



Enhancing participation of two-year college faculty in The Geological Society of America

Virginia L. Peterson, *Geology Dept., Grand Valley State University, Allendale, Michigan 49401, USA*; **John I. Garver**, *Dept. of Geology, Union College, Schenectady, New York 12308, USA*; **Steven Semken**, *Arizona State University, School of Earth and Space Exploration, Tempe, Arizona 85287, USA*; and **Wendi J.W. Williams**, *NorthWest Arkansas Community College, Geology Program, Bentonville, Arkansas 72712, USA*

contribute significantly to the development of the STEM skills (NSB, 2010) needed for twenty-first-century learning and for bridging K–12 and higher education institutions, informal science education organizations, business, and industry. Thus, 2YC faculty play an important role in broadening geoscience literacy and attracting students and future teachers to the geoscience workforce (Williams, 2010) but appear to be both underrepresented and underserved within GSA.

ABSTRACT

A strategic goal of The Geological Society of America (GSA) is to increase two-year college (2YC) faculty membership. In 2009, the GSA Committee on Education conducted a survey of 2YC faculty and explored strategies by which GSA might better serve them. We suggest that GSA provide increased professional and networking opportunities for 2YC faculty and encourage GSA members teaching at four-year colleges and universities to engage this cohort through lectures, colloquia, seminars, field trips, and research-teaching collaborations.

REPORT ON THE 2YC FACULTY SURVEY

The Committee designed an online *Zoomerang* (www.zoomerang.com) survey to identify aspects of GSA membership most valued by 2YC faculty and to gain perspectives on how the Society might better serve this population. The survey, made available for two months (December 2008–January 2009), included 26 multiple-choice/fill-in questions plus open-response options for additional comments or clarifications. The absence of a comprehensive national list of geoscience faculty at 2YCs was identified early on as an impediment for communication and networking amongst this cohort, and this limited our ability to involve survey participants beyond the GSA membership. Current GSA members who self-identified as 2YC faculty were invited to participate in the survey; non-GSA members learned of the survey through networking.

INTRODUCTION

Two-year colleges (2YCs) and their faculty are critical to the growth and development of the geoscience workforce (AGI, 2009). Increasing the number of 2YC faculty who are GSA members, enhancing resources for these members and their students, and increasing their participation in both annual and Section meetings are GSA strategic objectives (GSA, 2008). The increase in GSA membership among 2YC faculty (currently 374 members [1.6% of the total membership], an increase of ~100 members since 2006) is modest relative to the strategic goal of 1,000 members by 2011. The GSA Committee on Education (“Committee”) has investigated strategies by which GSA can better serve and attract 2YC faculty members. In late 2008, the Committee conducted a survey of 2YC faculty to better understand the needs of this community. The Committee also organized welcome receptions for 2YC geoscience faculty at GSA’s 2009 and 2010 annual meetings, both for networking and for information gathering. Here, we present Committee findings and suggest strategies for better inclusion of 2YC geoscience faculty.

Methods

The authors compiled and coded all survey data. Survey questions and responses are available for review on the GSA Education and Outreach website (www.geosociety.org/educate/documents/1106-2YCsurvey.pdf). Multiple-choice responses were automatically tallied, with the sums of each response type reported as a percentage of total responses for a given item. Open responses (textual), ranging from single words to short paragraphs, were reported in the form of lists of responses by item. Each list was coded separately to identify and distinguish the most common themes expressed by respondents. Open responses for each item were grouped by emergent themes and reported as percentages of the total number of open responses for each item. About half of the items were deemed to have too few open responses for meaningful coding.

RATIONALE

In the United States, 2YCs enroll 44% of all undergraduate students (AACC, 2011). Approximately 65% of graduating high school seniors decide to attend college after graduation, and of those students, 30% matriculate to a 2YC (Chen, 2009). 2YCs

Results

The survey’s 137 respondents had been teaching on average for 11 ± 8 years. More than 90% were GSA members, and a significant number (60%) had attended GSA meetings at least

GSA Today, v. 21, no. 12, doi: 10.1130/G130GW.1

E-mails: Peterson: petersvi@gvsu.edu; Garver: garverj@union.edu; Semken: semken@asu.edu; Williams: wwilliams@nwacc.edu.

once every 3–4 years. The remaining 40% rarely or never attended a meeting. Among those with a preference, 38% of respondents were more likely to attend a regional meeting compared to 8% who were more likely to attend a national meeting. Two principal reasons cited for not attending GSA meetings were (1) respondents could not afford the time away from class (80%), and (2) respondents did not have financial support to attend (50%). None of the respondents indicated a lack of interest as their reason for non-attendance.

A majority of the respondents (58%) indicated that networking opportunities, professional development, and teaching resources were most likely to influence their decision to become a member of a professional society like GSA. GSA provides these types of resources and opportunities primarily through meetings, workshops, and field trips.

The question that elicited the largest number of open responses related to how GSA can better serve the needs of 2YC faculty and students. Several themes emerged, identifying needs for (1) better dissemination of relevant and current teaching and professional development resources and opportunities; (2) funds for membership, research with students, travel to meetings, and field trips; (3) enhanced professional stature, institutional stature, and salaries for 2YC faculty; (4) enhanced local/regional networking opportunities at regional GSA meetings and between two-year and four-year institutions; and (5) more and better information to share with students regarding career opportunities and the importance of the geosciences.

STRATEGIES FOR CHANGE

We suggest both broad and specific strategies for GSA as a society and for GSA members to improve service and outreach to members of the 2YC community. Our survey efforts highlighted the absence of a list of 2YC geoscience faculty. The AGI Directory of Geoscience Departments includes some 2-year institutions with geoscience faculty, but it is incomplete. Networking opportunities among 2YC geoscience faculty have improved recently through creation of a listserv (<http://serc.carleton.edu/mailman/listinfo/geo2yc>) in connection with a SERC-sponsored workshop (<http://serc.carleton.edu/geo2yc/index.html>) in June 2010. In addition, the National Association of Geoscience Teachers (NAGT) recently established a GEO2YC organization for its 2YC faculty. Partnerships with NAGT on 2YC issues, perhaps cultivating cross-organizational representatives at the national and section levels, might enhance networking opportunities as well as GSA recruitment potential.

Perhaps the most important strategy for GSA is to improve the value of membership and meeting attendance for 2YC faculty. Theme sessions focused on 2YC faculty issues at both the 2009 and 2010 annual meetings were well attended. We strongly encourage more proposals for topical sessions, networking opportunities, and professional development workshops relevant to the 2YC community at annual meetings, and we recommend a continuation of the Two-Year Faculty Welcome Reception, perhaps as a partnership between the Geoscience Education Division and NAGT.

Our survey results indicate that 2YC faculty members are more likely to attend GSA Section meetings than the annual meeting, so it is important that the Sections aim to attract 2YC members to these meetings through workshops, sessions, and

networking or social events. This might be most effective if organized at the national level and then implemented regionally. Regional outreach might be enhanced through partnerships and/or communication with local geological societies.

Partnerships between geoscience faculty at 2YC and four-year institutions should be mutually beneficial. We offer a few strategies for local outreach activities by GSA members at four-year institutions:

1. Plan meetings with local 2YC faculty to understand needs and discuss strategies for improved interactions. These working groups might clarify the path to a four-year geoscience degree for 2YC students with likely benefits of improved student retention and decreased time to graduation.
2. Invite 2YC faculty members to participate in lectures, colloquia, seminars, field trips, and informal gatherings.
3. Create “guest lecture” opportunities between institutions.
4. Share resources for local field trips or class activities with a local or regional focus.
5. Consider research and/or teaching collaborations with 2YC faculty that have the potential to involve 2YC students.
6. Connect 2YC and geographically close four-year college/university GSA Campus Representatives as a valued first step in fostering communication and professional inclusion. We also recommend a concerted effort to establish GSA Campus Reps at as many two-year institutions as possible and to tailor campus representative materials to include information relevant to those institutions.

Our analysis indicates that lack of funds and time are commonly cited barriers to active participation in the Society. In the short term, GSA might consider lowering the costs for membership, journals, or meeting registration for 2YC faculty. Designated travel awards for 2YC faculty presenting at meetings might also provide critical incentive. The issue of time is more challenging but is in part tied to enhancing the perceived professional stature of 2YC faculty as well as the perceived value of GSA to the professional development of 2YC geoscience faculty. This may be achieved in the longer term by including 2YC faculty more broadly in the critical work of the Society, enhancing networking opportunities at a variety of levels, and helping to facilitate participation. In summary, GSA and its members have much to gain and little to lose by embracing activities and strategies that attract and include 2YC faculty.

ACKNOWLEDGMENTS

We thank the members of the GSA Committee on Education, Gary Lewis, Christine McLelland, and the GSA Education & Outreach staff, along with two anonymous reviewers.

REFERENCES CITED

- AACC, 2011, 2011 Community college fast facts: Washington, D.C., American Association of Community Colleges, <http://www.aacc.nche.edu/AboutCC/Pages/fastfacts.aspx> (28 Sept. 2011).
- AGI, 2009, Status of the geoscience workforce: Alexandria, Virginia, American Geological Institute, <http://www.agiweb.org/workforce/reports.html> (28 Sept. 2011).
- Chen, X., 2009, Stats in brief—Students who study science, technology, engineering, and mathematics (STEM) in postsecondary education:

- National Center for Education Statistics (NCES), Institute of Education Sciences, U.S. Department of Education 2009-161, <http://nces.ed.gov/Pubsearch/pubsinfo.asp?pubid=2009161> (28 Sept. 2011).
- GSA, 2008, The Geological Society of America strategic plan: <http://www.geosociety.org/aboutus/stratplan.htm> (28 Sept. 2011).
- NSB, 2010, Preparing the next generation of stem innovators: Identifying and developing our nation's human capital: Washington, D.C., National Science Board, NSB-10-33: <http://www.nsf.gov/nsb/publications/index.jsp> (28 Sept. 2011).
- Williams, W.J.W., 2010, Recognizing opportunities: Expanding earth science literacy by understanding the role of community colleges in U.S. education; the role of two-year colleges in geoscience education and in broadening participation in the geosciences—A planning workshop: NSF and NAGT, <http://serc.carleton.edu/geo2yc/essays/williams.html> (28 Sept. 2011).

Manuscript received 3 June 2011; accepted 25 Aug. 2011. ♦

GSA Today is Open Access Online

Go to www.geosociety.org/pubs/ and click on the *GSA Today* cover.




CALL FOR APPLICATIONS

2012–2013 GSA-USGS Congressional Science Fellowship

Bring your science and technology expertise and passion for shaping the future to Capitol Hill to work directly with national leaders at the interface between geoscience and public policy.

Deadline: 1 Feb. 2012

The GSA-USGS Congressional Science Fellowship provides a rare opportunity for a unique individual to work in a House or Senate office for one year. Prospective candidates are GSA members with a broad geoscience background and excellent written and oral communication skills. The fellowship is open only to U.S. citizens or permanent U.S. residents, with a minimum requirement of a master's degree with at least five years professional experience or a Ph.D. at the time of appointment. **Questions?** Contact Ginger Williams, +1-303-357-1040, gwilliams@geosociety.org.

www.geosociety.org/csf/



Publications Highlights

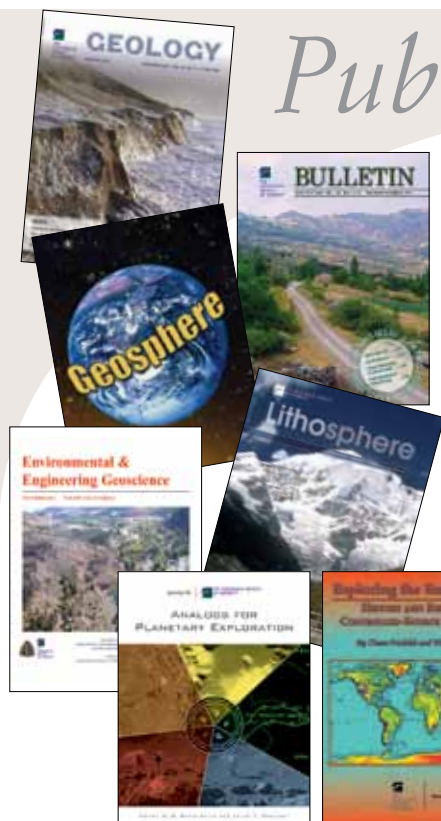
Where You Publish Matters

Last year, two well-known commercial publishers gave out more than \$400 million in shareholder dividends. GSA, on the other hand, gave out more than \$610,000 in student research grants—money that directly supported our science.

This year we will once again host our Annual Meeting and numerous Section Meetings, create educational and outreach products for K–12 students and teachers, and represent the earth sciences on Capitol Hill.

When it comes time to submit your paper, please think about your library and where the subscription money goes.

GSA. Serving science, not shareholders.



To subscribe, contact gsaservice@geosociety.org, or call +1-888-443-4472, or +1-303-357-1000, option 3.