



The Association of American Geographers Spatial Analysis and Modeling Specialty Group Newsletter

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FROM THE CHAIR

Greetings SAM members and friends of SAM.
I would like to use my Chair's Column for this Newsletter issue to update you on SAM activities planned for the 2008 AAG meeting to be held in Boston.
The on-line preliminary program was recently posted to the AAG web page, and I am pleased to note the diversity and breadth of SAM-sponsored (and many co-sponsored) paper and panel sessions. By my count, there are 25+ SAM-related sessions planned for our annual meeting. These may be perused by going to the on-line 2008 program search page, selecting to search by 'Specialty Group', and entering 'spatial.'



This year's sessions cover topics such as spatial econometrics, transportation and land use, geographic complexity, time geography, spatial data mining, and many others. Among our many interesting sessions scheduled, we are sponsoring two sessions honoring the work of Manfred M. Fischer. And per tradition, we will be sponsoring a graduate student paper competition.

We did not schedule a SAM plenary session and reception this year. However, SAM members are encouraged to attend the SAM business meeting, where they can catch up with colleagues and hear more about our activities and AAG happenings (Thursday, 4/17/08, from 11:55 AM - 12:55 PM).

At our business meeting, we will be electing two new board members to fill seats that will come open for the term 2008-2011. One seat is for a regular board member position, and the other is for our student board member. If you would like to be considered for one of these positions, I would encourage you to attend the SAM business meeting. I will ask for nominations at that time (self nominations welcome), and a vote will be taken to elect our new members. If you have any questions about what is involved with serving on the board, feel free to contact me (mhorner@fsu.edu).

I look forward to seeing you all at the AAG meeting in Boston.

Best wishes,

Mark W. Horner
Assistant Professor of Geography
Florida State University

NOTEWORTHY

Mei-Po Kwan, Distinguished Professor of Social and Behavioral Sciences at the Ohio State University, received with colleagues in sociology and statistics a \$700,000 grant from the Human and Social Dynamics Program of the National Science Foundation. The three-year project, entitled "Dynamics of Space and Time Use: Patterns, Causes, and Consequences for Crime and Problem Behaviors," will examine the effect of sociogeographic context on crime and other problem behaviors through a dynamic notion of neighborhood based on people's daily activities and travel in space-time.

NEWS

The Renaissance Computing Institute (RENCI) and the University of North Carolina at Charlotte have partnered to create a new center focused on forecasting urban growth and its impacts. The center will bring together the Charlotte Urban Institute, the Center for Applied Geographic Information Science and the Charlotte Visualization Center. These three centers at UNCC will collaborate on assessing the human and environmental impacts of urbanization with a particular emphasis on the Charlotte Area.

The Measuring Spatial Segregation Project (National Science Foundation SES-0520400 & SES-0520405) is releasing a beta-version of their SpatialSeg program. SpatialSeg program will compute variety of spatial segregation measures using Visual Basic for Applications (VBA) code implemented in ESRI's ArcGIS 9.2. The methods are based on those first described in Reardon SF & O'Sullivan D (2004). Measures of spatial segregation. *Sociological Methodology*, 34, 121-162. The code (a zipped file), a User Guide, some run-time estimates, and sample data sets for both race/ethnic (nominal) and income (ordinal) segregation measures can be downloaded at <http://cairo.pop.psu.edu/mss/mssdownload.cfm>. The SpatialSeg program is an ESRI ArcMap Document. To run the program the user needs ArcGIS 9.2 with the Spatial Analyst extension loaded. The preferred method for receiving feedback is e-mail to either at steveg@pop.psu.edu or matthews@pop.psu.edu.

Geographic Box Plots. A recent paper by Willmott, Robeson and Matsuura, which appeared in *Physical Geography*, describes the calculation and use of "geographic box plots" with spatial data. The authors recommend the preferential use of geographic box plots, over traditional box plots, when visualizing the distributions of digital spatial data. Although the authors' research interests lie in climate science and data, they proffer that geographic box plots can be used to help visualize a wide variety of digital geographic or spatial variables. More information about this paper, as well as about analyses of in situ climate data, can be found at <http://climate.geog.udel.edu/~climate/>. A Matlab algorithm for rendering a geographic box plot is available at http://www.indiana.edu/~climate/geog_boxplots/. If you have questions, please contact Cort Willmott at willmott@udel.edu.

The McMaster Institute for Transportation and Logistics (MITL) will provide a resource to industry and government by conducting applied research and education in transportation and logistics. The institute will focus on three broad areas:

- Performing affordable, objective research for public and private partners, emphasizing the efficient and sustainable operation of transport and logistics systems;
- Providing industry and government with trained personnel and educational programs on transportation and logistics;
- Promoting interaction between industry, government and academic experts to create benefits for industry and society alike.

We invite your organization to become an affiliate member of MITL and influence the future of the transportation and logistics industry in this region. As an affiliate your company will receive access to the Institute's expertise for minor consultations, an electronic newsletter that will be published quarterly and will be accessible by password on the Institute's website, and a forum for dialogue and discussion of issues of specific interest to this sector. The annual fee for an affiliate member is \$2,000. Please get in touch with me or with Deane Maynard (maynard@mcmaster.ca, 905-525-9140 ext. 22542) or check the web at <http://mitl.mcmaster.ca/> if you require further information.

SAM SG sessions at the AAG Meeting

In keeping with past successes at the annual meetings, SAM is sponsoring or cosponsoring sessions at the AAG Meetings, April 15-19, 2008 in Boston, Massachusetts. The following are the scheduled special sessions with official SAM sponsorship. Please mark your calendar and join these sessions.

- Applications and Extensions of Spatial Eigenvector Filtering (Thursday, 4/17/08, from 8:00 AM - 9:40 AM)
- Commuting, Land Use, and Spatial Structure I (Thursday, 4/17/08, from 8:00 AM - 9:40 AM)
- Commuting, Land Use, and Spatial Structure II (Thursday, 4/17/08, from 10:10 AM - 11:50 AM)
- Commuting, Land Use, and Spatial Structure III (Thursday, 4/17/08, from 1:00 PM - 2:40 PM)
- Determining the Environmental Impacts of Sprawl: Patterns and Impacts (Part 1) (Tuesday, 4/15/08, from 12:00 PM - 1:40 PM)
- Determining the Impacts of Sprawl: Scenarios and Policies (Part 2) (Tuesday, 4/15/08, from 2:10 PM - 3:50 PM)
- Exploring "New" Geographies of Mobility and Accessibility: Theory, Modelling, and Policy Implications II (Tuesday, 4/15/08, from 2:10 PM - 3:50 PM)
- Exploring "New" Geographies of Mobility and Accessibility: Theory, Modelling, and Policy Implications I (Tuesday, 4/15/08, from 12:00 PM - 1:40 PM)
- Measurement and Modeling of Land Use and Cover Change (Thursday, 4/17/08, from 5:20 PM - 7:00 PM)
- Perspectives on Geographic Complexity I: Theory (Saturday, 4/19/08, from 8:00 AM - 9:40 AM)
- Perspectives on Geographic Complexity II: Methods/Issues (Saturday, 4/19/08, from 10:10 AM - 11:50 AM)
- Perspectives on Geographic Complexity III: APPLICATIONS I: Land use (Saturday, 4/19/08, from 2:20 PM - 4:00 PM)
- Perspectives on Geographic Complexity IV: Applications in Urban Modeling (Saturday, 4/19/08, from 4:30 PM - 6:10 PM)
- **SAM Graduate Student Paper Competition Session** (Thursday, 4/17/08, from 3:10 PM - 4:50 PM)

- SDSS Development: Learning from Real World Experiences (Wednesday, 4/16/08, from 8:00 AM - 9:40 AM)
- Shifting patterns of illicit crop cultivation (Wednesday, 4/16/08, from 8:00 AM - 9:40 AM)
- **Spatial Analysis and Modeling Specialty Group Business Meeting** (Thursday, 4/17/08, from 11:55 AM - 12:55 PM)
- Spatial Analysis and Modeling: Theory and Applications (Thursday, 4/17/08, from 1:00 PM - 2:40 PM)
- Spatial Analysis and Modeling: Transport and Spatial Analysis (Thursday, 4/17/08, from 10:10 AM - 11:50 AM)
- Spatial Data Mining and Exploratory Data Analysis (1) (Friday, 4/18/08, from 2:30 PM - 4:10 PM)
- Spatial Data Mining and Exploratory Data Analysis (2) (Friday, 4/18/08, from 4:40 PM - 6:20 PM)
- Special Session to honor Manfred M Fischer's contributions to Geography: Spatial Analysis and Modeling. 1 (Friday, 4/18/08, from 2:30 PM - 4:10 PM)
- Special Session to honor Manfred M Fischer's contributions to Geography: Spatial Analysis and Modeling. 2 (Friday, 4/18/08, from 4:40 PM - 6:20 PM) (Wednesday, 4/16/08, from 1:00 PM - 2:40 PM)
- Time Geography: Emerging Theoretical Developments, Implementations, and Applications (I) (Wednesday, 4/16/08, from 1:00 PM - 2:40 PM)
- Time Geography: Emerging Theoretical Developments, Implementations, and Applications (II) (Wednesday, 4/16/08, from 3:10 PM - 4:50 PM)
- Urban growth and its impact on the environment – I (Friday, 4/18/08, from 8:00 AM - 9:40 AM)
- Urban growth and its impact on the environment – II (Friday, 4/18/08, from 10:10 AM - 11:50 AM)
- Urban growth and its impact on the environment – III (Friday, 4/18/08, from 12:20 PM - 2:00 PM)

JOBs
ILLINOIS, CARBONDALE 62901-4324.

Postdoctoral Fellowship in GIS Analysis: Disaster Planning and Natural Hazard Mitigation. An active researcher is sought for analysis of large geospatial databases to assess flood risk and other hazards and disaster vulnerability. This project involves GIS-based hazard modeling to guide disaster planning and mitigation. The successful candidate will have a PhD in GIS-related science, hydrology, or geoscience (will review exceptional MS candidates), be fluent in written and spoken English, have advanced knowledge of ArcGIS and other ESRI products, and experience with management and analysis of complex geospatial datasets. Other areas of expertise and research interest may include: hydraulic modeling, multivariate statistical analysis, and/or experience with government GIS.

Apply: Submit a CV, 1-page letter outlining experience, university records, and 3 letters of recommendation by or before Apr. 15, 2008 to Prof. N. Pinter, Geology Dept., Southern Illinois University, Carbondale IL 62901-4324. No email or other electronic submissions will be considered.

MASSACHUSETTS, CAMBRIDGE 02138.

Preceptor in Geospatial Analysis. Responsibilities: Design and teach introductory undergraduate and graduate courses in geospatial analysis, including geographic information systems (GIS), global positioning systems (GPS), remote sensing and related geospatial science and technology, primarily for students in the social sciences and environmental sciences. In addition, work in collaboration with faculty and the Center for Geographic Analysis to develop GIS tools and geographic data for various courses in the social sciences, environmental sciences, and humanities. Start date is September 1, 2008. The position is renewable on a yearly basis up to eight years, based on performance, enrollments, and curricular needs.

Qualifications: MA or Ph.D. in geography or other relevant fields. Knowledge of geospatial science and technology; familiarity with current major GIS, GPS and remote sensing software packages; proficient in at least one product suite in each category; experience in the customization and implementation of geospatial technology in at least one, preferably two or more disciplines; experience in course material development and classroom instruction;

spatial modeling and spatial statistics expertise highly desirable.

Apply to: Letter of application, CV, and two letters of recommendation should be sent to GIS Preceptor Search, Center for Geographic Analysis, Harvard University, 1737 Cambridge Street, Cambridge MA 02138. Email to: contact@cga.harvard.edu. Review of applications will begin on April 15, 2008, continuing until the position is filled.

The Department of Geography at George Mason University is seeking graduate student applicants (masters or doctoral) for a Fellowship to work with representatives from Loudoun County, Virginia to develop procedures for implementing a public facility co-location policy. The Fellowship is being sponsored by the Department and the Loudoun County Office of Mapping and Geographic Information in Leesburg, Virginia for academic year 2008-2009.

Since 2000, Loudoun County (<http://www.loudoun.gov>) has been the fastest growing county of its size in the United States. To alleviate some of the land use pressures attributable to rapid population growth, the Department of Geography and the Office of Mapping and Geographic Information (<http://www.loudoun.gov/omagi/index.htm>) have been working for the past two academic years to develop the procedures to implement a public facility co-location policy. The candidate selected to continue this project will be expected to work closely with administrators and staff at Loudoun County to continue to refine the procedures which will lead to the successful implementation of Loudoun's co-location policy.

The Fellowship is an academic-year award with the potential for annual renewal. The Fellowship includes a tuition waiver as well as a stipend. Selection will be on a competitive basis. To apply for the Fellowship, please submit a cover letter and resume which highlight your qualifications for the Fellowship to the following address: Public Facility Co-Location Fellowship, Department of Geography, George Mason University, 4400 University Drive, MSN 1E2, Fairfax, Virginia 22030 USA.

Applications for the 2008-2009 Fellowship will be accepted until the Fellow is selected on May 15th, 2008. Please direct any questions regarding the Fellowship to Dr. Ed Zolnik (Tel: (703) 993-1144/E-

mail: ezolnik@gmu.edu) in the Department of Geography at George Mason University.

CALLS AND MEETINGS

GIScience 2008 (<http://www.giscience.org/>). The 5th International Conference on Geographic Information Science, September 23-26, 2008. Park City, Utah. TOPICS: Emerging topics and basic research findings across all sectors of geographic information science. The conference attracts leading GIScience researchers from all fields to reflect the interdisciplinary breadth of GIScience, including cognitive science, computer science, engineering, geography, information science, mathematics, philosophy, psychology, social science, and statistics. As GIScience focuses on advances in the fundamentals of Geographic Information Science, submission of GIS application papers is discouraged. **PUBLICATION:** Springer Lecture Notes in Computer Science. **MODALITIES:** Full papers and extended abstracts. **DEADLINES:** Workshop proposals due December 14, 2007, Workshop notification January 18, 2008, Full papers due February 29, 2008, Paper notification April 28, 2008, Abstracts due May 30, 2008, Abstract notification July 11, 2008.

Advanced Spatial Analysis Training Program for Population Scientists. The Population Research Institute (The Pennsylvania State University, State College) and the Center for Spatially Integrated Social Science (University of California, Santa Barbara) are pleased to announce a series of 5-day Advanced Spatial Analysis Workshops scheduled for the summers of 2008 through 2011, subject to funding. Information on these workshops can be found at both the PRI website (<http://www.pop.psu.edu/gia-core/>) and the CSISS site (<http://csiss.ncgia.ucsb.edu/GISPopSci/>). The target audience for these advanced workshops is early-career population scientists (i.e., graduate students, post-docs, and junior faculty/researchers in demography-related disciplines) based at research institutions and population-related agencies in the United States. The proposed schedule for 2008 is:

June 1-7 Geographically Weighted Regression in State College/PRI/Penn State

July 14-18 Spatial Pattern Analysis Santa Barbara/CSISS/UCSB

In 2009 the planned workshops are on Spatial & Multilevel Modeling (State College) and Spatial Regression Modeling (Santa Barbara). The initial four workshops may be repeated in 2010 and 2011 but there is also the potential to expand the series to include topics as agent-based modeling or Bayesian spatial modeling.

Information regarding application procedures and the eligibility for a modest stipend will be made available in early February at <https://csiss.ncgia.ucsb.edu/GISPopSci/workshops/2008/apply/>. At this time - and subject to release of federal funds - we envision the following timetable regarding an application process/decision:

February, 2008 - Application website up and running

March 31, 2008 - Application website closes

April 14, 2008 - Successful applicants contacted and invited to summer 2008 workshops

April 21, 2008 - Invited applicants must confirm attendance at 2008 workshop

June 1, 2008 - first workshop begins

For additional information please contact Stephen Matthews at matthews@pop.psu.edu.

COMPETITIONS

William L. Garrison Award for Best Dissertation in Computational Geography

Deadline for Nominations: September 2, 2008

The biennial William L. Garrison Award for Best Dissertation in Computational Geography supports innovative research into the computational aspects of geographic science. The award is intended to arouse a more general and deeper understanding of the important role that advanced computational approaches can play in resolving the complex problems of space-time analysis that lie at the core of geographic science. The award is one of the activities of the Marble Fund for Geographic Science of the Association of American Geographers (AAG).

The Garrison Award consists of a cash prize in the amount of \$3,500 and a certificate of merit. The formal presentation of the award takes place at the annual meeting of the AAG in the year the award is announced (in the current instance, Las Vegas, NV on March 22-27, 2009).

There is no restriction placed upon the formal disciplinary area of the research so long as it is directly related to advanced computational approaches to the solution of problems addressed by geographic science.

The award is open to candidates associated with any institution of higher education, anywhere in the world, that is authorized to award the doctorate.

Dissertations completed in the two year period beginning on September 1st of 2006 and terminating on August 31st of 2008 are eligible for nomination. In the context of this award, a dissertation is considered to be completed when the final version of the document has been deposited with and accepted by the institution of higher education awarding the degree. All nominations will be carefully reviewed and those determined to be within the stated goals of the competition will be invited to make a full submission for final consideration. It should be noted that the emphasis of the Garrison Award is upon innovative computational approaches and award applications based upon the routine application of standard software packages are not encouraged.

Complete information on the Garrison Award and instructions for the submission of nominations may be found at:

www.aag.org/Grantsawards/marble_garrison.htm

The first award in this program was made in April of 2007 to Dr. Stéphane Joost of the École Polytechnique Fédérale de Lausanne for his dissertation entitled *The Geographical Dimension of Genetic Diversity: A GIScience Contribution for the Conservation of Animal Genetic Resources*.

The Marble-Boyle Undergraduate Achievement Awards in Geographic Science

The current application period is June 15-October 15, 2008

The Association of American Geographer's Marble Fund for Geographic Science is pleased to announce the new *Marble-Boyle Undergraduate Achievement Awards*. These awards aim to

recognize excellence in academic performance by undergraduate students from the United States and Canada who are putting forth a strong effort to bridge geographic science and computer science as well as to encourage other students to embark upon similar programs. These awards, together with the William L. Garrison Award for Best Dissertation in Computational Geography, are activities of the Marble Fund and are supported by donations to the Fund. In the case of the current awards, the support of Mr. Jack Dangermond is gratefully acknowledged.

The awards are named for Dr. Duane Marble, creator of the Marble Fund, and for the late Dr. A. R. (Ray) Boyle who was a major Canadian contributor to the early development of both computer cartography and geographic information systems.

Each of the Marble-Boyle Undergraduate Achievement Awards consists of a cash prize of \$700, a \$200 credit for books published by the ESRI Press and a certificate of recognition. Initially, up to three awards will be made available each year. Formal presentation of the awards will be made at the annual AAG awards luncheon. Awardees are encouraged, but not required, to attend.

Applications will be reviewed by the Marble Fund's Undergraduate Achievement Award Committee. After review, the Committee will recommend up to three applications to the Marble Fund Trustees as winners. Final awards will be made by the Trustees. The conditions for application are:

1. Applicants must be enrolled in a full-time program of study at an accredited United States or Canadian college or university.
2. At the time of the application, the applicant must be no more than twelve months from graduation.
3. Applicants must demonstrate a reasonable intent to embark upon a career or further education that will make use of their joint geographic science and computer science knowledge.
4. There is no limit with respect to the number of students who can apply from a single institution. There will be, however, only one student per year from a single institution who may receive an award.
5. Applicants do not need to be members of the Association of American Geographers, but they are strongly encouraged to consider membership.

Full information on the awards and the application process may be found at:

www.aag.org/grantsawards/marble_boyle.htm

INFORMATION

Spatial Analysis and Modeling (SAM)

Our mission is to foster and maintain interaction, cooperation and community among individuals interested in the analysis of geo-referenced data, modeling of spatio-temporal processes and the use of analytical and computational techniques in solving geographic problems. The specialty group promotes the scientific study of physical, environmental and socioeconomic geography and the development, use and teaching of analytical cartography, GIS, remote sensing, spatial statistical, mathematical and computational techniques for spatial analysis.

Membership Dues

Regular: \$3
Student: \$1

Submissions

This newsletter reaches a large number of readers and is therefore an excellent venue for getting the word out on community news, departmental happenings, research findings, media appearances, and the like. It is also a good place to post calls for proposals, awards, grants, fellowships, and jobs. We also invite you to submit commentaries or features of broad interest to specialty group members.

The newsletter relies on volunteers to submit articles, so please take a moment to send along relevant items.

Please send your submission by email to Ningchuan Xiao (xiao.37@osu.edu). Photos or other images, with captions in an attached text file, are also welcome (GIF, JPG, or PNG).

Officers

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