

Dean Whitman (8/2014)

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Education:

Cornell University, Department of Geological Sciences, Ithaca, NY

Ph.D., Geophysics/Seismology, minor in Theoretical and Applied Mechanics, August 1993

Dissertation: "Lithospheric Structure and Segmentation of the Central Andean Plateau"

University of California, Department of Geology and Geophysics, Berkeley, CA

A.B., Geophysics, December 1984

Work Experience:

2011-present: Undergraduate Program Director, Department of Earth and Environment, FIU

2001-2005: *Graduate Program Director*, Department of Earth Sciences, FIU

1999-2005: *Faculty Associate*, International Hurricane Research Center, FIU

1999-present: *Associate Professor*, Department of Earth and Environment, FIU

1993-1999: *Assistant Professor*, Department of Geology, Florida International University

1987-1993: *Research Assistant*, Department of Geological Sciences, Cornell University,

1990: *Teaching Assistant*, Department of Geological Sciences, Cornell University

1985: *Field Seismologist*, University of California, Santa Cruz, CA

1984-1987: *Staff Geophysicist*, United States Geological Survey, Menlo Park, CA

Scientific Research And Field Projects:

2013- present: Geophysical characterization of aquifer properties in the mangrove lakes region of Everglades National Park.

2009-present: Imaging the freshwater lens on Big Pine Key with electrical methods.

2007-present: Multi-electrode electrical resistivity imaging of aquifer properties and saltwater intrusion in the Biscayne Aquifer.

2006-2010: Applications of thermal remote sensing to image submarine groundwater discharge

2003-2008: Integration of airborne LIDAR data and orthophotography for land cover classification.

1999-2008: Applications of airborne LIDAR scanner data to mitigating hurricane storm surge, to studying beach erosion, and to studying land cover.

1996-1999: Land use change analysis from 1986-1996 in central Florida from multispectral classification of Landsat Thematic Mapper data.

1996-2000: Potential field studies on the Eastern Margin of the Northern Andes.

1994-2001: Application of high resolution topography data, satellite imagery, and shallow subsurface geophysical data for evaluating sinkhole hazard in central Florida.

1988-2000: Investigation of the crustal and lithospheric structure, and regional tectonics of the Central Andes from observations of high frequency seismic wave attenuation. Investigations on the flexural rigidity of the Andean lithosphere from inversion of seismic wave travel time residuals, and modeling of regional gravity data.

1988: Recorded digital micro-earthquake data with the PANDA seismic network and managed field computer system in NW Argentina

1984-1987: Collected and processed seismic refraction data for USGS deep crustal studies program. Modeled seismic refraction and gravity data for crustal structure of central California.

1985: Installed and maintained a temporary micro-earthquake array in southern Mexico. Timed and located underwater explosions offshore.

Proposals Funded

2013, (Co-I), Influence of Eco-hydrological Inflows on Central Florida Bay Coastal Systems, South Florida Water Management District, \$130,930.

2012, (PI), Growing Community Roots for the Geosciences in Miami, Florida, NSF OEDG, \$254,871.

2007 (Co-I) Requisition of instrumentation to build a wireless sensor network test bed to support ground target tracking and distributed mine detection related research and education, \$133,980

2003: (PI) Digital Elevation Modeling, Martin County, Florida, Treasure Coast Regional Planning Council, \$31,600

2002: (Co-I) Manatee County Match for Account 579902500, Manatee Co., FL, Dept of Public Safety, \$133,000

2002: (Co-I) Miami-Dade County Match for Account 579902500, Miami-Dade Co., FL, \$218,000

- 2001: (Co-I) Broward County Match for Account 579902500, Broward Co. Dept of Emergency Management, \$90,859
- 2001: (Co-I) Palm Beach County Match for Account 579902500, Palm Beach Co. Dept of Emergency Management, \$160,500
- 2001: (Co-I) Using Geographic Information Systems to Assess Fracture Zone Development at Multiple Scales, U.S. Army Research Office, \$254,269
- 1999: (PI) Airborne Laser Topographic Mapping of Broward County, Florida, Broward County Commission, Emergency Management Division, \$40,000
- 1998: (PI) FIU Center of Excellence for Research and Instruction in Remote Sensing Technology, NASA Centers of Excellence in Applications of Remote Sensing to Regional and Global Integrated Environmental Assessments, \$90,000
- 1995 (PI): Application of High-Resolution Digital Topographic Data to the Detection of Incipient Sinkhole Formation in Central Florida, NASA Topography and Surface Change Program, \$212,655.
- 1993: High resolution graphic output devices for the FIU geology department, A proposal to the FIU Faculty Computer Allocation Committee, 1993-94 academic year, \$5000.

Honors and Awards

- 2000: ESRI Award for Best Scientific Paper in Geographic Information Systems for paper entitled “Spatial Interrelationships between Lake Elevation, Water Tables, and Sinkhole Occurrence in Central Florida: a GIS Approach”, PE&RS, Oct 1999, p 1169. Presented at the American Society of Photogrammetry and Remote Sensing Annual Meeting, Washington, DC, May, 2000.

Refereed Publications:

- Lagomasino, D., R. Price, **D. Whitman**, A. M. Melesse, and S. Oberbauer, Spatial and temporal variability in spectral-based surface energy and evapotranspiration measured from Landsat 5TM across two mangrove ecotones, *Agricultural and Forest Meteorology*, (submitted, April, 2014)
- Sandoval, E, R. M. Price, **D. Whitman**, A. M. Melesse, Long-Term (11 Years) Study of Water Balance, Flushing Times and Water Chemistry of a Coastal Wetland Undergoing Restoration, Everglades, Florida, USA, *Hydrological Processes*, (submitted, Nov 2013).
- Lagomasino, D., R. Price, **D. Whitman**, P. K. Campbell, A. Melesse, Estimating major ion and nutrient concentrations in mangrove estuaries in Everglades National Park using leaf and satellite reflectance, *Remote Sensing of Environment* (submitted, October, 2013)
- Yeboah-Forson, A., X. Comas, **D. Whitman**, Integration of electrical resistivity imaging and ground penetrating radar to investigate solution features in the Biscayne Aquifer, *Journal of Hydrology*, 515, 129-138, 2014

- Yeboah-Forson, A., and **D. Whitman**, Electrical Resistivity Characterization of Anisotropy in the Biscayne Aquifer, *Groundwater*, doi: 10.1111/gwat.12107, 2013
- Robertson V., W., K. Zhang, C. W. Finkl, **D. Whitman**, Hydrodynamic and Geologic Influence of Event-Dependent Depth of Closure along the South Florida Atlantic Coast, *Marine Geology*, 252, 156-165 2008.
- C.D. Sinigalliano, M.L. Gidley, T. Shibata, **D. Whitman**, T.H. Dixon, E. Laws, A. Hou, D. Bachoon, L. Brand, L. Amaral-Zettler, R. J. Gast, G. F. Steward, O. D. Nigro, R. Fujioka, W.Q. Betancourt, G. Vithanage, J. Mathews, L.E. Fleming, H. M. Solo-Gabriele, Impacts of Hurricanes Katrina and Rita on the Microbial Landscape of the New Orleans Area, *Proceedings of the National Academy of Sciences*, 10.1073/pnas.0610552104, 2007
- Robertson, W., K. Zhang, **D. Whitman**, Depth of closure derived from airborne laser bathymetry. In: *Coastal Sediments '07, New Orleans, LA, 1877-1885*, American Society of Civil Engineers, 2007.
- Robertson V, W., K. Zhang, **D. Whitman**, Hurricane-Induced Beach Change Derived from Airborne Laser Measurements near Panama City, Florida, *Marine Geology*, V. 237, 191-205, 2007.
- Dixon, T. H., F. Amelung, A. Ferretti, F. Novali, F. Rocca, R. Dokka, G. Sella, S. Wan Kim, S. Wdowinski, **D. Whitman**, New Orleans Subsidence and Relation to Flooding after Hurricane Katrina, as Measured by Space Geodesy, *Nature*, V 441-1, 587, 2006.
- Robertson V, W., K. Zhang, **D. Whitman**, S. P. Leatherman, Shoreline and Beach Volume Change Before and After the 2004 Hurricane Season, Palm Beach County, Florida, *Shore & Beach*, Vol. 73, No. 2 & 3, 79-84, 2005
- Leatherman, S. P., **D. Whitman**, K. Zhang, Airborne Laser Terrain Mapping and Light Detection and Ranging, in, M. Schwartz, (ed.), *Encyclopedia of Coastal Science*, Springer, p. 21-24, 2005.
- Zhang, K, and **D. Whitman**, Comparison of Three Algorithms for Filtering Airborne LIDAR data, *Photographic Engineering and Remote Sensing*, V71-3, 313-324, 2005
- Zhang K., **D. Whitman**, S.P. Leatherman, and W. Robertson,. Quantification of the changes caused by Hurricane Floyd along Florida's Atlantic Coast using airborne LIDAR survey. *Journal of Coastal Research*, 21, 120-131, 2005.
- Gross, M.R., Ghosh, K., Manda, A.K. and **Whitman, D.**, A GIS-based spatial analysis of caves and solution cavities with applications to predicting cave occurrence in limestone terrain, in Caldwell, D.R., Ehlen, J., and Harmon R.S. (eds.), *Studies in Military Geography and Geology*, Dordrecht, The Netherlands: Kluwer Academic Publishers, p 287-306 2004.
- Robertson, W. V, **D. Whitman**, K. Zhang, and S.P. Leatherman, Mapping Shoreline Position Using Airborne Laser Altimetry, *Journal of Coastal Research*, 20, 884-892, 2004
- Whitman, D.**, K. Zhang, S. Leatherman, and W. Robertson, Airborne Laser Topographic Mapping: Application to Hurricane Storm Surge Hazards, in: *Earth Sciences in the Cities*, G. Heiken, R. Fakundiny, and J. Sutter, editors, American Geophysical Union, 363-378, 2003.

- Zhang, K., S-C Chen, **D. Whitman**, M-L Shyu, J. Yan, C. Zhang, A Progressive Morphological Filter for Removing Non-ground Measurements from Airborne LIDAR Data, *IEEE Transactions on Geoscience and Remote Sensing*, V 41, 872-882, 2003.
- Ojeda, G. Y., and **Whitman, D.**, Effect of windowing on lithosphere elastic thickness estimates obtained via the coherence method: Results from northern South America, *J. Geophys. Res.*, 107, doi:10.1029/2000JB000114, 2002.
- Whitman, D.**, K. Zhang, S.P Leatherman, W. Robertson, T. Bernier, C. Anderson, Application of Airborne LIDAR Topographic Mapping to Coastal Flooding and Erosion Hazards, Southeast Florida, *Proceedings of the Seventh Annual International Conference on Remote Sensing for Marine and Coastal Environments*, Miami, FL, 20-22 May, 2002, 8 pages.
- Whitman, D.**, T.L. Gubbels, and L. Powell, Spatial interrelationships between lake elevations, water tables, and sinkhole occurrence in Central Florida: A GIS Approach, *Photogrammetric Engineering and Remote Sensing*, V 65, pp. 1169-1178, 1999.
- Whitman, D.**, Isostatic Residual Gravity Anomaly in the Central Andes: 12° to 29° S: A Guide to Interpreting Crustal Structure and Deeper Lithospheric Processes, *International Geology Review*, 41, 457-475, 1999.
- Whitman, D.**, T.L. Gubbels, Applications of GIS Technology to the triggering phenomena of sinkholes in Central Florida, in: Beck, B. F., Pettit, A. J., and Herring, J. G., eds., *Hydrogeology and Engineering Geology of Sinkholes and Karst--1999*, 67-73, 1999.
- Whitman, D.**, B. L. Isacks, and S. Mahlburg Kay, Lithospheric structure and along-strike segmentation of the Central Andean Plateau: seismic Q, magmatism, flexure, topography, and tectonics, *Tectonophysics*, 259 (1-3), 29-40, 1996.
- Whitman, D.**, Moho geometry beneath the eastern margin of the Andes, northwest Argentina, and its implications to the effective elastic thickness of the Andean foreland, *J. Geophys. Res.*, 99, 15277-15290, 1994.
- Whitman, D.**, B. L. Isacks, and S. Mahlburg Kay, Lithospheric Structure and Along-Strike Segmentation of the Central Andean Plateau, 17 -29° S, in: *Andean Geodynamics*, 2nd International Symposium; extended abstracts, ORSTOM, Paris, p. 41-44, 1993.
- Whitman, D.**, B. L. Isacks, J-L Chatelain, J-M. Chiu, and A. Perez, Attenuation of High Frequency Seismic Waves beneath the Central Andean Plateau, *J. Geophys. Res.*, 97, 19929 - 19947, 1992.
- Cahill, T., B. L. Isacks, **D. Whitman**, J-L Chatelain, A. Perez, and J.M. Chiu, Seismicity and Tectonics in Jujuy Province, Northwest Argentina, *Tectonics*, 11, 944 - 959, 1992.
- Catchings, Rufus D.; Jarchow, Craig; Holbrook, W. Steven; Benz, Harley; Hawman, Robert B.; Thompson, George A.; Mooney, Walter D.; Smith, Robert; Priestley, Keith F.; Cipar, John; Borchardt, Roger D.; **Whitman**, Dean; Smithson, Scott; Walker, David; Johnson, Roy; Karl, John; Jefferson, Tom; Clement, Bill; Dietel, Christopher; Wu, Francis; Harder, Steven, The 1986

PASSCAL Basin and Range lithospheric seismic experiment, Eos, Transactions, American Geophysical Union, v. 69, n. 20, p. 593- 596, 1988

Technical Reports

Whitman, D., Windstorm Simulation and Modeling Project: Airborne LIDAR Data Acquisition for Participating South Florida Counties, Final Technical Report prepared for Florida Dept of Community Affairs and Federal Emergency Management Agency, FIU International Hurricane Center, Miami, FL, 28 pages, 2004

Whitman, D., Digital Elevation Modeling and Storm Surge Analysis, Martin County, Florida, Final Technical Report, Prepared for Treasure Coast Regional Planning Council, FIU International Hurricane Center, Miami, FL, 26 pages, 2004

Whitman, D., C. Anderson, and W. Robertson, Airborne LIDAR Data and Digital Elevation Models in Broward County, FL, Data Quality Report and Description of Deliverable Datasets, Technical Report, FIU International Hurricane Center, Miami, FL, 13 pages, 2002

Whitman, D., 1999-2000 ALTM Data Collected in Eastern Broward County, Florida, Final Technical Report, International Hurricane Center, Miami, FL, 1999.

Whitman, D., and R. D. Catchings, Refraction Data Obtained during the 1986 PASSCAL Basin and Range Lithospheric Seismic Experiment, Northern Nevada, *U.S. Geol. Survey Open-File report 87-415*, 72 pages, 1987.

Published Abstracts of Presentations at Professional Meetings:

Yeboah-Forson, A; **Whitman, D**, GEOPHYSICAL FLOW ANALYSIS OF ANISOTROPY: A CASE STUDY OF SNAPPER CREEK MUNICIPAL WELL FIELD, MIAMI, FL, SAGEEP 2014 Meeting, March 16-20, 2014, Boston, MA.

Yeboah-Forson, A; **Whitman, D** , GEOPHYSICAL FLOW ANALYSIS OF ANISOTROPY IN A KARST SYSTEM: A CASE STUDY OF SNAPPER CREEK MUNICIPAL WELL FIELD, MIAMI, FL, South Central Section GSA 48th Annual Meeting, March 17-18, 2014, Fayetteville, AR

Dean Whitman; Rosemary Hickey-Vargas; Jennifer Gebelein ; Grenville Draper; Rodolfo R, Growing Community Roots for the Geosciences in Miami, Florida, A Program Aimed at High School and Middle School Students to Increase Awareness of Career and Educational Opportunities in the Geosciences, AGU Fall Meeting, Dec 8-13, 2013, San Francisco CA.

WHITMAN, Dean, HICKEY-VARGAS, Rosemary, DRAPER, Grenville, GEBELEIN, Jennifer, and REGO, Rodolfo, [GROWING ROOTS FOR THE GEOSCIENCES IN MIAMI, FLORIDA, A PROGRAM AIMED AT HIGH SCHOOL AND MIDDLE SCHOOL STUDENTS TO INCREASE AWARENESS OF CAREER AND EDUCATIONAL OPPORTUNITIES IN THE GEOSCIENCES](#), GSA Annual Meeting, Oct 27-30, 2013, Denver Co.

Yeboah-Forson, A; **Whitman, D** , Determination of anisotropic karst features in the Biscayne Aquifer using multi electrical resistivity imaging techniques, AGU Fall Meeting, San Francisco, CA, 2012

- YEBOAH-FORSON, A and **WHITMAN, D** , [GEOPHYSICAL MEASUREMENTS OF ELECTRICAL ANISOTROPY AND SECONDARY POROSITY IN THE BISCAYNE AQUIFER USING AZIMUTHAL RESISTIVITY METHODS](#), GSA Abstracts with Programs Vol. 44, No. 7, 2012,
- TUCKER, N M., and **WHITMAN, D**, [UNDERSTANDING TIDAL EFFECTS ON THE BIG PINE KEY FRESHWATER LENS WITH TIME-LAPSE ERT](#), GSA Abstracts with Programs Vol. 44, No. 7, 2012,
- SANDOVAL, E. , PRICE, R. M., **WHITMAN, D.**, and MELESSE, A., [TEN YEAR STUDY ON RESTORATION PROJECTS AND THEIR EFFECTS ON FLUSHING TIMES, WATER , QUALITY, WATER CHEMISTRY, AND WATER SOURCES IN THE COASTAL EVERGLADES:](#) , GSA Abstracts with Programs Vol. 44, No. 7, 2012,
- Lagomasino. D.,Price, R.M, Campbell, P, and Whitman, D, Seasonal Water Chemistry and Spectral Reflectance in Coastal Mangroves, , 9th INTECOL International Wetlands Conference taking place in Orlando, FL from June 3-8, 2012.
- Sandoval E., Price R. M., Whitman D., and, Melesse, A. M., Water Residence Time and Water Quality in Taylor Slough – Everglades National Park, Fl, USA, 9th INTECOL International Wetlands Conference taking place in Orlando, FL from June 3-8, 2012.
- C. D. Sinigalliano, M. L. Gidley, A. Abdelzaher, T. Shibata, **D. Whitman**, T. H. Dixon, E. Laws, A. Hou, D. Bachoon, L. Brand, L. Amaral-Zettler, R. J. Gast, G. F. Steward, O. D. Nigro, R. Fujioka, L. E. Fleming, and H. M. Solo-Gabriele, Microbial Measurements in Water and Sediments from the New Orleans Area Shortly after Hurricane Katrina, A Reflection 5 Years Later, "Returning to Katrina: Bringing Hurricane Katrina Research Back to the Community" Conference, June 4-5 at the University of Southern Mississippi Gulf Coast, Long Beach MS, June 5, 2010
- Yeboah-Forson, A., and **D. Whitman**, Investigation of Electrical Anisotropy in the Biscayne Aquifer Using a Square Array With a Multi-electrode Resistivity Imaging System, AGU Joint Assembly, Toronto, Canada, May, 2009.
- Whitman D.**, H. L. Casanova, J. R. Proni, Spatial and Temporal Variations in Sea Surface Temperature due to Submarine Groundwater Discharge From Ricisak Spring, Biscayne Bay, Florida, AGU Joint Assembly, Ft. Lauderdale, FL, May, 2008.
- Stalker, J. C., **D. Whitman**, and R. M. Price, Imaging the Stratification and Tidal Dynamics of a Saltwater-Freshwater Interface Using Continuous Shallow Electrical Resistivity Techniques in the Karst Coastal Biscayne Aquifer, South Florida, AGU Joint Assembly, Ft. Lauderdale, FL, May, 2008.
- Robertson V, W., K. Zhang, C. Finkl, and **D. Whitman**, Determination of Event-Dependent Depth of Closure for the South Florida Atlantic Coast Using Airborne Laser Bathymetry, AGU Fall Meeting, San Francisco, CA, December, 2007
- Robertson V, W., K. Zhang, **D. Whitman**, S.P. Leatherman, Beach Recovery Rates Derived from Airborne LIDAR Following Hurricane Ivan, AGU Fall Meeting, San Francisco, CA, December 2005.

- Hickey-Vargas, R., G. Draper, W. Anderson, B. Clement, L. Collins, M. Gross, A. Macfarlane, R. Price, and D. Whitman, GeoSCOPE: A Project to Engage Undergraduates in the Geosciences, *GSA Abstracts with Programs*, Vol. 38, No. 7, 2006
- Hickey-Vargas, R., G. Draper, W. Anderson, B. Clement, L. Collins, M. Gross, A. Macfarlane, R. Price, **D. Whitman**, GeoSCOPE: A Program to Engage Science Undergraduates in Geoscience Research, AGU Fall Meeting, San Francisco, CA, December, 2005
- Pincus, J., R. S. Carr, **D. Whitman**, Imaging Sub-surface Features of the Miami Circle with Ground Penetrating Radar, Archaeological Sciences of the Americas, The Inaugural Symposium, Sept. 22nd - 25th, 2004, Tucson, Arizona
- Robertson, W. V, **D. Whitman**, K. Zhang, and S. Leatherman, Comparison of Aerial Photographic Wet dry Line Extraction with Projection of Water Levels onto LIDAR Data, Seventh International Conference on Remote Sensing for Marine and Coastal Environments, Miami, FL, May 20-22, 2002
- Zhang, K., and **D. Whitman**, Derivation of Terrain Models in Coastal Areas Using Airborne LIDAR Data, Seventh International Conference on Remote Sensing for Marine and Coastal Environments, Miami, FL, May 20-22, 2002
- Whitman, D.**, K. Zhang, W. Robertson V., S. Leatherman, and Z. Cui, Processing and Analysis Techniques for Topographic Lidar on Beaches, Proceedings of the 2nd Biennial Coastal Geotools Conference, Charleston, SC, 2001.
- Zhang, K., **D. Whitman**, S. P. Leatherman, S. P. Huang, W. Robertson V, R. Shrestha; W. Carter, Airborne LIDAR Applications to Quantification of Coastal Morphology, Carbonate Beaches 2000 conference, Key Largo, FL, 2000.
- Whitman, D.**, K Zhang, W V Robertson, S P Leatherman, Applications of Airborne Laser Topographic Mapping to Hurricane Storm Surge Flooding, Broward County, Florida, (abstract), AGU Fall Meeting, San Francisco, CA, December, 2000
- Montane, J. M., **D Whitman**, LIDAR Derived Micro-topography as an Indicator of Subsurface Karst Structures: An Example from Central Florida (abstract), AGU Fall Meeting, San Francisco, CA, December, 2000, f323
- G Y Ojeda, G Draper, **D Whitman**, A Zone of Lithosphere Weakness Beneath the Northern Andes Revealed by Foreland Basin Geometry, Topography and Gravity Anomalies (abstract), AGU Fall Meeting, San Francisco, CA, December, 2000 F 1218
- Whitman, D.**, Zhang, Leatherman, S., Robertson, W., Baig, S., An Airborne Laser Topographic Mapping Study of Eastern Broward County, Florida, with Applications to Hurricane Storm Surge Hazard, (abstract), AGU Spring Meeting, Washington, DC., May, 2000.
- Zhang, K., **Whitman, D.**, Robertson, W., Leatherman, S, Shrestha, R., and Carter, W., Airborne Laser Mapping of Hurricane Floyd-Induced Beach Erosion at Vero Beach, Florida, , (abstract), AGU Spring Meeting, Washington, DC., May, 2000.

Gross, M.R., Finn, M.D., **Whitman, D.**, and Ojeda, G.Y., 2000, Fracture density modeling using GIS: implications for the development of throughgoing fracture zones and subsurface fluid flow: American Association of Petroleum Geologists Annual Convention, (abstract), v. 9, p. A60.

G Y Ojeda, **D Whitman**, The elastic thickness of the lithosphere beneath northern South America (abstract), AGU Fall 1999 meeting, *Eos, Transactions, American Geophysical Union*, vol.80, no.46, Suppl., pp.969, 16 Nov 1999

Whitman, D., and T. L. Gubbels, Applications of GIS Technology to the Triggering Phenomena of Sinkholes in Central Florida, to be presented at the 7th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst, Harrisburg Pennsylvania, April, 1999.

Whitman, D., Application of High Resolution Digital Topography to Sinkhole Hazard in Central Florida, (abstract), presented at the 1st Annual NASA Partners in Education and Research Conference, October 6-8, 1998, Cocoa Beach, FL.

Whitman, D., T. L. Gubbels, and L. A. Powell, Spatial Interrelationships between Lake Elevations, Water Tables and Sinkhole Occurrence in Central Florida: a GIS Approach, (abstract), Geological Society of America, Fall 1997 meeting, Salt Lake City, Utah.

Whitman, D., and T.L. Gubbels, A High-Resolution Study of Karst Topography in Central Florida with Applications to Sinkhole Hazard, (**Invited abstract**), 61st Florida Academy of Sciences Annual Meeting, Punta Gorda, FL, March 1997.

Whitman, D. and T. L. Gubbels, Application of High-resolution Digital Topographic Data to the Detection of Incipient Sinkhole Formation in Central Florida, (abstract) *Eos Trans AGU, 1996 AGU Spring Meeting, supplement*, pg. S263, 1996

Whitman, D., Lithospheric Scale Structure of the Central Andean Plateau: Along-strike Variations in Lithospheric Thickness, Isostatic Compensation, Flexural Rigidity, and Rheology, (**Invited abstract**), *Eos Trans AGU, 1995 AGU Fall Meeting Suppl.*, p. 375, 1995.

Whitman, D., Lithospheric Controls on the Isostatic Support, Tectonic Style, and Timing of Deformation in the Central Andean Plateau Region, (**Invited abstract**), *Eos Trans AGU, 1995 AGU Spring Meeting, supplement*, pg. S271, 1995

Whitman, D., T. L. Gubbels, and B. L. Isacks, The Isostatic Residual Gravity Anomaly of the Central Andean Plateau region, 12° to 26° S: Its Relation to Subduction Tectonics on both Sides of the Andes, (abstract), *Eos Trans AGU, 1994 AGU Spring Meeting, supplement*, pg. 228, 1994

Whitman, D., and B. L. Isacks, Lithospheric Structure and Along Strike Segmentation of the Central Andean Plateau, (abstract.), *Eos Trans AGU, 74*, p. 302, 1993.

Whitman, D., T Cahill, B Isacks, J-L Chatelain, A Perez, J-M Chiu, High Frequency Wave Propagation within the Subducted Nazca Plate beneath Western South America, (abstract.), *Eos Trans AGU, 71*, p 1462, 1990

Pujol, J.; Chiu, J. M.; Bataille, K.; Smalley, R.; Chen, Q.; Bollwerk, J.; Isacks, B. L.; Cahill, T.;

- Whitman, D.**; Regnier, M.; Chatelain, J. L.; Bondoux, F.; Puebla, N.; Coira, B., 3-D velocity structure of a reactivated Cretaceous paleorift in the Andean Foreland in northern Argentina, (abstract), AGU 1990 fall meeting, *Eos, Transactions, American Geophysical Union*, v. 71, p. 1606, 1990.
- Regnier, M.; Chatelain, J. L.; Bondoux, F.; Chiu, J. M.; Smalley, R., Jr.; Bataille, K.; Vlasity, D.; Pujol, J.; Johnston, Arch C.; Bollwerk, J.; Steiner, G.; Cahill, Thomas; **Whitman, D.**; Isacks, B. L.; Puebla, N.; Castano, J. C., Moho depth variation in the Andean foreland; results from the PANDA experiment in San Juan, Argentina, (abstract), AGU 1989 fall meeting late abstracts, *Eos, Transactions, American Geophysical Union*, v. 71, n. 6, p. 258, 1990.
- Whitman, D.**, T. Cahill, B. Isacks, J-L Chatelain, A. Perez, J-M Chiu, Crustal Structure along the Eastern Edge of the Altiplano-Puna Plateau, NW Argentina: A Synthesis of Seismic, Gravity and Topographic Data, (abstract), AGU 1989 fall meeting, *Eos Trans. AGU*, 70, p 1361, 1989.
- Whitman, D.**, T. Cahill, B. Isacks, J-L Chatelain, F. Bondoux, M Regnier, A. Perez, B Coira, J-M Chiu, J. Bollwerk, R. Smalley, K Bataille, A. Jonston, G. Steiner, J Pujol, N. Puebla, Attenuation of High Frequency S Waves beneath the Puna Plateau of South America; Implications for Uplift of the Central Andean Plateau, (abstract), AGU 1989 spring meeting, *Eos Trans AGU*, 70, p 402, 1989
- Cahill, T., **D. Whitman**, B. Isacks, J-L Chatelain, F. Bondoux, M Regnier, A. Perez, B Coira, J-M Chiu, J. Bollwerk, R. Smalley, K Bataille, A. Jonston, G. Steiner, J Pujol, N. Puebla, Crustal Seismicity in a Region of Active Thin-skinned Deformation; Results from the PANDA Network in Jujuy Province, NW Argentina, (abstract.), *Eos Trans AGU*, 70, p 402, 1989
- Smalley, R., Jr.; Chiu, J. M.; Pujol, J.; Johnston, A. C.; Steiner, G.; Vlasity, D.; Bollwerk, J.; Vlasity, J.; Regnier, M.; Chatelain, J. L.; Boudoux, F.; Cahill, T.; **Whitman, D.**; Isacks, B. L.; Puebla, N.; Castano, J. C., Seismotectonics of the Andean Foreland in San Juan, Argentina, 1st congress of the Brazilian Geophysical Society, *Revista Brasileira de Geofisica*, v. 7, n. 1, p. 53, 1989.
- Smalley, R., Jr.; Chiu, J. M.; Pujol, J.; Johnston, Arch C.; Steiner, G. C.; Bollwerk, J.; Cahill, Thomas; **Whitman, D.**; Regnier, M.; Chatelain, J. L.; Bondoux, F.; Castano, J. C.; Puebla, N., Automatic determination of hypocenters; results from the PANDA digital network deployment in San Juan, Argentina, (abstract), 61st annual meeting, Seismological Society of America, Eastern Section, *Seismological Research Letters*, v. 60, n. 4, p. 145, 1989
- Chiu, J. M.; Smalley, R., Jr.; Pujol, J.; Johnston, A. C.; Bollwerk, J.; Steiner, G.; Bataille, K.; Vlasity, D.; Isacks, B. L.; Cahill, T.; **Whitman, D.**; Regnier, M.; Chatelain, J. L.; Boudoux, F.; Puebla, N.; Castano, J. C.; Perez, A.; Coira, Beatriz; Viramonte, J. G., Seismic studies of the Central Andes over steeply and subhorizontally subducting segments of the Nazca Plate using the PANDA array, 1st congress of the Brazilian Geophysical Society, *Revista Brasileira de Geofisica*, v. 7, n. 1, p. 53, 1989.
- Regnier, M.; Smalley, R., Jr.; Chiu, J. M.; Vlasity, D.; Pujol, J.; Johnston, A. C.; Steiner, G. C.; Bollwerk, J.; Vlasity, J.; Isacks, Bryan L.; Cahill, T.; **Whitman, D.**; Chatelain, J. L.; Bondoux, F.; Castano, J. C.; Puebla, N., Analysis of an M (sub b) 5.3 earthquake and its aftershock, sequence in the thick-skinned Sierras Pampeanas of the Andean foreland (abstract), AGU 1988 fall meeting, *Eos, Transactions, American Geophysical Union*, v. 69, n. 44, p. 1316, 1988

Smalley, R., Jr.; Vlasity, D.; Chiu, J. M.; Pujol, J.; Johnston, A. C.; Steiner, G. C.; Bollwerk, J.; Vlasity, J.; Isacks, Bryan L.; Cahill, T.; **Whitman, D.**; Regnier, M.; Chatelain, J. L.; Bondoux, F.; Castano, J. C.; Puebla, N., Seismic evidence for active basement deformation beneath the thin-skinned Precordillera fold-thrust belt in the Andean foreland (abstract), AGU 1988 fall meeting, *Eos, Transactions, American Geophysical Union*, v. 69, n. 44, p. 1316, 1988.

Catchings, R.D., **D. Whitman**, H. Benz, and PASSCAL Basin and Range Seismic Imaging Experiment Participants, Preliminary Analysis of the PASSCAL Basin and Range Lithospheric Seismic Imaging Experiment: Refraction Data, (abstract), *Eos Trans. AGU*, 67, p 1101, 1986.

Whitman, D., A.W. Walter, and W.D. Mooney, Crustal Structure of the Great Valley, California: Cross Profile, (abstract), *Eos Trans. AGU.*, 66, p 973, 1985.

Invited Seminars, Workshops and Short Courses Taught

Geoelectric Characterization of Horizontal Anisotropy in the Biscayne Aquifer, Fifth CNR-Princeton Workshop "New Frontiers in Hydrology" Jan 9-11, 2012, FIU

Geoelectric Studies of Salt Water Intrusion and Azimuthal Anisotropy in the Biscayne Aquifer, RSMAS, University of Miami, Geotopics, March 28, 2011

The March 11, 2011 Tohoku Japan Earthquake, for *Japan in Crisis: An FIU Teach*, March 23, 2011

2010, Stats on a Map, Applications of Spatial Analysis in GIS, Conference in Statistical Methods, Department of Mathematics and Statistics, FIU, April 9th, 2010

2010, High Resolution Digital Topography and Flood Hazard, Conference on Disaster Risk Reduction, Remote Sensing and GIS in the Latin American and Caribbean (LAC) Region, LACC, FIU, Jan 13-15, 2010

2007, Integration of the SLOSH Model with High Resolution Digital Elevation Models in a GIS, 21st Annual Governor's Hurricane Conference, Fort Lauderdale, FL, May 14th, 2007.

2007, Imaging the Urban Geomorphology of SE Florida from Airborne Laser Topographic Mapping, FIU Department of Earth Sciences Weekly Seminar, January, 12, 2007.

2006, Microtopography in the Land That Tectonics Forgot: Imaging the Quaternary Carbonate Geomorphology of SE Florida with Airborne Laser Mapping, Symposium for Bryan Isacks, Cornell University, Ithaca, NY, October 9th, 2006

2006, Laser Terrain Mapping: a Tutorial, CSTARS Height workshop, RSMAS, Miami, FL, October 24th, 2006

2006, Applications of LIDAR data to flood mapping and geomorphology, SE Florida and New Orleans, LA, CSTARS Height workshop, RSMAS, Miami, FL, October 24th, 2006

2006, Urban Geomorphology of Southeast Florida, from Remotely Sensed Topography, CSTARS Weekly Seminar, RSMAS, Miami, FL, April 28, 2006

2005, Flood Mapping with High Resolution Digital Elevation Models, South Florida, GIS Expo, West Palm Beach, FL, October 7, 2005

2004, Combination of Storm Surge Models and Digital Elevation Models in a GIS, IHRC Windstorm Modeling and Training Workshop, FIU, July 2004

2004, Terrain Modeling for Storm Surge Prediction Using Light Detection and Modeling (LIDAR), 10th Annual South Florida Hurricane Conference, Ft. Lauderdale, FL, June 4th 2004

2004, Airborne LIDAR Topographic Mapping of SE Florida, IHRC, Miami, FL, Feb 2, 2004

2003, Airborne LIDAR Topographic Mapping of SE Florida, RSMAS, Miami, FL, Oct 13, 2003

2003, 3-D LIDAR Demonstration, FIU GIS Day, FIU, Miami, FL, Nov 19, 2003

2002, Visualization and analysis of gridded LIDAR Digital Elevation Data with ArcView Spatial and 3-D Analyst, Educational workshop for participation counties in FEMA Windstorm Simulation and Modeling Program, FIU, November, 15, 2002.

2002, Airborne LIDAR Topographic Mapping of Broward and Palm Beach Counties, FL, presented at 2002, South Florida, GIS Expo, West Palm Beach, FL, October 4, 2002

2002, Airborne Laser Topographic Mapping, FIU 2002 GIS Showcase, FIU, February, 2002

2001, Use of LIDAR Technology in Mapping Surge Areas, presented at Hurricane Evacuation Study Manager's Workshop, Monroe County, FL, June 13, 2002.

2001, LIDAR mapping of Broward Co, FL, presented at The 7th Annual South Florida Hurricane Conference, Ft. Lauderdale, FL, June, 1, 2002.

2001, Emergency Management Technology Today, presented at Governor's Hurricane Conference, Tampa, FL, May 22, 2001.

2001, Airborne Laser Topographic Mapping, FIU 2001 GIS Showcase, FIU, February 23, 2001.

2000, LIDAR presentation, Southeast Region Hurricane Evacuation Study, National Hurricane Center, Miami, FL, October 31, 2000.

2000, Airborne Laser Topographic Mapping in South Florida: Applications to Hurricane Storm Surge Flooding and Beach Erosion, FIU Department of Earth Sciences, September 22, 2000.

2000, Airborne Laser Topographic Mapping in South Florida: Applications to Hurricane Storm Surge Flooding, presented at Governor's Hurricane Conference, Tampa, FL, May 14-18, 2000

1999, Applications of GIS Technology to Sinkholes Hazard in Central Florida, presented to Everglades Geological Society, monthly meeting, Fort Meyers, FL, December, 1999

1999, Applications of GIS Technology to the Triggering Phenomena of Sinkholes in Central Florida, presented at the Miami Geological Society, monthly meeting, Coral Gables, FL, September 22, 1999.

1998, Useful data acquisition techniques, a panal discussion (with R. Benson, R., B. Katz, and R. Spechler), at the second meeting of the Hydrogeology Consortium, May 19-20th, 1998, Live Oak, FL.

1998, Spatial Interrelationships Between Lake Elevations, Water Tables and Sinkhole Occurrence in Central

Florida: A GIS Approach, presented at FIU Geology Department seminar, Feb 1998.

Graduate Student Thesis/Dissertation Projects Supervised

Albert Yeboah-Forson, *Hydrogeophysical Characterization of Anisotropy in the Biscayne Aquifer Using Geophysical Methods*, PhD 2013.

Nicole Tucker, *Analyzing Tidal Fluctuations in the Big Pine Key Freshwater Lens with Time-lapse Resistivity*, M.S. 2013

Hector L. Casanova, *Using Simulated Thermal Imagery from Sea Surface Temperatures to Distinguish Submarine Groundwater Discharge to Biscayne Bay*, M.S. April, 2011

William (Quin) Robertson V. *Airborne Laser Quantification of Florida Shoreline and Beach Volume Change Caused by Hurricanes*, PhD dissertation, March 2007

Sonia Hernandez: *Automated Classification of Land Cover from Color Orthoimagery and LIDAR Data, SE, Florida*, M.S. Thesis, August, 2005

Juana Montangne, *Analysis of airborne LIDAR data in central Florida for pre-collapse signatures of sinkholes*, M.S. Thesis, March 2002

William (Quin) Robertson V, *The Use of Airborne Laser Altimetry to Measure Shoreline Position in North and South Carolina*, M.S. Thesis, March, 2002

German Ojeda, *Potential field studies on the Eastern Margin of the Northern Andes*, Ph.D dissertation, December 2000

Linda Powell, *Multispectral land cover classification and land cover change near Orlando, Florida from Landsat Thematic Mapper imagery*, M.S. Thesis, October, 1998

Graduate Student Thesis Committees (Minor Advisor)

Estephania Sandoval, M.S. 2013

David Lagamasino, PhD, 2014

Sade Garcia, M.S., 2013

Yirgalem Chebud, PhD, 2012

Jeremy Stalker, PhD, 2009

Shadab Anwar, PhD, 2009

Carlos Molina, M.S, 2005

Sumanjit Aich, M.S., 2005

Alex Manda, M.S., 2004

David Velez, M.S. 2004

Marcelo V.Ayabaca, M.S., 2004

Kajari Ghosh, M.S., 2003

Daniel Gann, M.S. 2002

Donna-May Sakura-Lemessy, M.S. 2001

Mike Wacker, M.S., 2001

Steve Memburg, M.S., 2001

Martin Finn, M.S., 2000

Lynn Yuhr, M.S., 1999

Tiaxu Bai, M.S., 1996

Zhuoning Chen, M.S., 1994

Ali Malic, M.S., 1994

Courses Taught

GLY1010: Introduction to the Earth Sciences

GLY3034: Natural Disasters

GLY3039: Environmental Geology

GLY3510: Earth Resources

GLY3759: Visualize our world with GIS

GLY4450: Envir. and Exploration Geophysics

GLY5457: Geophysical Data Analysis

GLY5754: Remote Sensing

GLY5758: Spatial Analysis and GIS

GLY6427: Quantitative Geotectonics

University and Community Service

- Program Director, BS in Geosciences and BA in Earth Science, 2011-present
- Program Director for Graduate Certificate in GIS, 2009-present
- Planning and Zoning Board, City of South Miami, FL, 2009-present
- Graduate Program Director, Department of Earth Sciences, 2001-2005
- Chairman, FIU Geographic Information System Advisory Group.
- FIU College of Arts and Sciences Educational Technology Advisory Group
- Computer system coordinator and Webmaster, FIU Department of Geology

Professional Service

- Test validation panel for Florida Department of Education, Florida Teacher Certification Examination for Earth and Space Science
- Member of Florida Hydrogeology Consortium.
- Resources team for SE MAPS program to produce secondary school curriculum in earth science and geography.
- 1995 SAGEEP Meeting Steering Committee, Environmental and Engineering Geophysical Society
- Review of book chapters for: *Extending ArcGIS: Spatial Analyst* for ESRI Press, *Earth 9/e* by Edward Tarbuck and Frederick Lutgens, *Exploring Geology* by Reynolds et al, and *Physical Geology* by Plummer, Carlson and Hammersley
- Referee of technical manuscripts submitted to (1) *Journal of Geophysical Research*, (2) *Tectonics*, (3)

The Bulletin of the Seismological Society of America, (4) Tectonophysics

Special Skills:

Computer Skills: (years experience in parenthesis)

- UNIX (27), VAX/VMS (17), MacIntosh (17), DOS & Windows (15), operating systems; UNIX system management (10)
- FORTRAN (28), C (17), Visual Basic (8) languages
- ARC/INFO (20), ArcGIS(10), ERMapper (10), and Matlab (10), ERDAS (7) software packages

Foreign Languages:

- Spanish (read, write, speak)
- Russian (read).

Short Courses Attended (Instructor, Location, Date)

Using ERDAS Imagine 8.3, Joe Bob Poner, June 2000

Working with ArcView Spatial Analyst, M. Caldwell, FIU, August, 1998

Spatial Analysis and GIS, Dr. M. Goodchild, ESRI User Conference, San Diego, CA, July, 1998

Contaminant Hydrology: Concepts and Case Studies, Dr. F. Schwartz, SAGEEP Conference, April, 1995.

Professional Affiliations:

American Geophysical Union (AGU)

Geological Society of America (GSA)