



GEOG CAREER & NETWORKING EVENT (VIRTUAL)

FALL 2022

Panelists share careers paths in Geographical Sciences: graduate school advice, internship and research opportunities!

INTRODUCTIONS

Kyle DeGraw '20, *Bicycle Program Assistant*, <https://aedaero.com/>

We are an emergent leader in **aviation cartography** and Jas products. We make charts for basically anywhere in the world that a client may want. We primarily focus at the moment in the South China Sea and the Middle East. We make the charts from scales from continent size all the way down to individual cities, and each chart individually has any number of things on them that are very specific to this scale we're at this point still a fairly small company but we're growing as much as we can.



Christopher Barber, *Junior GIS Coordinator*

Located in Lexington Park, Maryland, which is in southern Maryland, approximately an hour and 20 min or so from UMD.

- Work on international chart making and maps.
- When I'm going into military airplanes and helicopters that will eventually be used in testing and actual missions as well by various air Force organizations throughout the world. We also do have domestic efforts that we work into one of our contracts with the Arizona department of transportation.

Travis Carter, *Geographer*, [U.S. Census, Population Geography](https://www.census.gov), nicholas.a.john@census.gov

Work as part of the population geography focused on international and domestic concerns.

- Internationally, we collect and map national population data for humanitarian relief and disaster purposes. Our products provide data on global population patterns according to both administrative areas and grid cells.
- Data inputs include census data from every country and territory that conducts a census, administrative boundary maps from national and international mapping agencies, and high- and medium-resolution satellite imagery. Population data can be projected forward to the present and linked to administrative boundary maps to allow mapping of population density and other variables.



FEMA

Have these skills? We are interested in you!

- Cartography
- GIS programming
- Statistical, and/or satellite image analysis software
- Data visualization
- Geographic data analysis



Jennifer Smith, [USACE Geospatial Research Laboratory](#),

Jennifer.L.Smith@usace.army.mil

We provide accurate and relevant geospatial information, capabilities, and research to the Warfighter. Our research and development technology solutions offer geospatially enabling data, information and decision framework capabilities that ensure detailed situational awareness of the battlefield.

- Our research areas and capabilities include terrain analysis and reasoning; passive and active spectral signature analysis; fluorescence; photogrammetry; terrain visualization; precision surveying and mapping; image analysis; data management; geographic information systems; data/image fusion; and spatio-temporal reasoning and numerical analysis.

Are you interested in careers such as:

- Geographers
- Cartographers
- Computer Scientists

Have these skills? We are interested in you! Problem-solving skills and solutions driven; bright energetic scientists



Ghermay Araya, CEO, [New Light Technologies](#), ghermay.araya@nltgis.com

New Light Technologies provides information technology consulting services, such as application/product development and software engineering, surrounding geospatial technology and data. We support federal agencies (e.g., FEMA, Census Bureau) with our technical staff and subject matter experts.



Have these skills? We are interested in you!

- UMD GIS graduate degree
- Statistical programming languages
- Predictive analytics
- Oral and written communication

Elizabeth Tran, *Campus Recruiter*, [National Geospatial-Intelligence Agency \(NGA\)](#),

elizabeth.b.tran@nga.mil

A federal government agency located in Springfield, VA, with locations in Missouri as well.

- Our agency focuses on world class geospatial intelligence for the military, policy makers, and the President. When there are natural disasters, we take pre- and post- data to support FEMA and National Security.
- Example: We had a critical role in the raid on Osama Bin Laden. We had analysts map out where his compound was, using photogrammetry. They created a physical (3D) model that you can now find at the 9/11 museum. This same kind of model was used by the Navy SEALs in the Pakistan raid.





Kevin Carpenter-Driscoll, *Environmental Coordinator*, [City of Greenbelt - Dept. of Public Works](#), kdriscoll@greenbeltmd.gov

Work towards beautification of infrastructure and environment. A lot of my role involves citizen work and volunteer groups that perform conservation stewardship activities. Right now, we are building an internship program for the department to build maps and collect data.



Junchuan Fan, *Research Scientist*, [Oak Ridge National Laboratory](#), wicksan@ornl.gov

I joined the lab in August 2020. Before that, I was a postdoc at UMD for 3 years. I am currently a research scientist focused on science, cybersecurity, and geospatial applications and basic research. At Oak Ridge, we have many positions that are suitable for anyone who is skilled, no matter education level.



Are you interested in careers such as:

- Cartographer
- Geospatial Engineer

Have these skills? We are interested in you! Spatial analysis, Data visualization

Rachel Ackerman, [UMD Campus GIS](#)

We have led an internship program on campus since 2012 hosting almost 100 total undergraduate interns, mostly from the UMD GEOG program. We do everything related to the campus map application: developing layers, transportation data feeds, story maps, etc.

- In the next academic year, we are looking to pilot an app that will display the indoor layout platform for Mckeldin Library. The purpose of this app is to facilitate finding assets (such as books) using real-time IPS routing via bluetooth beacons. We are hoping to debut the application this spring.
- We also have worked on utilities networking and an Internet of Things (IOT) stormwater monitoring project.



Jack Ma, *Director*, [Master of Science Geospatial Information Sciences \(GIS\) Program, UMD](#), jma3@umd.com

- Director of the Masters program at UMD. Classes are typically in the evenings, from 5 - 7:30 PM.
- It is a 2-year program, but some students have finished as quickly as 15 months.
- Since GIS is a technical field, it's easy to find internships.
- I advise that students start considering graduate programs as a junior, if they are interested.
- Our program emphasizes flexibility, meaning it's not uncommon for students to tackle both working and studying full-time. The majority of our students are doing this.



Application Tips: We emphasize broader skills. Application requirements include: 3.0 GPA, Transcripts, Recommendation letters, Statement of Purpose, There is no GRE requirement.



OPENINGS

UMD Bicycle Program DOTS: Currently, we are hiring a [student to work 10 hrs/week](#). We also welcome volunteer work which is beneficial to have on your resume.

UMD Campus GIS: We are looking to hire [undergraduate interns](#) for academic credit, and have about 3-4 seats open per semester.

City of Greenbelt, Dept. of Public Works: Right now, we are building an internship program for the department to build maps and collect data. We currently have opportunities for:

- [GIS volunteer](#)
- [Environmental/Sustainability Intern](#)

Oak Ridge National Laboratory: We have [a summer program](#) where you can get experience working on a team with real world projects.