

THE ROLE OF GEOSPATIAL ASSOCIATIONS IN PROMOTING THE PROFESSION TO YOUNG PEOPLE

R. Malhotra^{a*}, G. Vlahovic^a, M. Madden^b, K. Tilley^c, M. Renslow^c

^a Department of Environmental Earth and Geospatial Sciences, North Carolina Central University, Durham, NC USA – (rmalhotra, gvlahovic)@nccu.edu

^b Center for Remote Sensing and Mapping Science, University of Georgia, Athens, GA, USA – mmadden@uga.edu

^c American Society for Photogrammetry and Remote Sensing, Bethesda, MD, USA – ktalley@asprs.org, renslow76@comcast.net

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ABSTRACT:

The geospatial information and technology profession has always been one to attract bright young minds. However, as new techniques such as Geographic Information Systems (GIS), Global Positioning Systems (GPS), maps on the Internet and mobile phones have infiltrated our daily lives, interest in the geospatial field over the past 20 years has expanded considerably. This expansion of the field has drawn more young people into the profession and into professional organizations such as the American Society for Photogrammetry and Remote Sensing (ASPRS). In ASPRS, there has been a concerted effort to provide young members with opportunities for involvement in the society through student activities at conferences, mentorship, a place to share their research and findings with other specialists in the field, and exposure to job opportunities in the government, academic, and private sectors of the industry. This paper presents the strategic steps that ASPRS took to form a Student Advisory Council (SAC), offer enhanced volunteer opportunities for students, and establish a provisional certification program. In establishing the SAC in 2006, ASPRS sought to address student issues and concerns by giving them a forum and a voice in the Society to help plan student activities at conferences, facilitate student networking with future employers, and represent students on the national-level ASPRS Board of Directors. The SAC also plans to connect students in ASPRS with students of the International Society for Photogrammetry and Remote Sensing (ISPRS) Student Consortium (SC) through joint activities such as the upcoming Technical Commission IV Symposium in Orlando, Florida. Through the SAC, ASPRS expanded the existing student volunteer program to provide an increased number of students in attendance at national ASPRS conferences through competitive scholarships. The Society extended its long-established Professional Certification Program to include students by initiating the Provisional Certification program. This allows students to take the certification exam shortly following the completion of degree programs and, if successful, enhance their credentials and eligibility for work in the geospatial community. The initiatives highlighted in this paper have all added to the student-friendly and student focused nature of ASPRS.

1. INTRODUCTION

As one of the leading geospatial organizations in the United States, the American Society for Photogrammetry and Remote Sensing (ASPRS) plays an active and important role in the professional development of individuals concerned with geospatial technologies, geographic data and geographic information science (GIScience). The Society was founded in 1934 as a scientific association and currently serves over 6,000 professionals from around the world. Its mission is “to promote the responsible applications of photogrammetry, remote sensing, geographic information systems (GIS), and supporting technologies” (ASPRS, 2010).

As with any other professional organization, ASPRS and its success are linked to its members. The stronger the membership base, the stronger the Society and vice-versa. With this in mind, the leaders at ASPRS affirmed its

commitment to the advancement and development of young members in the most recent update of the Society’s Strategic Plan (ASPRS, 2006). The plan specifically includes “Strengthen ASPRS Student Programs” as one of its top ten strategic goals. Under this heading, the Society pledges to “support and encourage student participation in conferences” and “promote student mentoring”. A second goal highlights “Professional Education, Certification and Licensure” and promotes the development of “a mentoring program for early career geospatial professionals”.

This paper discusses three key elements that have been adopted by ASPRS to promote the profession and draw young people to the organization. These initiatives, taken collectively, form the core around which additional student enhancements are planned in the future. They are:

1. Student Advisory Council (SAC)

2. Student Assistantship Program for ASPRS Conferences
3. Provisional Certification Program

2. PROMOTING THE PROFESSION TO YOUNG PEOPLE

2.1 Student Advisory Council

Student Chapters (headed by faculty advisors and structured by educational institutions and regions), Student Membership (with reduced membership fees), and Student Awards and Scholarships have been an integral part of ASPRS and its promotion to students (future professionals) since the Society was founded in 1934. However, ASPRS student members did not have a unifying central voice in the Society. Student chapters are also usually the domain of larger universities and due to the transient nature of students, their success/failure is integrally tied to faculty advisors. The interactions are mostly limited to the educational institution or region. This sometimes precluded participation from enterprising students from smaller institutions who might otherwise contribute significantly to the advancement of student initiatives. Student memberships, awards, and scholarships are individual in nature and rely on a single person's initiative, thereby reducing the possibility of group action or recognition.

To overcome these shortcomings and provide a mechanism for student members to become more involved in ASPRS, a Student Advisory Council (SAC) was established in early 2006 (Tilley, 2006). The initial meeting was held at the ASPRS 2006 Annual Conference in Reno, Nevada where students attending the conference were invited to give feedback on the usefulness of such a council and how it should function, along with the types of issues the council should address. Out of that meeting grew the current Council structure, which comprises of student members of ASPRS and is a direct link between young members and the ASPRS Board of Directors. The SAC Chair takes student views, initiatives, and proposals from the student member population and presents them to the ASPRS Board at the Society's annual and fall meetings. The Council itself has seven students serving terms in the following positions: Chair, Deputy Chair, Education Development Councilor, Communications Councilor, Networking Councilor, and Professional Development Councilor. The SAC positions were established by the Council after their initial meeting. An additional position of Associate Member Liaison was added in 2009 to focus on the transition of student members to the Associate member category once they leave school and enter the working world. All ASPRS student members are invited to attend a SAC meeting held at every ASPRS conference. The SAC is also guided by both the sitting Board officer elected from the academic sector and the ASPRS Associate Executive Director.

Since its inception, the SAC has undertaken several initiatives to increase student participation primarily at the Annual and Fall conferences organized by ASPRS. The

Education and Development Councilor created a career track for the annual conference technical sessions that addressed issues such as academic publishing, resume writing, interviewing for a job, and continuing to higher level education. These sessions have now been expanded and are offered at the ASPRS fall conference as well. One of the biggest concerns brought up by the students who attended the initial SAC meeting in 2006 was the need to develop a way for ASPRS to help them network at the conferences with both their peers and others during the conference week. The students suggested a time be set aside early in the conference for them to mingle and get to know other students. They also wanted a guided tour of the exhibit hall to make it easier for them to meet and talk with exhibitors about available software, ask questions about products and applications, and network for jobs as they leave school. Both initiatives were adopted and have been in place since the 2007 ASPRS Annual conference.

Since these first initiative, SAC has gone on to establish social networking activities at the annual and fall conferences, and the Professional Development Councilor, working with the Education Development Councilor, organized a free webinar hosted by a software vendor. The Deputy Chair now works with the ASPRS Sustaining Member Council to organize a student and employer "Meet and Greet" at the annual conference designed to connect members applying for jobs as they leave school and employers who are looking to hire. A job/resume posting board is available at each conference and interview rooms are made available to ASPRS Sustaining Member companies who want to conduct on-site interviews. More offerings along these lines are expected and will continue to make students a central part of ASPRS conferences.

In tandem with organizing the SAC, ASPRS also initiated the Student Newsletter to give SAC and ASPRS student members a way to communicate with each other about issues of importance to them. A contest was held to name the newsletter. The winning name, *Signatures* (Tilley, 2006), came from Ms. Rima Wahab-Twibell who wrote "From a classification perspective, deriving signatures is one of the building blocks in remote sensing. From a societal perspective, a signature characterizes the uniqueness of a person, an object, or an event. I would like to believe that we, the students in remote sensing, are the building blocks, the heart and soul, and the future of remote sensing (and ASPRS). Therefore, we are the: Signatures." (Tilley, 2007). In April 2008, this newsletter was converted to a blog (<http://asprsignature.blogspot.com/>) in order to have a wider and more immediate appeal. Students have the opportunity to read and comment on the posts. The newsletter also led to the development of the ASPRS Student Network Google Group (<http://groups.google.com/group/asprs-sac>) which provides another mechanism for the SAC to work together to promote students and young professionals in ASPRS.

Student leaders from the SAC are currently coordinating with students of the International Society for Photogrammetry and Remote Sensing (ISPRS) Student Consortium (SC) to plan joint activities for the upcoming

Technical Commission IV Symposium - ASPRS Fall Specialty Conference and AutoCarto 2010 to be held in Orlando, Florida. It is hoped that the collaboration of the two student organizations will facilitate further involvement of North American students in the opportunities and activities of ISPRS that focus on global issues and geospatial solutions for societal benefit.

2.2 Student Assistantship Program for ASPRS Conferences

Prior to 2007, student participation in ASPRS Conferences was an individual initiative. Students who needed financial assistance to present papers at the conferences could vie for one of two Student Travel Grants, or participate as Student Volunteers in exchange for complimentary registration. For the most part, the cost to attend the conference was incumbent upon the students who usually relied on assistance from their host institution. This changed with the formation of the SAC.

Starting in 2007, ASPRS rolled out a three tier program to enhance student participation and visibility. The seven SAC members are automatically invited to the annual conference so they can meet and fulfill their Council obligations. In addition to complimentary registration, they are also provided with shared hotel accommodations and a small stipend to cover other expenses. Essentially, these students only have to fund their travel to the conference. The second level consists of Student Assistants who are selected from a pool of applicants. Announcements for the Student Assistant competition are posted on the ASPRS website and emailed to student members as well as faculty several months in advance. The number of students selected varies based on the requirements of the annual and fall conferences. Just like the SAC members, these students are also given complimentary conference registration, hotel accommodation, and a small stipend to cover other expenses. In exchange for this support, the SAC members and the Student Assistants are required to give 15-18 hours of volunteer service over the duration of the conference. The third level consists of 15-30 Student Volunteers who are also provided with a complimentary registration in exchange for 7-8 hours of volunteer service during the conference. The exact number depends on the conference type and workload. The annual conference usually requires more student volunteers (for example, 29 Student Volunteers will participate in the 2010 annual conference in San Diego CA, USA) than the fall conference. As they have to fund the rest of the cost associated with participating in the conference, Student Volunteers usually also present at the conference and seek support from their host institutions. Students, particularly from the local area where the conference is being held, find the Student Volunteer program very appealing as they receive complimentary registration that minimizes their financial burden.

While assisting with registration, workshops, technical sessions, the poster session, exhibit hall and other conference events, the students gain an understanding and appreciation of the workings of a large conference and are

brought face-to-face with a large cross section of the geospatial information and technology industry. They are drawn in to the activity and introduced to ASPRS Board members who welcome talking with the students and hearing about their work and career goals. During the rest of their time at the conference, the assistants and volunteers are encouraged to attend sessions and/or network with professionals from government, private and educational institutions. Year after year, the feedback from the students who have had the opportunity to be engaged with the conference has indicated that they learned more and felt more like a part of the ASPRS organization than they ever had before. Most have formed lasting friendships with peers and many reported receiving invitations to job interviews and job offers as a result of networking at the conference. One Student Assistant who served at the 2007 ASPRS Annual conference went on to obtain a position with an ASPRS Sustaining Member Company and was recently elected to a position on his region's Board of Directors. This example clearly demonstrates the linkages and success of involving students early and keeping them involved as it results in benefits for both the individual and ASPRS.

With the expansion of the Student Assistantship Program in 2009, ASPRS created a National Student Volunteer Coordinator to oversee the selection of volunteers and maintain a steady work schedule during the conference. The Coordinator supports student activities, works on scheduling and acts as a liaison between the students and the conference organizers. It is the Coordinator's primary responsibility to see that the students are gaining from attending the conference, while at the same time fulfilling their obligations. The Coordinator also works with the local Conference Committee to ensure successful participation of local students in the conference assistant and volunteer program.

2.3 Provisional Certification Program

As the geospatial industry matures and expands its reach into our daily lives, companies are looking for ways to evaluate competency. This has resulted in an increased demand for professional certification which can be seen in the rise in interest in certifications offered by ASPRS ("Certified Mapping Scientist" and "Certified Technologist"), as well as other certifications such as the GIS Professional (GISP) certification offered by the GIS Certification Institute. This rise in interest also can be gauged in the numerous certificate programs that have proliferated and are being offered by educational institutions (Wikle 1999; DiBiase 2003; Wikle and Finchum 2003). Developed in partnership with North Carolina Central University, the Provisional ASPRS Certificate program was launched by ASPRS in 2007 (Malhotra and Vlahovic 2009).

The ASPRS Provisional Certificate program postpones the work experience requirements associated with the full certifications. This means that undergraduate students completing Bachelor's degrees can apply at the "Certified Technologist" level and graduate students completing

Master's or terminal degrees can apply at the "Certified Professional Photogrammetrist or Certified Mapping Scientist" level. The students can achieve these certifications in any of the three allied fields of Photogrammetry, Remote Sensing, or Geographic Information Systems (GIS). Students must demonstrate subject familiarity by indicating at least three geospatial courses on their transcripts and including a letter of recommendation from their academic advisor. Once approved by the review committee, the students must pass a competency exam. The focus and level of the competency exam varies based on the certification (Mapping Scientist or Technologist) as well as the field of concentration (Photogrammetry, Remote Sensing, or GIS). Upon being provisionally certified, the students have five to ten years to gain work experience and subsequently apply for full certification. This process directly connects students to the professional practices of our discipline and makes them part of a valuable group of certified geospatial professionals.

Since its inception in 2007, 15 students have applied and successfully completed the provisional certificate program (13 at the Professional Photogrammetrist or Mapping Scientist level and 2 at the Technologist level). Six other applicants have passed peer review and are preparing for their exam. These figures point to the fact that graduate students pursuing Master's or Doctoral degrees are applying in higher numbers because they are more aware of professional requirements such as certification. Also, it was anticipated a majority of the applications are for certification in GIS as most of the young professionals coming into our industry seek professional competency and employment in GIS. Of the 15 students who have been certified, 8 have received certification in GIS. This indicates that the demand for certification is not limited to GIS, but also extends to other areas such as Remote Sensing. The diversity of students applying for and obtaining certification also can be gauged by the fact that nine universities from across the United States (California, Georgia, Indiana, New York, North Carolina, Ohio, and Utah) are represented. While it was anticipated that only students from smaller universities would be interested in this program, those studying in larger universities also see the value in obtaining a professional certification recognized in the industry, in addition to their degree and associated certifications offered by their host institutions. The program is in its infancy and it can be argued that as more universities become aware of the Provisional Certification Program the number of applicants will continue to increase. This initiative should receive wide recognition in the industry because the students receiving certification pass a standardized written exam that attests to their competency in their field of study.

3. CONCLUSIONS

Student involvement in geospatial professional societies has proven to benefit individuals as they graduate and step out into the community as contributors to the profession. The programs highlighted in this paper are focused on

involving students and young professionals in the Society because they are recognized as our future leaders. Providing a voice for students in the ASPRS has revitalized the interests of both students and working professionals in academia, government and industry. The student-focused ideas that have originated in the SAC clearly point to the importance of including their voice in the policy and planning stages. While student membership continues to be the fastest growing segment of the ASPRS membership, more work has to be done to revitalize Student Chapters across the country and help student members transition to Active membership within the Society. The ideas presented in this paper can, hopefully, be replicated at other national organizations affiliated with ISPRS. Collaboration between students of ASPRS and ISPRS should also continue to be encouraged as it will further intellectual, social and creative exchanges that are bound to benefit the global community.

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