Experiences in Improving Student Engagement in Professional Societies and Taking the Next Step

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Age Distribution of Geologists in the U.S. Government (2003-2010)

Source: AGI Geoscience Workforce Program. Data derived from the Office of Personnel Management fedscope database.
US Geoscience Degrees Awarded
1973-2010

Source: AGI's Directory of Geoscience Departments
Attrition, Replacement, and Growth in the next 10 years in the U.S.

- 125,000 geoscientists expected to retire
- 72,000 geoscience job growth by 2021 (BLS)
- 15,000 total new graduates over the next 10 years
- Or 45,000 total new graduates if you hire B.S. level
- Net deficit of over 150,000 by 2021
Options for **Filling the Gap**

- **Decrease** student attrition
- **Expand** domestic capacity
- **Import** talent
  - This isn’t Information Technology….
- **Substitution** with non-geoscientists
- **Efficiencies**
  - Wide open opportunity for innovations and entrepreneurial efforts.
  - 3% p.a. efficiency increases currently.
2050?!?!?

- Today’s middle school student will be the person in your seat in 2050.
- There is little you can do today to change the system to fundamentally change their path.
- Real change will affect the workforce of the 22nd Century.
- The U.S. will be majority minority. Will the geosciences get it right?
Making Geoscience Graduates Professional

Increase Society Participation

Frame their future in application, not discipline

Explore new Organizational Paradigms

Improve access to Professional learning

Expand to audiences seeking a profession
Increase Society Participation

AGI’s Career Welcome Packet. Provides 5 free student memberships

**Take up** of free memberships has been less than 5%

Distributed to over 800 geoscience departments

Designated as a tool for **faculty-student engagement**.

Faculty aren’t doing the 1:1

Faculty don’t value student society activity until late graduate school
Frame the career in social application

The geosciences describe careers in terms of subdisciplines... Geochemistry, Paleontology, Geophysics, etc...

Prospective students don’t care – they frame their choices on envisioning what they will do and how it will make a difference!

AGI’s new career brochure focuses on impact, not subdisciplines
Exploring new Organizational Paradigms

The Society of today is built on a Victorian era construct for interaction. Much of the knowledge exchange and interpersonal interaction is still valid.

Geosciences have lacked student/youth societies traditionally. Today it has two unique groups – YES and APECS which are meeting the next generation’s needs through a new networked paradigm.

AGI is working to bridge the new and the old.
Access to Professional Learning
New Graduates Aren’t Equipped for Life outside of the Academy

Consistent deficiencies of new graduates are: limited field experience, poor mathematics skills, and lack of exposure to professional issues.

AGI and AIPG are launching GOLI (Geoscience Online Learning Initiative) to fill that gap for students and new graduates. Topics will include:

- Ethics
- Professional communications
- Business processes
- Fiduciary responsibility
- Regulatory compliance
- Work-safety culture
- Big-picture framing of geoscience issues
Increase the number of job-seeking students

Only 15% of degree-seeking students are “traditional”

Most are seeking a pathway to work

Most are non-traditional because of social or economic constraints – and many of those do their degree online

Increase access to a job-oriented pool with an attractive professional discipline, and make it all accessible.

The next big entrepreneurial opportunity for a geoscience department....
Impacts and Potential

- Need to improve faculty valuation of **student society** participation
- **Sell** the science through its **application**
- Embrace new organizational approaches like YES and APECS
- Enable professional development of students
- Geo degrees that **tap the 85%**