

# new york city alliance NEWS

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## *ProjectSTEM: The New Virtual Research Community*

Science is benefited most by an atmosphere that is conducive to sharing research innovations and experimental ideas; this concept, which initially led to the advent of the internet, was applied to the creation of the new LSAMP website entitled "ProjectSTEM." The acronym S.T.E.M. represents the four academic and research disciplines that are the focal point of the Alliance for Minority Participation: Science, Technology, Engineering, and Mathematics.

"The former AMP website PlanetAMP will slowly be phased into the newer ProjectSTEM, however the objective of the site remains unchanged: to facilitate and encourage interactive, collaborative research across STEM disciplines, institutions and agencies

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## “CUNY Black Male Initiative: A System-wide Approach”



The CUNY Black Male Initiative, funded by the City Council, is a progenitor program, which has spawned many model programs on individual CUNY

two years ago, I graduated from a large urban high school in Jamaica, Queens, Hillcrest High School, and was able to go to college because of affirmative action and diversity programs with objectives similar to the spirit and purpose of the new City University of New York Black Male Initiative,” Mr. Dawes candidly stated.

campuses, such as the Black Male Leadership and Mentoring Project (BMLMP) of City College, among many others.

“I know that I would not have made it into college without the support of affirmative action, diversity and scholarship programs that made it possible for low income and working class students from predominantly African American and Latino public high schools to enter college and do well.”

Each program, although different in name, is fundamentally similar and has dedicated faculty and staff using an adaptive approach to addressing and ameliorating many of the academic and social impediments facing the most under-represented minority group in CUNY: black males. Each program essentially focuses on the recruitment and retention of black males throughout CUNY campuses, to increase the number of black males in college and the graduation rates of those who do attend college. In addition, each BMI program provides guidance, direction, and support services.

*“I know that I would not have made it into college without the support of affirmative action, diversity and scholarship programs that made it possible for low income and working class students from predominantly African American and Latino public high schools to enter college and do well.”*

—Elliot Dawes,  
CUNY BMI Director—

Elliot Dawes has the credentials and the attributes to help institutionalize — for lack of a better term — the Black Male Initiative. Foremost, he is affable, accessible and has a willingness to understand to the needs of each individual CUNY campus. He said, “Building on the work that has been done by BMI

The Black Male Initiative is the umbrella term for many innovative and provocative programs, so to consolidate and coordinate this expansive undertaking, Elliot Dawes, JD was appointed as Director of the CUNY Black Male Initiative. Mr. Dawes graduated from Cornell University and New York University Law School. He came to CUNY from Hofstra Law School, where he served as Dean for Multicultural Affairs. Additionally, he has worked for the Civil Rights Division at the US Justice Department and has teaching experience both at the public high school and college levels.

administrators on the various campuses over the course of the last year, I hope to work closely with CUNY administrators, faculty, students, staff and many others throughout New York City to develop strategies to increase the enrollment and retention of students from groups that are severely underrepresented in higher education.”

He is a strong supported of higher education and professional development of students. Elliot Dawes legal and personal background provides a great benefit, in that he will maintain the structural integrity of the BMI mission and make certain that the programs are not exclusionary to any students who need to avail themselves of the services offered.

“My interest in the success of the BMI program is not only as an administrator and an educator. For me, the success of this program is personal because twenty

A. James Hicks Program Director

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# Dr. William Tramontano: From Professor to Provost



After three successful years as Lehman College's Dean of Natural and Social Sciences, Dr. William Tramontano, an exceptional educator and proven researcher in the biological and plant sciences, was appointed to the position of Acting Provost and Vice President of Academic Affairs for the 2006-07 academic year.

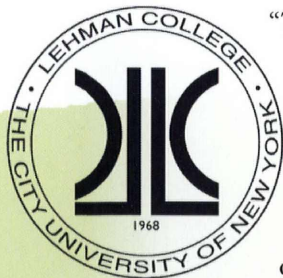
Dr. Tramontano's commitment to excellence as an educator traces back over two decades ago to Manhattan College and the College of Mt. St. Vincent, both located in the Riverdale section of the Bronx, where he was a Full Professor of Biology and served multiple terms as Chair of the Biology Department. There, he received several notable awards, such as the Distinguished LaSallian Educator award in 2002. His research expertise in manipulating the cell cycle of legume roots and experimentation to create novel herbicides attracted funding from both the National Institutes of Health (NIH) and the Pew Foundation.

Seeing the necessity for younger students to gain undergraduate research experiences, Dr. Tramontano developed two undergraduate biological sciences programs with support from the Howard Hughes Medical Institute.

He has demonstrated a willingness to guide students in their academic endeavors: by providing counsel on professional development, establishing research opportunities for nascent scientists, and writing recommendation letters for students applying to dental, medical and graduate schools. Even now with the ever-increasing duties attributed to his position as Provost and Vice President, Dr. Tramontano has managed to maintain his dedicated approach to helping students succeed.

*"At an institution like Lehman College, research, teaching and learning are all highly valued and the LSAMP program has been a positive force on our campus, both in the laboratory and the classroom."*

*-William Tramontano,  
Acting Provost & Vice-President  
of Academic Affairs-*



"The LSAMP program at Lehman College is opportunity, opportunity for both students and faculty!" contended Dr. Tramontano, the LSAMP Steering Committee for Lehman College. "At an institution like Lehman College, research, teaching and learning are all highly valued and the LSAMP program has been a positive force on our campus, both in the laboratory and the classroom. Faculty, especially those who mentor undergraduates in research, participate in one of the purest forms of teaching. In my roles as Dean, Acting Provost and AMP Steering Committee member, I have championed the inclusion of a basic research component in all curricula, and we are grateful for the support that the LSAMP program provides at all levels of study."

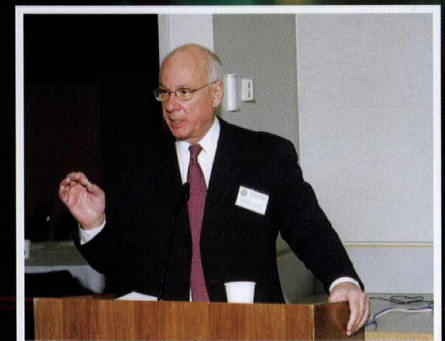
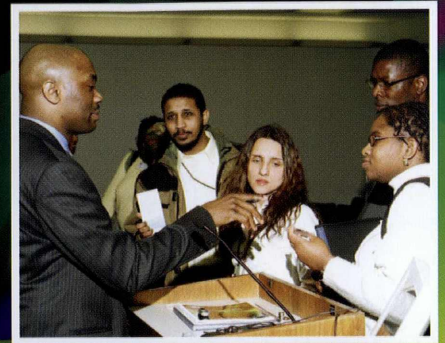


# The Tenth Annual CUNY Confe

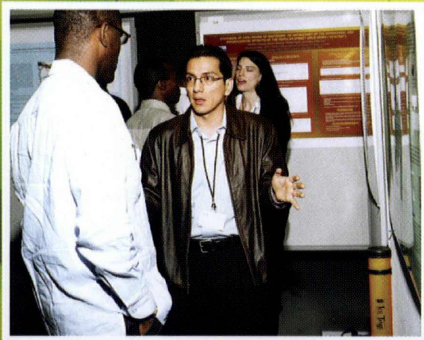
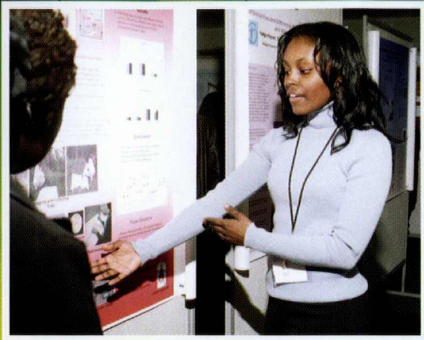
The Tenth Annual CUNY Conference in Science and Engineering, held in late February at the CUNY Graduate Center, was very informative for the students and faculty in attendance. The conference opened with an address from Dr. Gail Smith, Acting Assistant Provost for Diversity Programs at the CUNY Graduate Center. Dr. Smith underscored the extraordinary research efforts of CUNY undergraduate and graduate students — made possible with funding from various government and private organizations such as the National Science Foundation (NSF) and National Institutes of Health.

Remarks by CUNY Chancellor Mathew Goldstein, focused on his pride in the student researchers, and he stressed that research at all levels of academia was "sine qua non," meaning a vital component of science and engineering and mathematics disciplines. He thanked all the presenters for sticking with, pursuing and believing in science, and hoped that each budding scientist would share and express their satisfaction gained from science with others.

Oral presentations were made by four outstanding students: Ernest Boamah of Hunter College, Silvia Caballero of Hunter College, Reginald Eze from Polytechnic University and Clara Nieto-Wire from the CUNY Graduate Center. The presentations varied from genetic manipulations of cancers to creation of better flying aircrafts.



# rence in Science and Engineering



Dr. Marian Johnson-Thompson, Director of Education and Biomedical Research Development at the National Institute of Environmental Health Services, delivered the keynote address. She made a special effort to shed light on the scientific innovations directly attributable to African-American and minority scientists and the discrimination that precluded them from garnering national recognition for their efforts — “a brief history lesson for the attendees.” For Dr. Johnson-Thompson, “success equals talent, service and enjoyment.”

Among the represented programs were LSAMP, MARC, NSF AGEP, Bridges to the Doctorate and SCORE. The conference included workshop sessions on successful grant writing strategies and preparation for post-doctoral positions, and a poster session by approximately fifty (50) students presents from primarily the LSAMP, MARC, NSF AGEP, Bridges to the Doctorate and SCORE programs.

## *“Chemistry: A Formula for Achievement”*

Adriana Vela

Understanding the mechanisms that drive chemical and physiological reactions in living organisms is essential to research and is one of the reasons Adriana Vela, a Bridge to the Doctorate Scholar, has decided to pursue Chemistry. Adriana received her B.S. degree in Chemistry and a minor in Mathematics from the Honors Program at the College of Staten Island (CSI) in 2005. Currently, she is pursuing her Master's degree in Chemistry at Brooklyn College.



An avid researcher since 2003, she has participated in several research projects one of which was centered on the bio-patterning of nanoparticles. Her current research project involving proteins and Nuclear Magnetic Resonance (NMR) is performed under the guidance of Dr. Ruth E. Stark, Professor of Chemistry at CSI. This research group is comprised of both graduate and undergraduate students majoring in Chemistry and Biology, and their research delves into “Molecular Biophysics (Protein Structure and Dynamics, Glyceride Digestion and Transport, and Plant Biopolymers) and Nuclear Magnetic Resonance Spectroscopy Technologies,” states Professor Stark. “We have close and effective collaborations with research groups in New York Metro, other areas in the U.S. and overseas.”

BROOKLYN



COLLEGE

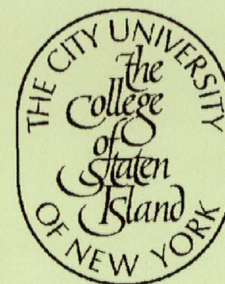
Dr. Stark's area of expertise is in Molecular Biophysics and she has fostered an enthusiasm for this area of study in Adriana. “Dr. Stark introduced me to the intriguing field of Molecular Biophysics ...she has challenged me to learn experiments that detect protein structure, taught me how to communicate scientific material and provided [me] the freedom to explore,” said Adriana Vela. “Dr. Stark has provided an enriching start to my career and has never imposed a career path on me; instead, she has guided and supported my choices as I have made them.”

She also added, “Dr. Stark is the true definition of a mentor... [Her] patience, knowledge and warmth make her a wonderful person to work with!”

Together they are researching the structural and functional aspects of Liver Fatty Acid-Binding Proteins (LFABP) through NMR spectroscopy, computational modeling, and fluorescence energy transfer assays. In mammalian cells, fatty acids are physiologically essential molecules needed for energy storage and delivery, synthesis of membrane lipids and intracellular signal transduction. “Fatty acid-binding proteins are small water-soluble proteins with well-characterized binding specificities and affinities for hydrophobic ligands (a molecule, group or ion that binds non-covalently to another molecule) but incompletely understood physiological function.”

Fatty-Acid Binding Proteins (FABP) are named after the tissue in which they are found and isolated, such as heart, liver, and small intestine. FABP are speculated to function in the transport of fatty acids from the cell membrane to cellular organelles. Adriana is researching to elucidate the structure and mechanisms behind LFABP and to “understand how a malfunction in these proteins can lead to certain diseases.”

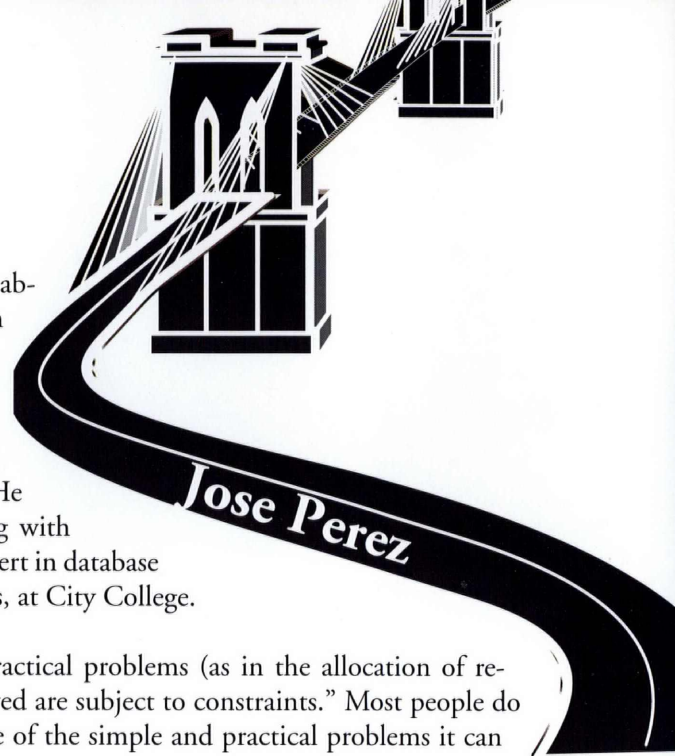
Adriana Vela knows that her formula for achievement will come through continued research and academic progress, and she has been accepted into three exceptional doctoral programs: Molecular Biophysics and Biochemistry at Yale University, Biochemistry at Albert Einstein College of Medicine at Yeshiva University, and Biophysics, Structural Biology and Biomathematics at Mount Sinai School of Medicine.



# "The Practical Uses of Computer Science"



To some, science is complicated, abstract and often meaningless jargon unless there is some understandable benefit or tangible "real-world" application. Jose Perez, a Bridge to the Doctorate researcher, knows this reality all too well. He is researching linear programming with Professor Akira Kawaguchi, an expert in database and transaction processing systems, at City College.



"Linear programming is a mathematical method of solving practical problems (as in the allocation of resources) by means of linear functions where the variables involved are subject to constraints." Most people do not understand linear programming, but they understand some of the simple and practical problems it can remedy.

"The diet problem is an example of a real-world application of linear programming because obesity is a prevalent issue in society," stated Jose. "The goal of the diet problem is to find the cheapest combination of foods that will satisfy all the daily nutritional requirements of a person. The problem is formulated as a linear program where the objective is to minimize cost and meet constraints, which require that nutritional needs be satisfied. The constraints regulate the number of calories and amounts of vitamins, minerals, fats, sodium and cholesterol in the diet."



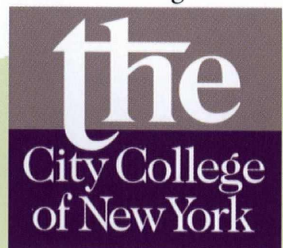
Another example is the transportation problem. "The goal of a transportation problem is to ship quantities of a material from a set of supply points to a set of demand points at minimal cost. This can simply be viewed as trucks moving goods throughout the United States; however, it also extends to network problems, in particular when information is sent via the Internet and it is necessary to find the quickest path with the less traffic, which represents fewer costs."

Jose Perez is excited about his research because it is multidisciplinary, similar to his major Computer Science. He said, "This field is interesting for its great correlation with other areas of science. The use of computers and information systems are vital for the advancement of all areas of science."

After obtaining his A.A. degree from Hostos Community College in 2003, he went on to receive his B.S. in Computer Science from City College in 2005, and now is pursuing an M.S. in the same discipline. On working with his mentor Dr. Kawaguchi, Jose asserts, "His extensive expertise allows him to give me detailed inside information and examples on the research problem being studied. He also gives me academic advice and informs me of current opportunities for professional development in my field."

One of these opportunities was an internship at Oak Ridge National Laboratory, which Jose took part in last summer. Jose and his mentor will have a paper entitled "Linear Programming for Database Environment" published in May of 2007. The paper will appear in the 4th International Conference on Informatics in Control, Automation and Robotics (ICINCO'07) Angers, France.

Jose Perez has demonstrated that his highly technical research is relevant to solving practical contemporary problems, and he is looking forward to doing the research that will provide these answers.



# ProjectSTEM: The New Virtual Research Community *continued from cover*



by reducing communication impediments,” explained Jose Cortes, NYC LSAMP Portal Manager.

“The system provides students, faculty as well as other interested parties with the means to collaborate and communicate with one another on research projects, current events, and other STEM-intensive topics.”

Utilizing cutting-edge, open-source interactive and website-building software, teams of computer science research scholars, directed by Mr. Cortes, has worked extensively to ready a site replete with a bevy of up-

grades and innovative features, which include but are not limited to: data integration/management, e-mail marketing, e-newsletters, event registration, e-commerce, campaign/donation oversight, surveys, applications, a career center and online directory.

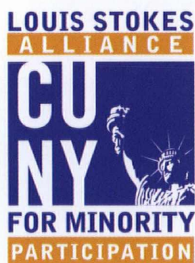
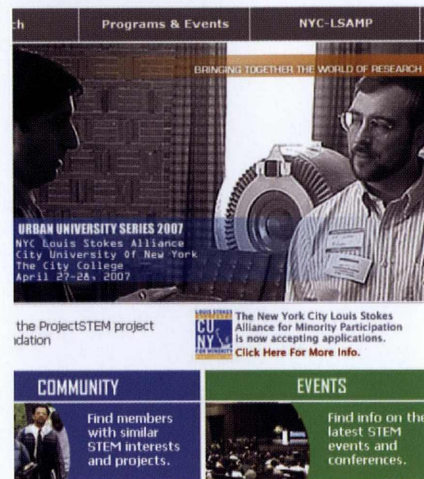
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—Jose Cortes,  
LSAMP Portal Manager—

One of the more significant new features of the site involves user-friendly components similar to the MySpace or Facebook websites with the addition of a social networking and mentoring component, which will form communicative research and academic ties on the student-to-student level and, most importantly, among students and their profes-

sors. ProjectSTEM will enable students to build their own portfolio and keep an organized account of the academic endeavors, research experience, achievements and professional development.

ProjectSTEM can be accessed by visiting: <http://nyc-amp.cuny.edu>.



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