



Training and REtaining Leaders in STEM - GeoSpatial

Prepared by:

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TRELIS Team



Challenges

Women are underrepresented in leadership and throughout the pipeline

Impacts

- Attitudes in the workplace
- Morale
- Feelings of exclusion
- Potential inequality in pay, promotions, raises, feedback received

Challenges exacerbated for women of color

Source: <https://womenintheworkplace.com/> (Women in the Workplace 2015, 2016, and 2017 reports are available to download)

Challenges in the Geospatial Space

- The STEM pipeline problem affects Geospatial
 - From K-12 all the way through to PhD
- Invisibility of Geospatial
 - Lack of good data specifically about Geospatial
- Women are under-represented in both academia and industry
 - fewer women than men in geospatial PhD granting programs
 - fewer women staying in academia, continuing through tenure process, in leadership

Diversity in geospatial fields and applications

We come from all over and do all sorts of things...

Not just geography

Integrated across many fields

It's fairly common to find '*the* {insert geospatial field} person'

The field is growing, need will increase

The screenshot shows the top navigation bar of the United States Department of Labor Employment and Training Administration website. The header includes the department's name, a search bar, and various utility links. Below the header is a secondary navigation menu with links to different sections of the site. The main content area features a sidebar with 'Solutions for Business' and a main article titled 'High Growth Industry Profile - Geospatial Technology' with an 'Industry Snapshots' sub-section.

UNITED STATES DEPARTMENT OF LABOR
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Contact Us

Solutions for Business

- Workforce Investment System
- Government Incentives, Tax Credits, and Assistance
- Workforce and Career

High Growth Industry Profile - Geospatial Technology

Industry Snapshots

- Revenues from the public sector lead geospatial market growth and account for more than one-third of total revenue. While federal governments were among the early adopters of GIS technology, recent trends toward devolving more responsibilities to states and localities have spurred those entities to become important consumers of GIS. While industries in the regulated sector, such as utilities, telecommunications, transportation and education, are the largest consumers of GIS/geospatial solutions, private-sector growth remains dependent upon business adoption based on the added-value these technologies provide. (Paratech GIS/Geospatial Solutions) (no. 111)

The questions / problems need diverse input

Geospatial technology is powerful & decision making is complex

Strava fitness map 'accidentally revealed the location of secret military bases' by tracking soldiers' movements

Some of the world's most secret and sensitive bases in the world are lit up brightly on the running tracker's map

Andrew Griffin | @_andrew_griffin | Monday 29 January 2018 08:15 GMT | 10 comments



THE GIS PROFESSIONAL ETHICS PROJECT: PRACTICAL ETHICS EDUCATION FOR GIS PROS

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<https://www.e-education.psu.edu/research/projects/gisethicsproducts>

What can we do about it?

We are building a  TRELIS

Origins -

Meeting, conversing

Sharing stories

A desire to give back
to the field



What is TRELIS

NSF funded - professional development for women in the academic sectors of geospatial sciences

A safe space for dialog, mentoring, and being mentored

Not an isolated project

Other activities by



and more...



If you know of others please let us know! We're trying to collect up resources to share as we grow the TRELIS web site

How / Where

Multi-year series of workshops

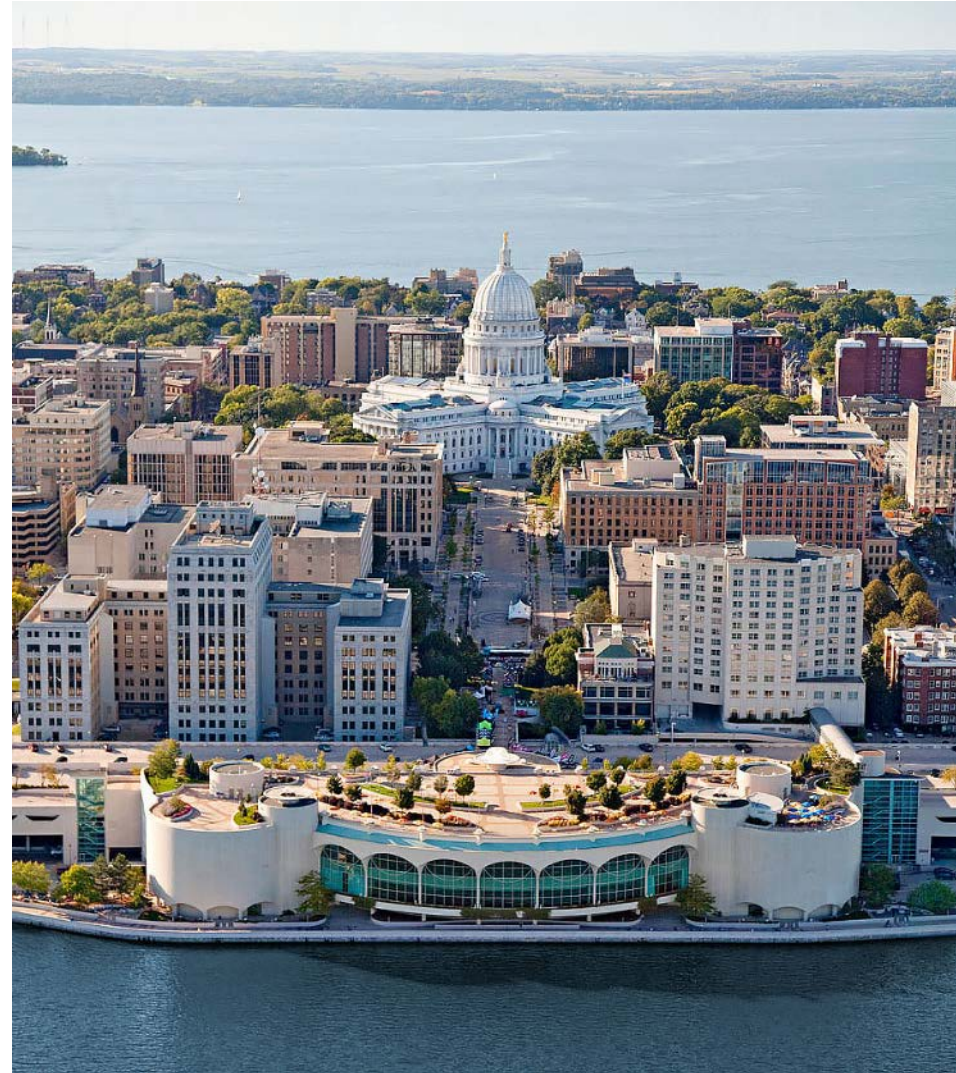
Madison, Wisconsin

May 19-21

In conjunction with:



University Consortium for
GEOGRAPHIC INFORMATION SCIENCE



Selection of Participants

- Call announced in early December 2017
 - Publicized widely through Geography, GIS, Urban Planning listservs
 - Professional societies, Industry Associations, Twitter, personal contact networks
- Overwhelmed by the number of applications
- Selection (for this round)
 - Support for scholars who are either very close to tenure or post-tenure
 - Support for scholars who are launching the next stage of their career
 - Diversity of experience (R 1, Teaching Intensive Institution, Non-Tenure Track)

Workshop themes

- Communication and Language
- Career Trajectories
- Obstacles and Solutions
- Work-Life Balance
- Mentoring and Coaching

Keynote

Keynote by Erika Marin-Spiotta
Associate Professor of Geography
UW - Madison



Communication and Language

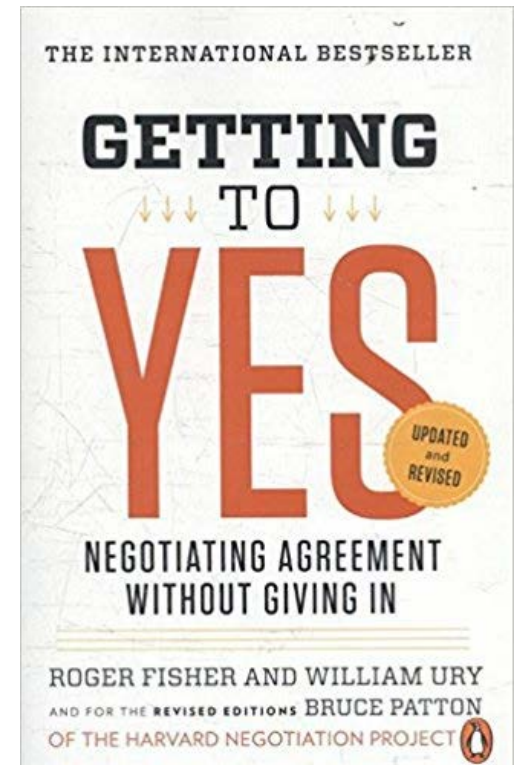
- Communication is culturally contextualized
- Women encounter awkward, inept, harassing communication
- Women's communication and language styles
- *Prepare participants to reflect on their communication style*
- *Provide strategies to become more effective in communication*

Career Trajectories

- Not confident about planning alternative career pathways
- Likely to “feel” stuck and/or helpless
- Challenged by “gender norms” in the workplace
- *Encourage participants to articulate their career trajectory*
- *Prepare participants for difficult conversations*

Obstacles, Conflicts and Resolutions

- Many obstacles, great potential for conflict
- Interpersonal, structural, cultural?
- Perception or reality?
- *Identify and practice de-escalation tactics*
- *Learn how to mediate conflicts*
- *Identify support networks*



Work-Life Balance

- Tendency to overcommit
- Work undertaken can be:
 - challenging emotionally
 - invisible to supervisors
- Household obligations
 - greater, time-consuming
- *Understand time use patterns*
- *Identify support services, and management strategies*



Mentoring and Coaching

- Fewer female mentors in geosciences
- Fewer role models in leadership positions
- *Recognize that we all need mentoring and coaching*
- *Learn how to offer mentoring and support*

Workshop Activities and Outcomes

- Interactive
- Reflective
- Learning by doing
- Sharing information in different ways
 - Role-Play, Panelists, Group Discussions and so on.
- Inclusive, Non-hierarchical
- *Self Awareness - Other Awareness*
- *Support Network for Women in Geospatial*
- *Preparing A New Generation Of Mentors*
- *Gathering Data to Prepare for Future Activities*

Workshop Artefacts (Planned)

Materials produced include:

- Videos
- Podcasts
- Recommendations - Resources
- Best practices
- Strategies for improving experiences of women in geospatial science careers

Anticipated Benefits

Creates:

- Academic support network across disciplines
- Educated network of allies (e.g., department chairs, mentors, etc.)
- Improved experiences for future generations of women and men

Identifies needs for future generations