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### NEH Along the Shore participant explores the graceful galleried library of the Brooklyn Historical Society.
More than one hundred years ago, Brooklyn's great poet, Walt Whitman, gazed out over New York harbor and imagined us, those who would live and work here long after he was gone. In "Crossing Brooklyn Ferry," Whitman wrote:

> Others will enter the gates of the ferry, and cross from shore to shore;  
> Others will watch the run of the flood-tide;  
> Others will see the shipping of Manhattan north and west, and the heights of Brooklyn to the south and east;  
> Others will see the islands large and small;  
> Fifty years hence, others will see them as they cross, the sun half an hour high;  
> A hundred years hence, or ever so many hundred years hence, others will see them, Will enjoy the sunset, the pouring in of the flood-tide, the falling back to the sea of the ebb-tide.

Although we are truly among those "others," even Whitman's imagination could not have pictured the harbor and the Brooklyn shore as we see and experience them today. Early photographs show a low-rise city, surrounded by a forest of masts from the sailing ships that brought cargo from all over the world. Flocks of ferry boats crisscrossed the East River in those pre-subway, pre-bridge days. Assuming correctly that Brooklyn would continue to be profoundly shaped by its long coastline—it being, after all, the western end of Long Island—Whitman was nevertheless unable to foresee the transformations to be wrought by progress, pollution, and the tremendous growth of a diverse population.

City Tech's location—between two of the great East River Bridges that supplanted Whitman's ferries, just steps away from some of Brooklyn's most historic sites, and within easy reach of its industrial base—has proven to be a rich resource for faculty and student researchers and for teaching as well. Initially sparked by NEH grant, Retentions and Transformations and Water and Work, the College's ventures into its location have continued to burgeon, as our faculty explore this amazing urban landscape through the lenses of their varied disciplines. Following up on the NEH-funded summer seminar, Along the Shore, which brought two groups of community college professors from across the country to walk and sail the borough's byways, this issue of Nucleus also describes a summer collaboration between Professors Urmí Ghosh-Dastidar (Mathematics) and Liana Tsenova (Biological Sciences) designed to engage students in a study of water quality in the Hudson River and Brooklyn's gritty Gowanus Canal.

Besides prompting research activities, Brooklyn's shoreline, its neighborhoods, industry, literary works, history, and ecology offer myriad opportunities for place-based classroom study. In almost every discipline, Brooklyn offers ways to make learning a hands-on as well as a conceptual activity. Here, the global is local, and the promise and problems of 21st century urban life are lived and completely real. No wonder that the faculty committees looking at general education have found their interest captured by the possibilities that this place, this Brooklyn, with its complex contexts, offers the curriculum. A cross-departmental team led by Professor Huseyn Yuce (Mathematics) has been recommended to receive an NSF CCLI grant to develop an interdisciplinary STEM course for first-year students, The Brooklyn Waterfront 2050—a bold perspective Whitman would have applauded.

Although Brooklyn offers a rich locus for study, it proves as well to be a splendid launching place for outwardly focused explorations. Professor Patricia Cholewka (Nursing), Project Director for a new FIPSE US-EU/Atlantis grant, will lead an international team investigating self-management and palliative care concepts and their implications for both health policy and nursing education. In quite a different direction, a recent grant from NSF for Advanced Technological Education (ATE) will enable Professors Andy Zhang and Sidi Berri (Mechanical Engineering Technology) and Iem Heng and Farrukh Zia (Computer Engineering Technology) to introduce students to the product design field of Mechatronics, an exciting emerging technology.

From the first NEH grant, the College's goal was to create imaginative links for students between their general education courses and their major fields of study. Locating those links initially in the places where students study, live, and work gives them texture and substance and at the same time provides firm grounding for bolder, riskier intellectual journeys.

Walt Whitman, deeply grounded in this place, freed his imagination to travel without limits or boundaries. He assures us: "It avails not, neither time or place—distance avails not; I am with you, you men and women of a generation, or ever so many generations hence."

Bonne August, Provost
City Tech Leads Bilateral Partnership to Advance International Nursing Education

An Interview with Professor Patricia Cholewka

Professor Patricia Cholewka, Assistant Professor of Nursing, is Project Director for a new two-year FIPSE US-EU/ATLANTIS grant awarded to City Tech by the U.S. Department of Education for a project entitled Integrating Self-Management and Palliation Concepts (IMPACT): Health Policy and Nursing Education Implications. Nurse educators at City Tech, Case Western Reserve University (Ohio), University of Dundee (Scotland) and Kaunas University of Medicine (Lithuania), with complementary expertise arising out of different education systems, healthcare delivery systems, and cultural approaches to end-of-life care, will collaborate in implementing a groundbreaking benchmark study of best practices in palliative care and self-management education. Dr. Cholewka received a Fulbright Scholar Research-Lecture grant for a residency at Vilnius University in 2007-2008 and a follow-on Fulbright Award in 2010 to Kaunas University of Medicine in global public health; she subsequently established an international faculty exchange with that institution. This grant is an outgrowth of her earlier collaborative work.

Barbara Burke: Why did you choose to focus this project on palliative care?

Patricia Cholewka: Medical self-management and palliative care are among the fastest growing specializations in the fields of nursing and medical education and practice in both the United States and the European Union. As medical science has advanced, more people are living longer. Global migration has put pressure on traditional family structures and aging alone is no longer unusual. Take Bay Ridge, Brooklyn, for example, where a number of our students will eventually practice nursing; this community has the highest concentration of elderly people living alone in the entire United States. Government reimbursements for home care have declined and individuals and their caregivers are left to fend for themselves. Lithuania, as with any of the post-Soviet transitional societies, confronts a public health situation in which the isolation of the elderly is compounded because there is a very weak technological and home care infrastructure.

The majority of nursing education programs are still evolving to meet the acute challenges of aging populations in an era when the technology of medicine has outpaced societal decision-making on how to deal with end-of-life issues. Policy makers and educators alike need the framework and benchmarking criteria that this project will produce. This grant, therefore, comes at a most opportune time.

BB: What assets do City Tech and the other partners bring to the project?

PC: City Tech is the lead US institution for this project. We prepare students to work in a global city where intercultural competence is a professional necessity. Medical self-management and palliative care nursing will, necessarily, be taught within a very broad cultural framework. In addition to our own departmental expertise, we have the health sciences resources of CUNY to draw upon as well as the public health infrastructure of our city as a research setting. The Francis Payne Bolton School of Nursing at Case Western Reserve University consistently ranks as one of the top nursing schools in the United States and is a World Health Organization (WHO) Collaborating Center for Research and Clinical Training in Home Care Nursing. The project will use Case Western’s advanced research capacity and ability to offer students the opportunity to conduct research and service projects abroad. The University of Dundee, the lead EU institution for this project, is only the university in Europe and Asia to deliver baccalaureate and master’s degree programs that hold an accreditation from the American National League for Nursing Accrediting.
An Assistant Professor of Architectural Technology, Emma holds a M. Arch from MIT, a MA in Art History from the Institute of Fine Arts at NYU where she was a visiting archeologist on Samothrace, and a BA with Honors from the Department of Art History at NYU with minors in Mathematics and Ancient Greek. She is a LEED AP+ in Building Design and Construction and a member of the NY chapters of AIA, Vice-President of the New York Chapter of the Society of American Registered Architects, and USGBC (Urban Green Council). She has been a project architect in the areas of urban design, residential architecture, and furniture and lighting design at Beyer Blinder Belle, B Five Studio, and Alan Wanzenberg Architect, PLLC.

Emma has written the Art and Architecture curriculum for City Poly, a new high school whose students will matriculate into City Tech to earn an associate degree after earning their high school diploma in three years. Emma and department colleague Carmen Trudell have co-authored curriculum for the College Now Summer Program 2010. She has been a guest lecturer on Adaptive Re-Use at NYU. And she recently established her own firm, Alexandra Benardete Architect, PLLC.

Emma has recently contributed to the development of U.S. Department of Education Title V and NSF ATE proposals and will develop complex proposals serving multiple constituencies.
“Educational Rationale” from *The Brooklyn Waterfront 2050*, taken from a proposal submitted to the National Science Foundation in May 2009 and recommended for funding by NSF in August 2010.

City Tech is located at the foot of the Brooklyn Bridge on a waterfront shaped by 19th and 20th century industrial production. The factories, chemical plants, wharves and shipyards of Brooklyn’s once vibrant port are undergoing competing visions of redevelopment. The legacy of environmental degradation as well as the threat of climate change poses urgent challenges. In this CCLI project, we will create an interdisciplinary science, technology, engineering, and mathematics (STEM) course for first-year students that takes as its laboratory not a strange room full of beakers and chemicals but the living breathing waterfront at the college’s doorstep. This course will develop students’ ability to scientifically contextualize and comprehend critical public issues by asking large questions: What is the health of the waterway? How can we measure the environmental impact of human activity on the waterfront? How will global climate change be manifest in the local environment? What forms should environmental remediation take and why? What visualization and modeling tools can assist in communicating information about the issues that we identify? How best to use those tools in the classroom?

City Tech faculty will work with the Urban Design Lab at the Earth Institute of Columbia University, a research center that is engaged in environmental remediation design, to create the curriculum content. Class research projects will be designed to engage students and faculty in hands-on investigation of key scientific issues underlying the complex reality of the immediate environment. This project has a civic dimension as well: not only will the science be presented in ways that students find engaging, but our students, 50% of whom live in Brooklyn, will better understand their own stake in the future of their community.

The project leadership team for this interdisciplinary two-year project includes Professors Huseyin Yuce (Mathematics, PI), Reginald Blake and Justin Vasquez-Poritz (Physics), Peter Spellane (Chemistry), Vasily Kolchenko and Niloufar Haque (Biological Sciences), and Anne Leonhardt and Shelley Smith (Architectural Technology).
Professors Urmi Ghosh-Dastidar (Mathematics) and Liana Tsenova (Biological Sciences) conducted a research program this summer funded by City Tech’s NSF STEP grant (Dean Pamela Brown, PI). The project, *Bio-Math Mapping: Water Quality Analysis of the Hudson and Gowanus*, provided nine undergraduate students, three of whom were supported through the CUNY Louis B. Stokes Alliance for Minority Participation (LSAMP) grant, with the opportunity to perform interdisciplinary research, combining mathematics with epidemiology, microbiology and environmental studies through a four-week investigation of water quality in bodies of water very close to home.
Students collected water samples from six different sites along the Hudson River and Gowanus Canal to study and compare the water quality of these two waterways. The Gowanus Canal in Brooklyn, NY, once served as a major cargo transportation waterway and is currently extremely polluted, posing a major threat to public health. Several industrial sites that line the bank of the canal—including chemical plants, tanneries, concrete mixing facilities, and oil refineries—pollute the canal with industrial waste such as coal tar and heavy metals including lead and mercury. The Environmental Protection Agency (EPA) recently added the canal to the National Priorities List of its Superfund program for further investigation. In contrast, the water quality of Hudson River, a major recreation water source, is “generally acceptable.” However, many of the wastewater facilities built in the 1970s are crumbling now and are unable to withstand extreme weather. Sewage overflow or polluted storm water discharge occurs into nearby waterways after heavy rainfall either through cracks in treatment facilities, overflow valves, or infrastructure failures. The release of pathogens, toxins, and other pollutants limits safe recreational use of Hudson water body during this type of weather. Very few tests are done due to lack of officially designated areas and more studies are needed.

Both faculty research mentors consider the summer project very successful. Students were very enthusiastic and eager to learn. At the end of the project term the participating students presented individual reports that showed much creativity and accuracy in interpretation. They worked very well as a team, in particular while working in Microbiology lab. They also assisted one another during mathematical problem-solving sessions and writing reports. The project culminated with the students presenting their findings in Pittsburgh this August at MathFest 2010, an event organized by the Mathematical Association of America (MAA). Bio-Math Mapping researchers plan to submit their comparative research findings to academic journals and present their results at City Tech’s research conference during the coming academic year.

The pictures from the NSF STEP-supported summer research program organized by Professors Tsenova and Ghosh-Dastidar truly say a thousand words. Our faculty are providing City Tech students with the opportunity to conduct research through programs such as NSF AMP, the Emerging and Honors Scholars Programs, BMI, City Tech’s NSF REU grant, and collaborative research projects at government labs such as Brookhaven National Labs, among others. Student research has resulted in a growing list of student presentations and publications in refereed journals. This work enhances the intellectual vitality of the College and leads to innovations in the curriculum. But there are other tangible benefits that are harder to measure—the potentially transformative impact that the mentor has on a student’s confidence and determination to succeed; the sense of personal satisfaction the faculty member feels.

This academic year a workshop series on effective mentoring of undergraduate researchers is sponsored by Faculty Commons and the School of Arts and Sciences. It is hoped that both experienced and faculty new to mentoring will participate and share strategies and ideas. The first workshop will be held Thursday, September 23, 11:30 am-12:30 pm in the Faculty Commons. The theme of the first workshop is “Getting Started as a Mentor.” Facilitators for the first workshop will be Professors Reginald Blake (Physics) and Janet Liou-Mark (Mathematics) and NSF AMP Coordinator Minerva Francis. I hope to see many of you there.
Along the Shore:
CHANGING AND PRESERVING THE LANDMARKS OF BROOKLYN’S INDUSTRIAL WATERFRONT

Two groups of community college faculty from around the country came to City Tech in June as part of a Summer Workshop funded by the National Endowment for the Humanities. Professors Richard Hanley (English) and Shelley Smith (Architectural Technology) led a total of 47 community college faculty in two, one-week workshops entitled, Along the Shore: Changing and Preserving the Landmarks of Brooklyn’s Industrial Waterfront. The first group of 24 came for one week at the beginning of June, and the second group was offered the same program at the end of the month. Each day of the one-week program was packed with lectures, tours, and digital media. The workshop had an agenda filled with speakers, tours, technology, and New York eating. In one evaluation, a participant noted, “I realized halfway through the week how ingeniously organized the days were. Not only did we begin each morning with superb speakers, but we then moved quickly into active appreciation of the very topics we had been hearing about, through walking tours and site visits. …The director and his staff were congenial and kept us at ease, while guiding—even pushing—us through a challenging agenda.”

In 2007, the National Trust for Historic Preservation identified Brooklyn’s industrial waterfront, City Tech’s “neighborhood,” as one of the country’s top eleven endangered historic places. The listing was one factor prompting a group of City Tech faculty to come together and propose the NEH summer workshop, after having participated in a previous NEH faculty-development grant, studying the Brooklyn waterfront. (Besides Hanley and Smith, the group included Professors Peter Catapano, Robin Michals, Mark Noonan, James Reid, and Peter Spellane.) Hanley, the director of that grant, entitled Water and Work, stated, “We wanted to offer to colleagues from around the country an opportunity to see and learn what we did. Along the Shore allowed us to do that.”
The City Tech visitors discovered famous (Brooklyn Navy Yard, Brooklyn Bridge, Brooklyn Heights) and infamous (Newtown Creek, Coney Island) Brooklyn landmarks. They learned about the area’s history; they discussed questions related to preservation and change; and they acquired ideas about place-based education that they took back with them to their own campuses. One participant wrote, “I really liked the idea of ‘hands-on study’ rather than just lecture and film. That method really added a layer of knowledge that’s impossible to glean from other methods. For instance, watching On the Waterfront on a barge added an experiential level to watching this classic film. I’m going to try to have more of that in my teaching.”

A key purpose to the NEH’s Landmarks in American History summer institutes is to engage participants in a conversation about preservation and change in a dynamic country. On the first evening of the seminar, Shelley Smith posed the question “What is a landmark,” discussing the topics of preservation, restoration, and repurposing. This theme recurred in discussions throughout the week. One participant wrote: “…we learned the laws of landmarks and saw how districts, buildings, and pieces of local flavor make up the core identity of places. We were constantly on the move, and the variety of types of landmarks was an eye opener. One speaker [Sherida Paulsen, former commissioner of NYC Landmarks Preservation Committee] gave the participants the task of deciding whether or not a neighborhood should be zoned as an historical district; this activity was towards the end of a long week, and we were fully equipped to make this decision, which proved the week to be highly informative and effective.”

When asked if they would repeat the program if invited to do so by the NEH, a weary Richard Hanley said he and his colleagues found the experience exhausting, but exhilarating and were already discussing modifications and improvement for the next time.

Patty Barba Gorkhover
You may be wondering about the seemingly odd juxtaposition of a humanities workshop held at a college of technology. The humanities and technology are not a new marriage at City Tech. Professor Matthew Gold (English) has been awarded two NEH Digital Humanities grants for his project Looking for Whitman.

The Along the Shore workshop included a technology component with daily sessions led by Professor Robin Michals (Advertising Design and Graphic Arts) for participants to digitally document their experience. All the participants created their own blog pages, uploaded photos to Flickr from their daily excursions, and learned how to “tag” online maps with text and photos documenting their experiences. The project’s blog pages can be found at http://alongtheshore.wordpress.com.

The blog was also the site where the staff and participants “met” two months before the program began. The blog site was used to begin discussions about the assigned readings. The inaugural posting was from the director, Richard Hanley, who wrote:

At one point in her essay, “Reading Lucy,” Jennifer Egan talks about having strayed in pursuing Lucy’s letters. After all, she should have been researching the Brooklyn Navy Yard. I suspect that as we spend our weeks studying the Brooklyn Navy Yard, the Brooklyn Historical Society (where Egan found those letters), and many other places and as we stay at the St. George Hotel (where Lucy’s husband was going to take her swimming—and where one of our participants learned how to swim), we too might stray. In fact, some of us might have “strayed” already as we read this piece—strayed to what Egan meant by the “clamp of 50’s domesticity” or to thoughts of whatever happened to “Minnie, a negro tacker,” or what Lucy’s supervisor Haack was like or what it was like to have 4,657 women at the yard, “working in nearly every phase of shipbuilding and repair.”

So, did you find yourself “straying” as you read this? In some way, the “straying” we do during our week will be the most rewarding and the most fun. Now, since the pool at the St. George Hotel is long since gone, who will take the first metaphorical leap and “plunge” into our blog? …

In subsequent weeks, participants were asked to comment and discuss selected books, articles, and online videos about Brooklyn. The blog postings continued as the program began; in fact there are now even a few videos created by participants on the blog that were uploaded after the workshops concluded.

Different types of technology and media crept into every part of the workshop. One participant noted in one of the program evaluations, “I sense that a few of my colleagues will comment on the tech component of our workshop. I found it manageable, even helpful. Sure it pushed me into new territory, new tech landscapes, requiring new skills and knowledge, but so what? I found that our final wrap-up (on our final morning) was extraordinarily rich and provocative — the tech in other words had helped to accelerate our learning and to push us into new areas of inquiry.”

Patty Barba Gorkhover
The ATE grant recognizes City Tech as a leader in producing minority engineering technicians for the country. Funding provides a platform for faculty members, college and high school students to engage in all kinds of multidisciplinary engineering activities. Not only will students be able to use state of the art mechatronic/robotic technology, they will also learn how to tackle multi-faceted and multidisciplinary design problems through various hands-on mechatronic design activities.

Professor Andy Zhang, PI

“This grant is a great opportunity for our students to learn robotics and mechatronics. Students will learn robotics through hands-on applications in our new state-of-the-art mechatronics laboratory. Problem-solving courses such as IND3500 in our new baccalaureate degree program in industrial design technology will allow students to work in teams to design and fabricate their own robots.”

Professor Sidi Berri, Co-PI

The Departments of Mechanical Engineering Technology and Computer Engineering Technology have won a $771,022 Grant for Advanced Technological Education from the National Science Foundation to establish a Mechatronic Technology Center.
Professors Andy Zhang and Sidi Berri (Mechanical Engineering Technology) and Iem Heng and Farrukh Zia (Computer Engineering Technology) will lead the project. They will adapt the successful program developed by Robotics Academy at Carnegie Mellon University to the City Tech context.

Mechatronic technology has been identified as one of the most important emerging technologies of the 21st century. Advances in computer technology and semiconductor electronics have created a new product design field called mechatronics. Mechatronics treats product design as system design that requires the tight integration of mechanical components, electrical/electronic systems, industrial design ideas, computer-control systems, embedded systems, and intelligent software into the product design and development processes. It also requires engineers, technicians, and designers from various disciplines to possess broader knowledge beyond their specialized fields and to work together concurrently. This concurrent engineering and mechatronic design approach, which emphasizes team collaboration, has become the new industry standard in product design and development.

The goal of the project, Learning Product Design through Hands-on Mechatronic Projects, is to educate students in the process of concurrent engineering rather than to perpetuate the increasingly obsolete approach of sequential design within disciplinary boundaries.

"The NSF ATE grant will allow the mechanical and computer engineering technology departments to create a high tech hands-on Mechatronic Technology Center. The grant will also provide an opportunity for City Tech faculty to train local New York City high school students and teachers who are interested in participating in the FIRST Robotics Competition to develop innovative entries."

"There are 36 NSF-funded ATE centers around the country but so far there were none in the State of New York. As NSF has noted, this project has the potential for influencing a significant number of students to consider STEM careers and the assurance of preparing graduates for careers in Mechatronics by using innovative curriculum and teaching techniques. I’m quite excited about implementing our vision for 21st century technological education."
WHY RUBRICS?

By Tammie Cumming, PhD
Director of Assessment and Institutional Research

Rubric. You’ve probably heard this term on campus throughout the past year… and it was a successful year of assessment activities for 2009-2010. Faculty efforts proved victorious with a positive review by the Middle States Commission on Higher Education, which was announced in July 2010. This was great news, and City Tech is committed to building upon this success and continuing efforts toward embracing a culture of assessment for learning.

After a year of working with the School Assessment Committees, we thought we should have a discussion of rubrics, and how they can help every department in the college. But before we begin our discussion on rubrics, it is important to understand how they fit into the assessment plan. We’ll begin by defining the terms that will be used at City Tech:

- **Performance Criteria** are specific, measurable statements identifying the performance(s) required to meet the outcome and are presented through evidence;
- **A Rubric** is a set of categories (scale) developed from the performance criteria that define and describe progression toward meeting important components of work being completed and assessed.

An example of program-level SLOs from the Computer Engineering Technology (CET) Bachelor of Technology degree program is presented:

**Outcomes** By the time of graduation, students will demonstrate ability to:

- Develop knowledge, techniques and skills to use modern tools and instruments to build computer-controlled systems;
- Use the principles of science, mathematics, engineering and technology to design, implement, and evaluate hardware and software solutions to complex technical problems; and
- Conduct, understand, analyze, and safely use basic electrical, electronic and logic circuits/systems as well as computer-controlled systems.

Performance Criteria (indicators) for knowledge, techniques, and skills to use modern tools and instruments to build computer-controlled systems:

- Students perform a needs analysis;
- Students identify resources (parts, equipment, etc.) to build the systems;
- Students develop a procedure for constructing the systems; and
- Students analyze test results of computer-controlled systems.

After the Computer Engineering Technology faculty derived the program’s performance criteria and outcomes for each SLO, the development of rubrics allowed faculty to assess student work in a way that articulates the progress students are making toward achieving the performance criteria. An example of a CET rubric for performance criteria is presented in Table 1. Note that each performance criterion contains a scale, or definition of the levels of completion or competence with a score assigned to each level and a description of what performance criteria need to be met to attain the score at each level.

The use of rubrics when scoring student work provides the program with valuable information about how students are progressing and also helps faculty to identify areas where students need to improve. The scores obtained by each student can be aggregated and used for program assessment. In next issue of Nucleus, we’ll provide an example to assist departments in presenting their results of rubric scoring.
The Association for Institutional Research and The City University of New York are co-hosting a one-day Integrated Postsecondary Education Data System (IPEDS) workshop for data providers and users at City Tech on Friday, September 24, 2010.

higher education associations, state higher education groups, Association for Institutional Research affiliated organizations and other groups with members who provide or use IPEDS data were invited to submit a proposal to co-host an IPEDS Workshop.

The workshop is a result of a successful application by the Office of Assessment and Institutional Research (AIR) at City Tech to the Association for Institutional Research, funded by the National Center for Education Statistics. IPEDS Workshops are designed to accommodate 20–40 participants. AIR provides an online registration request process for workshop participants, structured curriculum, workshop materials, one or two instructors (including travel costs), lunch and breaks for participants and a meeting room with Internet access.

Attending the workshop is a competitive process. The application to attend the workshop was promoted to assessment and institutional researchers in post-secondary education across the nation. The workshop will provide training to successful applicants from California, Florida, Minnesota, Ohio, New Jersey, New York, and Minnesota. The modules presented will focus on creating benchmarks to measure institutional effectiveness, as well as an overview of the types of comparison groups that can be constructed using IPEDS data. Participants will also be given an opportunity to use enrollment data to create a benchmarking study, discuss potential research issues, and identify the types of comparison groups and key performance indicators that could address college needs. Participants will also be trained to extract and analyze data using the IPEDS Data Center.

Tammie Cumming
ON THE HORIZON

Fall 2010 we are delighted to welcome expert educators, Professors Issa Salame, Frances Stage and Terry Hockenbrough to join us in conversations about teaching and learning. How together we can improve our practice and in turn increase student success.

How Learning Outcomes Drive Curricular Change

Issa Salame holds a PhD in environmental analytical chemistry from CUNY where he studied adsorption of organic molecules onto activated carbons and the removal of toxins from the environment. After graduate school, he became interested in science education and the understanding of how students learn chemistry through various methods of teaching. Over the past several years, Professor Salame has been involved in the teacher preparation programs at City College (CUNY) that attracts students to science and mathematics and guides and facilitates their teacher certification process. He is passionate about teaching and believes that his job is to reach each student, relate the subject to the student, and make the concepts, not only comprehensible, but also meaningful. Dr. Salame is working on research that improves understanding of how students learn chemistry through various methods of teaching. His research focuses on identifying common chemistry misconceptions, addressing misconceptions and improving students’ conceptual understanding of chemistry. Of special interests are the student-centered instructional reform and preservice and in-service teacher training. His current projects include examining students’ and secondary school teachers’ interpretations of atomic representations, and students’ misconceptions about atomic sizes and periodic properties.

Strategies for Success in STEM Undergraduate Education

Frances King Stage is Professor of Administration, Leadership, and Technology at New York University. She earned her BS at the University of Miami and her MS at Drexel University, both in Mathematics. Her PhD is from Arizona State University in Higher Education. Her research specialization includes college student learning, especially for STEM disciplines and student participation in math and science majors. Recent work has focused on characteristics of undergraduate institutions that produce unexpected levels of students who go on to earn STEM doctorates. Stage is author or co-author of books, articles, and book chapters focusing on college students and the methods used to study them. Recent books include Answering Critical Questions Using Quantitative Data (2007); Theoretical Perspectives on College Students (2004), Research in the College Context: Approaches and Methods with K. Manning (2003). Stage is past Vice President for the Postsecondary Education Division of the American Educational Research Association and has won awards for research and scholarship including the 2006 Research Achievement Award from the Association for the Study of Higher Education (ASHE). She spent 1999-2000 as a Senior Fellow at the National Science Foundation and 2005-2006 as Visiting Scholar and the summer of 2008 as a Fulbright Specialist in the Department of Educational Studies at the University of West Indies, Mona Campus, Kingston, Jamaica. She was Professor of Educational Leadership and Policy Studies at Indiana University, Bloomington from 1986-2000.
Civic Engagement through Service Learning

Terry L. Hockenbrough, MPA, is the Director for the Center of Scholarly and Civic Engagement at Collin College in Plano, Texas. Her duties include facilitating ten different major programs across the college district, including Service Learning. She is a member of the Texas Campus Compact Advisory Council and a member of the Dallas/Fort Worth Service Learning Intercollegiate Council.

She is a veteran conference speaker and workshop facilitator, presenting at numerous national and regional conferences including the Gulf South Summit Conference on Service Learning, National Conference on Student Leadership, the 39th Annual National Society for Experiential Education “Highway to the Future” Conference, 4th Annual Conference on Applied Learning in Higher Education, Texas Campus Compact, Louisiana Campus Compact, and Region 11 Educational Service Center. She also facilitates workshops at colleges and universities, including Dallas Baptist University, University of Texas at Brownsville, University of Texas at Arlington, University of Texas at Dallas, and Tarrant County Community College District. Her topics include leadership development, service learning, collaborative partnerships, assessment, organizational development, and program logistics.

Ms. Hockenbrough holds a Masters Degree in Public Affairs and is currently completing her PhD dissertation in Public Affairs on her county's response to the growing homeless situation.

She may be five foot two, but she is full of grit and determination. Her life goal is to inspire and develop powerful servant leaders who lead effectively and give back unconditionally. She is the mother of two grown children and is a certified volunteer with the Medical Reserve Corps, American Red Cross Shelter Operations, Community Emergency Response Team, and Victim Relief. While she is passionate about teaching and sharing the service-learning pedagogy, she is most comfortable in a pair of old jeans cleaning out riverbeds, planting community gardens, filming a veteran telling his story, or building houses back along the hurricane ravaged Texas Gulf Coast.

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