Dahl Winters

Education

M.S. in Ecology, UNC-Chapel Hill, 2009
- Recipient of the National Science Foundation (NSF) Predoctoral Fellowship, a 3-year award
- Graduate advisor: Dr. Aaron Moody, Dept. of Geography, UNC Landscape Ecology and Biogeography Lab

B.S. in Biology, Duke University, 2003
- Recipient of the Reginaldo Howard Scholarship, a 4-year full tuition merit and leadership award

Diploma, NC School of Science and Mathematics, May 1999
- Member of the US physics team to Vienna, Austria for the 12th International Young Physicists' Tournament

Employment History

Solar Specialist
2011
Sundogs Solutions, Durham, NC

As the lead solar employee, I have been working to research, design, and install the latest in solar technology. On the technical side, I performed solar site analyses to determine shading, undertook all necessary calculations to design a solar PV/thermal system, analyzed existing environmental and structural conditions to confirm compatibility of my proposed solar system, and researched city building codes, by-laws, space and site requirements, and other technical reports to design plans that will receive city approval. On the planning side, I facilitated estimate review meetings, communicated with our architect in order to complete structural and electrical designs, and was responsible for drawing up our company's revised safety policy.

On the sales side, I managed all solar PV and thermal customers from start to finish, from figuring out their goals and needs to meeting with them at job sites during the design and installation cycle. And on the creative side of things, I engineered the idea of Sundogs' current 100 Rooftops Challenge to attract more customers, and leveraged my contacts to put together a more affordable, faster-installing PV solution for the company.

National Science Foundation Predoctoral Fellow
2005-2009
Dept. of Geography, University of North Carolina, Chapel Hill, NC

I spent a total of 3 years performing geographic information systems (GIS)-based research. For 2 years, I used ESRI ArcGIS to manage and analyze data for my thesis research, which used vegetation data from field studies to validate a biome model predicting climate change-driven plant redistributions. A full copy of my thesis is available online at http://www.bio.unc.edu/faculty/peet/lab/theses/Winters_MS_2009.pdf. For 1 year, I used GIS to manage and analyze data for my lab's NASA-funded project on factors affecting plant species diversity in a tri-state area. The project involved processing MODIS and Landsat satellite imagery for use in ArcGIS, extracting the raster data by points, and then combining it with other environmental datasets such as the Carolina Vegetation Survey (CVS) data for analysis in R.

Over a period of 5 months, I used research and scientific literature to develop written input for the US Forest Service's management plan for the Uwharrie National Forest, and presented my findings in person. I was responsible for performing land use/land cover change (LULC) and climate change analyses using Landsat imagery. Over another 5 months, I analyzed environmental scenarios and made practice recommendations to managers concerning necessary actions. I have also submitted a successful preproposal to the National Institute of Climate Change Research.

Co-Manager
2004-present
HiViz.com, Durham, NC

I maintain an electronics lab for the construction/testing/use of our trigger circuits, and am responsible for parts inventory, organization, circuit assembly, testing, troubleshooting, and shipment. I redesigned the company website, www.hiviz.com, upgrading it from Microsoft FrontPage management without CSS to management through Dreamweaver and CSS style sheets. I also wrote most of the extensive online tutorials for assembling the photographic trigger circuits HiViz sells, visible at http://www.hiviz.com/kits/instructions/instructions.htm.

Teaching Assistant, Biology
2003-2004
Dept. of Biology, Duke University, Durham, NC

In this combination research/teaching position, I spent ¾ time as a teaching assistant for an introductory biology course of over 120 students, headed by Dr. Paula Lemons. I managed two sections of 15 students each, supervising and guiding them through weekly labs that lasted 2.5 hours each. Each lab was accompanied that week by a 50-minute seminar which I directed. I met with the other 8 teaching assistants once a week to plan and prepare labs for the following week. I spent ¼ time as research assistant for Dr. Sonke Johnsen (919-660-7321). My research project was to measure variations in the natural color of skylight, to better understand how light pollution affected the ecology of nocturnal animals. I designed a research plan, put together some simple irradiance measurement equipment, and took field data over the course of months.

Web Designer
2002-2004
Dept. of Community Affairs, Duke University

I primarily used Dreamweaver and Photoshop to create two websites from scratch. The first was for E. K. Powe Elementary School in Durham; the second was for Community Affairs' new BOOST (Building Opportunities and Overtures in Science and Technology) program. I managed the entire design process in both cases, which involved requesting content and images, creating the website layout and graphics, working with my supervisor to ensure the new site met quality standards, uploading the final product to the server, and being available for website maintenance. This was a contract position done while attending college.

Web Designer / Tech Support, John Hope Franklin Center
2000 - 2002
Duke University

I constructed and maintained several websites for the Center as well as its conferences and events. I arranged meetings with several staff members to collect content for the Center's main website as well as for that of the John Hope Franklin Institute. I offered videoconferencing and technical support for staff and IT interns during Center events.

Computer Support / Training
2000
NC School of Science and Mathematics

I primarily created and managed MS Access databases, then designed a web tutorial for Microsoft FrontPage and used it to give instructional sessions for faculty and students. I also prepared a textbook for the NCSSM Science of the Mind course, from content supplied by the teacher.

Graduate Coursework in GIS and Programming

GISci Programming - a projects-based course using VBA and Python for geoprocessing and modeling

Ecological Modeling - implemented C programs to model physical environmental systems; frequent presentation of papers and analyses

Statistics in Ecology and Evolution - developed and implemented multi-level and other models in R; exposure to Bayesian methods

Advanced Remote Sensing and Image Processing - used Erdas Imagine to process/analyze remotely sensed imagery; frequent presentation of papers and analyses

Computational Skills

Expert in Microsoft Office (Word, Excel, Access, PowerPoint)
Experienced in ArcGIS, R

Programming Languages

- GIS programming (Python and VBA) and handling geodatabases
- C++ programming through two undergraduate courses at Duke, and C programming in graduate coursework

Web and Graphics

- HTML, Dreamweaver, FrontPage, Photoshop
- Exposure to Javascript, CSS, Premiere, Fireworks, Flash, Illustrator

References

Ms. Dawna Hawley | president, Sundogs Solutions | 919-338-1060 | dawna@sundogssolutions.com
Dr. Robert Peet | graduate committee member: 413 Coker Hall, UNC-CH | 919-962-6942 | peet@unc.edu
Dr. Aaron Moody | graduate advisor: 211 Saunders Hall, UNC-CH | 919-962-5303 | aaronm@email.unc.edu