

Maria Panuccio Brown

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Education

Stony Brook University – Advanced Graduate Certificate in Geospatial Science (2015)

Long Island University, Brookville, New York – M.S. Environmental Science (2005)

Queens College, New York - B.S. Geology (1991) & B.A. Biology (1991)

Professional Certifications

GIS Professional Certification (GISP) (2015)

New York State Permanent Teaching Certification (General Science, Earth Science, Biology) (1999)

Professional Wetland Scientist (PWS) (1996)

Work Experience

Stony Brook University: School of Marine & Atmospheric Sciences – Sustainability Studies Program (2011-present): Lecturer

GIS Design & Application GSS 313/314, GSS 513, GEO 513
Independent Research in Geospatial Science

Dowling College (2011-2012) Adjunct Faculty
Science and the Concept of Evolution

Sayville High School (1999 – present) Science Teacher & Club Advisor

Courses:

Science Research
Advanced Placement Environmental Science
Regents Earth Science
Regents Chemistry
Inclusion Earth Science

Inclusion Chemistry
Math, Science & Technology
GIS: Design & Application (GSS 313/314) and Geology 121 (Stony Brook University Accelerated College Education Program).

Clubs:

Science National Honor Society (2018-2019)- High School
Students Working for Enhanced Environmental Protection (1999-present) – High School
Explorer’s Club (2013-present) – Middle School
SOAR (Aeronautical Engineering) (2010) – Elementary School
High School Science Study Abroad Enrichment Program (2005-present) (Costa Rica, Peruvian Amazon, Peruvian Andes, Galapagos Islands, Baja, Mexico).

EEA, *Inc.* -Senior Environmental Scientist/ Restoration Ecologist (PWS), Geospatial Analyst (1997 – 2000).

Stone & Webster Engineering Corporation – Environmental Scientist II/ Restoration Ecologist (PWS), Geospatial Analyst (1992-1997).

TAMS Consultants, Inc. – Field Ecologist/Geologist / Environmental Scientist I (1987-1989).

Publications

Cole, K., et al (2013). A linear relationship between crystal size and fragment binding time observed crystallographically: Implications for fragment library screening using acoustic droplet ejection. *PLOS ONE*.

Bronson, S., Jones, K.W., & Brown, M. (2013). Bringing the tools of big science to bear on local environmental challenges. *International Electronic Journal of Environmental Education* 3 (1), 89-100.

Jones, K.W., Bronson, S. Brink, P., Gordon, C., Moshier-Smith, K. & Brown, M. (2009). Bivalve characterization using synchrotron micro x-ray fluorescence. *Acta Physica Polonica A* 115: 477-481.

Greller, A.M., Panuccio, M.K., and Durando, C.M. (1991). A vascular flora of the forested portion of Cunningham Park, Queens County, New York: Corrections and additions – III. *Bull. Torrey Bot. Club* 118:330-332.

Professional Presentations

Greater Sayville Civic Association (2018) – Spatial Analysis & Water Quality Trends in Green’s Creek: Implications for Improved Land Management.

Plant & Animal Genome Conference (2017) Microbiome Studies in the Sayville High School Research Program: A Primer in Workforce Development.

Long Island GIS Fall Conference (2017) Establishment of a GIS Working Group within the IUCN Bat Specialist Group for the Global Conservation of Bats.

Suffolk County Science Teachers Association Fall Conference (2017) How to Implement Geospatial Technology into Your Classroom: Using ArcGIS Online for Inquiry-Based Investigations.

Long Island GIS Fall Conference (2016) Using ArcGIS Online to Analyze Student-Collected Environmental Data.

Suffolk County Science Teachers Association Fall Conference (2016) How to Implement Geospatial Technology into Your Classroom Using ArcGIS Online for Inquiry-Based Investigations.

ESRI International User Conference (2016) Using ArcGIS Online to Analyze Student-Collected Environmental Data with 5th Graders

ESRI International User Conference (2015) Bringing GIS into the High School Classroom: Lessons Learned with GIS

NSF Teacher Research Experience (2010) – Molecular Ecology of Odonates. Washington DC

Pine Barrens Joint Planning & Policy Commission Pine Barrens Forum (2010 & 2009) – Landscape Genetics of the three-spined Stickleback of the Peconic River, New York.

NSF Noyce Science & Mathematics Symposium (2010) – Dowling College. Conducting Authentic Research with High School Students in Costa Rica: An Enrichment Program.

Brookhaven National Laboratory (2010). National Synchrotron Light Source & Center for Functional Nanotechnology Joint Users Meeting. Using Big Tools to Assess Heavy Metal Uptake in Bivalves with High School Students.

Brookhaven National Laboratory (2010). Co-presented with Bruce Alberts on *Leveraging the National Laboratory to Bring Big Science into the Classroom*.

Science Teachers of New York State Annual Conference Presentations (2000, 2001, 2002, 2003, 2006, 2008, 2009). Various Presentations on integrating bioinformatics, geospatial science, and field methodology into the high school science curriculums (Regents and Advanced Placement Levels).

Water Environment Research Foundation Conference (1997) - New York City. Eelgrass Restoration in the Peconic Estuary.

Long Island Conference on the Environment (1997) - Port Jefferson, New York. New Techniques for Tidal Wetland Restoration: How to Outsmart *Phragmites australis*.

EPA Wetlands & Watersheds (1997) – Atlantic City, New Jersey. Eelgrass Restoration in the Peconic Estuary.

Awards/Honors

- New York State GIS Association – GIS Champion Award (2017).
- Sayville Public Schools Excellence in Teaching Award (2016).
- Sierra Club Long Island – Long Island Environmentalist of the Year Award (2014).
- Coca-Cola Scholars Foundation – Educator of Distinction Award (2014).
- Long Island University – Long Island Secondary School Teacher of the Year Award (2013).
- Science Museum of Long Island – Advocates for Science & Technology Award (2013).
- The Academy of Applied Science – Junior Science & Humanities Symposium Teacher Award (2013).
- South Shore Estuary Reserve - Citizens Advisory Committee Stewardship Award (2011).
- Claes Nobel Educator of Distinction Award – National Society of High School Scholars, (2010).
- Noyce Scholars Teaching Award, NSF (2010).
- Outstanding Teacher Award – Brookhaven National Laboratory; Open Space Stewardship Program, (2010).
- Leadership, Research, Service Award - Phi Delta Kappa Professional Education Association, (2010).
- Central Pine Barrens Joint Planning & Policy Commission – Educational Leadership Award, (2010).
- Stewardship and Action Award – South Shore Estuary Reserve Program, (2008).
- Fran File Educator Award – Great South Bay Audubon Society, (2007 and 2012).
- Service Award – Science Teachers of New York State (STANYS), (2006).
- Environmental Science Teaching Award, Environmental Protection Agency, (2006).
- Dowling College/News 12 Educator of the Month Award, (2006).
- High School Science Teacher of the Year Award; STANYS, Suffolk Section, (2004).
- Terri Peters Mini Grant Award: Forensic Analysis of Ancient Egyptian Artifacts from Archaeological Dig, (2004).
- Who's Who Among American Teachers (2002 – 2018).
- Sayville High School – Teacher Who Made a Difference (2011-2018).

Research Fellowships

Sierra Club Long Island – Molecular Ecology of *Limulus Polyphemus* (2014-2015).

The American Society for Biochemistry and Molecular Biology. Molecular Ecology and Landscape Genetics of the Atlantic Horseshoe Crab (*L. polyphemus*) as a mechanism to enhance inquiry-based STEM education at Sayville High School (2012-2104).

Department of Energy at Brookhaven National Laboratory – Academies Creating Teacher Scientists: Wildlife Genetics (2010 – 2012).

Workshops

Stony Brook University (2017) – Open Street Maps: Mapping Puerto Rico in the Aftermath of Hurricane Maria.

Brookhaven National Laboratory (2017) – Superintendents Conference Day Science Workshop – Introduction to Geospatial Thinking & Implementation of ArcGIS Online Into the K-12 Curriculum.

Stony Brook University (2017) – GIS Day Workshop – Using ArcGIS Online to analyze and Visualize Field Collected Data.

New York State Master Teachers (2017) – Using Geospatial Science to Analyze Microhabitat Changes Over Time in a Salt Marsh.

ArcGIS Online Teacher Training Workshops (2013-present) – Trained over 400 teachers (K-12) on how to implement ArcGIS Online into their classroom and research programs, including Survey 1-2-3 and Story Maps. This has been done in collaboration with the New York State Pine Barrens Commission “Day in the Life of a River” Program and Brookhaven National Laboratory’s “Open Space Stewardship” Program. Two workshops each year before and after field collections are presented to prepare teachers on data collection techniques using Survey 1-2-3 and to prepare teachers to analyze and visualize their collected data spatially using ArcGIS Online.

Amazonia Expeditions (2012, 2013, 2016, 2017). Collection Methods and Population Dynamics of Chiroptera in the Peruvian Amazon .

Brookhaven National Laboratory/Brookhaven Science Associates/Liceo Scientifico, Pisa, Italy (Spring 2009, Fall 2010, Spring 2010). Molecular Ecology of Odonates.

Proyecto Campanario, Costa Rica (2010). Ectoparasite infestation of four species of mustached bats.

Outreach/Community Service

Greater Sayville Civic Association (2018)

West Sayville Civic Association (2002-2010)

Professional Affiliations

Coastal Research & Education Society of Long Island (Vice President since 2007, Geospatial Analyst)

IUCN Red List Bat Specialist Working Group (Geospatial Analyst)

American Museum of Natural History (Volunteer Geospatial Analyst, Member)

New York State GIS Association (Education Committee)
Long Island GIS Association (Member)
Association of American Geographers (Member)
American Society of Naturalist (Member)
Urban and Regional Information Systems Association (Member)
Science Teachers of New York State (Board Member for 19 years, Subject Area Representative
(2000-2009) Awards Dinner Co-Chair (2006-2017), Annual Conference Chair (2010-2012)
Society of Wetland Scientists (Member)
National Association of Biology Teachers (Member)
Geologic Society of America (Member)
New York Botanical Garden (Member)
Great South Bay Audubon Society (Past Conservation Chair, Member)
Long Island Botanical Society (Member)