



UNC CHARLOTTE
College of Liberal Arts & Sciences
Geography & Earth Sciences



EARTH MATTERS

Newsletter of the Department of Geography and Earth Sciences



Building a GIS Advantage

the Charlotte-ESRI connection

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Dear Friends

April reminds us that another academic year is rapidly coming to a close. 2016-17 has been another year of great achievement and change for the Department.

During summer 2016 the first two phases of the long rumored McEniry Building renovations were begun with two 75 seat classrooms on the first floor being completely renovated. The 2nd renovation involved the complete gutting (including wall removal) of the south corridor of the 4th floor (see page 3). After several delays the Department took possession of three new graduate student spaces and a new graduate lounge in late November. The new space can accommodate 48 students and appears to be a great hit with our students. A special thank you on behalf of the Department to Patrick Jones who attended innumerable planning meetings, sorted out the logistics for the staged moving of the faculty and students and then came up with the contingency plan when the project was delayed. Well done Patrick!

The Department, like the University continues to grow rapidly with over 300 majors and 33 full time faculty. We are delighted to welcome two new colleagues, Dr. Jacob Scheff (Atmospheric Scientist), <http://www.ldeo.columbia.edu/~jscheff/> and Dr. Colleen Hammelman (Urban Geographer) <http://www.cla.temple.edu/gus/graduate/current-students/colleen-hammelman/> who will be joining us for Fall 2017. We also welcomed a new PhD into the fold with long time faculty member Laurie Garo earning her PhD in Curriculum and Instruction from the College of Education.

The Department continues to be a beehive of scholarly activity with 95 manuscripts and book chapters published and 133 presentations at professional meetings during this past year. Approximately 40% of these scholarly achievements list students as authors or co-authors.

To highlight a few of the many student centered activities and achievements from this past year: undergraduate students Jamal Covington and Devin Martin tied for first place in the Partnership for Social Good's Hackathon in 2016; on March 24 approximately 250 students from local public schools attended the student organized 3rd Annual Charlotte Weatherfest event; and at the recent UNC Charlotte Graduate Research Symposium PhD Geography and Urban Regional Analysis students Danny Yonto and Tonya Farrow-Chestnut received first and third place awards in the Public Health, Social Sciences, and Business oral presentation category.

The Department is extremely proud of Dr. Heather Smith, who received the University's top award for outstanding graduate mentoring, the Harshini V. de Silva Graduate Mentor award. Finally, long time faculty member Dr. Tyrel ("Tink") Moore has decided to retire after 35 years of service to the Department. He is going to be greatly missed.

On behalf of the Department we wish everyone the best over the summer and look forward to providing you an update for the 2016-17 academic year in our next edition of *Earth Matters*.



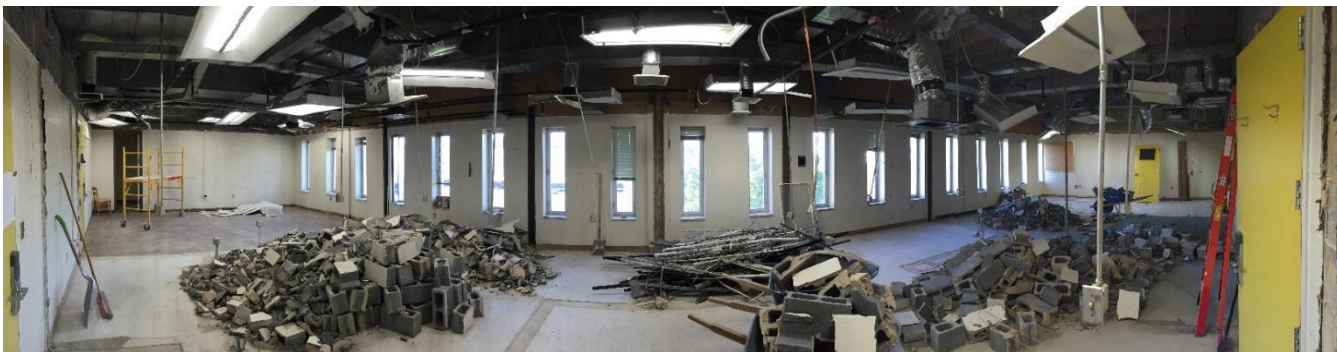
Craig J. Allan, Department Chair

Renovations

by Patrick Jones & Eric Delmelle

Renovations started last summer and ended just before winter break. There were 2 faculty offices, 1 research office and 2 cubicle offices that were removed and turned into 2 18 desk rooms for graduate students. There were also 3 rooms on the interior of the building that were removed to create a graduate breakroom and a 12 desk graduate room.

All of these areas were given new furniture and flooring. Enjoy!



Renovations (con't)

by Patrick Jones & Eric Delmelle



The Charlotte-Esri connection

by Eric & Elizabeth Delmelle

Background. Esri (Environmental Systems Research Institute) is the leading GIS software company worldwide. It occupies over 40 percent of the worldwide GIS market share and is used by more than two-thirds of Fortune 500 companies. The company's headquarters is located in Redlands, California, but there are 10 regional offices scattered throughout the United States. As use of the software rapidly grew, the company found the need to establish an eastern headquarters to offset customer support requests in California. The Charlotte regional office became this location and it has quickly grown to nearly 150 employees. Besides customer support, the office also houses a team of business development experts who work with specific industries (real estate, electric and gas, telecommunications, manufacturing) to implement GIS solutions to their spatial problems.

What happened? Given the explosive growth of both the geospatial technology industry, and in GIS within the Geography and Earth Sciences department at UNC-Charlotte, a partnership between Esri Charlotte and the department was an obvious, but untapped connection. In 2009, a deliberate effort was undertaken to formalize a relationship between the two and it has been strengthening ever since. The purpose of the partnership was to expose students to the latest technological advancements and to give them the best opportunity to succeed in the workplace. In other words, we welcomed advice and wisdom from ESRI and adapted our curriculum so that our students would be the most competitive in the job market.

What did we do exactly? We began by developing a set of GIS seminars with talks ranging from technical demos, classroom presentations to job recruiting sessions (with Human Resources Representatives from Redlands). Talks were not only open to the students, but to the entire GIS community on campus including other departments and the Facilities Management mapping team. We further extended our invitation to students from nearby schools including CPCC.

In a sense, this two-way relationship has been a win-win situation. Esri provided our students with the latest technical expertise and informed us where the field was heading to, and in return, we provided them with our very best students to fill key fulltime and internship positions. In addition, as we redesigned our undergraduate and graduate GIS curriculum, our relationship with Esri helped ensure that our current course offerings include the most relevant skills needed in today's geospatial industry. In turn, when Esri has an open position, they can be confident that our graduates will be well-prepared to step into a variety of roles.



Pete Hollis, Terri Bliss and Todd Stuber at the Esri booth during University Career Fairs.

The Charlotte-Esri connection

by Eric & Elizabeth Delmelle

Technical presentations

Since 2009, Esri has presented over 20 talks to our department either in a seminar setting or as presentations to specific classes. For example, each year in the Spatial Database class, Esri delivers a hands-on exercise and lesson on enterprise databases and ArcSDE. Other seminars have included an introduction to ArcGIS Pro, ArcServer, ArcPy the incorporation of social media data in GIS, to name a few.



Our students practicing a delivery routing problem by hand, before validating their solution with the ArcGIS network analyst (presentation on routing with GIS).

Although these presentations typically lasted 60 to 90 minutes, it was not uncommon to have presenters stay well beyond to help our students with technical difficulties they may have encountered during their research.



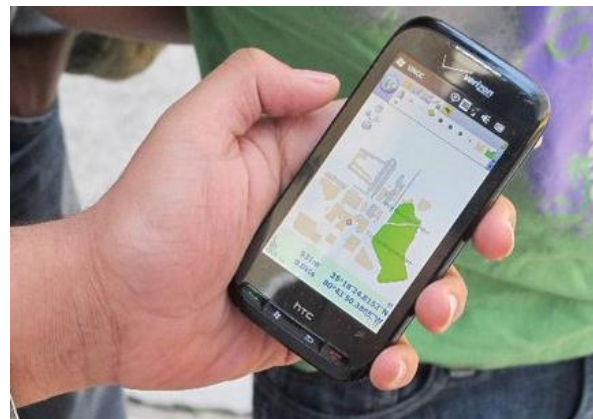
Esri presenters providing expert advices to our students after their presentations.

The Charlotte-Esri connection

by Eric & Elizabeth Delmelle

Field data collection

One recurring event has been a 3 hour workshop on field data collection using ArcPad and the Collector App. After a 45 minutes introduction to the concepts of GPS and ArcPad, students then went outside to experience this mobile technology and collect data points. They would then returned to the computer lab to download their routes and visualize them within the GIS software.

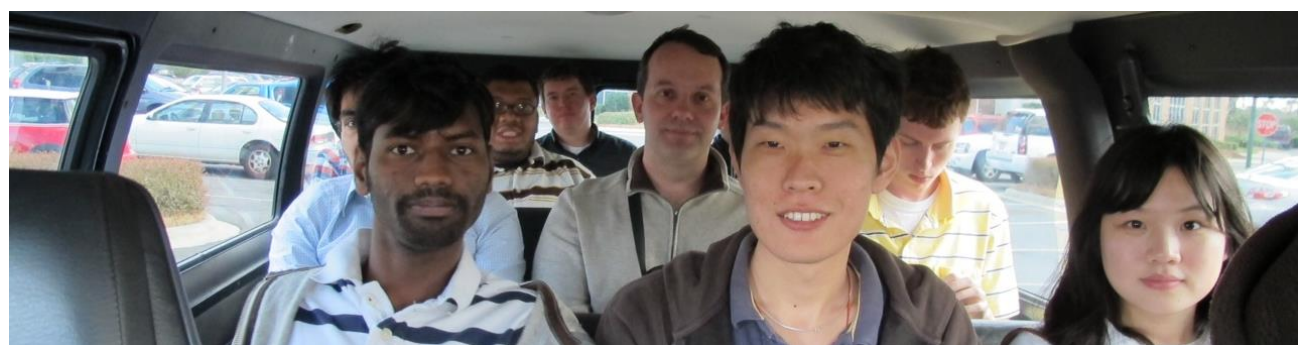


The Charlotte-Esri connection

by Eric & Elizabeth Delmelle

Visits at the Esri office

Students have also been given the opportunity to travel to the Charlotte office to learn about key job skills and to witness GIS in action. Kuddos to Paul Gallimore and Terri Bliss who have been excellent hosts.



The Charlotte-Esri connection

by Eric & Elizabeth Delmelle

GIS day

ESRI Charlotte has been a major player in the GIS day, a grassroots event that is organized every year on our campus, with the purpose to increase the visibility of GIS to students not familiar with GIS. Esri has always dispatched some of their own employees to give technical presentations, such as on Mobile GIS, Social Media and GIS, etc...



The presence of Esri at these events is very important to our students as they get to talk face-to-face with experts in the field, and learn on job opportunities at Esri.



The Charlotte-Esri connection

by Eric & Elizabeth Delmelle

An excellent placement

Several of our own graduate and undergraduate students have secured job opportunities with Esri Charlotte, but also Esri Redlands.

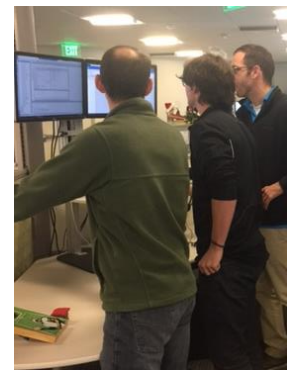
Shuping Li	Rachid Clifton	Mike Dyer	Rui Shen (Redlands)
Sisi Yan	Sara McDonald	Randall Williams	Rashid Clifton
Josh Joyner	Geovanny Solera	Malcom Smith	Kanius Qualls
Scott Whittingthon	Matthew Baber	Kelly O'Connor	Grant Russell
Griffen Angel	Ben Stoltz	Evan Byers	Paul Gallimore
Matthew Baber	Jacob Todd	Sarah McDonald	

Esri has also hosted several of our students during their annual User Conference in San Diego:

Aaron Senter	Sandra (Abouibrahim) Chakra	Cameron Crenshaw
Carolynne Hultquist	Hongmei Zhu	Coline Dony

Why they choose Esri?

This last December, I (Eric) visited the Esri Charlotte office and met with several employees who are UNC-Charlotte alumni, specifically Rachid Clifton, Scott Whittingthon, Matthew Baber, Josh Joyner, Geovanny Solera, Malcom Smith, Kanius Qualls and Terri Bliss. I wanted to find out when they converted to GIS, why they choose to work at Esri, and whether UNC-Charlotte prepared them well.



I was happy to hear that their *GIS conversion* did not only come from GIS faculty at UNC-Charlotte, but also from planning professors, urban and medical geographers. Several recent employees who were graduate students in our department were already exposed to GIS during their undergraduate studies and knew they wanted a career in GIS, regardless. All attendees agreed that working at Esri opens up a lot of opportunities for the future, unlike other jobs which may be a dead-end. Our students gain invaluable experience, that will propel their career.

Although the contents of this interview will be part of an in-house article, the students gave me some word of advices on the skillsets our students should have: Communication, management, database, programming, problem solving, analytical thinking & research design, English and technical writing skills.

As a closing argument, I believe that our GIS program at UNC-Charlotte is one of the premier program in the Southeast that position our students to be competitive on the GIS job market, with a 100% placement.

#SEDAAG 2016, Columbia, SC

by Rhonda French

The SouthEastern Division of the Association of American Geographers, 71st Annual Conference was held in Columbia, South Carolina, November 20 - 22, 2016. The meeting was held at the Columbia Marriott, which is centrally located in the city's downtown district, near the University of South Carolina and the South Carolina State House. The previous year's SEDAAG (2015) conference was held in Pensacola, Florida which was a bit too far to drive, given time restraints. The 2016 SEDAAG's, meeting venue was close enough for most of us to skip the hassle of flying and drive down to South Carolina. An appreciated break. This location also served attendees well because the Columbia Marriott is within walking distance of dozens of restaurants and bars. The weather was great with warm days and cool nights making the walk to those nearby dining amenities a treat.



Several University of North Carolina at Charlotte (UNCC) Geography and Earth Sciences students, both undergrad and graduate, took the opportunity to share their research by presenting papers and posters. Here are some of the research projects presented:

- Alex Hohl presented "Spatiotemporal Domain Decomposition and Indexing for Discovery of Disease Patterns Using Parallel Computing," (A. Hohl, E. Delmelle and W. Tang and I. Casas of Louisiana Tech University, 2016).
- Danny Yonto presented "What is the complexion of contemporary gentrification? A case study of Charlotte, NC," (D. Yonto, J-C. Thill, 2016).
- Michael Desjardins presented "Designing Spatially Cohesive Nature Reserves with Backup Coverage," (M. Desjardins, E. Delmelle, and J. Deng, 2016).
- Elizabeth Major presented her poster titled, "Florida Panther Vehicle Crash Mitigation: Applying spatial autocorrelation to Florida's transportation network to prevent panther mortality," (E. Major, 2016). Elizabeth's work won/tied 'Best Honors Graduate Poster' SEDAAG 2016. Way to go Elizabeth!!!
- James Pinkston presented her poster titled, "Youth Participatory Action Research on the West Boulevard Corridor," (J. Pinkston, 2016).
- Rhonda French presented her poster, with Tyrel G. Moore, "Greenways as a Resilience Dividend Provider: An ecological wisdom inspired perspective," (R. French and T. G. Moore, 2016).

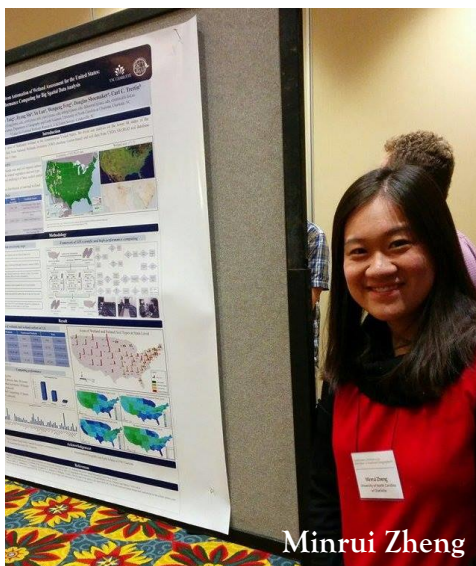
#SEDAAG 2016, Columbia, SC

by Rhonda French

- Adam Griffith presented, “The Rising Sea: Goodbye Hilton Head Island,” (A. Griffith, J. Staton, University of SC-Beaufort, and D. Morgan, Beaufort County Mapping and Geographical Services).
- Liz Morrell presented “The Methodological Utility of Mortgage Data in Studies of Segregation and Neighborhood Change: Case study in Charlotte, North Carolina,” (E. Morrell, 2016).
- Claudio Owusu presented “Improving Geocoding Accuracy of Private Water Wells in Gaston County, NC Using a Context-Based Approach,” (C. Owusu, E. Delmelle, W. Tang, & Y. Lang, 2016).
- Maryam Khabazi presented her paper, “Smart City: Urban transformation in 21st Century,” (M. Khabazi, 2016).



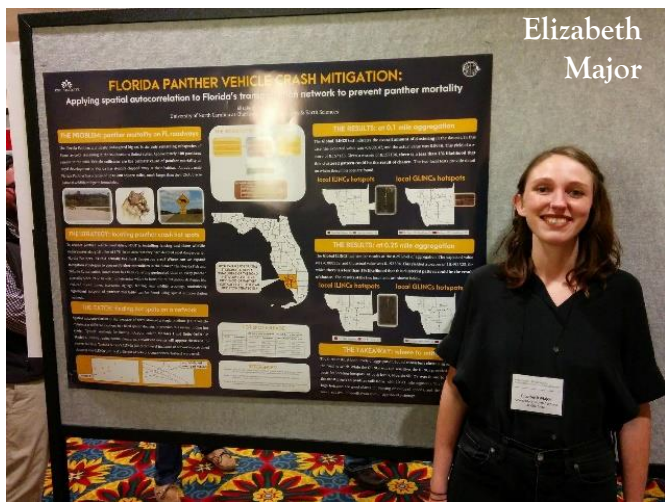
Jamie Strickland & Elizabeth Major



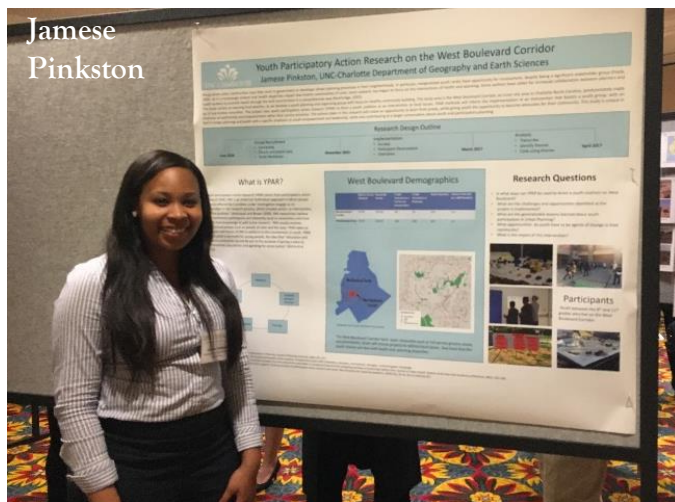
Minrui Zheng



Michael Desjardins



Elizabeth Major



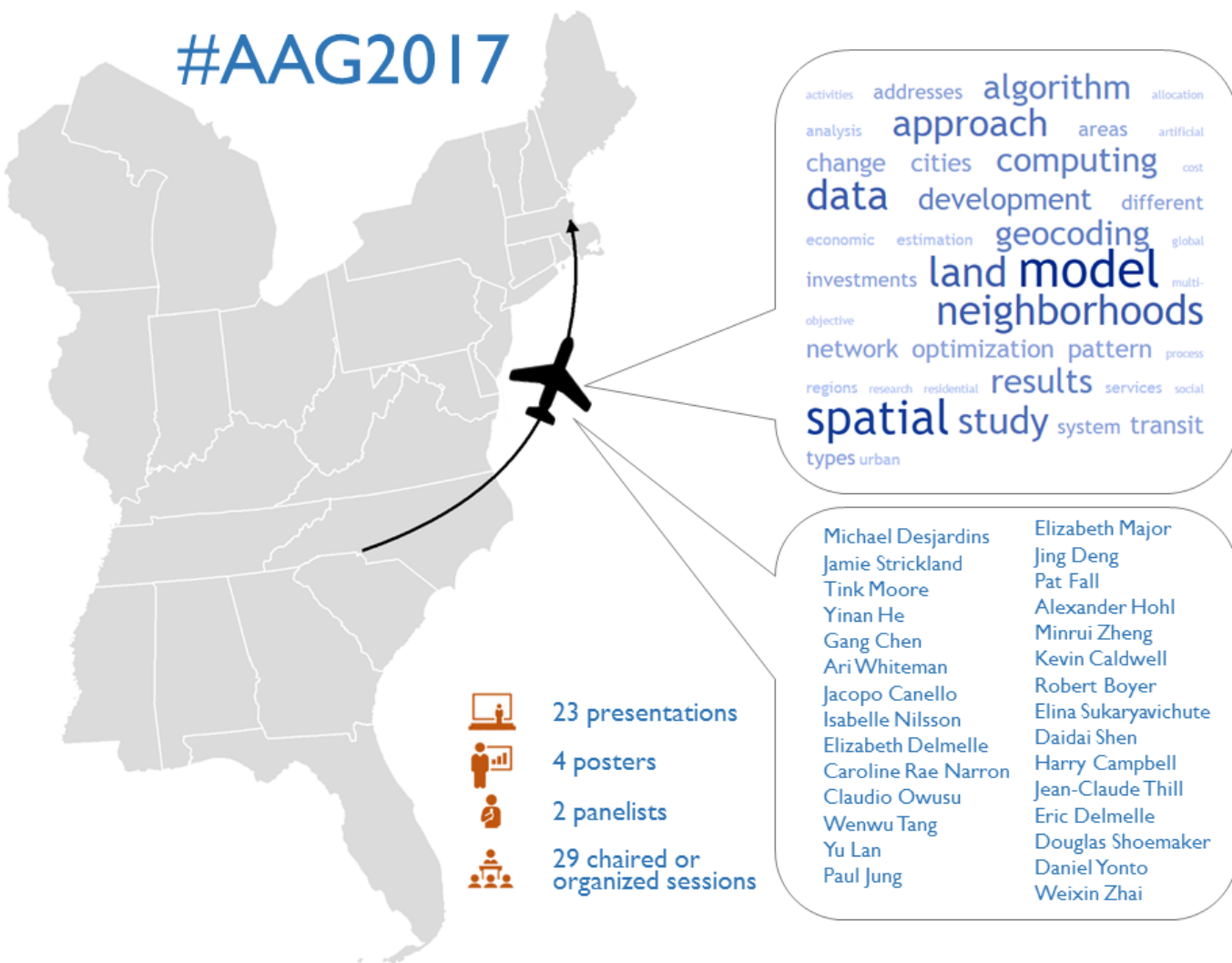
Jamese Pinkston

After the hard work of presenting, attending, and networking with faculty and students from other southeastern colleges and universities, we concluded the conference with the banquet dinner, which was excellent, and celebrated the various award honorees, including our own Elizabeth Major. Again, congratulations! The 2017 SEDAAG conference will be held in Starkville, Mississippi, home of Mississippi State University (MSU), which is a land-grant university in Oktibbeha County. See you there.

#AAG2017 Meeting, Boston

by Eric Delmelle

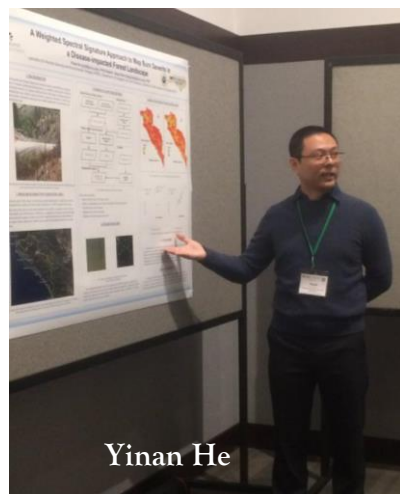
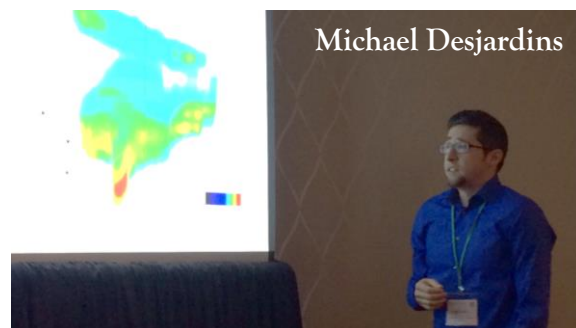
Several of our graduate students, faculty, visiting scholars and researchers traveled to the Annual Meeting of the American Association of Geographers in Boston this early April 2017. We had a stronger showing than last year at San Francisco with 24 presentations and 3 posters, 29 organizers or chaired sessions. Jean-Claude Thill and Wenwu Tang were also invited panelists. Our UNC-Charlotte team brought a lot of excellent research (see below for a wordcloud based on abstracts -credits to Claudio Owusu).



Congratulations to **Alexander Hohl** who became the student representatives to both Spatial Analysis and Modeling and the CyberInfrastructure specialty groups. **Michael Desjardins** is the new webmaster of the Health and Medical Geography Specialty Group. **Dr. Wenwu Tang** has become the chair of the CyberInfrastructure Specialty Group and **Eric Delmelle** is a board member of the Spatial Analysis and Modeling Group.

#AAG2017 Meeting, Boston

by Eric Delmelle



Although the weather was dreadful, it did not deter our students from attending a Boston Red Sox game. From left to right: Yu Lan, Minrui Zheng, Elizabeth Major and Michael Desjardins.



#AAG2017 Meeting, Boston

by Eric Delmelle

Why was attending the AAG useful to me?

Alexander Hohl: Since I strive for a career in GIScience, AAG is very important to me for networking purposes. It's an opportunity to enter the circle of people that are important to me on a professional level. Being in good terms with them can facilitate my job search, securing external funds, or publishing my work. Apart from expanding my professional network, I enjoy meeting people I grew fond of over the years. I made new friends at AAG!



Daniel Yonto: How does the built environment impact mobility? Going into Boston this question was nagging in the back of my mind. Why? Boston, a traditional rust-belt city, has the oldest metro system in the U.S. Charlotte, a contemporary sun-belt city, is investing in their new and shiny light rail system. With a background in comparing how and why cities develop the way they do, it was fascinating to see the difference between Charlotte and Boston. The former developed with a more car-centric transportation model, while the later developed well before the automobile existed. The difference, I walked more...a lot more...and I liked it! My conclusion, AAG does much more than help you interact with colleagues. It reinforces the fact that as geographers, we need to experience cities in order to understand what, how, and why there are differences. Hosting AAG in different parts of the U.S. facilitates these comparisons. In other words, according to Indiana Jones, "If you want to be a good archaeologist, you gotta get out of the library". So, that is what AAG does for me. It forces me into the field to become a better geographer.



Paul Jung: There is a another big world of geographers, outside of a cluster of geographers in Charlotte. I could see the new horizon of geographic knowledge, and I could meet many prominent scholars who wrote many of my textbooks and who have similar research topic. Communication with other geographers has motivated me enough and infused novel ideas.



Yu Lan: For me, attending AAG is my first time to a famous city like Boston in U.S., and also is my first time to present my study to the public. This memory will be kept in my mind forever. I also saw a lot of researchers and studies in our study area. I also met the Dr. Goodchild!!! The AAG gave me a chance to present my work professionally, and communicate with other researchers in our fields.



GIS day 2016 at UNC-Charlotte

by Eric Delmelle & Douglas Shoemaker

This year, UNC-Charlotte organized the Charlotte GIS Day – a grassroots event to increase the awareness of GIS opportunities at the UNC-Campus.

UNC Charlotte’s hosting of GIS Day 2016 celebrated all things GIS. The theme that emerged over the course of day was “*Spatial Thinking*”, a concept that reflects a growing consensus that the utility of GIS in solving problems is only limited by the imagination of users and practitioners.

Events ranged from a panel discussion around the topics of innovation in GIS and skills development in the emerging workforce, to a demonstration of balloon mapping. Lightning talks by students and practitioners were “standing room only” and included new ways to explore cities using maps generated by Twitter feed; a case study that mapped environmental justice issues, and new applications to reduce risks associated with natural catastrophes.

Panel discussion

Dr. Douglas Shoemaker led a panel discussion with experts in the field of GIS, from the industry and public agencies. The panel stressed the importance of GIS education, the future of GIS, and necessary skills to be competitive on the market.

UNC CHARLOTTE

This Wednesday November 16th is GIS day

9-10 am
Cone Center 210
Sponsored by Woolpert and S&ME

10-11 am
Cone Center 210

11 am-noon
Cone Center 210

noon-1 pm
McEntry 405

1-2 pm
McEntry

2 pm
CAGIS
McEntry 306
Moderated by Alex Hohl

3:30 pm
Social @ the Flying Saucer

GIS panel
Geovanny Solerno, ESRI
Daniel Sieger, ESRI
Scott Gregory, Wildlands Engineering
Dale Loberger, Bradshaw Consulting Services
Johnathan Clayton, Comporium Engineering
Moderator: Douglas Shoemaker, Ph.D. Director of Research and Outreach, CaGIS

Open Talks
1. Introduction to Web GIS by Daniel Sieger and Geovanny Solera (ESRI Charlotte).
2. Using Storymaps to Facilitate Early Voting in Mecklenburg County by Nancy Ross (Mecklenburg County).
3. UNC Charlotte's Interactive Campus Map Using ArcGIS Portal & Esri's Collector App by Michael Peddyoord, Facilities Management Facilities Information Systems, UNC Charlotte.

Lunch & Vendors
Sponsored by the Department of Geography and Earth Sciences
Tables include BeaconGIS, ESRI, UNCC, Comporium Engineering

Fun Activities
Geo-caching Coordinated by Laurie Garo
Balloon Mapping Coordinated by Adam Griffith

Lightning Talks
Alireza Karduni Using social media and interactive visualization to understand human behavior in cities
Stephanie Foresman Showing Environmental Justice Issues with a Story Map
Caroline Narron Mapping Drought Risk of the Kingdom of Saudi Arabia using Geospatial Techniques
Todd Eaglin The Space-Time Kernel Density Estimation on tablet devices for Hurricane Simulations on Critical Infrastructure.
Scott Gregory Reversing the Underutilization of GIS in the workplace
Dale Loberger Bringing Fundamental Change to the Fire Service through GIS

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GIS day 2016 at UNC-Charlotte

by Eric Delmelle & Douglas Shoemaker

A few open talks directly followed the panel, specifically *Introduction to Web GIS* by **Daniel Sieger** and **Geovanny Solera** (ESRI Charlotte), *Using Storymaps to Facilitate Early Voting in Mecklenburg County* by **Nancy Ross** (Mecklenburg County) and *UNC Charlotte's Interactive Campus Map Using ArcGIS Portal & Esri's Collector App* by **Michael Peddycord** from Facilities Management Information Systems at UNC Charlotte.



CAGIS students led a do-it-yourself remote sensing mapping demonstration for GIS Day 2016. Using a low-cost weather balloon as a platform, we collected images using a point-and-shoot camera and live video via a smart phone. Although we were nervous about suspending a phone from an altitude of 1000 ft., the mission proved successful as evidenced by the photos shown here.



This was followed by lightning talks of students from Geography and Computers Sciences and experts from the industry in the Center for Applied GIS. We thank **Alireza Karduni**, **Stephanie Foresman**, **Caroline Narron**, **Todd Eaglin**, **Scott Gregory** and **Dale Loberger**



2017 WeatherFest

(by Warren Pettee)

This year's iteration of Charlotte WeatherFest was a huge success thanks to the support of the Department of Geography and Earth Sciences, the Student Organization of Meteorology (STORM), the Geography and Earth Science Graduate Organization (GESGO), and the UNC Charlotte Center for STEM Education. We surpassed attendance records from previous years with an estimated total of 232 kids, parents, and teachers.



This year the organizers opted to cater towards K-12 class field trips by offering the event on a Friday. It is estimated that next year's attendance could easily exceed 500 attendees. Many local organizations were present at Charlotte WeatherFest including: UNC Charlotte's Meteorology Program, the National Weather Service, WSOC, WCNC, WBTV, Charlotte-Mecklenburg Storm Water Management, the North Carolina Association of floodplain managers, and the UNC Charlotte Police Department.

"...an estimated total of 232 kids, parents, and teachers"

As usual, the centerfold of the event was the weather balloon launch put on by our meteorology faculty. The clear weather during the event allowed participants to see the weather balloon as it ascended thousands of feet into the air, sending back valuable measurements of the upper atmosphere. We are looking forward to continuing our mission of weather safety awareness and showcasing our department's values through this event. Thank you to all who contributed to making this year's event great!



Faculty spotlight: Dr. Jacopo Canello

What is your hometown?

- Padua, Italy

It's a nice town with a population around 200,000 people in the Veneto region. Excellent day trip from Venice if you plan to visit this part of Italy in the future.

What degrees do you hold?

- BS in Economics and Business at University of Padua in Italy
- MD in Local Economic Development at University of Venice in Italy
- Master of Science in Economics from Trinity College Dublin in Ireland
- PhD in Economics at University of Queensland in Brisbane, Australia

What are you currently teaching?

This semester I am teaching Industrial Clusters and Industrial Districts in the Global Economy at the graduate student level and Patterns of World Urbanization at the undergraduate student level. Next semester I will be teaching Patterns of World Urbanization and Geography of the World Economy.

Why UNC Charlotte?

I learnt about the position at UNC Charlotte on the Regional Science Association website. The position was very interesting and in line with my research and teaching interests and I decided to apply. When I visited the campus for my interview, I really liked the working environment and the city. I am glad I was able to get the job and work for this Department.



Describe your first few weeks?

A nightmare! I got my car towed not once but twice during the first week! Parking regulations are definitely not so strict in Italy. Adapting to a new working environment was also not easy. Teaching in a foreign language is extremely challenging at the beginning, especially when people are not familiar with your accent. Class preparation kept me very busy, along with research and workshops for new Faculty. I am glad I found several people (including students) who helped make my transition smoother.

Research

The basic idea of my research is to look at interaction patterns between local firms inside industrial districts and global economic actors. My research aims to answer several research questions centered around the process of globalization and its consequences on industrial development. Some examples of my research questions are:

What are the consequences of production offshoring on the domestic subcontractor populations? Why are suppliers different within industrial districts? How can we effectively integrate migrant entrepreneurs into industrial districts and exploit their diverse knowledge? I want to see how these processes are reshaping the structure of social and economic networks and whether there are significant differences in the way industrial districts are reacting to global shocks.

What do you miss from home?

There are a few things that I miss about Italy. The first, of course, is family and friends. Sometimes I miss not having to drive to get around the city, but I trust things will improve with the Blue Line Extension. You are never going to believe this, but one thing I don't miss is food! I was impressed with the variety of food available in the US. I found several nice Italian restaurants in Charlotte, although my favorite one is in the Isle of Palms (Charleston)!

Fast Facts

- Enjoys opera and birdwatching
- Big soccer fan (Inter Milan favorite team)
- Passionate about wine tourism
- Speaks Italian and English

Faculty spotlight: Dr. Celine Martin

What is your hometown?

Dombasle, France

It's a small town located close to Nancy, in Lorraine, 120 km away from the German border

What degrees do you hold?

BS in Geology, Université Henri Poincaré (Nancy)

Master of Science in Geology, Université Henri Poincaré (Nancy)

PhD in Petrology and Geochemistry, Université Henri Poincaré (Nancy)

What are you currently teaching?

I am teaching Petrology to undergraduate students. It is very fun as I have a very small group (7 students after mid-term) and there is a very good group synergy. In the fall I am going to teach Geochemistry and Planetary Geology, about which I am very excited.

Describe your first few weeks?

Extremely busy! I had to re-adapt my lecture to a broader public than expected, together with preparing two conferences (one talk and one poster), and a field trip. Besides teaching, administration tasks, both at UNC Charlotte and outside of it, were quite overwhelming. Thankfully things got smoother around Halloween.



Why UNC Charlotte?

My post-doc in New-York was ending and I was looking for a more senior position in Geochemistry and Petrology. UNC Charlotte offered one, and Charlotte has an international airport and a very nice weather.

Research

My main interest is the fluid-rocks interactions during subduction. In simple words, the subducting plate is a gigantic sponge full of water, and this water is going to be progressively released into the very dry mantle during the downgoing path. That leads to major chemical reactions that I am studying.

What do you miss from home?

From my French home, I miss very much my family, and food, particularly good cheese and good bread (I am soooo cliché)

From my American home, I miss the non-stop activity and the fact I could do everything by foot or by subway

Fast Facts

Adopted a little dog on Halloween Day
Cooking a lot, both American-based meal and French-derived ones

Faculty spotlight: Dr. Douglas Shoemaker

What is your hometown?

• Bowie, Maryland, USA
Bowie is a Levittown, which is to say a mass produced suburb with three styles of houses repeated 9,000 times. Mind-numbing and boring.

What degrees do you hold?

- BS Summa Cum Laude in Biology from UMASS Boston
- MS in Forest Resource and Conservation, University of Florida
- PhD in Forestry and Environmental Resource, NC State University

What are you currently working on?

Part of my job is developing competitive proposals for the Center for Applied GISciences. Some of the hot topics under development reside where Big Data and Geography meet; these include applying high-performance computing to large and multivariate datasets, developing cyberinfrastructure to access, query and analyze big spatial data, and spatio-temporal modeling of socio-ecological processes.

Why UNC Charlotte?

I was the first hire at the rebooted CAGIS in 2005. This was my first real job coming out of grad school, and I worked my way up from a Technician to Director of Research and Outreach. I left for four years in 2012 to get my PhD, and glad to find an opening at CAGIS when I graduated.



Describe your first few weeks?

I have been really motivated since my return to UNCC, armed with great ideas from my graduate studies which analyzed how urban growth patterns impact ecosystem services. Charlotte is an ideal study system for many aspects of the “The Future City”.

Research

At the opening of my proposal defense I stated, “Every morning I wake and wonder how to thrive, not just survive, the Anthropocene.” My statement acknowledges the unprecedented challenge to wellbeing presented by humankind’s impact on the planet, yet signifies both my optimism in societies’ ability to solve problems, and my desire to be, though my research, an agent of change. My research focuses on understanding how people change the environment, and how in turn the environment changes people.

My driving question is, “How do we accommodate growth yet maintain the environmental infrastructure supporting human well-being?” and specifically, “What would that look like?” I make progress on these “wicked” natural resource dilemmas in two related steps. I first frame them as socio-ecological systems, a conceptual model that addresses the “whole” problem by connecting the interacting elements that form it. However, the disparate domains of these elements (i.e. social, economic, environment) typically confound both disciplinary and interdisciplinary analyses. I then bridge these analytical disconnects by relating phenomena by where and when they happen. Put another way, I allow time and location to unite diverse sustainability themes under the umbrella of “place”.

What do you miss from home?
Not much.

Fast Facts

- History as a semi-pro cyclist
- Trained elephants for a circus (!)
- Likes his coffee strong and black
- Cultivates a native garden
- Likes to camp, hunt and fish

60 seconds with an alumni

Bradley Johnson

What is your hometown?

I grew up in Portage, Michigan but have lived in Idaho and now in North Carolina for 10+ years. I'm in Davidson these days.

What degrees do you hold?

BA in Geology from Hope College
MS in Geology Idaho State University
PhD in Infrastructure and Environmental Systems from UNCC

What is your current job description?

I'm an Assistant Professor of Environmental Studies at Davidson College although, as of last week, my title will change to Associate Professor as of August 1. Excited to be settled here in Davidson!

Why UNC Charlotte?

My MS research focused on post-glacial landscapes in the Rocky Mountains and I wanted to continue on a similar project. Missy Eppes was looking to start a new project in the San Juan Mountains and INES had the funding for PhD students so it made a good fit. I always tell people that I moved from Idaho to Charlotte so that I could work in New Mexico.

What is your current research?

I try to keep a variety of projects going to keep my students busy. I'm still working in the San Juan Mountains where we have been looking at landslides and terrace formation. I also do a lot of work in the Davidson area on streams and human impacts.



The last couple years I've been collaborating with ecologists in my department to figure out how stream discharge regimes impact the things that live in the stream. I now find myself the proud curator of 18 stream gauges in the area! I'm getting started on fire scars in the Blue Ridge with some students this summer.

What skills do you use from UNC Charlotte?

My soils knowledge might be the most important thing since soil geomorphologists are always in demand and soils projects make good, hands-on theses for undergraduates. I think that the INES program also taught me about the complications of working in interdisciplinary teams which is important because all research seems to be headed that way.

Couple of things about yourself

I like to be as active as possible. It is hard to find the balance between teaching, research, biking, running, and family time. You'll often find me running around town at 11pm. A lot of people suddenly know me because I ran for Mecklenburg County Soil and Water supervisor (and won!). Most people didn't know that I'd already been doing it for three years. It isn't always something that is easy to fit in but I think that it is important to give back in ways that are relevant to my training.

Words of wisdom?

A PhD is obviously focused on research and research is still the number one thing you'll need if you are looking for an academic position. However, most people don't realize how important teaching experience is. I'm certain that I wouldn't have gotten my job at Davidson without teaching experience at UNC Charlotte, Queens, and Appalachian State. The extra bonus is that working at all those places provided a network of geology colleagues around the region as well.

What do you miss about Charlotte?

Not much since I live up the road! One of the best things about Davidson is that you have the advantages of a small town without giving up the conveniences of Charlotte.

60 seconds with another alumni

Coline Dony

What is your hometown?

Brussels, Belgium

Currently living in Washington, DC

What degrees do you hold?

BS, Geography, Vrije Universiteit Brussel

MS, Geography, Vrije Universiteit Brussel

MA, Geography and Urban

Regional Analysis, UNC Charlotte

PhD, Urban and Regional Analysis, UNC Charlotte

What is your current job description?

Visiting Assistant Professor at the University of Maryland, Baltimore County. This summer, I will move to the AAG as a Senior Geography Researcher

Why UNC Charlotte?

The person who guided me to UNC Charlotte is Frank Plastria, a Professor Emeritus who retired from the Department of Business Technology and Operations at the Vrije Universiteit Brussel. In 2010, I took his course in Distribution and Location Problems, in which spatial optimization and spatial accessibility were the main focus. Dr. Plastria sent me a flyer he had received from Dr. Eric Delmelle with the opportunity to work on issues of spatial access to healthcare. I applied and was lucky to be noticed by Eric who helped me make my move overseas and navigate the immigration process.



What is your current research?

I currently teach 3 courses a semester, which leaves little room for research. In the fall 2016 I taught Intro to GIS, Advanced GIS Application and Geography of Disease and Health. This spring, I am teaching Intro to GIS, Spatial Data Analysis and Cartography. The few times I set time aside for research allowed me to submit findings from my dissertation on access to parks in Charlotte to the World Medical & Health Policy journal. My objective is to continue research on improving health, but in the DC area.

What skills do you use from UNC Charlotte?

GIS programming is instrumental to my research and has stood out when I apply for jobs. Researchers with my profile (health geographers or social scientists) often lack programming skills, let alone experience teaching computer science concepts. My communication skills have considerably improved at UNC Charlotte, which are crucial in all aspects of my life (including marriage).

I owe that to my involvement in interdisciplinary research, the many in-class presentations, my participation in conferences and involvement in GPSG.

Fondest memories?

Keith, who is now my husband. Alex, who picked me up from the airport when I landed in Charlotte in June 2011. Adrien, Eric and Elizabeth. Monica, Whalen, Hongmei and Stephan who unknowingly helped me through all phases of culture shock; I would have flown back to Belgium without them. Tara. Stuart. Jing, Wenpeng, Huifang and Ji for always saying yes (even though they mean no). Danny, the only one who can bear the grumpy Belgian I am. Emmanuel. Adam. Kaitlin. Mike who added phases of culture shock to my experience.

Three facts about yourself

I can swim. I can drink coffee. I can be grumpy.

Words of wisdom?

Be kind.

What do you miss about Charlotte?

Central Coffee. Le's (at the Asian Corner Mall). Pasta & Provisions. Jim 'N Nick's. CAGIS on the weekends.

Awards, other news and contacts

Our department was well represented at the Ecological Wisdom Symposium, Austin, TX November 17-20 2016 with **Angelique Hjarding**, **Savannah Gibson**, **Janni Sorensen**, **Melissa Currie** (former Ph.D. student) and **Wei-Ning Xiang**



Community Alliance for Wildlife (CAW) Community partners at Give Thanks for Wildlife event with **Angelique Hjarding**. The group CAW is a new community group focused on environmental justice for people and wildlife in Charlotte. The group members came together through participation in the Butterfly Highway. www.cawcharlotte.org

M.S. students **Katie Magee & Matt Gropp** presented at the *Severe Local Storms Conference* in Portland, Oregon.

- Katie Magee: "Quantifying the Distance of Supercell-Boundary Interactions"
- Matt Gropp: "Assessing the Impact of the Nocturnal Transition on the Lifetime and Evolution of Supercell Thunderstorms in the Great Plains"

Matthew Guilin, BS in Geology, was supported by the Charlotte Research Scholar program and worked in Gang's research lab (Laboratory for Remote Sensing and Environmental Change) during the summer. His research was focused on using remote sensing to detect deforestation around one of the biggest dams in the Amazon Basin. The title was: Investigating Deforestation Surrounding the Tucuruí Hydroelectric Dam Using MODIS Derived NDVI Scenes.

Elizabeth Major & Jacob Stein won the G. Herbert Stout Award for Innovative Student Papers

Congratulations to PhD Geography and Urban Regional Analysis students **Danny Yonto** and **Tonya Farrow-Chestnut** for receiving first and third place respectively in UNCC's recent Graduate Research Symposium - Public Health, Social Sciences, and Business oral presentation category

Geography Masters Student and CAGIS Research Assistant **Elizabeth Major** was recognized for her poster "Florida Panther Vehicle Crash Mitigation" at the recent meeting of the Southeastern Division of the Association of American Geographers (SEDAAG) Annual Meeting held recently in Columbia SC.

Thomas Mattingly and **Kelly O'Connor** participated in the undergraduate research fair this April 2016. Kelly won the Atkin's Research Award and was the department winner!



CAGIS researchers prominent in AGG Cyberinfrastructure Specialty Group

BOSTON, APRIL, 2017 Dr. Wenwu Tang, current Chair of Cyberinfrastructure Specialty Group, announced the results of voting from the recent AAG Annual Meeting. Notably, Alex Hohl was elected as a Director, and Minrui Zheng was elected as a Student Director, for the 2017-2018 term. Congratulations to these excellent CAGIS researchers.

Awards, other news and contacts

Calvin Cupini (senior Earth and Environmental Sciences BS, minoring in Economics) has been working well beyond the classroom this past school year. Last summer, he interned with Clean Air Carolina, a very active non-profit advocacy and outreach group based here in Charlotte. After his unpaid internship, Calvin was promoted to full staff at CAC and has been hard at work as the Citizen Science Coordinator while continuing with a full courseload. As staff at CAC, Calvin has worked with K-12 schools around our region and even with freshman here on campus on public engagement related to air quality. He just started a project to assess the quality of hand-held pollution monitoring devices that is a collaboration between CAC and researchers at the Environmental Protection Agency, and CAC will be bringing in new summer interns who Calvin will be working with very closely. Next time you see Calvin, ask him how about air quality in our region!

CAGIS announces the development of a supercomputing cluster.

Dr. Wenwu Tang, CAGIS Executive Director unveiled a new, high-performance (throughput) computing cluster/grid, (tentative name: CAGIS-Condor), to support the Center's CyberGIS initiative. Currently, the CAGIS-Condor cluster has 114 CPUs and 488G memory. Significantly, this cluster is Windows-based-i.e., an ArcGIS capable "supercomputer" for parallel geocomputation!

The CAGIS-Condor cluster functions as a mini-supercomputing platform based on cutting-edge cyberinfrastructure technologies~desktop grid computing enabled by HTCondor

Dr. Tang invites Departmental colleagues and their student to use the CAGIS-Condor Cluster on request.

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