



new york city alliance

NEWS

'I Want Every Single Student to Succeed'

August 16, 2010 | Borough of Manhattan Community College

Volume XVII
Issue IV
Fall 2010



Dr. Sadie Bragg, Senior Vice President/Provost of Academic Affairs and Professor of Mathematics at BMCC, is being awarded the prestigious American Mathematical Association of Two-Year Colleges (AMATYC) award for 2010.

Actively involved in mathematics education at local, state and national levels, Dr. Bragg has served on committees including the Advisory

Board to the Education and Human Resources Directorate of the National Science Foundation (NSF), where she served on the writing team for the NSF document, *Shaping the Future*. She also chaired the NSF report, *The Integral Role of Two-Year Colleges in the Science and Mathematics Preparation of Prospective Teachers*.

"I wasn't really representing myself; I was representing two-year colleges," says Dr. Bragg, who served as a president of AMATYC, was actively involved in creating AMATYC's strategic documents, *Crossroads* and *Beyond Crossroads*, and has brought professional development to math instructors at the two-year college level nationwide, through AMATYC's Project ACCCESS.

Bragg has also led two-year colleges into a global dialogue

through the International Congress of Mathematics Education (ICME). Partnering with George Ekol, a math educator from Uganda, Bragg co-chaired the DG 23 Discussion Group and presented at the ICME conference in Monterey, Mexico in 2008. Much of this work Dr. Bragg accomplished in concert with other math professionals, including Dr. Susan Wood, Vice Chancellor for Academic Services and Research, Virginia's Community Colleges; as well as Dr. Marilyn Mays, Executive Dean, North Lake College; Philip Mahler, Professor of Mathematics at Middlesex Community College, Boston, MA, who nominated Dr. Bragg for this award; and Dr. Rikki Blair, AMATYC's current Past President, all of whom, like Bragg, served on several national mathematics committees, such as the United States National Commission on Mathematics Instruction. "I sat on the shoulders of many giants," she says. "We worked, and continue to work, as a team."

Applying math to students' lives

Dr. Bragg has co-authored over 60 mathematics textbooks for grades K-14. She recently completed a mathematics series with her high school author team, and is currently working with her colleague Dr. Geoffrey Akst on a developmental mathematics series focused on "applying mathematics to real-life situations."

In another collaboration, Dr. Bragg worked with BMCC faculty to present the college's 2008 Mathematics-Across-the-Curriculum/Quantitative Reasoning Conference. "I want to see math across the curriculum like writing across the curriculum," she says, and she knows first-hand what

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The New York City Louis Stokes Alliance for Minority Participation is funded under a cooperative agreement with the National Science Foundation.

that might mean.

“When I taught mathematics to respiratory therapy students, I used many applications about their discipline,” she says, “because students could do the algebra, but they couldn’t relate it to respiratory therapy. They didn’t realize the relationship between the gas laws that they were studying and logarithmic functions, or how the formulas in their chemistry class related to those in the math class.”

Doing ‘whatever it takes’ to help students succeed

As with many community colleges, one issue Dr. Bragg and the faculty tackle at BMCC is the large percentage of the incoming students who need remediation, in order to do college level math. Access to innovative, first-rate math instruction can make the difference, for these students, between passing or not passing the CUNY placement exams, or passing those tests—and becoming math majors.

“Pedagogy is as important as the mathematics,” says Dr. Bragg. “You must know mathematics and also be an innovative teacher to help the students succeed—both are equally important.” After the math department’s review, Dr. Bragg reviews the candidates and works with BMCC’s President, Antonio Pérez, who makes final hiring decisions, ensuring that each new faculty possesses the range of pedagogical skills that are necessary to ensure student success in mathematics.

Dr. Bragg also enjoys working with BMCC’s most academically outstanding students, through Phi Theta Kappa (PTK), Accelerated Study in Associate Programs (ASAP), and other groups. “I want every single student to succeed,” she says, “and whatever it takes, I’ll try to do that.”

Asking questions

Interacting with some of the students at BMCC, Dr Bragg remembers her own days as a college student.

“I always wanted to know everything about everything,” she says. “My dad would say, ‘You ask so many questions!’ But that’s who I was—and that’s probably a little bit of who I am today, too.”

The young lady who asked so many questions eventually enrolled at Virginia State University, in her hometown of Petersburg, Virginia, and learned what might have been her first important lesson on pedagogy—that those who study in groups have an edge over those who do not.

“The first two years at college, I lived at home. Then, I realized what happens in dorms,” she says. “I went to study with a group and realized they always knew, collectively, everything—whereas I was isolated, studying at home. And

that was when I convinced my parents to let me move on campus.”

The first two--of three--influential people

Inspired by a charismatic professor whose major was sociology, Sadie, the college student, felt she had found her calling--or not, as it turns out. Her former high school math teacher, Miss Walker, called Dr. Rueben McDaniel, Virginia State's Math Chair, and asked if Sadie Chavis was registered as a math major.

Dr. McDaniel relayed to Sadie, Miss Walker's wish that she should become a math major, and she did just that. “Well, I was really obedient back then,” jokes Bragg--though she took her choice seriously. Dr. McDaniel guided her to a summer math program at Harvard, and nominated her for a Rockefeller Foundation grant, which she received to study mathematics as a post baccalaureate at Oberlin College, in Ohio. “Both Ms. Walker and Dr. McDaniel inspired me and supported my decision to pursue mathematics as a major,” Bragg recalls.

Becoming a teacher

“I used to tutor mathematics in college and liked helping my peers with their work, but did not plan on becoming a teacher,” Bragg says. “I did not go into mathematics education, but instead majored in pure mathematics. However, when I moved to New York (Syracuse), I started teaching eighth grade math, then high school algebra, followed by mathematics at Le Moyne College.”

From Syracuse, Dr. Bragg came to New York City and began teaching at the New York Urban League Street Academies, the City's first alternative high schools, where she taught algebra and geometry, worked as the assistant director of education, and traveled around the country assisting her students in getting into college.

Next came ten years at the Manhattan Educational Opportunity Center, where she taught college-bound students and chaired the College Bound Program, while earning a Master of Arts degree in Mathematics and a doctorate in the College Teaching of Mathematics, both at Teachers College, Columbia University.

Textbook writing and the digital path

“While earning my doctorate,” says Bragg, “the third influential person in mathematics entered into my life—Dr.

Bruce Vogeli, from Teachers College. I wrote my first book because of Dr. Vogeli.”

“In those days,” she says, “books were laid out with a lesson on one side, and the applications or the problem set on the other. Everything you wanted to tell the student or teacher had to be there--very strict. I couldn't do that--I liked to explain too much!--and Dr. Vogeli would say, ‘No, Sadie, you have to stick to the page.’”

“Sticking to the page” has new connotations in the digital age, and today Bragg is exploring these possibilities for students at BMCC by integrating technology into the classroom through the “digital path”--online textbooks.

“If students miss something,” says Bragg, “they can go to this ‘Digital Path’, hit a button, access a video, and someone will tell them exactly how to do the problem. Of course, students still have their professors.”

A family person

Dr. Bragg says, “In addition to my professional life, my colleagues and friends – what I love and enjoy most is family. And of all the giants in my life, none has surpassed my parents, siblings, children, grandchildren, and most of all, my husband.”

A continuum of work

Exploring the future of instruction is just part of the continuum of Dr. Bragg's work being recognized by the Mathematics Excellence Award, which will also be presented to her colleague Edward Laughbaum of Ohio State University, at the AMATYC annual meeting in Boston this November.

AMATYC provides a national forum to improve mathematics instruction in the first two years of college. With over 2,500 individual and more than 100 institutional members, the organization reaches out to educators through over 44 affiliate

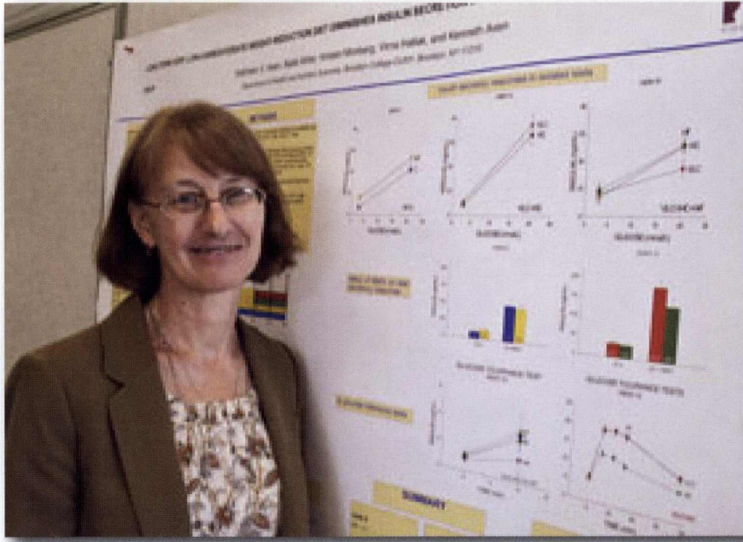
organizations.

“I have worked with a lot of people across the country from all the AMATYC affiliates,” says Bragg, “and it really is an honor to receive this award. I know the award; I presented it to someone, when I served as president of AMATYC. When you give this award to an outstanding math educator, you don't think about yourself getting it, because you're just doing what you love--working with your colleagues to help students learn and apply mathematics.”

“The first two years at college, I lived at home. Then, I realized what happens in dorms,” she says. “I went to study with a group and realized they always knew, collectively, everything--whereas I was isolated, studying at home. And that was when I convinced my parents to let me move on campus.”

Professor Axen Scores NIH Grant to Study Obese Rats

June 8, 2010 | Brooklyn College



Brooklyn, N.Y.—Kathleen Axen, professor of health and nutrition sciences, is the most recent Brooklyn College recipient of a grant from the National Institutes of Health. The four-year grant, totaling \$471,000, will allow Axen to continue her research on the metabolic effects of very low-carbohydrate weight-reduction diets in obese rats.

“Having an NIH review deem your project worthy and judge your record to be strong enough to fund is very satisfying,” says Axen. “This recognition makes me very happy.”

Her research compares three different groups of Sprague-Dawley rats that were fattened for eight weeks before going on a diet program.

Owing to the larger size of its organisms, the rat is used in quantitative research of body size and obesity. Although they belong to the same species as the brown rat, Sprague-Dawley rats have been bred for experimental purposes since the beginning of the 19th century. Featuring a white coat and red eyes, they are commonly known as albino or lab rats.

Of Axen’s three control groups, one continues on a high-calorie and high-fat diet; the other two groups are subject to weight-reduction programs with isocaloric (same calorie count) diets for four to eight more weeks. But while the second group is under a high-carbohydrate program with low fat, the third is under a low-carbohydrate diet with greater fat intake.

One of Axen’s preliminary conclusions is that, contrary to popular belief, a high-carbohydrate diet helps rats—and, it is hoped, other mammals, including humans—from becoming insulin deficient, a precursory condition to diabetes. But her research needs to determine the diet program’s effects beyond the eight weeks.

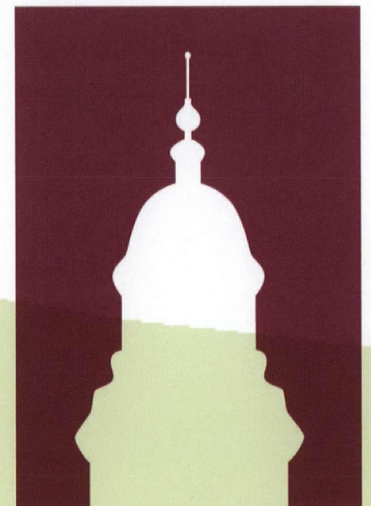
“This award has great meaning to me both financially and as recognition of my level of scientific research,” said Axen during the poster exhibition on Faculty Day in May. “I will have money to do more—purchase more supplies and some equipment, and even pay a part-time technician.”

Before obtaining this grant, Axen’s research was funded with grants that often required her to pay out of pocket for supplies. The NIH grant will allow her to get doctoral candidates and postdoctoral students to assist her.

“Both the undergraduate and graduate students who have been helping me over the years are wonderful workers, but their time is limited. I’d have to train a new group each year, sometimes every semester, and I have to physically be there to supervise them.”

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BROOKLYN



COLLEGE

More Frequent, More Intense Heat Waves In Store for New York

July 28, 2010 | City College

Temperatures in Midtown Manhattan and the Upper West and Upper East Sides were hotter than those reported in Central Park, Washington Heights and Inwood. Urban Heat Island Effect Keeps Manhattan Hotter Longer, CCNY Professor Says

Heat waves like those that baked the Northeast in July are likely to be more frequent and more intense in the future, with their effects amplified in densely built urban environments like Manhattan, according to climate scientists at The City College of New York (CCNY).

“Manhattan is subject to an urban heat island effect because its physical landscape is significantly different from the surrounding suburbs,” said Dr. Jorge Gonzalez, NOAA-CREST Professor of Mechanical Engineering in CCNY’s Grove School of Engineering. “This makes heat waves here more intense because Manhattan cannot cool off as readily as outlying areas.” Factors that contribute to the urban heat island effect include energy demand, air quality, asphalt surfaces and exhaust fumes.

Data collected by City College’s New York City Meteorological Network (NYCMetNet), indicate that during the first July heat wave overnight low temperatures ran 10 to 15 degrees (Fahrenheit) higher in Manhattan than in Long Island or in western New Jersey, while daytime highs were roughly the same. NYCMetNet is a networked system of several hundred ground-based sensors throughout metropolitan New York that gather weather and climate data.

High temperatures do not dissipate as quickly in Manhattan as in other areas because of the large amount of stored energy contained in its massive build-

ings, Professor Gonzalez explained. “While surrounding suburban and green areas may perceive the same maximum temperatures, the built regions will perceive them for longer periods of time.”

Part of NYCMetNet’s mission is to study and better describe urban climate and weather by using New York City as an outdoor laboratory to observe environmental processes in complex urban environments. “Our goal is to produce the next generation of physical models to describe climate and weather,” he continued. “Our vision is to show how cities modify climate and weather to scales that are relevant to people’s lives.”

Among the issues it will address is the role played by climate change in the past and present as well as in the future. Professor Gonzalez expects that climate change will result in more frequent and intense heat waves and that areas subject to urban heat island effect will get larger as the built environment expands.

“To mitigate these effects, landlords and policy makers should strive greening the cities with urban parks and vegetated roofs, and motivate construction and retrofits that are thermally light and reflective to the sun when possible,” he said.

Another research thrust is the role played by aerosols, which are fine particles of solids or liquids in the atmosphere. Urban areas tend to generate aerosols, and the resulting humidity could modify precipitation patterns by interacting with clouds and affecting the energy balance, Professor Gonzalez explained. “The presence of pollution could increase or diminish rainfall. It could change the frequency and sever-

ity of storms, as well.”

Split storms, like the ones that deluged some Long Island communities earlier this month while leaving neighboring villages dry, could also be a phenomenon influenced by cities. “Because of heat and aerosols, cities could play a role by acting as a barrier to storm fronts, resulting in very concentrated storms in scattered areas.”

Further complicating the matter is the fact that different aerosols can have complex indirect effects with respect to heating and cooling, said Dr. Mark Arend, a research associate with NYCMetNet. “It’s a very complex problem.”

NYCMetNet includes roof-monitoring stations with sensors to monitor wind, temperature and humidity as well as surface stations capable of vertical profiling, i.e. gathering data from different altitudes. For analysis purposes, NYCMetNet data is integrated with satellite data obtained through the NOAA-CREST Center at City College, a nationally recognized leader in remote sensing technology and applications.

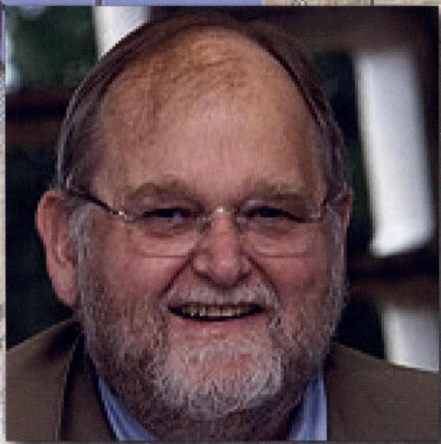
“The vertical observation capabilities are a unique and important feature,” Dr. Arend noted. “To get models to predict accurately, we need a three-dimensional understanding of the atmosphere.”

The next research step will be to show what happens when variables such as urban growth or global climate change are changing. The program’s long-term goal is to determine how changes to the urban environment impact a region’s climate.

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Lehman Dean Studies Infectious 'Monster'

July 12, 2010 | Lehman College



Dr. Edward L. Jarroll

There's a monster in Lehman Dean Edward L. Jarroll's life. Its name is Giardia.

No, it's not a four-legged beast with wings, and it doesn't snort fire. Giardia is a parasitic protozoan labeled by the Centers for Disease Control as the eighth most reported infectious disease in the United States. Later this month, on July 21 at 10 p.m. both Giardia and Dr. Jarroll will make their debut on "Monsters Inside Me," an Animal Planet television series focused on parasites.

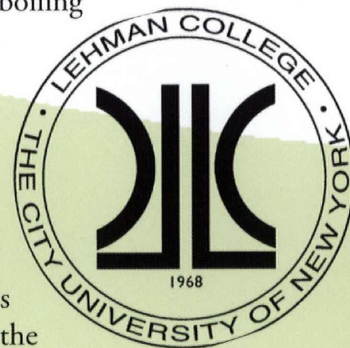
Dr. Jarroll, who's Dean of Natural and Social Sciences at Lehman as well as a professor of biological sciences, has been studying the protozoan for 32 years, but says, "its pathology is still a mystery." What isn't mysterious is its side effects, which don't make for polite dinner conversation. Symptoms include severe gastrointestinal distress.

"Giardia can make you very sick," says Dr. Jarroll, "but no one I know has ever died of it."

Giardia is most commonly transmitted orally through unwashed hands or from water in natural settings that's been contaminated by wild animals. Dr. Jarroll estimates that up to five percent of the population carries the protozoan in their bodies, but most of them never display any symptoms and never get ill from it.

It also can be a problem in daycare centers as young children may not wash their hands properly after using the bathroom. Urban water systems are usually regularly checked for the protozoan, which can be destroyed by boiling water or using a high-quality filter.

Back in the 1980s, Dr. Jarroll wrote the U.S. Environmental Protection Agency's criteria document on Giardia that outlined how to identify and treat the protozoan and is considered a leading expert on the subject. He received his B.S., M.S. and Ph.D. degrees from West Virginia University and was previously associate dean of the College of Arts and Sciences, director of the Graduate School, and chair of the Department of Biology at Northeastern University in Boston.



Contact: Joseph Tirella 718-960-5746

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Student Sings Praises of LSAMP Program

During his first two years in the computer engineering technology program at New York City College of Technology (City Tech), recent graduate Mark A. Nelson's GPA fluctuated between 2.5 and 3.0. He thought of himself as a more or less average student and his academic performance as average, too. Then a classmate happened to mention the Louis Stokes Alliance for Minority Participation (LSAMP) Program, a chance remark that changed Mark's educational experience for the better. LSAMP is a research program for full-time students majoring in science, technology, engineering or mathematics (STEM).

"Once I discovered that the research assistant positions offered through LSAMP during the academic year and summer were paid positions," says Nelson, "I decided to apply. Little did I know that participation in the LSAMP program would change the way I felt about college and my overall approach to study. The program was inspiring and after attending the summer 2008 LSAMP session, my approach to learning and grades improved dramatically, allowing me to be named to the Dean's List every succeeding semester until I graduated with honors in June 2010."

Nelson adds that the LSAMP program encouraged him to establish much closer relationships with his professors, taught him the fundamentals of research, and provided him with invaluable information about graduate school.

"I continued to participate in LSAMP research under my mentor, Computer Engineering Technology Professor Iem Heng," Nelson adds, "until I completed my bachelor's degree. Not only did I earn needed money toward my educational expenses through the research work I was doing, but profited as well from a better understanding of the research process and the critical part it plays in the quest for knowledge."



During his final semester before graduation, Nelson applied to Worcester Polytechnic Institute (WPI) Graduate School in Massachusetts. Today, he's proud to say that he has been accepted and will be pursuing graduate study in the field of robotic engineering.

"I owe so much to Professor Heng and the LSAMP program. Both were vital to my success at City Tech and to my decision to continue my education."

Students interested in more information about the Louis Stokes Alliance for Minority Participation Program should contact Minerva Francis at 718.260.5529 or mfrancis@citytech.cuny.edu. Mark Nelson did and that meeting changed his life forever.

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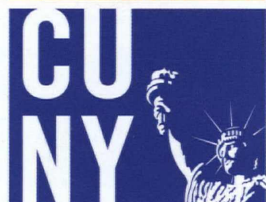
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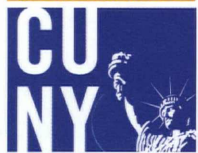
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