.org/education/2005_HRPP/overview_HRPP05.html). Over 2,000 national and international IRB professionals attend the conference each year.

Of special interest this year is a plenary session that will feature two members of the faculty at John Jay College of Criminal Justice, Dr. **Martin Wallenstein** and Dr. **Karen Terry**. Dr. Wallenstein, an associate professor, is the Chair of the John Jay IRB and the Chair of the Department of Speech and Theater. Dr. Karen Terry is an assistant professor in the Department of Law and Police Science. Dr. Terry is conducting research regarding sexual abuse in the Catholic Church.

The two faculty members were invited by the ARENA planning committee to discuss their cooperative IRB experience in a session entitled “The IRB Process in Difficult Cases: The Art of the Possible.” They were invited based on their outstanding presentation at the Fall 2004 CUNY IRB Symposium entitled “Sensitive Reviews and the Art of the Possible: Cooperating without Conspiring in the Catholic Church Sexual Abuse Study.” Members of ARENA’s planning committee had heard of this excellent presentation, which highlights the importance of collegiality in IRB consultation and review, and contacted Drs. Wallenstein and Terry regarding their interest in this session.