

# Annemarie Schneider

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## EDUCATION

- Boston University,  
Boston, Massachusetts      **Doctor of Philosophy, Geography and Environmental Science, 2001 to present.**  
Dissertation: *Urban Growth as a Component of Global Change*. Faculty advisor: Curtis Woodcock. Expected graduation, August 2004.
- Boston University,  
Boston, Massachusetts      **Master of Arts, Geography, Environmental Remote Sensing and GIS, 1999 to 2001.**  
Studies concentrated on theories and applications of remote sensing and GIS, analysis of spatial environmental data. Thesis: *Mapping Urban Areas By Fusing Multiple Sources of Coarse Resolution Data*. Faculty advisor, Mark Friedl.
- University of Wisconsin,  
Madison, Wisconsin      **Bachelor of Science, Geography, 1993 to 1997.**  
Studies focused on physical geography and environmental systems.
- University of Wisconsin,  
Madison, Wisconsin      **Bachelor of Science, Studio Art, 1993 to 1997.**  
Curriculum included architecture, art history, technical and design courses.

## AREAS OF SPECIALIZATION

Human dimensions of land cover change  
Urban geography, particularly urban form, urban environment, and urban economic geography  
Remote sensing and change detection  
Digital image processing  
Geographic information systems  
Quantitative methods in geography, spatial analysis  
Global environmental monitoring and change

## RESEARCH EXPERIENCE

- Boston University,  
Boston, Massachusetts      **Research Assistant, September, 2001 to September, 2004.**  
Funded by the NASA's Earth System Science Fellowship to investigate the amounts, patterns and drivers of land use change in a global cross-section of metropolitan areas. Faculty advisors: Curtis Woodcock, William Anderson, Karen Seto and Mark Friedl.
- Boston University,  
Boston, Massachusetts      **Research Assistant, September, 2001 to present.**  
Continued support of land cover and land cover change product with Moderate Resolution Imaging Spectroradiometer (MODIS), with special emphasis on production and validation of coarse resolution map of global urban land cover. Faculty advisors: Mark Friedl, Alan Strahler, and Crystal Schaaf.
- Boston University,  
Boston, Massachusetts      **Research Assistant, September, 1999 to August, 2001.**  
Employed as a research assistant for the MODIS land cover team, funded by NASA's EOS Program. Involved directly in production, assessment and validation of one kilometer land cover and land cover change/dynamics maps. Provided ecological systems analysis for training site input to neural network and decision tree algorithms applied to MODIS data.

Experience includes spatial, radiometric and spectral enhancement image processing techniques, GIS database management, classification analysis, and quantitative validation activities. Faculty advisor: Mark Friedl.

## TEACHING EXPERIENCE

- Boston University,  
Boston, Massachusetts      **Guest Lecturer**, undergraduate-level Introduction to Remote Sensing, fall 2002.  
“Remote sensing of urban areas: From global to local.”
- Boston University,  
Boston, Massachusetts      **Guest Lecturer**, graduate-level Digital Image Processing of Remote Sensing, fall 2002.  
“Mapping urban areas by fusing multiple sources of data: Methods using decision trees, and prior information.”
- Boston University,  
Boston, Massachusetts      **Guest Lecturer**, graduate-level Digital Image Processing of Remote Sensing, fall 2001.  
“Understanding decision trees and boosting.”
- Boston University,  
Boston, Massachusetts      **Instructor/Lecturer**, high school-level Boston University-Boston Public Schools Outreach Program, four lectures/workshops yearly, spring 2000 to present.  
“Introduction to the urban environment, GPS and GIS.”
- Interaction Institute,  
Buenos Aires, Argentina      **Instructor**, high school and adult education English, fall 1997 to spring 1999.  
Prepared and presented lectures/classes in English as a Second Language (beginner to advanced conversation), English Composition, and English Literature, eight classes daily.

## PUBLICATIONS

- A. Schneider**, D. K. McIver, M. A. Friedl and C. E. Woodcock. Mapping urban areas by fusing coarse resolution remotely sensed data. *Photogrammetric Engineering and Remote Sensing*, volume 69, pages 1377-1386, December 2003.
- A. Schneider**, K.C. Seto, and D. R. Webster. Spatial and temporal patterns of urban land use change in Chengdu, China, using remote sensing and landscape metrics. *Environment and Planning A*. In review.
- A. Schneider**, K.C. Seto, D. R. Webster, J. Cai, and B. Luo. Spatial and temporal patterns of urban dynamics in Chengdu, 1975-2002. *Asia Pacific Research Center (APARC) Discussion Paper*, Stanford Institute for International Studies, Stanford University. October, 2003.
- A. Cooper, **A. Schneider**, and M. A. Friedl. The global distribution of cereal vs. broadleaf crops: results and validation using MODIS data. In preparation.
- X. Zhang, M. A. Friedl, C. B. Schaaf, and **A. Schneider**. The footprint of urban climates on vegetation phenology. Submitted to *Geophysical Research Letters*, November 2003.
- A. Schneider**, K. C. Seto, and C. E. Woodcock. Spatial and temporal patterns of land cover change in Chengdu, China, 1978-2002. *IEEE International Geoscience and Remote Sensing Symposium*. Toulouse, France, July 21-25, 2003.
- A. Schneider**, M. A. Friedl, D. K. McIver and C. E. Woodcock. Mapping urban areas by fusing coarse resolution remotely sensed data: Global results. *IEEE International Geoscience and Remote Sensing Symposium*. Toulouse, France, July 21-25, 2003.

M. A. Friedl, D. K. McIver, J. C. F. Hodges, Z. Y. Zhang, D. Muchoney, A. H. Strahler, C. E. Woodcock, S. Gopal, **A. Schneider**, A. Cooper, A. Baccini, F. Gao, C. Schaaf. Global land cover mapping from MODIS. *Remote Sensing of Environment*, volume 83, pages 287-302, November 2002.

**A. Schneider**, M. A. Friedl, D. K. McIver and C. E. Woodcock. Mapping urban areas by fusing coarse resolution remotely sensed data. *Remote Sensing of Urban Areas, Third International Symposium*, Istanbul, Turkey, June 11-13, 2002.

**A. Schneider**, D. K. McIver, M. A. Friedl and C. E. Woodcock. Mapping urban areas using coarse resolution remotely sensed data: First results for North America. *IEEE/ISPRS Joint Workshop on Remote Sensing and Data Fusion over Urban Areas*, Rome, Italy, November 8-9, 2001.

**A. Schneider**, D. K. McIver, M. A. Friedl and C. E. Woodcock. Classification of urban areas at continental scales using remotely sensed data. *IEEE International Geoscience and Remote Sensing Symposium*, Sydney, Australia, July 9-13, 2001.

A. Strahler, M. Friedl, D. K. McIver, X. Zhang, J. C. F. Hodges, **A. Schneider**, A. Baccini, A. Cooper, C. Schaaf, F. Gao, W. Liu and S. Gopal. Global land cover classification results from MODIS. *IEEE International Geoscience and Remote Sensing Symposium*, Sydney, Australia, July 9-13, 2001.

## INVITED PRESENTATIONS

**A. Schneider**, M. A. Friedl, and C. E. Woodcock. Understanding urban areas in a global context: Monitoring urban land cover and land cover change. *American Geophysical Union Fall Meeting, Human-Induced Climate Variations Linked to Urbanization: From Observations to Modeling*, San Francisco, California, December 8-12, 2003.

**A. Schneider**, and C.E. Woodcock. Urbanization as a component of global change. *NASA's Land Cover Land Use Change Annual Science Team meeting*, Washington, D.C., November 21-23, 2002.

## HONORS AND AWARDS

**Urbanization as a Component of Global Change**, NASA Earth System Science Enterprise Fellowship, September, 2001 to August, 2004, \$75,000.

**Peri-Urban Land Use Change in China: The Case of the Chengdu Extended Urban Area**, remote sensing imagery and field work travel stipend grant. Principle investigator: Douglas R. Webster. World Bank, October 2002, \$10,000.

**State of Wisconsin Undergraduate Student Scholarship**, full four-year tuition scholarship awarded to Wisconsin high school valedictorians. University of Wisconsin, Madison, 1993 to 1997.

**Herb Kohl Student Scholarship**, awarded on academic performance. University of Wisconsin, Madison, 1993, \$1,000.

## COMMUNITY SERVICE

**Boston University-Boston Public Schools Outreach Program**, 2000 to present.

Initiated, organized, designed and led outreach programs to introduce local middle school and high school students to environmental science and geography. Instructed workshops, courses, and hands-on activities on urban environmental assessment, Global Positioning Systems (GPS) and GIS.

**Boston University Pathways Program**, mentor and participant 2002 and 2003.

Participated in two-day program introducing high school women to careers in science.

**Boston University Student Pugwash**, Vice President, 2001 to present.

Founding member of student branch of international organization dedicated to socially responsible use of science. Assisted in organizing panel discussions and workshops on topics including the impact of globalization on culture, the energy crisis, and the nexus of academia, environmentalism and activism.

**Boston University Department of Geography Brown Bag Lunch Series**, 2000 to 2001.

Initiated and organized series of ten lectures for graduate student community.

## AFFILIATIONS

American Geophysical Union (AGU).

American Society for Photogrammetry and Remote Sensing (ASPRS).

American Association of Geographers (AAG).

## FOREIGN LANGUAGE SKILLS

Fluent in Spanish and intermediate level German.

## TECHNICAL CAPABILITIES

Environments: Unix, Linux, Windows, MacIntosh. Image Processing Software: Erdas Imagine, Image Processing Workbench (IPW), PCIWorks 6.3, ENVI, Idrisi. GIS software: Arc/Info 8.0.1, ArcView 3.2, Transcad 3.2. Programming Languages: Perl5, Unix, HTML. General Software: Microsoft Word, Excel, Powerpoint, SAS, Splus, RATS.

**REFERENCES**

1. Curtis E. Woodcock  
Professor  
Department of Geography and Center for Remote Sensing  
Boston University  
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4. Alan H. Strahler  
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