DR. STEVEN R. SCHILL
Curriculum Vitae

CONTACT:
The Nature Conservancy
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EXPERIENCE:
Over ten years of professional experience using GIS and remote sensing techniques applied to a multidisciplinary approach. Extensive experience in the integration of high-resolution multispectral, hyperspectral, LIDAR, and RADAR data with GIS for insight into economic and environmental management decisions. Director of GeoSpatial Data Services at GeoMetrics, Inc. and Adjunct Faculty at the University of South Carolina Department of Geography. Managed multi-million dollar NASA Affiliated Research Center (ARC) at the University of South Carolina, coordinating over 25 NASA-funded research projects and lecturing graduate level GIS and remote sensing coursework. Co-authored over 35 journal articles and conference proceedings, 13 NASA technical reports, and presented over 45 professional papers involving GIS and remote sensing research. Assisted in the development of many internet-based teaching resources including the NASA sponsored Remote Sensing Core Curriculum, an on-line remote sensing curricula for educators and scientists world-wide. Research interests include vegetation characterization, GIS-based hydrological modeling, LIDAR accuracy assessment, and data visualization/3-D modeling techniques.

EDUCATION:
Ph.D., Geographic Information Processing (Remote Sensing), 2001
University of South Carolina, Columbia, SC
Advisor: Dr. John R. Jensen
Dissertation Title: "*Modeling Hyperspectral Bidirectional Reflection Distribution Function (BRDF) Data of Smooth Cordgrass (Spartina alterniflora) Using a Sandmeier Field Goniometer*"

M.S., Geographic Information Processing (GIS), 1997
University of South Carolina, Columbia, SC
Advisor: Dr. John R. Jensen
Thesis Title: "*Modeling Impacts of Coastal Development on Water Quality in Beaufort County, South Carolina Using a Remote Sensing/GIS Approach*"

B.A., Geography (Statistics), 1995
Utah State University, Logan, UT
Minor: French

SKILLS:
- *Operating Systems*: Windows 2000, ME, NT, XP; Solaris; AIX; Linux; and   Mac OS 10
- *GIS/Image Processing/Visualization*: ArcGIS, ArcView, ERDAS Imagine, ENVI, ERMapper, Visual Nature Studio, and RapidSite
- *Programming*: C, AML, Avenue, Visual Basic, Java, and CGI/HTML
- *Statistics*: SASS, SPSS, and SPLUS
- *Certifications*: ESRI ARC MACRO LANGUAGE (AML), March 1995; ERDAS IMAGINE Certification, June 1995; TRIMBLE GPS Certification, July 1996; ESRI AVENUE Certification, March 1997; ERDAS SPATIAL MODELING LANGUAGE (SML) Certification, Dec. 1999; ERDAS MACRO LANGUAGE (EML) Certification, Dec. 1999; ERDAS STEREO ANALYST 3D Visualization Certification, June 2000; ERDAS ORTHOBASE Soft-Copy Photogrammetry Certification, March 2000

PROFESSIONAL EXPERIENCE:

Principal Mapping Scientist, 2003-Present
The Nature Conservancy, Caribbean Ecoregional Plan, Columbia, SC

Research Associate, 2002-Present
Research Planning, Inc, Columbia, SC

Research Associate, 2001-Present
GeoMetrics, Inc., GeoSpatial Data Services, Columbia, SC

Research Associate, 2002-Present
Belle W. Baruch Institute for Marine Biology and Coastal Research, University of South Carolina, Columbia, SC

Owner, 2001-Present
AerialVantage, Inc., Remote Sensing Consultant, Columbia, SC

Lecturer, 2000-2001
Department of Geography, University of South Carolina, Columbia, SC

Program Coordinator, 1997-2001
NASA Affiliated Research Center, University of South Carolina, Columbia, SC

Lab Manager, 1997–2001
Remote Sensing Lab, University of South Carolina, Columbia, SC

Lab Instructor, 1997-2000
Department of Geography, University of South Carolina, Columbia, SC

Research Assistant, 1995-1997
Department of Geography, University of South Carolina, Columbia, SC

GIS Research Analyst, 1995
US Fish & Wildlife Research Unit, Utah State University, Logan, UT

GIS Design Analyst, 1994-1995
Public Works, City of Logan, Department of Engineering, Logan, UT

Cartographer, 1994
Washington State Department of Natural Resources, Engineering Division, Olympia, WA

GIS Technician, 1993-1994
GIS/RS Lab, Department of Geography and Earth Resources, Utah State University, Logan, UT

AWARDS/HONORS:
- "2002 Alumni of the Year" Utah State University, College of Natural Resources
- 2nd Place 2001 ESRI Award for Best Scientific Paper in Geographic Information Systems in *Photogrammetric Engineering and Remote Sensing*
- 1st Place Best Student Paper, 2000 Association of American Geographers (AAG) Annual Meeting, Remote Sensing Specialty Group, Pittsburgh, PA
- 2nd Place Best Paper , 2000 *South Carolina Academy of Science* Annual Meeting, Clinton, SC
- 2nd Place Best Scientific Paper, 1999 University of South Carolina Graduate Student Day
- 1st Place Horwood Best Student Paper, 1998 Urban and Regional Information Systems Association (URISA) National Conference, Charlotte, NC
- Graduate Research Assistant, 1995-1997, Department of Geography, University of South Carolina
- Selected as Student Assistant, 1996, Annual ESRI User's Conference Palm Springs, CA
- Gamma Theta Upsilon National Buzzard Scholarship, 1995, Superior Undergraduate Performance in Geography

PEER-REVIEWS/PUBLICATIONS:
Jensen, J.R., J.K. Luders, S.R. Schill and G.T. Raber, 2003, Identifying Riverine Sand and Gravel Deposits Using High Resolution Thermal Infrared Imagery and Aerial Photography, In Review: *GeoCarto International.*

Hodgson, M., J. Jensen, L. Schmidt, S. Schill, and B. Davis, 2003, "An Evaluation of LIDAR- and IFSAR-Derived DEMs in Leaf-on Conditions with Level 1 and Level 2 USGS DEMs," *Remote Sensing of Environment, in press*.

Jensen, J., G. Olson, S. Schill, J. Morris, 2002, "Techniques for Estimating Biophysical Parameters of Coastal Vegetation Using Digital Frame High-Resolution Multispectral Imagery," *GeoCarto International - A Multidisciplinary Journal of Remote Sensing and GIS*, 17(3): 25-34.

Raber, G., J. Jensen, S. Schill, and K. Schuckman, 2002, "Creation of Digital Terrain Models Using an Adaptive LIDAR Vegetation Point Removal Process," *Photogrammetric Engineering & Remote Sensing*, 88(12):1307-1315.

Means, J., P. Hopkins, J. R. Jensen, S. R. Schill, J. Chipman, R. D. Ramsey, and D. Stow, 2001, "Incorporating Remote Sensing and GIS into Forestry," *Journal of Forestry*, 99(6): 4-12.

Schill, S. R. and J. R. Jensen, 2000, "Predicting the Impacts of Coastal Development on Water Quality using Remote Sensing and GIS-assisted Hydrologic Modeling Techniques," *GeoCarto International - A Multidisciplinary Journal of Remote Sensing and GIS*, 15(4):5-14.

Cowen, D., J. Jensen, C. Hendrix, M. Hodgson, S. Schill, and F. Macchiaverna, 2000, "A GIS-Assisted Rail Construction Econometric Model that Incorporates LIDAR Data," *Photogrammetric Engineering and Remote Sensing*, 66(11):1323-1328. *Won 2nd Place 2001 ESRI Award for Best Scientific Paper in Geographic Information Systems in Photogrammetric Engineering and Remote Sensing.*

Jensen, J. R. and S. R. Schill, 2000, "Bidirectional Reflection Distribution Function (BRDF) Characteristics of Smooth Cordgrass (*Spartina alterniflora*) Obtained Using a Sandmeier Field Goniometer," *GeoCarto International - A Multidisciplinary Journal of Remote Sensing and GIS*, 15(2):21-28.

Jensen, J. R., C. Coombs, D. Porter, B. Jones, S. R. Schill, and D. White, 1998, "Extraction of Smooth Cordgrass (*Spartina alterniflora*) Biomass and Leaf Area Index from High Resolution Imagery," *GeoCarto International - A Multidisciplinary Journal of Remote Sensing and GIS*, 13(4):25-34.

PUBLISHED/CONFERENCE/PROCEEDINGS:

Schill, S. and D. Schadel, 2003, "Comparison of Traditional and Machine Learning Image Classification Algorithms," Proceedings from the 2003 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, May 3-9, Anchorage, AK

Vincent, J., D. Porter, L. Coen, D. Bushek, and S. Schill, 2003, "Assessing and Mapping Shellfish Resources Using Spectral Mixture Analysis," Proceedings from the 2003 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, May 3-9, Anchorage, AK

Schill, S., 2002, "Innovative Uses of GIS and Remote Sensing For Water Resource Management," Proceedings from the 2002 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, Apr. 19-26, Washington, DC

Tullis, J., J. Jensen, D. Cowen, L. Shirley, S. Schill, 2001, "Artificial Intelligence for Automated Housing Enumeration from High-Resolution Multispectral Imagery," *Fifth International Airborne and Remote Sensing Conference*, Sep. 17-20, San Francisco, CA.

Schill, S., J. Jensen and D.E. Porter, 2001, "Temporal Modeling of BRDF Patterns and Phenological Change in Coastal Vegetation," Proceedings from the 2001 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, Apr. 23-27, St. Louis, MO.

Filippi, A., J Jensen, S. Schill, D. Kelch, and M. Pendergast, 2001, "Hyperspectral-Neural Investigation of Vegetative Conditions at the DOE Savannah River Site Using Low-Altitude AVIRIS Data," Proceedings from the 2001 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, Apr. 23-27, St. Louis, MO.

Raber, G., J. Jensen, and S. Schill, 2001, "Improvements of Vegetation Removal Techniques Using Multiple Return LIDAR," Proceedings from the 2001 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, Apr. 23-27, St. Louis, MO.

Schmidt, L., J. Jensen, M. Hodgson, and S. Schill, 2001, "Utility of LIDAR and IFSAR-Derived Digital Elevation Models for Floodplain Mapping During Leaf-On Conditions," Proceedings from the 2001 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, Apr. 23-27, St. Louis, MO.

Tullis, J., J. Jensen, D. Cowen, and S. Schill, 2001, "Artificial Intelligence for Automated Housing Enumeration from Pan-Sharpened IKONOS Imagery," Proceedings from the 2001 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, Apr. 23-27, St. Louis, MO.

Schill, S. R. and J. R. Jensen, 2000, "Temporal Modeling of Bidirectional Reflectance Distribution Function of Smooth Cordgrass (Spartina alterniflora) using a Sandmeier Field Goniometer," Proceedings from the 2000 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, May 22-26, Washington, DC.

Luders, J. K., J. R. Jensen, and S. R. Schill, 2000, "Utilization of Remote Sensing for the Detection of Sand and Gravel Point Bars in the Mississippi River," Proceedings from the 2000 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, May 22-26, Washington, DC.

Meisburger, J. L., J. R. Jensen, S. R. Schill, and D. Porter, 2000, "Quantification of Biomass and Leaf Area Index in a Charleston, South Carolina Estuary using Low-Altitude AVIRIS Imagery," Proceedings from the 2000 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, May 22-26, Washington, DC.

Hendrix, C. J., J. R. Jensen, M. E. Hodgson, and S. R. Schill, 2000, "Parameterization of LIDAR Interaction with Vegetation Canopy in a Forested Environment," Proceedings from the 2000 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*. May 22-26, Washington, DC.

Schill, S. R., 2000, "A Discriminant Analysis of the Biophysical Characteristics of Smooth Cordgrass (*Spartina alterniflora*) and Multispectral Reflectance in Remotely Sensed Data," *ERIM Sixth International Conference of Remote Sensing for Marine and Coastal Environments*, May 1-3, Charleston, SC.

Schill, S. R. and J. R. Jensen, 1998, "Visualization Strategies for Evaluating Real Estate Market Potential," Proceedings from the *GIS/LIS Annual Conference and Exposition*, Nov.10-12, Fort Worth, TX.

Schill, S. and J. R. Jensen, 1998, "Modeling to Predict Stormwater Runoff in Withers Swash Myrtle Beach, SC," Proceedings from the *Urban and Regional Information Systems Association (URISA) Annual Conference*, Jul. 17-20, Charlotte, NC. *Won best student paper award - Horwood Student Critique Prize.*

Jensen, J. R., D. C. Cowen, S. R. Schill, 1998, "Affiliate Research Center (ARC) Commercial Projects at the University of South Carolina", Proceedings from the 1998 *American Society of Photogrammetry and Remote Sensing Annual Convention and Exposition*, March 23-26, Tampa, FL.

Schill, S. R. and J. R. Jensen, 1997, "Water Quality Modeling in the Okatie River Basin Using a Remote Sensing/GIS Approach" Proceedings from the *UCGIS Annual Assembly and Summer Retreat*, Jun. 15-20, Bar Harbor, ME.

Schill, S. R., J. R. Jensen, A. Tolleson, and A. Mancini, 1997, "Modeling Impacts of Coastal Development on Water Quality in the Okatie River Watershed, Beaufort County, South Carolina, Using a Remote Sensing/GIS Approach", Proceedings from the 1997 *ACSM/ASPRS Annual Convention and Exposition*, Apr. 7-10, Seattle , WA.

OTHER PRESENTATIONS/ABSTRACTS:

Schill, S., D. Morse, and A. Olivero, "Caribbean Basin Conservation Planning Using GIS-Based Spatial Modeling," Presentation at the 2003 *The Nature Conservancy/Conservational International All Science Conference*, June 26-27, Duluth, MN

Vincent, J., D. Porter, L. Coen, D. Bushek, and S. Schill, 2003, "Remote Sensing to Map and Assess intertidal Shellfish Resources in the Southeastern USA," Presentation at the 2003 *National Shellfisheries Association Annual Meeting*, April 13-17, New Orleans, LA

Schill, S., Vincent, J., D. Porter, L. Coen, D. Busheck, 2003, "Development of an Automated Mapping Technique for Monitoring and Managing Shellfish Resources," Poster presentation at the *US EPA Technology Transfer Conference: Emerging Technologies, Tools, and Techniques to Manage our Coasts in the 21st Century*, Jan. 28-31, Cocoa Beach, FL.

Vincent, J., D. Porter, L. Coen, D. Busheck, and S. Schill, 2003, "Assessing and Mapping Shellfish Resources Using Hyperspectral Remote Sensing," Presentation at the *National Oceanic and Atmospheric Association Coastal Services Center GeoTools Annual Conference*, Jan. 6-9, Charleston, SC

Vincent, J., D. Porter, L. Coen, D. Busheck, and S. Schill, 2002, "Developing Hyperspectral Remote Sensing Methods to Rapidly Map and Assess Intertidal Shellfish Resources," Poster Presentation at the *International Conference of Shellfish Restoration*, Nov. 20-24, Charleston, SC

Vincent, J., D. Porter, L. Coen, D. Busheck, and S. Schill, 2002, "Assessing and Mapping Intertidal Shellfish Resources Using Remote Sensing," Presentation at the *Southeastern Estuarine Research Society Annual Conference*, Oct. 17-19, Conway, SC.

Schill, S., 2002, "3D Visualization Strategies for Real Estate Development," Presentation to Burroughs and Chapin, Inc., Sep. 12, Myrtle Beach, SC

Schill, S., 2002, "Remote Sensing Techniques for Forest Inventory and Assessment," Presentation to the South Carolina Forestry Commission, Aug. 12, Columbia, SC

Schill, S., 2002, "Geospatial Technologies for Flood Evacuation Planning," Presentation to South Carolina Electric & Gas, Inc., Jul. 31, Columbia, SC

Schill, S., 2002, "ERDAS Imagine for Forestry Applications," Presentation to the USDA Forest Service Fire Lab, Jul. 10, Missoula, MT.

Schill, S., 2002, "Remote Sensing Applications for Infrastructure Management," Presentation to The LPA Group, Inc., May 31, Columbia, SC

Schill, S., 2002, "Remote Sensing for Forest Resource Management," Presentation to International Paper, Inc., May 29, Georgetown, SC

Schill, S., 2002, "Internet-Based Delivery for Remote Sensing Data Products," Presentation to Questerra, Inc., Apr. 2, Charlottesville, VA

Schill, S., 2002, "GIS and Remote Sensing Techniques for Real Estate Development," Presentation to Burroughs and Chapin, Inc., Jan. 29, Myrtle Beach, SC

Schill, S., 2001, "Remote Sensing Solutions: Putting Imagery to Work," *USC Fall Remote Sensing Seminar*: Remote Sensing Trends and Solutions, Dec. 3, Columbia, SC.

Raber,G., S. Schill, and J. Jensen, 2001, "Improving Vertical Accuracy in Digital Surface Models Using Adaptive Filtering Techniques on Multiple-Return LIDAR," Poster presentation at the *ASPRS-MAPPS DEM Specialty Conference*, Oct. 30-Nov. 1, St. Petersburg, FL.

Schill, S. R., 2001, "Evaluating the Role of Bidirectional Reflection in Remotely Sensed Data," Presented at the University of South Carolina *Graduate Student Day*, Apr. 4, Columbia, SC.

Schill, S. and J. Jensen, 2001, "Modeling Directional Reflection in Coastal Vegetation," Presentation at the *Association of American Geographers Annual Conference*, Feb. 28-Mar.3, New York, NY

Schmidt L., G. Raber, J. Jensen, M. Hodgson, S. Schill, 2001, "Evaluation of the Utility and Accuracy of LIDAR and IFSAR Derived Digital Elevation Models for Flood Plain Mapping," Presentation at the *Association of American Geographers Annual Conference*, Feb. 28-Mar.3, New York, NY

Jensen, J. R., and S. R. Schill, 2001, "An Overview of Research Activities at the University of South Carolina Affiliate Research Center," Annual Meeting *Commercial Remote Sensing Program (CRSP) and the Affiliate Research Centers*, Feb. 14, NASA Stennis Space Center, MS.

Schill, S., J. Jensen and D.E. Porter, 2001, "Measurement and Modeling of the Spectral and Directional Reflection Properties of Smooth Cordgrass (Spartina alterniflora)," Presentation at the *National Oceanic and Atmospheric Association Coastal Services Center GeoTools Annual Conference*, Jan. 8-11, Charleston, SC.

Filippi, A., J. Jensen, S. Schill, D. Kelch, and M. Perndergast, 2001, "Hyperspectral-Neural Investigation of Vegetative Condition at the DOE Savannah River Site (SRS) Using Low-Altitude AVIRIS Data," Presentation at the *National Oceanic and Atmospheric Association Coastal Services Center GeoTools Annual Conference*, Jan. 8-11, Charleston, SC.

Olson, G., J. Jensen, S. Schill and D.E. Porter, 2001, "Remote Sensing of Wetland Biophysical Variables in the ACE Basin National Estuarine Research Reserve," Presentation at the *National Oceanic and Atmospheric Association Coastal Services Center GeoTools Annual Conference*, Jan. 8-11, Charleston, SC.

Schill, S., 2000, "Geospatial Technologies for Coastal Resource Management," Invited Speaker, Indiana State University Department of Geography, Dec. 8, Terra Haut, IN

Schill, S., 2000, "GIS and Remote Sensing Techniques for Coastal Management and Monitoring," Invited Speaker, University of North Carolina-Chapel Hill Department of Geography, Dec. 4, Chapel Hill, NC.

Schill, S., D. Porter and J. Jensen, 2000," Acquiring and Modeling BRDF in Coastal Environments," Mid-South Region of the *American Society of Photogrammetry and Remote Sensing Annual Meeting*, Oct. 20, Clemson, SC.

Schill, S., D. Porter and J. Jensen, 2000, "Evaluating the Bidirectional Reflectance Distribution Function (BRDF) of Smooth Cordgrass (Spartina alterniflora)," *National Estuarine Research Reserve System Annual Conference*, Oct. 12-13, Williamsburg, VA.

Schill, S., 2000, "Evaluating the Influence of Bidirectional Reflection Distribution Function (BRDF) when Modeling Biophysical Characteristics in Coastal Environments," Presentation

at the *Association of American Geographers Annual Conference*, Apr. 4-8, Pittsburgh, PA. Won 1st Place in Remote Sensing Specialty Group Student Competition.

Jensen, J., C. Hendrix, S. Schill, and M. Hodgson, 2000, "Analysis of Light and Detection Ranging (LIDAR) to Measure Canopy Characteristics and Generate Digital Elevation Models," Presentation at the *Association of American Geographers Annual Conference*, Apr. 4-8, Pittsburgh, PA.

Schill, S., 2000, "Detection of Water Quality Problem Areas in Urban Environments Using Remote Sensing and GIS Techniques," *South Carolina Academy of Science (SCAS) Annual Meeting*, Mar. 31, Clinton, SC. 2nd Place *Best Paper*

Jensen, J., and S. Schill, 2000, "Remote Sensing Activities at the University of South Carolina Affiliate Research Center," Annual Meeting *Commercial Remote Sensing Program (CRSP) and the Affiliate Research Centers*, Feb. 8, NASA Stennis Space Center, MS.

White D., D. Porter, J. Jensen, S. Schill, B. Jones, 1999, "An Evaluation of Non-Destructive Techniques for Estimating Aboveground Biomass of the Cordgrass *Spartina alterniflora*," *15th International Biennial ERF Conference*, Sep. 15, New Orleans, LA.

Schill, S., 1999, "A Spatial-Temporal Approach to Water Quality Monitoring in Coastal South Carolina," Poster Presentation at the *South Carolina ESRI User's Meeting*, May 17-18, Columbia, SC.

Schill, S., 1999, "An Integrated GIS Water Quality Model for High Risk Pollution Assessment," Presented at the University of South Carolina *Graduate Student Day*, May 5, Columbia, SC. 2nd Place *Best Scientific Paper*

Schill, S. and J. Jensen, 1999, "GIS Visualization Techniques for the Real Estate Market," Presentation at the *Association of American Geographers Annual Conference*, Mar. 23-27, Honolulu, HA.

Jensen, J. and S. Schill, 1999, "The NASA Affiliate Research Center at the University of South Carolina," Presentation at the Annual *NASA Commercial Remote Sensing Conference*, Feb. 9, NASA Stennis Space Center, MS.

Jensen, J. and S. Schill, 1998, "The NASA Affiliate Research Center at the University of South Carolina," Presentation at the Annual *NASA Commercial Remote Sensing Conference*, Oct. 29, NASA Stennis Space Center, MS.

Schill, S., 1998, "Using GIS and Remote Sensing Techniques to Model Urban Stormwater in Coastal Environments," Presentation at the *South Carolina Environmental Compliance Conference*, May 10, Charleston, SC.

Schill, S., 1998, "Remote Sensing Applications for Urban Runoff Analysis in the Coastal Zone of Myrtle Beach, South Carolina". Poster presentation at the *South Carolina Nonpoint Information Exchange Conference*, Mar. 8, Columbia, SC.

OTHER PUBLICATIONS:

Schill, S., 2001, "Modeling Hyperspectral Bidirectional Reflection Distribution Function (BRDF) Data of Smooth Cordgrass (Spartina alterniflora) Using a Sandmeier Field Goniometer" *Doctoral Dissertation*, Department of Geography, University of South Carolina.

Schill, S., 1999, "NASA Installs Goniometer to Measure Signals From Spartina," *Baruch Briefs*, Belle W. Baruch Institute for Marine & Coastal Research, University of South Carolina, 2:1-4.

Schill, S., J. Jensen, and D. Cowen, 1999, "Bridging the Gap Between Government and Industry: The NASA Affiliated Research Center Program," *GeoInfo Systems*, 9(9):26-33.

Schill, S., 1999, "ERDAS IMAGINE VirtualGIS 8.4. 3D Visualization and Analysis Software for IMAGINE Users," Software Review. *Photogrammetric Engineering & Remote Sensing*, 65(8): 860-866.

Crouch, G., D. Cowen, and S. R. Schill, 1999, "People, Places, and Pixels: Geography and the Liberal Arts," *Cornerstone*, 1(1):9-11.

Schill, S., 1997, "Modeling Impacts of Coastal Development on Water Quality in Beaufort County, South Carolina Using a Remote Sensing/GIS Approach," *Masters Thesis*, Department of Geography, University of South Carolina.

TECHNICAL REPORTS:

Schmidt, L., S. Schill, J. Jensen, M. Hodgson, and K. Siderelis, 2001, "Evaluation of the Utility and Accuracy of LIDAR and IFSAR Derived Digital Elevation Models for Flood Plain Mapping," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Tullis, J., W. L. Shirley, D. Cowen, J. Jensen, S. Schill, and S. Vehige, 2001, "Evaluation of High Resolution Imagery as Part of an Automated Classification System to Assess Market Potential for Future Investment Brokerage Branch Offices," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Raber, G., Y. Zhou, S. Schill, and J. Jensen, 2001, "Improvement of Vegetation Removal Techniques and Canopy Characterization Using Multiple Return LIDAR," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Schill, S. R., M. Jackson, H. Allman, J. R. Jensen, and L. Jordan, 2000, "The Marketing of Image Enhancement for Commercial Appeal," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Schill, S. R., G. Olson, L. Schmidt, F. Qiu, J. Jensen, and P. Major, 2000, "Land Management and Appraisal at the Parcel Level Using High Resolution Remote Sensing Data and GIS Modeling Techniques," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Luders, J., S. R. Schill, J. R. Jensen, and C. Davis, 2000, "Utilization of High-Resolution Thermal Imagery for the Detection of Sand and Gravel Surfaces," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Jensen, J. R, and S. R. Schill, 1998, "Volume 3: Introductory Digital Image Processing," *NASA Remote Sensing Core Curriculum*.

Schill, S. R., J. R. Jensen, A. Tolleson, and J. Wooten, 1998, "Urban Runoff Analysis and Evaluation in the Coastal Zone of Myrtle Beach, South Carolina," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Schill, S. R., M. Jackson, J. R. Jensen, S. Harrelson, and C. Gunnin, 1998, "Modeling and Three-Dimensional Visualization of Real Estate Economic Potential: The Marketing of the Former Myrtle Beach Air Force Base," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Hayden, C., D. Gibbs, P. Ingram, K. Adams, R. Bowden, J. R. Jensen, M. Ji, and S. R. Schill, 1997, "Mangrove Classification Using Hyperspectral Imagery," *NASA Affiliated Research Center (ARC) Program Final Report*, NASA: Washington, D. C.

Lacy, R. B., J. R. Jensen, S. Weiland, F. Smith, E. Dobson, R. Collins, S. R. Schill, M. Jackson, and N. Faust, 1997, "Twenty Year Time Series Analysis of Satellite Remote Sensor Data to detect Environmental and Developmental Change along Coastal Georgia and South Carolina," Washington: *NASA Mission to Planet Earth Report*, 32 p.

Schill, S. R., J. R. Jensen, M. Ji, A. Tolleson, and A. Mancini, 1996, "Environmental Resource Evaluation of the Inland Coastal Region of the South Carolina Lower Savannah-Salkehatchie Watershed," *NASA Visiting Investigator Program Final Report*, NASA: Washington, D. C.

Beacham, J., G. Page, J. R. Jensen, D. Graves, and S. R. Schill, 1995, "The Use of Landsat and Other Remotely Sensed Data to Detect Petroleum Product Contamination on Industrial and Military Facilities," *NASA Visiting Investigator Program Final Report*, NASA:Washington,D. C.

WORKS IN PROGRESS:

Schill, S., "A Discriminant Analysis of the Biophysical Characteristics of Smooth Cordgrass (*Spartina alterniflora*) and Multispectral Reflectance in Remotely Sensed Data," Target Journal: *International Journal of Remote Sensing*

Schill, S., "A Spatial-Temporal Approach to Monitoring Water Quality in Urban Environments," Target Journal: *Urban Geographer*

Schill, S. and G. Raber, "Airborne Multispectral Imaging with Digital Frame Cameras," Target Journal: *Geospatial Solutions*

Schill, S. and G. Raber, "New Trends in LIDAR Remote Sensing," Target Journal: *Civil Engineering*

TEACHING EXPERIENCE:

Lecturer, University of South Carolina
  GEOG 345 Interpretation of Aerial Photography and Photogrammetric Methods (SPR 01)
  GEOG 551 Principles of Remote Sensing (FALL 02)

Lab Instructor, University of South Carolina
  GEOG 551 Principles of Remote Sensing (SPR 98, FALL 99, SPR 01)
  GEOG 751 Digital Techniques of Remote Sensing (FALL 97, SPR 99, FALL 00)

Guest Lecturer, University of South Carolina
  GEOG 103 Introduction to Geography
  GEOG 551 Principles of Remote Sensing
  GEOG 564 Cartographic Modeling
  GEOG 751 Digital Techniques of Remote Sensing

Seminar Instructor
"GIS-Based Ecological Modeling for Conservation Planning," Training Workshop for *The Nature Conservancy*, July 21-23, Road Town, Tortola, British Virgin Islands

"Freshwater Ecological Target Modeling Using GIS," Training Workshop for *The Nature Conservancy*, June 9-12, San Juan, Puerto Rico

"Identifying Freshwater Ecological Targets Using GIS-Based Hydrology Modeling," Training Workshop for *The Nature Conservancy*, June 19-21, University of West Indies-Mona, Kingston, Jamaica

ERDAS IMAGINE Digital Image Processing Course, USDA Forest Service, Fire Science Lab, 3-day Training, Aug. 2002, Missoula, MT

Remote Sensing and Digital Image Processing Course, Egyptian Meteorological Authority Personnel, College of Charleston, 3-day Training, Jun. 1999 Charleston, SC

Global Positioning Systems Training Seminar, South Carolina Gas and Electric, 2-day Training, Mar. 1999, Columbia, SC

Introduction to ERDAS IMAGINE 8.4, University of South Carolina, 3-day Training, July 1998, Columbia, SC

GRANTS:

2000-2001
The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET). $254,491, as a PI for *"Development of an Automated Mapping Technique for Monitoring and Managing Shellfish Distributions"*.

2002
NASA Small Business for Innovative Research (SBIR) South Carolina Phase 0 Award $3,000, as a PI for *"The Development of LIDAR-Based Automated Feature Extraction and Adaptive Filter Terrain Modeling Tools"*

REVIEWER:

2003
National Science Foundation – NASA Phase I SBIR and STTR Proposals

2002
"National Needs for Coastal Mapping and Charting," Interim Report, *The National Academies*

2001
"Remote Sensing-Data and Information Services (RSDIS,)" *Virginia's Center for Innovative Technology*

"VIGINIA ACCESS: A Virtual Remote Sensing, Data and Information System for Virginia," *Virginia Department of Planning and Budget Commonwealth Technology Research Council*

PROJECT MANAGEMENT EXPERIENCE:

2003
- Principal Mapping Scientist for the Greater Caribbean Basin Ecoregional Plan
- GIS Hydrological Assessment (Richland County, SC)
- East Central City Urban Commercial and Residential Revitalization Plan (Columbia, SC)
- Data Fusion Techniques for Automated Mapping of Shellfish Resources (North Inlet, SC)
- LIDAR Topographic Mapping for North Inlet and Hobcaw Barony (Georgetown, SC)
- Land Cover Classification Using Image Data Mining Techniques (Murrell's Inlet, SC)
- Water Quality (208) Assessment for the Central Midlands Council of Government (Columbia, SC)

2002
- LIDAR Task Manager for South Carolina Flood Map Modernization Initiative (Columbia, SC)
- Photogrammetry and Remote Sensing Applications for the South Carolina Department of Transportation (Columbia, SC)
- GIS-Based Pavement Management System (Richland County, SC)
- Lake Murray Flood Evacuation Study and GIS-Based Modeling (Columbia, SC)
- Photogrammetric Mapping for the St. Louis Army Corps of Engineers (St. Louis, MO)

- ACE Basin National Estuarine Research Reserve (NERR) Multispectral Digital Frame Camera Data Collection (North Inlet, SC)
- LIDAR Topographic Mapping for the McCrady and Clarks Hill Army Training Center (Fort Jackson, SC)
- Quickbird Imagery Acquisition for Coastal Mapping and Assessment (Saudi Arabia)

2001
- GIS Mapping and Modeling for a Water Balance/Infiltration Study (Myrtle Beach, SC)
- Site Selection and Suitability Modeling for a Construction Land Fill Using GIS and Remote Sensing Techniques (Richland County, SC)
- GIS and Remote Sensing Techniques for Planning Pinehurst Golf Course and Commercial Development (Pinehurst, NC)
- GIS-Based Modeling and Mapping for Site Specific Evaluation of the Vista Del Mar Development (Myrtle Beach, SC)
- Monitoring Coastal Wetland Change and Modeling Ecosystem Health (North Inlet, SC)
- Molecular to Landscape-Scale Monitoring of Estuarine Eutrophication (Ace Basin, SC)

2000
- Evaluation of the Utility and Accuracy of LIDAR and IFSAR Derived Digital Elevation Models for Flood Plain Mapping (Raleigh, NC)
- Improvement of Vegetation Removal Techniques and Canopy Characterization Using Multiple Return LIDAR (High Point, NC)
- Development of a GIS-Assisted Rail Construction Cost Model from LIDAR data (Aiken, SC)
- Evaluation of IKONOS Imagery as Part of an Automated Urban Classification System to Assess Market Potential for Future Investment Brokerage Branch Offices (St. Louis, MO)
- Automated Extraction of 3D Features from IKONOS Satellite Imagery for Airport Design and Risk Assessment

1999
- Land Management and Appraisal at the Parcel Level Using High Resolution Remote Sensing Data and GIS Modeling Techniques (Newberry, SC)
- Utilization of High-Resolution Thermal Imagery for the Detection of Sand and Gravel Surfaces (Friar's Point, MS)
- Innovative GIS and Remote Sensing Model for Mortgage Transaction Assessment (Greenville, SC)
- Biophysical Modeling of Coastal Vegetation using High Resolution Imagery (North Inlet, SC)
- Techniques for Estimating Biomass and Leaf Area Index (Murrells Inlet, SC)
- Seagrass Mapping Using High Resolution Aerial Photographs (Pamlico Sound, NC)
- Hyperspectral Mapping of Vegetative Condition at the Savannah River Site (Barnwell Co, SC)

1998

- The Contribution of Active Microwave (RADAR) Remote Sensing to Wetlands Delineation (Bethesda, MD)
- Modeling and Three-dimensional Visualization of Real Estate Economic Potential: The Marketing of the Former Myrtle Beach Air Force Base (Moncks Corner, SC)
- Development of a Remote Sensing and GIS-Assisted Rail Construction Cost Model (Aiken, SC)
- Innovative GIS and Remote Sensing Model for Commercial Real Estate Development (Columbia, SC)
- Bridge Scour and Water Balance Study using GIS at Barefoot Landing (Myrtle Beach, SC)
- GIS-Based Site Selection and Suitability Modeling for Rockfish Creek Reservoir (Cumberland Co, NC)
- 3D Modeling and Visualization of Real Estate Economic Potential (Former Myrtle Beach AF Base, SC)

1997

- Development of Improved Image Classification Algorithms to Extract Quantitative Urban/Suburban Landuse/Land Cover Information from High Spatial Resolution Digital Imagery (St. Petersburg, FL)
- Urban Runoff GIS Analysis and Stormwater Modeling in the Coastal Zone (Myrtle Beach, SC)
- Modeling Shoreline Habitat Degradation Using an Environmental Impact Index (Columbia, SC)
- A Prototype GIS-Based Property Market Suitability System (Walterboro, SC)
- Identification of Rural-to-Urban Land Absorption Rates using SPOT Imagery (Columbia, SC)
- Environmental Resource Evaluation of the Lower Savannah-Salkehatchie Watershed (Hilton Head, SC)
- A Twenty Year Time Change Detection Along Coastal Georgia and South Carolina (Charleston, SC)
- GIS-Based Modeling for Sub-Surface Water Supply Investigation (Columbia, SC)
- Spillway Design with GIS Modeling for Lake Trotwood Dam (Columbia, SC)

LANGUAGES:

French
Fluent in speaking, reading, and writing

PROFESSIONAL ORGANIZATIONS:

American Society for Photogrammetry and Remote Sensing
Alliance for Marine Remote Sensing Association
Urban and Regional Information Systems Association
Association of American Geographers
Phi Kappa Phi Honor Society