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Poster Presentations:

Max Baber, USGIF, ‘Geospatial Intelligence (GEOINT) and the Age of Spatial Reasoning’

Song Chen, Bucknell, ‘Using GIS to Uncover Macrohistorical Patterns of Local Governance in Sichuan Region of China between 960 and 1279’

Kim Diver, Wesleyan, ‘GIS-based service learning at Wesleyan University: Contributing to the quality of open space in south central Connecticut’

Carolin Ferwerda, Wellesley College, ‘Six Parts of a GIS’

Ashraf Ghaly, Smith College, ‘Smith College Mystery Map’

Corinna Keeler, Jon Caris, Smith College, ‘Smith College Mystery Map’

Corinna Keeler, Smith College, ‘Recipes for GIS Success’: Making GIS easier and more accessible through videos and humor (interactive display)

Kristen Lukens, St. Norbert’s College, ‘edTPA and GIS – A Perfect Match’ (interactive display)

Steffany Meredyk ’14, Bethany Dunn ’14, Prof. Katherine Faull, Bucknell, ‘A Corridor of Fear: Stories along the Susquehanna River, 1754-1768’

Steffany Meredyk ’14, Profs. Katherine Faull and Duane Griffin, Bucknell, ‘Not Merely Overrun, But Destroyed: The Sullivan Expedition Against the Iroquois Indians, 1779’

Jason Muhlbaier ’13, Zac Hancock ’13, Matt Sirianni ’14, Darin Rockwell ’13, Robby Holler ’13, Mike Grasso ’13 with Prof. Rob Jacob, Craig Kochel and Ben Hayes, Bucknell, ‘Geo-Enabling Aid and Development – The Possibilities of Online and Mobile GIS’ (interactive display)

Reed Perkins, Queens College, ‘Across Grade Levels, Across Forests, Across Town: A K-5 and University Geospatial Outreach Project’

Darín Rockwell ’13/Prof. Carl Kirby, Bucknell, ‘Mapping Marcellus Shale Flowback Water Chemistry’

Salim Sawaya, ESRI, ‘Web Based Mapping at Villanova University’ (interactive display)

Christian Treat ’13, Prof. Michelle Oswald, Bucknell, ‘Using GIS to Model Seal Level Rise Inundation’

Guillaume Turcotte, Villanova, ‘Web Based Mapping at Villanova University’ (interactive display)

Mike Winiski, Andrew Woten, Furman University, ‘Remembering … what? Memory, identity and politics II’

This conference would not have been possible without the assistance of Bucknell faculty and staff. Specifically, the committee would like to thank Duane Griffin, Ben Marsh, Carl Kirby, David Del Testa, Katie Faull, Param Bedi, Carrie Rampp, Patty Housner, Karen Morin, Kim DiRocco, Kelly Stover, Matt Gardzina, Jennifer Parrott, Deb Balducci, Deb Sarlin, Brianna Derr, Kathleen McQuiston, Jim Van Fleet, Mike Weaver, Leslie Harris, Emily Conners and Tom Mueller.

We look forward to a productive, engaging weekend, and we hope that you enjoy your stay in Lewisburg!

Janine Glasthar, GIS Specialist
Library and Information Technology
Bucknell University
Conference Agenda

Friday, November 16
5:00p.m. Cocktail Hour and Map Gallery Opening
   Terrace Room, Elaine Langone Center

6:00p.m. Dinner with keynote address, Jeremy Crampton, University of Kentucky, 'Through a Scanner Darkly: Adventures in Top Secret America'
   Terrace Room, Elaine Langone Center
Opening Remarks, Param Bedi, Vice President for Library and Information Technology
Introduction of Jeremy Crampton, Karen Morin, Presidential Professor of Geography

7:30p.m. Mixer with a (Spatial) Twist
   Terrace Room, Elaine Langone Center

Saturday, November 17

7:30a.m. Breakfast Buffet
   Terrace Room, Elaine Langone Center

8:30a.m. Welcome/Presentation of Conference Format and Goals
   Terrace Room, Elaine Langone Center
Opening Remarks, Param Bedi, Vice President for Library and Information Technology
Presentation of Conference Format and Goals, Duane Griffin, Associate Professor, Geography

9:00a.m  Session1: Mapping Human Activity -- Qualitative Analysis GIS
   Terrace Room, Elaine Langone Center
Chairpersons:
Katherine Faull, Bucknell University, German/Comparative Humanities
David DelTesta, Bucknell University, History

Presenters:
Meghan Cope, University of Vermont, Geography, 'Mapping Teen Mobilities: New Ethnographies for Digital Lives'
Jon Caris, Smith College, Spatial Analysis Lab, and Andy Anderson, Amherst College Academic Technology Services, 'Spatial Techniques for Digital Humanities'
Katherine Faull, Bucknell University German/Comparative Humanities and David Del Testa, Bucknell University History, 'Red River, Black River, the Susquehanna River Too: Student-Faculty Collaborations in the Spatial Humanities at Bucknell'

10:30a.m. Morning Break
   Terrace Room, Elaine Langone Center

Session 3: GIS in Community Outreach

Beverly Wemple, University of Vermont, ‘Piloting a GIS course as a Service Learning Offering at the University of Vermont’
Community-based service learning and problem-based learning have emerged as powerful pedagogical approaches in undergraduate education. Many projects pursued by students in these endeavors have inherent spatial dynamics. Integration of geographic information systems (GIS) and spatial analysis into these projects can provide students with powerful analytical and technical training, while connecting community partners with technologies and technological expertise that they would not otherwise have. This presentation describes a pilot effort to pair our intermediate GIS course within the Geography Department at the University of Vermont (UVM) with our well-established service learning pedagogies to enhance the student learning experience and further UVM's mission of community outreach.

Jeff Brunskill, Bloomsburg University, 'GIS-Based Street Tree Inventories: A Review of an Ongoing Bloomsburg University Community Service Project’
In the spring of 2010, students and faculty in the Department of Environmental, Geographical and Geological Sciences at Bloomsburg University initiated a project with the Bloomsburg Shade Tree Commission to conduct an inventory of the street trees in the Town of Bloomsburg. The inventory was conducted to help the tree commission assess the characteristics of the town's urban forest, including the distribution and age of different tree species, the health of the trees, and the costs associated with efforts to maintain and improve the existing tree infrastructure. Provided this background, this talk will focus on three topics. First, it will present an overview of the objectives and design of the GIS-based street tree inventories. Particular attention will be given to technologies (e.g., iTree and Urban Forest Map) that have been developed to facilitate community involvement in such projects. Second, it will highlight pedagogical aspects of the project regarding the geographic information system (GIS) and planning curricula, as well as efforts to involve students with varying degrees of GIS knowledge in the project. Third, the talk will review the benefits of GIS-based tree inventories for the community and highlight potential opportunities for continued involvement following the completion of the project.

Tom Mueller, California University of PA, 'PA View - Bringing Remote Sensing to the Public’
PAView is a collaborative effort of a consortium of members throughout the Commonwealth of Pennsylvania. PaView, as part of the AmericaView program, will focus on public domain remotely sensed data and technologies in support of applied research, K-16 education, workforce development, and technology transfer. AmericaView (AV) is administered through a partnership between the U.S. Geological Survey and the AmericaView SM Consortium. One of PAView’s goals is to create resources for teachers to utilize in their classrooms to educate students about satellite imagery. This presentation will discuss several of PAView’s educational projects ranging from K - 12 to university level.
Jeremy Donald, Trinity University and Mike Winiski, Furman University, ‘The Learning Cycle - A Tool for Course and Assignment Design’

Teaching GIS to undergraduates often involves balancing software procedures with spatial thinking skills. Students need to become both competent software operators and informed spatial thinkers capable of handling messy problems. Designing courses and assignments that facilitate the development of technical skills along with the following higher-level student learning objectives is challenging. In this session, we will briefly introduce participants to Kolb's Learning Cycle as a planning and design tool for GIS instruction by having participants experience a brief learning cycle activity. Subsequent discussion will explore how this design paradigm might be used to help strike a balance between content and process goals and provide students with experiences that help them reframe setbacks as learning opportunities.

Karen Mulcahy, East Carolina University, ‘Making the Impossible Possible: A GIS Course Serving Diverse Purposes & Students’

How can a single Fundamentals of GIS course serve the needs of a wide variety of students taking a one-off GIS class as well as serving as an introductory course for majors? The challenges are great. The majors need a solid grounding in essential concepts of the geographic grid, coordinate systems, scale, map projections, map design, thematic mapping, data structure, accessing spatial data and types of data. The students taking the class as a one-off want to fulfill a practical need for mapping in their major such as the geology or maritime history, or they may be using the course to fill an elective course in criminal justice or industrial design majors. Next, toss in a few graduate students from various majors with an immediate need for skills to complete thesis work. All of these students need to master a basic level of competency using GIS software and to be introduced to the wide range of GIS applications. The solution to these challenges has been evolving for several years and has proved to be effective. The Fundamentals of GIS course is highly structured with frequent quizzes on theoretical concepts and software, required attendance, a good textbook, weekly exercises, on-line software training, live software evaluations, and written exams; the course is capped by individual student projects with a service learning component. During the final exam period, students present their work to one another and their clients. This presentation will share the evolution of this course through the perspective of this instructor and student evaluations and explore the new challenges created by a shift towards on-line mapping.

Rutherford Platt, Gettysburg University, ‘Sequencing and Structuring Introductory GIScience Courses’

The sequence of topics in introductory GIScience courses varies widely and is not always coherent. Where do we start when there is no definitive starting point and no single path to mastery? Hint: the major textbooks all have it wrong. Rather than stringing together discrete ‘knowledge areas’, effective GIScience courses often employ a spiral approach. A spiral approach introduces and returns to concepts at increasing levels of complexity throughout the semester. In this talk, I describe my personal journey of building a spiraling GIS curriculum that didn’t spiral out of control. I wanted my GIScience course to focus on high level concepts and problem solving; to engage with students’ existing knowledge and interests; to help students develop technical skills but not at the expense of ‘big picture’ understanding. In short I wanted the sequence and structure of the course to embody the liberal arts ideal.
Keynote Speakers:

Jeremy Crampton is Associate Professor of Geography at University of Kentucky, where he teaches cartography, GIS, and a seminar in mapping. He is the author of *Mapping: A Critical Introduction to Cartography and GIS* (2010), *The Political Mapping of Cyberspace* (2003) and *Space, Knowledge and Power: Foucault and Geography* (edited with Stuart Elden, 2007) and is the past editor of the journal *Cartographica: The International Journal for Geographic Information and Geovisualization*. Professor Crampton also runs the Open Geography blog.

Anne Kelly Knowles is Associate Professor of Geography at Middlebury College. For more than fifteen years, she has been a pioneer in historical GIS. Her two edited books, *Past Time, Past Place: GIS for History* (ESRI Press 2002) and *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship* (ESRI Press 2008), along with special issues of the journals *Social Science History* and *Historical Geography*, have become benchmarks in this interdisciplinary field. As an historical geographer, Knowles has specialized in American immigration and industrialization, the subjects of *Calvinists Incorporated: Welsh Immigrants on Ohio’s Industrial Frontier* (University of Chicago Press 1997) and *Mastering Iron: The Struggle to Modernize an American Industry, 1800-1868* (University of Chicago Press, forthcoming 2012). Her research has been supported by fellowships from the American Council of Learned Societies and the National Endowment for the Humanities. Professor Knowles is currently Principal Investigator with Alberto Giordano (Texas State at San Marcos) on the Holocaust Historical GIS project, funded by the National Science Foundation.

Diana Stuart Sinton is the Director of Spatial Curriculum and Research at the University of Redlands (California) where she leads LENS (LEArning Spatially), a campus-wide initiative to integrate mapping and spatial perspectives into diverse academic disciplines. She teaches Foundations of Spatial Thinking for the School of Education’s Masters in Education degree in Spatial Literacy Curriculum and Instruction. She has research interests in spatial thinking, geospatial technologies in learning, and the role of spatial literacy in higher education, a topic that she has written about in publications such as *Understanding Place: GIS and Mapping across the Curriculum* (ESRI Press, 2006). She previously worked for NITLE, the National Institute for Technology and Liberal Education, and has taught Geography, GIS, and Environmental Studies courses at Alfred University and the University of Rhode Island. Professor Sinton has a BA in Religion (Middlebury College) and MS and PhD degrees in Geography (Oregon State University). Learn more at dianamaps.com and on Twitter @dianamaps.

Presentation Abstracts:

**Session 1: Mapping Human Activity: Qualitative Analysis GIS**

**Meghan Cope, University of Vermont, ‘Mapping Teen Mobilities: New Ethnographies for Digital Lives’**

As the trend toward mixed-methods continues and the volume of spatially-referenced digital information at our fingertips grows rapidly, it is easy to lose a sense of how new the ubiquitous availability of information and communication via digital devices really is. In a project with high school teens in Northern Vermont, we used a mix of methods to explore the rapid changes in teens’ lives fostered by tools such as cell phones, texting, mobile Internet access via ‘smartphones’, and various forms of messaging. In this study, we are finding that millennial teens use digital devices to construct new intersections between communication, information, and transportation. By actively employing these devices in our research, we are creating new methods for understanding emerging ‘digital lives’, which represent a mix of traditional ‘analogue’ techniques and new electronic methods. In this presentation, we describe these emerging methodologies and the empirical challenges they were designed for, and we reflect on how the daily lives of teens serve as a harbinger of new geographies of mobility, communication, and technology.

**Jon Caris, Smith College, and Andy Anderson, Amherst College, ‘Spatial Techniques for Digital Humanities’**

Recent years have seen an increase in interest in the digital humanities at the Five Colleges in western Massachusetts. Many aspects of the humanities also involve geospatial relationships, and GIS and related tools make it significantly easier to collect, analyze, and understand data of interest to humanists. We have been involved in several projects with faculty that engage students in the study of geographic relationships, and to capitalize on that experience we developed a faculty workshop on the spatial humanities, supported by a grant from the Mellon Foundation. Offered this past summer, the workshop brought together Five College faculty for two days of discussion, learning, and collaboration. Twenty faculty, with research interests ranging from ancient architecture to Chinese literature to new media, worked through eight themed sessions focusing on a variety of resources and methodologies in the spatial humanities. The workshop demonstrated several spatial humanities projects at the Five Colleges and elsewhere, followed by presentations of useful technologies coupled with hands-on activities. In this presentation, we will share our examples and describe the workshop, the faculty response, and our plans for follow-up and continuation of the workshop.

**Katherine Faull and David Del Testa, Bucknell University, ‘Red River, Black River, the Susquehanna River Too: Student-Faculty Collaborations in the Spatial Humanities at Bucknell’**

One of the great advantages Professors Katherine Faull and David Del Testa have found in using Geographic Information Systems (GIS) software as an interpretive and analytical tool is the multiple ways it allows them to include students of different talents in undergraduate-level research. For Faull, the Stories of the Susquehanna GIS project permits the visualization and analysis of the journeys that Euro- and Native Americans took during the peri-contact period and the relationships various groups developed along the Susquehanna River. For Del Testa, the Nghe-Tinh Soviets GIS allows students to question the long-held assumptions about an important rebellion in early 1930s Vietnam. Students have helped correlate historical and contemporary place names, position point features on digital maps, and research the kinds of crops displayed on historical maps that underlie the Nghe-Tinh Soviets GIS. In both cases, students have played a central role in constructing, analyzing, and critiquing the stories that Faull and Del Testa’s GIS projects can tell.