



**BCC Geospatial Center of the CUNY Crest Institute
City University of New York
Capability Statement**

Institution: **BGCCCI/City University of New York [Bronx Community College Campus]**

DUNS No: **620128764** Cage Code: **4B1M6** NAICS ID(s): **611310** SIC: **8221**
Federal EIN No: **13-1988190**
Certificates, Registrations, Accreditations: **None**

POC Information: **Dr. Sunil Bhaskaran [Founding Director of BGCCCI & Full Professor]**
Address: 330, Meister Hall, Bronx Community College, 2155, University Avenue
Tel: (646) 592-2979. E-mail: Sunil.Bhaskaran@bcc.cuny.edu
<http://www.bcc.cuny.edu/academics/geospatial-center-of-the-cuny-crest-institute/>
www.geospatialcentercunycrestinstitute.com

OVERVIEW

The BCC Geospatial Center of the CUNY CREST Institute or BGCCCI is a collaborative satellite center created by a Memorandum of Understanding between the CUNY CREST Institute [City College of New York] and Bronx Community College of the City University of New York. The Center is built on a foundation of student centric scholarly activities delivered by an enterprising group of affiliated faculty and staff. Since 2010 and in association with an Industry consortium, activities at the Center have led to geospatial workforce skills and career pathways in geospatial technology. The Center achieves this by offering all year-round training programs for participants and educators from schools and Universities [K-16] across the U.S. Interns and collaborators from local and global institutions conduct cutting-edge research on spatial analyses, satellite image analyses, machine, and deep learning. Dr. Sunil Bhaskaran a Professor at the City University of New York spearheaded the development and growth of geospatial technology that laid the foundation for the launch of the Center. The multi-million-dollar Center has evolved into a major intellectual hub in the region with the help of sustained funding and support by BCC-CUNY, an Industry consortium, the National Science Foundation [NSF], U.S. Department of Transportation [USDOT], the National Aeronautics Space Administration [NASA] and the New York State Department of Labor [NYSDOL].

RESEARCH CAPABILITIES

Image Analyses: *Multi-resolution satellite data image analyses is conducted by using a suite of industry standard software and procedures. The multi-resolution satellite data are acquired from Spaceborne and/or Airborne platforms and are used in developing spatio-temporal solutions.*

Spatial Analyses: *techniques are used in developing applications for a wide range of industry and applications. Real-world solutions are developed for better management of human and natural resources using accurate and curated geographic data.*

Machine/Deep learning: *algorithms are used for extracting spatio-temporal features and detection of changes from time-series of satellite data and deploy end user solutions by using EC2 instances.*

Geospatial technology for education: *Participants from K-16, educators and conduct cutting-edge research with Interns across the U.S. Inquiry-based hands-on learning materials are created by using industry standard software and remotely sensed and GIS databases.*



FACILITIES

Geospatial Computing Center: The BGCCCI has a state-of-the-art geospatial computing center located in the historic Bronx Community College Campus-CUNY in New York. The center has the latest suite of spatial and image analyses software and hardware. Many visiting faculty/researchers and interns from different institutions conduct collaborative research in workspaces at the center. Students from CUNY who are enrolled in Pathways Geospatial Technology courses use the computing center for geospatial analyses and specific projects.

Virtual Process Geospatial Cloud - Amazon Web Services [AWS]: The center has built a unique cloud-based platform for conducting BIG geospatial data analyses and hosting geospatial workshops in the public cloud. It has collaborated with Amazon Web Services [AWS] in designing this unique Virtual Process Cloud [VPC] using Appstream service for conducting research and facilitating delivery of all-year round geospatial workshops.

Archive of Geospatial Datasets: The center has a vast repository of satellite and GIS data that is used by researchers, developing curricula, collaborative projects and conducting cutting-edge research in cross-cutting areas of environmental science, social science, urban planning, and design of decision support systems.

PAST PERFORMANCE

In collaboration with an industry consortium, the Center has trained over 400 participants from schools, colleges, and universities since 2010. It has been awarded grants from an industry consortium, and federal agencies like U.S. Department of Transportation [USDOT], National Science Foundation and National Aeronautics Space Administration [NASA]. The center has conducted several workshops on geospatial analytics and professional development programs for K-20 educators. The center promotes cutting-edge research in industry relevant themes and offers Research Internships under expert mentors for participants from schools and Colleges throughout the country. Affiliated faculty at the center have conducted cutting-edge research on BIG geospatial data analyses using the public cloud and machine / deep learning algorithms. The center has collaborative projects with international institutions and national universities. Affiliated faculty and student interns have published in peer-reviewed journals and proceedings of conferences. Learning materials and technical reports have been published and created over the past eight years in geospatial technology. For more information, please visit the center's website at www.geospatialcentercunycrestinstitute.com