

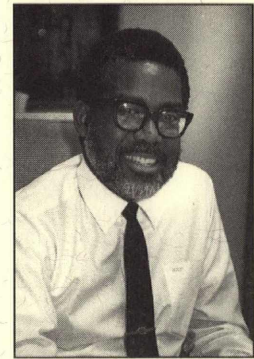
NEW YORK CITY ALLIANCE NEWS



ALLIANCE FOR MINORITY PARTICIPATION IN SCIENCE, ENGINEERING AND MATHEMATICS

2000 SMET Degrees by 2002, Could We Do It? Some Thoughts from the Principal Investigator, Dr. Neville A. Parker.

During AMP Phase I we laid the groundwork for dramatically increasing the number of underrepresented minority students who achieve bachelor's degrees in SMET disciplines. In our first five years, we made tremendous strides, but we realize that we did not fulfill our National Science Foundation goal of doubling the number of degrees. Our efforts brought much needed instructional reform to SMET courses at CUNY. We established collaborative learning, peer tutoring, and faculty mentoring as the pillars of the new SMET teaching philosophy. We developed learning centers to help implement that philosophy. We expanded our research component to include high school and graduate students.



*Dr. Neville A. Parker
NYC AMP Principal
Investigator*

Now, AMP's Steering Committee is looking at all aspects of the program, seeking ways to enhance degree production. Could we expand our target to 2000 SMET degrees by 2002? That would depend on making some of the following ideas work.

- Supporting students who are within thirty credits of graduation to ensure that they finish their SMET degrees and are aware of the opportunities for graduate study, employment in industry, and careers in precollege teaching.
- Developing an aggressive program to inform community and senior college students of possibilities in the scientific as well as the occupational domain, thus enlarging the pool of SMET enrollees.
- Using the AMP Virtual Institute as a virtual classroom, saving CUNY's mature, working population hours of time spent commuting.
- Joining with industry to create a part-time master's program in which students receive release time from their employers to further their SMET education and are provided by the company with a mentor who can guide them as they pursue a professionally relevant course of study.
- Establishing partnerships with other Minority Serving Institutions and Tribal Colleges. The dual degree program offered by Clark Atlanta University and the University of Oklahoma is a good model. It is a complementary partnership in which students begin their bachelor's studies in physics at Clark and complete them in meteorology at Oklahoma, graduating with degrees from both institutions. CUNY has unique resources which could benefit SMET students from across the country. Among these are the Center for Analysis of Structures and Interfaces and the Center for the Study of the Cellular and Molecular Basis of Development, both at City College, and the Center for the Study of Gene Structure and Function at Hunter. Dual degree programs would give SMET students from other institutions access to high caliber, specialized instruction and would increase the number of underrepresented minority students who graduate with the training and expertise which today's scientific and technological workplace demands.

AMP covers the whole of CUNY, bringing together sixteen undergraduate campuses and the Graduate School and University Center. It is also part of a national network of twenty-seven Alliances for Minority Participation funded by the National Science Foundation. For the balance of Phase II, we hope to use this broad perspective to find innovative ways of enhancing our program and benefiting CUNY.

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Alliance for Minority Participation**

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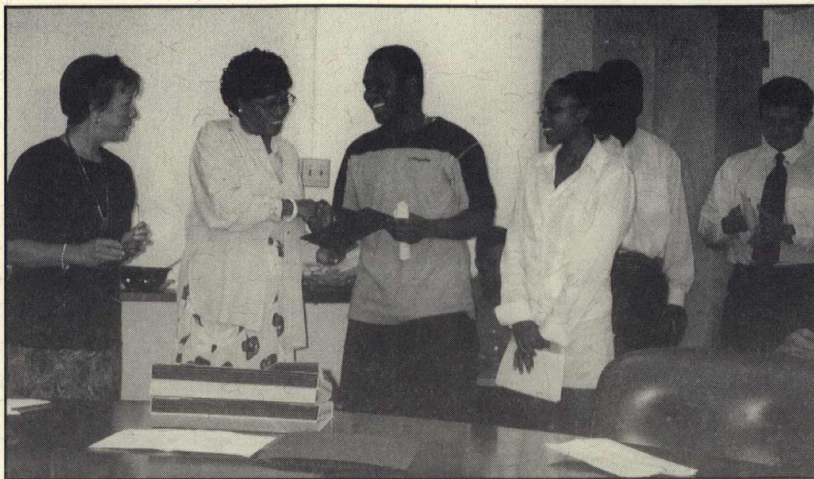
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New York City Alliance News

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AMP Mentor Recognition at City Tech, from left to right: Dean Louise Squitieri, Ms. Renee Flack, Research Scholars and Brookhaven students Henry Seretse and Zena Avilez, AMP Activity Coordinator Wilson Salazar (far right).

**Recent and Forthcoming Events Spotlight
Mentoring at CUNY**

In September, New York City Technical College led the way among CUNY AMP campuses with a luncheon to honor AMP faculty mentors and research scholars. The event drew twenty-four students and seventeen mentors from City Tech and Brookhaven National Laboratory, where several City Tech AMP students had done internships. It was attended by City Tech's Acting President, Emilie Cosi, AMP Project Co-Director Dean Louise Squitieri, AMP Steering Committee member Dean Sankar Sastri and Ms. Renee Flack from Brookhaven National Laboratory. Mentoring is central to AMP's mission of helping undergraduates fulfill their potential in SMET disciplines, and the luncheon gave students the opportunity to express their appreciation for the guidance and support they had received.

In December, the CUNY Graduate School and University Center presented the roundtable discussion, *Everyone Needs a Mentor*, hosted by Dolores E. Cross, Distinguished Professor of Leadership and Diversity. Dr. Cross's guest was Donald S. Perkins, former chairman of Jewel Companies, Inc., a leading supermarket and drug store chain. Mr. Perkins spearheaded the formation of a cadre of mentors from business and industry to advise students at Chicago State University, of which Dr. Cross was then president. Mr. Perkins's presentation and his answers to questions vividly illustrated how the interest and support of mentors from outside the academy can help undergraduates prepare for the world of work and provide underrepresented minority students with the information and access to opportunity which they often lack.

And mark your calendars for April 23 when the first AMP MENTOR RECOGNITION CONFERENCE will take place in the Great Hall at City College. Dr. George Campbell, Jr., President and CEO of NACME (National Action Council for Minorities in Engineering, Inc.) will be the keynote speaker, and CUNY's Interim Chancellor, Christoph M. Kimmich, will recognize the work of AMP mentors. Over 100 NYC AMP research scholars will present posters. Students from high schools located on CUNY campuses or participating in the Institute on Climate and Planets will be invited to the conference so that they can become familiar with the opportunities available through AMP and meet with admissions officers from CUNY colleges.

The President's View: Thoughts on AMP from CUNY's College Presidents

Dr. Yolanda T. Moses, President of The City College of New York

Dr. Yolanda T. Moses began her tenure as the tenth president of City College in 1993, at the inception of the AMP program. She has seen AMP mature and become an increasingly important factor in the thinking of the City University and in the SMET instruction on its campuses.

"During Phase I," says Dr. Moses, "we made a long term commitment to promote the success of minority students in SMET disciplines. Each campus had to integrate the AMP mission into its larger mission, making it part of the institution's fabric and ensuring that AMP goals coincided with what the college valued and wanted to strengthen. For City, where we have nineteen CUNY and funded programs which promote excellence in SMET, AMP has been a particularly good match." Thinking back to 1995 when City faced a budget crunch and had to cut spending by 14%, Dr. Moses explains, "At that point we had to take a hard look at what we wanted to keep and what we wanted to make stronger. SMET emerged as a top priority. We made a decision that City College would be known for its excellence in SMET disciplines. In that context, AMP made more sense than ever."

City College is currently rewriting its mission statement. Through this process, it is reconnecting to its historic mission of access to excellence at the undergraduate and graduate levels; emphasizing its role as a research institution; reaffirming its commitment to undergraduate student learning outcomes; and continuing to position itself to enrich the city, state, and region through its educational opportunities and the quality of its graduates. The college is placing strong emphasis on promoting a culture of inquiry and on determining what undergraduate education means at a research institution. "AMP, with its commitment to mentoring, tutoring, and undergraduate research and its dedication to building a SMET pipeline, is a linchpin in our effort to be a model of what is successful," Dr. Moses says.

"At City," she continues, "we are taking an ever greater interest in what high schools are doing to prepare students before they come to us. We are reaching out to our feeder schools, finding out what is happening in their curricula, and establishing close ties which help keep the pipeline in place. Many students entering college know very little about SMET careers. It is our



Dr. Yolanda T. Moses, President of The City College of New York

job to inform them. We want to make it possible for them to start research as soon as they get here. We are also working on the concept of multiple points of reentry and speaking to corporations about supporting their employees to come back to us for graduate study. All of these initiatives will contribute to increasing the number of minorities who succeed in SMET fields. That is City College's goal and AMP's."

AMP Holds Its First General Assembly

In the summer of 1993, the first thirty-five AMP research scholarships were awarded to CUNY students, breaking new ground by bringing undergraduates from community and senior colleges into the university's labs to do research alongside CUNY faculty. On January 15, 1999, braving fiercely cold and icy weather, 130 of the 200 AMP scholars gathered at Hunter College for the first AMP General Assembly.

Project Co-Director Dr. Leon Johnson began the program by reviewing AMP's history. He reflected on how AMP had changed the teaching of SMET disciplines through course restructuring, improving articulation of two-year and four-year colleges, and above all creating the undergraduate research component. He pointed to how much of the AMP agenda has already been institutionalized at CUNY and looked ahead to the program's emphasis on the precollege through graduate school research pipeline.

Dr. Neville Parker kept the audience spellbound as he described

his personal academic journey. He began with his experience as one of the few minority students in his class at City College. He had arrived at City with a strong background in the humanities, but lacking the physics, chemistry, and math necessary to study engineering. He acquired those skills in what was then known as the Evening Division, in fact, he pointed out, doing what some today would call remedial work. A brilliant graduate career at Cornell followed as did offers to teach at M.I.T., the University of Pennsylvania, and the University of Arizona. Dr. Parker, however, wanted to give back to the minority community, and he went to Howard University. The next step in his career took him to the University of Tanzania, where, for over a decade, he headed up the undergraduate and graduate engineering programs.

It was the change in student population at CUNY which brought Dr. Parker back to City College. He felt that the university had become a place where he could pursue academic excellence while being true to his commitment to service. He enjoined AMP scholars to develop a feeling of responsibility for each other and to become committed to giving back to their community as they pursue

SMET careers. Dr. Parker introduced several AMP students who had won distinguished awards, demonstrating the project's level of excellence. His final comment was a charge to AMP and CUNY to increase the number of minority students earning SMET degrees. He pointed to the university's 99,000 minority students and said that AMP's goal should be to produce 2000 SMET degrees by 2002.

Following the keynote speech, students were able to chat informally and to consult with representatives of Project Ascend, the Graduate/Summer Programs of Mount Sinai School of Biomedical Sciences, PRES/TRACC, CUNY Admissions, the CUNY BA, and RCMI (Research Centers at Minority Institutions). The atmosphere in the hall was one of a dynamic and successful program which was truly coming of age.

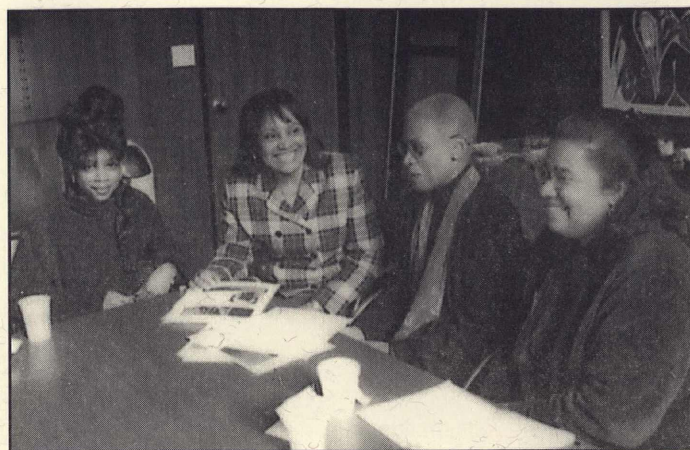
The Next Step in the SMET Pipeline: Programs at the CUNY Graduate School and University Center (GSUC)

As AMP students plan for their post-baccalaureate education, it is important for them to know of the resources and support which exist within CUNY at the Graduate School and University Center. GSUC is a model of public higher education which draws on resources across CUNY for the best in instruction and facilities. It is home to 32 doctoral programs and 23 centers and institutes dedicated to interdisciplinary research projects, conferences, and special programs. Its faculty numbers 1600 and its international student body 4000. Dr. Gail Smith, GSUC's Acting Associate Dean for Educational Opportunity and Diversity Programs sits on the AMP Steering Committee. "We are eager," she says, "to recruit AMP students into CUNY's doctoral programs. They will find a warm welcome at the Graduate School and University Center and should contact me for information at any time."

An array of programs can help smooth the way for AMP students. These include:

AMP's own Graduate Research Assistantship Program which offers financial support for a maximum of two years to students successfully participating in a CUNY SMET graduate program. First year stipends are \$6,000 for the master's and \$8,000 for the Ph.D. Second year stipends are \$7,000 and \$9,000 respectively. Each participating AMP college is responsible for selecting its own applicants within the AMP guidelines. Applicants must be endorsed by a SMET faculty member.

The CUNY Pipeline Program for Careers in College Teaching and Research is aimed at students who plan to graduate with a B.A. in June 2000. Students enter the program in February, 1999. During spring 1999, fellows work on their campuses with mentors. In summer 1999, they attend an eight-week research seminar at the Graduate Center which includes a GRE preparation course and a workshop on how to apply to graduate school. During fall 1999 and spring 2000, fellows take the GRE, complete a senior thesis and apply to a graduate



Dean Gail Smith (second from left) at a MAGNET Roundtable

program. Students who are accepted into a CUNY graduate program receive a tuition waiver for the first year. The fellowship stipend is \$3250. The program's January 15 application deadline has been extended for AMP students due to the timing of this newsletter.

The CUNY Pipeline Program for Careers in Biomedical Research, a.k.a. Bridges to the Doctorate Program is aimed at master's students who plan research/teaching careers in the biomedical sciences. The purpose of the fellowship is to allow students an opportunity to learn how to do research in the field of biomedical sciences, write up the results and present findings at conferences in preparation for applying for doctoral study. To facilitate research each fellow receives a laptop, a travel allowance of \$600, a lab supplies allowance of \$650, and \$8400 for a paid research lab assignment. Fellows also receive a tuition waiver. Monthly luncheon roundtable meetings at the Graduate School and University Center offer an opportunity for social networking with doctoral students. Since the program accepts rolling admissions, students have the option of applying at any time.

The MAGNET (Minority Access/Graduate Networking) Program offers four-year fellowships to entering full-time Ph.D. students. MAGNET seeks to expand opportunities for minority students in doctoral study and creates a network linking students to one another, to faculty and administrators, and to further opportunities. Fellows meet monthly for academic discussions, mentoring and peer support. Award stipends are \$16,000 per academic year, in addition to full tuition. Awards are based on academic merit and financial need. Students may apply directly or be nominated by the Executive Officers of their doctoral programs. The application deadline is February 1. The nomination deadline is February 15.

On Friday, February 19 a science conference will be held at the CUNY Graduate School and University Center. Dr. Neville Parker has been invited to be the keynote speaker and Dr. Claude Brathwaite will chair a panel. **AMP students who wish to participate, either by presenting a paper, participating on a panel, or presenting a poster, should contact Ms. Ivette Estrada at**

Steering Committee Profiles

Dr. Leonard Ciaccio, College of Staten Island

Dr. Leonard Ciaccio, Special Assistant for School Issues to CSI's President, and Director of the College's Discovery Center, is in his first year as an AMP Steering Committee member. A graduate of Marist College with a master's and Ph.D. from Princeton University, Dr. Ciaccio's field is endocrinology; his specific interest is how hormones regulate reproduction at the level of the central nervous system. He has spent his entire career at CSI, which he joined when it was still Richmond College.

Dr. Ciaccio has dedicated himself to building programs based on educational tenets which fit perfectly with AMP's mission. During the mid 1980's, he became interested in using research as a model for engaging students in science education. He spent two years at Curtiss High School team teaching science classes. Out of his experience in the high school science classroom, to which he brought his grounding in research science, came a grant proposal to train teachers to teach through discovery. His proposal became the first of many grants which led to the establishment of CSI's Discovery Center. The Center is dedicated to training teachers from all areas in hands-on teaching methods and to attracting minority students into science education by exposing them to a teaching model based on the type of exploring which is done in research. Over the past decade, the Center has attracted over \$5 million in funding from NSF, NIH, the U.S. and New York State

(Continued from page 4)

(212) 642-2858. She is in the office on Wednesdays and Thursdays. At other times, a message may be left which should include the student's name, campus, home address, telephone number and e-mail address.

For further information, contact Dean Gail Smith at gsmith@pobox.gsuc.cuny.edu or (212) 642-2848.

City College Students Win AIChE Competition

Five AMP students were part of a high powered team from the City College School of Engineering which took top honors at the national meeting of the American Institute of Chemical Engineers (AIChE) in Miami.

Helawe Betre, Sindy Louis, Pia McWilliams, Miurka Silvertre, and Shiv Singh, and ten other City undergraduates won AIChE's National Design Competition, besting students from the University of California – Davis, the University of Illinois – Urbana, the University of Kentucky, South Dakota School of Mines and Technology, and Washington State University. They had previously topped Cooper Union for the privilege of representing the Eastern Region at the conference. Two of the students, Sindy Louis and Shiv Singh are part of CASI, the

Departments of Education, the Perkins Fund, and other foundations.

Because of his involvement with the Discovery Center, Dr. Ciaccio's experience with science students spans the entire educational spectrum, from elementary school through college. From that vantage point he is especially sensitive to the value of programs such as AMP, which provide underrepresented minority students with the support they need to succeed in SMET disciplines. "Minority students do not have nearly enough role models in science and mathematics classrooms or the scientific community," he says. "Those of us who do not face obstacles often do not realize how important role models are and how much choices in terms of study and career path are influenced by associations with our peer group and the adults we know." "A project like AMP," he continues, "is essential in teaching directly and in changing the context in which the young make choices. We need many more minority people teaching science and doing research, so that the next generation will look upon scientific careers as a natural."

"AMP is part of the larger CSI effort to meet the needs of minority students and to promote inquiry-based learning. It is correlated with other funded programs such as STEP, CSTEP and the Liberty Partnership," Dr. Ciaccio explains. "These programs have an important impact on youngsters, but, to have maximum effect, they must start as early as possible and continue through graduate school, providing support through the entire educational process."

Center for Analysis of Structures and Interfaces at City College. They are both Barry M. Goldwater Scholarship winners.

AMP Participates in The National Minority Research Symposium

In November, the National Minority Research Symposium, held in New York City, presented twenty-one AMP undergraduate and graduate students with a well-attended and distinguished forum for their research in the biomedical sciences.

"It is important for our students to be exposed to the larger scientific community," said AMP Project Administrator Dr. Claude Brathwaite. "At events like this one, they are able to share their research, hone their presentation skills, and learn from peers who are more experienced at communicating their ideas to the public. They can identify summer internship possibilities and gather information about graduate programs. It is also an opportunity for representatives from other institutions and agencies to meet them and to see the quality of the work being done in CUNY's colleges."

The symposium drew students from other funded programs such as MARC and MBRS. CUNY's own Hunter College Center for the Study of Gene Structure and Function was among the

The City College
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Building Y - Room 313A
New York, New York 10031

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exhibitors. It was part of a group of seventy-one leaders in the biomedical sciences, which included the nation's most prestigious research universities and government agencies.

Clubs Bring AMP Students Together at City Tech

Creating a SMET community on CUNY campuses has always been central to AMP, and two clubs at City Tech are furthering that mission. Both are student-run, supported by funds from the Student Government Organization, and meet every two weeks.

The **AMP Club**, which numbers thirty, brings current AMP students together. It is a recruiting tool for the program, with meetings open to any interested City Tech student. Speakers have included an engineer from General Electric who spoke about quality control research in GE products. The group takes field trips such as a recent outing to Brookhaven National Laboratory.

The **AMP Research Club**, with twenty members, provides City Tech's AMP research scholars with a venue where they can discuss their work and dialogue with faculty members about the research taking place in City Tech's labs.

AMP Steering Committee member Dean Sankar Sastri, sees both clubs as tremendous assets to the AMP program. "They promote inquiry-based learning, work-based competency skills, teamwork, and communication skills and provide a venue which is social as well as academic," he says. According to AMP Project Co-Director Dean Louise Squitieri, the AMP Clubs and City Tech's Chemistry Club demonstrate that students are developing ways to enhance their research-oriented education. She finds it very encouraging to see City Tech students take responsibility for enriching their academic experience.

MARK YOUR CALENDAR FOR THE FOLLOWING EVENTS

SCIENCE CONFERENCE, THE CUNY GRADUATE SCHOOL AND UNIVERSITY CENTER, February 19, 1999

For further information contact Dean Gail Smith at gsmith@pobox.gsuc.cuny.edu or (212) 642-2848.

AMP MENTOR RECOGNITION CONFERENCE, CITY COLLEGE OF NEW YORK, April 23, 1999

For further information contact Dr. Claude Brathwaite at ampcc@cunyvm.cuny.edu or (212) 650-8854