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Jeannette Arce

- Overview Geologist with formal training in Remote Sensing and GIS, experience in image processing and mapping. Experience as Research Assistant, Educational Program Coordinator and laboratory instructor. My main objective is to obtain a position in a company or agency that provides growth potential and where I can contribute with my experience and knowledge.
- Education M.S. of science in Geology –June 2006 GPA 3.62
University of Puerto Rico at Mayaguez
- Bachelor of Science in Geology - June 2001
University of Puerto Rico at Mayaguez
- Special certificate granted from NASA's PaSCoR Remote Sensing and GIS program (Partnership for Spatial and Computational Research)
Relevant coursework: Photo interpretation, Autocad 2006, GIS, Remote Sensing, Hydrology, Carbonate Geology, Marine Geology and Coastal Geomorphology.
- Experience 2004 –Present - Public Outreach Officer- Educational Program Coordinator at the Puerto Rico Seismic Network, Department of Geology, University of Puerto Rico at Mayagüez.
- Coordination, design and development, of the Puerto Rico Seismic Network educational program.
 - Promotion of seismic awareness through educational activities in public and private schools, public and private agencies and the community.
 - Seminars to teachers about earthquake and tsunami awareness and preparedness.
 - Design of educational material, brochures and educational activities for students.
 - Workshop coordination

2002-2005 –Thesis Research- “Remote Sensing of Benthic Habitats at La Parguera, Southwestern Puerto Rico”

- Comparison of two sensors for the study of benthic habitats in southwestern Puerto Rico; IKONOS and Hyperion.
- Image processing of IKONOS included atmospheric, sun glint, water column corrections, and supervised classifications for the characterization of sea grass, sand and coral.
- Hyperion data analysis included destriping, atmospheric correction (Acorn software), sun glint correction and supervised classifications.
- Field data collection was performed by the establishment of three transects with ten quadrants for each habitat class. The benthic composition from transects were compared with those generated by the image classifications.
- Determination of spectral absorption coefficients of particles, dissolved material, and phytoplankton for water samples.
- Accuracy Assessment

2002 (summer) – National Park Service Intern – Fort Stanwix National Monument, Rome, New York

- Assisted the Park in the development of their GIS Project
 - Mapping archaeological maps
 - Organized and developed a listing of all GIS- related files and data currently held by the park.
 - Obtained existing digital data to develop park priority data sets or themes.
- Assisted in collecting and back up park collections datalogger and hydrothermograph files.
- Assisted Visitor Service staff in celebrating the 225th Anniversary of the Siege of Fort Stanwix by assisting front desk at the visitor contact center and information tent on fort grounds.

2001- September – 2002- May - Department of Interior Intern - U.S. Geological Survey, Denver Spectroscopy Lab., Denver, Colorado
Supervisor: Raymond Kokaly, Geophysicist

- Mapping of minerals and vegetation for geologic, biologic and environmental studies using hyper spectral remote sensing (AVIRIS).
- Application of GIS software to process satellite and aircraft images of the earth.
- Spectral analysis of geologic and biologic samples

2001 (summer) - Geophysical Technician, Temporary Student Position
U.S. Geological Survey, Denver Spectroscopy Lab., Denver, Colorado
Supervisor: Raymond Kokaly, Geophysicist

- Image processing and georeferencing of AVIRIS images using ERDAS imagine software.
- Bacterial characterization at Norris Geyser Basin in Yellowstone National Park, Wyoming.
- Spectral analysis of thermophilic bacteria using AVIRIS data.
- Spectral data collection using field spectrometer (ASD).

2001 – Undergraduate Research – University of Puerto Rico at Mayaguez
Advisor: Dr. Ingrid Klich, Environmental Geologist

- Analysis of sediments and coastal changes in Bioluminescent Bay Puerto Mosquito, Vieques, Puerto Rico.
- Core sampling and granulometric analysis of coastal sediments.
- Photo interpretation and land use map of Puerto mosquito for the year 1936.

2001 – Undergraduate Research – University of Puerto Rico at Mayaguez
Advisor: Linda L. Velez, Civil Engineer

- Land use of National Rainforest El Yunque and the southwest municipalities of Puerto Rico.
- Photo interpretation, digitization and editing of land use quadrangles of the USGS using Arc info.

1999 – Undergraduate Research – University of Puerto Rico at Mayaguez
Advisor: Dr. Alan Smith, Volcanologist.

- Comparison between early ash fall deposits of the Mt. Pelee Volcano on the island of Martinique and Soufriere Hills Volcano in the island of Montserrat.
- Conducted granulometric analyses using the Sedigraph and SEM (Scanning Electron Microscope) data analyses.

Presentations

2005- Presented “Remote sensing of coral reefs southwestern Puerto Rico” at the Eighth International Conference on Remote Sensing for Marine and Coastal Environments, Halifax, Nova Scotia Canada.

2004-Presented “Remote sensing of coral reefs southwestern Puerto Rico” in the ACS Junior Technical Meeting; Interdisciplinary Scientific Meeting, University of Puerto Rico at Humacao Campus.

2004-Presented "Remote sensing of coral reefs southwestern Puerto Rico" at the Center for Subsurface Sensing and Imaging Systems (CenSSIS). CenSSIS National Science Foundation (NSF) Engineering Research Center (ERC) at Northeastern University and Boston University

2002 and 2003-Presented "Classification of Benthic Habitats in Southwestern Puerto Rico Using Hyperspectral Imagery" at the Center for Subsurface Sensing and Imaging Systems (CenSSIS). CenSSIS National Science Foundation (NSF) Engineering Research Center (ERC) at Northeastern University and Boston University.

2003-Presented "MARS: The mysterious red planet" in the Geology Department, University of Puerto Rico at Mayagüez.

2003- Presented "Eolian Depositional Environments" in the Geology Department, University of Puerto Rico at Mayagüez.

2001- Presented "Analysis of Sediments and Coastal Changes in Puerto Mosquito, Vieques, Puerto Rico" in the Geology Department, University of Puerto Rico at Mayagüez.

2001- Presented "Land use classification of the Caribbean National Rain Forest El Yunque and adjacent municipalities" in the ACS Junior Technical Meeting, 21st Interdisciplinary Scientific Meeting, University of Puerto Rico. Abstract p. 21.

2001- Presented "Comparison Between Early ash fall deposits of the Mt. Pelee Volcano on the Island of Martinique and the Soufriere hills Volcano on the Island of Montserrat" in the ACS Junior Technical Meeting, 20th Interdisciplinary Scientific Meeting, University of Puerto Rico. Abstract p. 7.

2000- Presented "Evidence of liquid water on Mars Surface in the Past" in the Geology department, University of Puerto Rico at Mayaguez.

2000- Presented "Space Adaptation Syndrome Experiments in Microgravity conditions" in the Geology department, University of Puerto Rico at Mayaguez.

1999- Presented "Magellan: Image Production and Applications" in the Geology department, University of Puerto Rico at Mayaguez.

Educational Experience

2004-2005- Educational and Public Outreach Program Officer at the Puerto Rico Seismic Network, Geology Department, University of Puerto Rico at Mayagüez.

2005- Exxon Mobil Short Course. Sequence Stratigraphy. Basin analysis.

2004- Course instructor in the Advanced Remote Sensing Summer Course, NOAA Center for Atmospheric Sciences (NCAS), University of Puerto Rico at Mayagüez

2003- Research Cruise, RV Chapman - Marine Sciences Department, University of Puerto Rico at Mayagüez. – study of coral reefs in Saint Thomas.

2002 - 2005- Student Conservation Association (SCA) Alumni Board Member

2000 - 2001- Participant of NASA's PaSCoR Remote Sensing and GIS program (Partnership for Spatial and Computational Research) at University of Puerto Rico, Mayaguez.

1996 – (Summer) - Participant in Student Interdisciplinary Training Program (SIRT) at Argonne National Labs. , Chicago, Illinois.

1992 – Participant in Summer Engineering Program at University of Puerto Rico, Mayaguez.

Volunteer
experience

2002- Cultural Presentations about Puerto Rico
Nederland Junior High School and Nederland High School, Nederland
Colorado.

Organizations

2002 - 2005 - Student Conservation Association Board Member

1998 – 2000 Student Geology Society

1991 – 1994 Sea Explorers of America

Skills

Geospatial Technologies:

- Experience processing hyper spectral and multispectral remote sensing data (AVIRIS, IKONOS, HYPERION) using image-processing programs (Pic Works, ERDAS imagine, ENVI 4.0).
- Experience georeferencing and GIS using ERDAS Imagine and ENVI 3.6.
- Experience collecting field spectra using field spectrometers (ASD, GER 1500 Spectroradiometer, Spectron SE 590)
- Experience in water column and sun glint correction techniques.
- Analysis of vegetation and mineral spectra measured by laboratory, field and remote sensing instruments.
- Photo interpretation.
- Use and management of GPS instruments.

Computer skills:

- Experience with software programs including: Microsoft Office, ENVI 4.0, Excel, PowerPoint, Adobe Photoshop, Canvas, Word, DOS Arc view / Arc edit/ Arc info, PC Arc info 3.4, ArcGIS, Corpscon Program.
- Operating Systems: Windows, Unix.

Geologic Experience:

- Core sampling and conduct granulometric analyses for coastal sediments.
- Digitization, edit, tic transformation, polygon label of land use maps.
- Creation of Geologic maps, -cross sections and description of stratigraphic columns.
- Learned laboratory techniques such as thin section preparation and analysis, X ray diffraction analyses, sample sediment sieving, and petrographic analyses, carbonate petrology analyses.
- Conduct granulometric analysis using the Sedigraph and (SEM) Scanning Electron microscope data analysis.

Educational Skills:

- Experience maintaining effective working relationships with members of the educational community to develop a complete educational program.
- Ability to research, present and develop a variety of educational programs for diverse audiences and different settings.
- Ability to coordinate all aspects of an educational program.

Languages

Read, speak and write Spanish and English.