



Student Julissa Lora Presented
Testimony to the CUNY Board of Trustees

Dear Board of Trustees:

My name is Julissa Lora. I was born in the Dominican Republic and I am currently living in New York City. I graduated from Bronx Community College (BCC) with an associate degree in earth systems and environmental science. In 2007, I set my heart on getting a college degree and registered at BCC. I said, “If college is where you grow as a person, I should be able to really find what I want to do.” Throughout the fall 2009 semester I took an Environmental Health course and it changed my life! I discovered I had a passion for the Earth and our environment and the science behind it. After putting everything in perspective, I chose the Liberal Arts and Sciences (Earth Systems and Environment Sciences Option) program. As of right now, I plan to complete my bachelor’s degree. I plan to major in environmental science with a minor in sociology, and then go to grad school. Attaining a Ph.D. has always been my ultimate educational goal. I want to be a scientist specializing in climate change, combining my passion for the human environment with the welfare of society.

Under the advisement of one of my earth science professors, Dr. Neal Phillip, in February 2010, I applied to the GeoScience Research at Storm Peak (GRASP) Program. I was one of nine students accepted from all over the country. GRASP is a year-long program that provides field research experience for a diverse group of undergraduate students. It is funded by the National Science Foundation’s Opportunity for Enhancing Diversity in GeoScience Program. For this research program, I traveled to Storm Peak Laboratory in Colorado to measure cloud properties and trace gases in the atmosphere. As part of the program my team and I monitored and observed “Local Pollution at Storm Peak” and presented our findings at Howard University in Washington, D.C., in November 2010. During the summer, I also participated in the Bronx Community College and York College paid internship program in the New York City Department of Environmental Protection. I was assigned to work with the marine science section, assisting professionals with sampling preparation and analyzing various water samples around the five boroughs of NYC.

This summer, I was nominated by the Storm Peak Laboratory director, Dr. Gannet Hallar, to take part in the National Center for Atmospheric Research’s Undergraduate Leadership Workshop of 2011. The workshop took place in Boulder, Colorado, this past June 13 to 17. The five-day program allowed me to get to know other science students and research scientists. There were about 19 other student representatives from the best schools in the world, and I was there very proudly representing Bronx Community College and CUNY. We explored the laboratories, instrumentation, and computing facilities that specialized in weather, climate change, solar dynamics, the Sun-Earth system, and the impacts of severe weather and climate change on societies around the world. Also, I gained valuable information about graduate and postdoctoral studies. But perhaps one of the most important factors of the workshop was the insight into the many ways scientists serve as leaders. During the fall 2011 semester, I would like to give a seminar at both Lehman College (my future college) and Bronx Community College to describe my experiences—and to get other students as interested in atmospheric science research as I am.

Respectfully,
Julissa Lora
BCC Graduate 2011

GEOSPATIAL
NEWSLETTER

If you have any interesting facts and achievements related to geospatial technology or applications of geospatial technology to your specialized study area, please contact us. You may email your stories to Dr. Sunil Bhaskaran (Sunil.Bhaskaran@bcc.cuny.edu) with a copy to Ms. Maribel Donado (Maribel.Donado@bcc.cuny.edu).



2155 University Avenue
Bronx, New York 10453
www.bcc.cuny.edu
718.289.5100

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GEOSPATIAL
NEWSLETTER

THE GEOSPATIAL MOVEMENT AT BCC!

Welcome to the third edition of the *Geospatial Newsletter*! We are delighted to welcome the new president of BCC, Dr. Carole Berotte Joseph. *Geospatial Newsletter* reports on all activities related to geospatial sciences at BCC and each issue covers three to four months of activities (e.g., this issue covers activities from June to August 2011). Under the guidance and constant encouragement of Senior Vice President George Sanchez, since August 2010, the Department of Chemistry and Chemical Technology has taken the lead in bringing geospatial awareness to BCC. This was achieved over a period of time by delivering information sessions, workshops for students and faculty, international speakers programs, international research collaborations, and publications in peer-reviewed journals. All these efforts, since August 2010, have brought the concept and applications of geospatial technology to students and faculty at BCC. Efforts from the past three

to four months have led to a potential MOU that is ready to be signed off between the federally funded NOAA-CREST (\$7.5 Million) and BCC. Under the stewardship of Dr. George Sanchez, Prof. Neal Phillip (chair of the Chemistry Department), and Dr. Sunil Bhaskaran, BCC is now well poised to form a Geospatial Center that will cater to teaching, training and supervised research in geospatial technology. This will pave the way for new career opportunities, internships with federal and private agencies, and advanced research in geospatial technology and allied fields. We are delighted to share the following list of events and most recent developments in geospatial technology at BCC. All newsletters may be accessed at the Chemistry and Chemical Technology website (www.bcc.cuny.edu/chemistry/?page=SpatialTechnology).



Editor:
Dr. Sunil Bhaskaran
Sunil.Bhaskaran@bcc.cuny.edu

Associate Editor:
Prof. Neal Phillip
Neal.Phillip@bcc.cuny.edu

Circulation Manager:
Ms. Maribel Donado
Maribel.Donado@bcc.cuny.edu

1. CUNY Grant Awarded

Professor Neal Phillip (chair of the Chemistry Department) was recently awarded a grant by the CUNY Vice Chancellor’s Office of Research. The grant will facilitate the purchase of a major instrument, a Picarro Greenhouse Gas Monitor. The instrument is capable of measuring three greenhouse gases—carbon dioxide (CO₂), water vapor (H₂O), and methane (CH₄)—at trace levels. It is being proposed to house the greenhouse gas monitoring system in the defunct NYU weather station room that sits on the roof of BCC’s Meister Hall.



Figure 1. Greenhouse Gas Monitor



Figure 2. Defunct NYU Weather Station

2. Global Initiative

Our global initiative is designed to bring BCC achievements (by both faculty and students) to international institutions and audiences through interactive research collaboration or curriculum development, student exchanges, and peer-reviewed publications by faculty.

In April 2011, Dr. George Sanchez, senior vice president at BCC, approved a grant for Dr. Sunil Bhaskaran of the Department of Chemistry and Chemical Technology to carry forward the mission of the global initiative. Since August 2010, Dr. Bhaskaran has been conducting research with institutions in India, which has resulted in the formation of an International Speaker’s program, several peer-reviewed publications, and grant proposal submissions. Since 2010, several efforts were initiated to develop an MOU with international institutions such as Jamia Milia Islamia University (JMIU) in India. In May 2011, the vice chancellor of JMIU, Professor Najib Jung, invited SVP George Sanchez to provide a draft for a potential MOU between BCC and JMIU. This MOU is waiting for approval from the SVP’s office. BCC students will vastly benefit from this MOU since they will have opportunities to work on international research projects involving two great universities. In this context, Dr. Sunil Bhaskaran has been invited to deliver a series of lectures and research collaborations by the following institutes:

- a) The Centre for Studies in Resources Engineering, Indian Institute of Technology, Mumbai (August 8, 2011)
- b) Department of Geography, Jamia Milia Islamia University, New Delhi (August 9, 2011)
- c) School of Environmental Sciences, Jawaharlal Nehru University, New Delhi (August 10, 2011)



Pictured (L-R) are Dr. Sunil Bhaskaran, Professor Neal Phillip, Professor Reza Khanbilvardi, Professor Reid Strieby, and Dr. Shakila Merchant at the NOAA-CREST Office at The City College of New York.

- d) Department of Natural Resources, The Energy and Research Institute (TERI), New Delhi (August 11, 2011)
- e) Department of Civil Engineering, Indian Institute of Science, Bangalore (August 16, 2011)
- f) Department of Geography, Bangalore University (August 18, 2011)

3. Potential Opportunities with Criminal Justice

Dr. Bhaskaran held a meeting with Dr. Michael Roggow (Criminal Justice Program) to discuss potential opportunities for teaching, training, and applying geospatial technology in the Criminal Justice Program.

4. Lectures on Geospatial Applications

Dr. Bhaskaran was invited by the University of Redlands in California to deliver a series of lectures on geospatial applications:

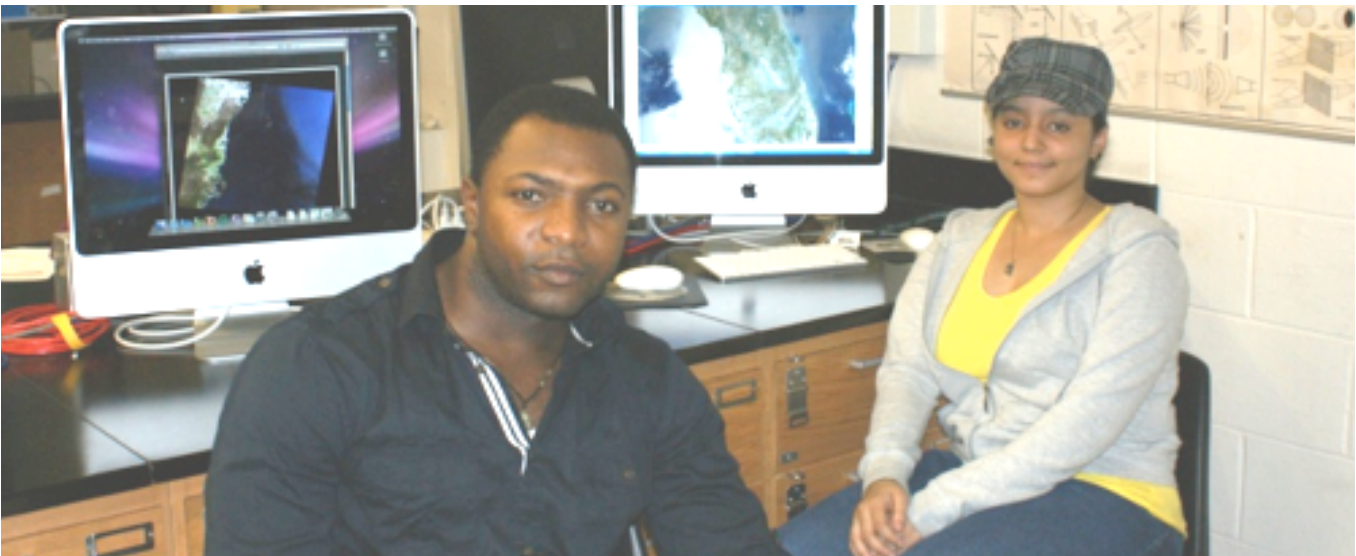
- New Techniques for Mapping and Modeling the Urban Environment: Research presentation to faculty and students on June 14
- Basics of GIS and Remote Sensing: Teaching presentation to faculty and students on June 13

5. Geospatial Technology Presentation

Professor James Freeman (Criminal Justice) organized a presentation on Applications of Geospatial Technology in Criminal Justice at BCC. The workshop was delivered by Ms. Megan, an adjunct faculty member.

6. Discussions with NOAA-CREST

A delegation from BCC—led by Professor Neal Phillip and members of the BCC faculty (Professor Reid Strieby and Dr. Sunil Bhaskaran)—met with the director of NOAA-CREST, Professor Reza Khanbilvardi. The group held



(L-R) Karolyn Jiminez and Kaba Aboubaker at the Geospatial Laboratory at BCC. They are being supervised on a project that uses time-series satellite and geospatial data.

discussions with NOAA-CREST members in June 2011 at The City College of New York. The follow-up meeting was organized to discuss potential components of an MOU between BCC and NOAA-CREST. NOAA-CREST is a federal government funded educational and research consortium in which BCC is a collaborative member. By virtue of this MOU, BCC will receive access to all facilities at NOAA-CREST, including satellite and GIS data. The MOU will provide a tremendous boost to the ongoing efforts at BCC to form a Geospatial Center. A draft version of a potential MOU between BCC and NOAA-CREST was presented to SVP George Sanchez by Professor Neal Phillip and Dr. Sunil Bhaskaran.

7. Workshop on GPS

Professor Neal Phillip delivered a workshop on GPS at York College. This workshop is funded by the PECASE/NSF grant.

8. Student Activities and News

- Julissa Lora presented testimony on her research activities at the CUNY Board of Trustees Public Hearing at Hostos Community College on June 20, 2011. An excerpt from her written testimony is on the following page.
- Two students (Karolyn Jiminez and Kaba Aboubaker) from the Environmental Sciences course (ENV 11) are currently being trained in applications of satellite data for environmental applications. Currently, the students are creating a library of

satellite data. In the second phase the data will be assessed for their quality, and image processing techniques will be used to prepare the data for analysis.

9. Grant Applications Submitted

Dr. Sunil Bhaskaran submitted a grant proposal to the U.S. Army through the Office of Research and Grants: Innovative Techniques for Rapid Mapping from Multi-sensor Data and Preparing Students from Underrepresented Populations in Imaging Spectroscopy (U.S. Army Department of Defense).

10. Recent Publications by Faculty, Students, and Staff

- Sunil Bhaskaran. “Feature Extraction of Urban Objects from Very High Resolution (VHR) Satellite Data over New York City.” International Symposium on Environmental Protection and Planning (ISEPP): Geographic Information Systems (GIS) and Remote Sensing (RS) Applications, June 28-29, 2011, Izmir, Turkey. <http://www.cevkorconferences.com/> (Abstract accepted.)
- Javed Mallick, Atiqur Rahman, Maik Netzbund, and Sunil Bhaskaran. “Thermal Satellite Data for Assessment and Monitoring of Surface Temperature Changes and Its Impact on Micro-climate of Delhi.” Urbanization and Global Environmental Change, UGEC Viewpoints, International Human Dimensions Programme (IHDP) on Global Climate Change, Arizona State University, USA (Accepted.)