Third Geospatial Awareness Week & GIS Day

November 18-22, 2019

www.uncfsu.edu/geoevents
ALL STUDENTS AND FACULTY ARE INVITED!!

@STUDENT CENTER 11/18 - 11/22/2019

PROGRAM

Week-long Activities @ TV Lounge, room 231

Name-That-Place (11/18 – 11/22) – How much have you travelled?
Map-My-Campus (11/18 – 11/22) – How much have you explored and thought about our campus?

Tuesday (11/19) @ Bronco Lounge, room 132

12:30pm – 12:35pm: Welcome by Dr. Adu-Mireku, Dean of CHSS

Session 1: Working with Geospatial Technologies

12:35pm – 1:00pm: GIS at the City of Fayetteville, Ms. Jessica VanHoozer, GIS Manager at City of Fayetteville
1:00pm – 1:25pm: What’s new in ArcGIS for you? Bringing Real-Time GIS to the Web, Mr. Nick Wiegand, ESRI
1:25pm – 1:50pm: NGA Mission Overview, Mr. Donald Shuey, NGA Support Team – Army, 18th Airborne Corps, FT Bragg NC

1:45pm – 2:00pm: Break with coffee tea and refreshments

Session 2: Geospatial Research

Moderator: Dr. Robert Taber, FSU History Program

2:00pm – 2:15pm: GIS Applications in Urban Environment, Dr. Adegoke Ademiluyi, FSU Geospatial Science/GEOINT Program
2:15pm – 2:35pm: Validating multi-scalar remote sensing approaches for monitoring harmful algal blooms, Mr. Hunter Synan, Department of Earth and Ocean Sciences, UNC Wilmington
2:35pm – 2:55pm: GIS Data Visualization & Analyses: Public Transit in North Carolina, Ms. Narmina Murphy and Mr. Terry Karlson, Institute for Transportation Research and Education, NC State
2:55pm – 3:15pm: Remote Sensing Data Fusion and Subpixel Classification for High Spatio-Temporal Land Change Analyses, Dr. Trung Tran, FSU Geospatial Science/GEOINT Program

Event organizer
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Thursday (11/21) @ Bronco Lounge, room 132

12:30pm – 1:45pm: Panel Discussion – Drones for Beginners: Emerging Opportunities & Challenges

Moderator: Major General (retired) Rodney O. Anderson

Panelists:

- Mr. Jeffrey Epps, CEO/STEM Coach: STEMERALD City Learning Center
- Mr. Kendrick Faison, President/CEO of SpatialGIS LLC
- Mr. Paul Rossi, CEO and Chief Pilot of Nine Ten Drones LLC
- Ms. Sharon Rossmark, CEO of Women And Drones LLC
- Mr. Probyn Thompson, President/CEO of Air Probe LLC

Friday (11/22) @ TV Lounge, room 231

11:00am – 5:00pm: Undergraduate Geospatial Poster Competition

Agenda:

- 11:00am – 11:10am: Welcome by Dr. Linda Tomlinson, Interim Chair of the Department of IGPH.
- 11:10am – 11:30am: Roles and Responsibilities as a GIS Analyst by Mr. Corey Bissen, GIS Analyst of the City of Fayetteville

11:00am – 1:00pm: Poster Session 1
2:30pm – 4:30pm: Poster Session 2

4:30pm – 5:00pm: Award announcements and presentations.
Notes: Students must be present at this time to receive their award if they are announced.

5:00pm – 5:30pm: DOOR PRIZE DRAWING

Don’t miss this chance to win cool stuffs. Follow this instruction:

1. Check in at the Registration Desk at 11:00am on Friday to receive the Bingo Form.
2. Meet and speak with faculty and student contestants to fill in the Bingo Form and return it to the Registration Desk by 4:30pm to receive a raffle ticket. Only one ticket per person.
3. Be present in the area at 5:00pm for the drawing.

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Website: www.uncfsu.edu/geospatial/geoevents
Social tags: #GeoWeek #GISday #GeoBroncos @FSUGeoscience @UNCFSU
**Title: GIS Application in Urban Environment**  
**Presenter:** Dr. Adegoke Ademiluyi, FSU Geospatial Science/GEOINT Program  
**Abstract:**  
GIS and related spatial technologies have become a cornerstone of how city leaders and urban planners create strategies and formulates solutions to the myriads of problems facing our cities. This presentation reviews some of the more innovative applications of GIS solutions for the effective management of the urban environment.

**Title: Validating multi-scalar remote sensing approaches for monitoring harmful algal blooms**  
**Presenter:** Mr. Hunter Synan, Department of Earth and Ocean Sciences, UNC Wilmington  
**Abstract:**  
Harmful algal blooms (HABs) are aquatic phenomena defined by a rapid increase in phytoplankton biomass that create adverse water quality conditions harmful to surrounding biota. Exposure to HABs can cause health-related illnesses to domestic animals and humans, which can be fatal. Since 2015 the Chowan River in North Carolina has experienced numerous HABs each year, costing state officials millions of dollars to fund HAB monitoring programs. Current HAB monitoring methods incorporate spatial and spectral analyses of multispectral satellite images to measure the extent and activity of HABs. However, satellite imagery collection is temporally inconsistent, atmospheric conditions hinder image quality, and spatial resolutions are coarse, limiting their reliability for the near-real time image acquisition needed for optimal HAB monitoring. Drones are operationally versatile and more capable of collecting near-real time multispectral imagery than satellites. I propose a new approach for HAB monitoring that incorporates on-demand drone imagery, collected as HAB conditions develop, while using HAB specific algorithms. My specific objectives are to 1) utilize previously-recorded data of HAB location and respective water quality parameters to ground-reference multi-spectral satellite image classifications, 2) collect and then integrate high-resolution UAV imagery with lower-resolution satellite imagery to enhance area specific spatial and spectral resolutions of HAB imagery, 3) derive a multispectral imagery classification workflow that is applicable to both UAV and satellite imagery, and 4) create an open-source geospatial toolkit that integrates UAV and satellite imagery with in-situ water quality samples that is applicable for any coastal environment.

**Title: GIS Data Visualization & Analyses: Public Transit in North Carolina**  
**Presenter:** Ms. Narmina Murphy and Mr. Terry Karlson, Institute for Transportation Research and Education, NC State  
**Abstract:**  
The Institute for Transportation Research and Education (ITRE) Public Transportation Group (PTG) is tasked with providing public transportation systems in North Carolina effective solutions to assist them in reaching their service goals. We have been collecting, analyzing and visualizing transit spatial data for many years. Currently, we are working on several research projects that involve developing data processing workflows, writing custom geoprocessing scripts, and developing Web GIS analysis and visualization applications. This presentation will overview the current projects and the GIS infrastructure we built to provide high quality solutions. We will also discuss challenges and best practices for managing and working with complex spatial and tabular data.

**Title: Remote Sensing Data Fusion and Subpixel Classification for High Spatio-Temporal Land Change Analyses**  
**Presenter:** Dr. Trung Tran, FSU Geospatial Science/GEOINT Program  
**Abstract:**  
Remotely-sensed imagery data have been used in various land change applications at multiple geographic scales including local, regional, global scales for many years. These remote sensing data including satellite images and aerial photos (manned and unmanned/drone) are more advantageous than in-situ data collection approach due to their capability of capturing the Earth’s surface systematically for large areas and in long periods of time. The most popular spaceborne data, Landsat and MODIS satellite images, for example, have been imaging the Earth’s surface since 1972 and 1999, respectively. While a Landsat image covers an area of 185x185 km², a MODIS image records an area of 2,330 x 2,330 km². Although a MODIS scene covers a larger area, its resolution (500m) is coarser than Landsat’s (30m). As a result, MODIS images are often used in global applications. However, the largest advantage of MODIS is its temporal resolution. Indeed, a MODIS image is available for the same place on Earth every 1 to 2 days whereas Landsat’s temporal resolution is longer with 16 days, which is often extended due to clouds. This presentation discusses the subpixel-classification approach to improve the capability of coarse geographic resolution images as well as a data fusion approach to improve long temporal resolution imagery data for better uses in regional and local land change applications.
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Job Outlook

**Occupation as Geographers**
Median Wage (2016): $74,260/year
Number of Jobs (2016): 1,500
Projected Growth (2016-2026): +7%

**GI Scientists & Technologists**
Median Wage (2016): $86,510
Employment (2016): 287,000 employees
Projected Growth (2016-2026): 5 – 9%

**Remote Sensing Scientists & Technologists**
Median Wage (2016): $96,070
Employment (2016): 24,000 employees

GEOINT CERTIFICATE

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Providing spatial thinking and skills for national security.

Job Outlook

National Median Wage (2016): $78,120/year
National Employment (2016): 111,000 employees
National Projected Growth (2016-2026): 5 - 9%
NC State Employment Trend (2014-2024): +5%

(*) The data was derived for the Intelligence Analysts title (SOC 33-3021.06), provided by the Association of American Geographers and O*NET Online as of 3/23/2018

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