

ARGEOS: the Student's Contribution to Shaping the Change

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SUMMARY

As Geomatics technologies are emerging globally the demand for appropriately educated young professionals is growing. However, new skills like communication, in contrast to traditional geodetic skills, will be increasingly necessary in order for this science to have an impact on the future of the earth and human society. Educational requirements are thus growing and evolving rapidly. The Geomatics Student Society ARGEOS (Arbeitsgemeinschaft der Geodäsiestudierenden) plays a major role in the preparation of students for successful international careers.

ARGEOS consists of Geomatics students from German, Austrian, Swiss and Dutch universities. Once a semester a four day meeting takes place at one of the member universities. Approximately 100 students gather to discuss current issues, listen to lectures on cutting edge spatial technology and make new friends. Workshops are central to the meetings and allow students to share ideas. Some topics often discussed are public relations, further cooperation (particularly with the Deutscher Verein für Vermessungswesen), and students' perspectives on the future role of Geomatics science.

Our goals are to enhance the Geomatics student's ability to succeed in international networks on a professional and scientific level, to gather experts from a variety of disciplines and to lead teams. Therefore, communication skills are of major interest in addition to traditional engineering qualities. The Geomatics engineer as a scientific expert, who can also connect engineering solutions with the needs of today's society is our vision.

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1. INTRODUCTION

Today's professional world of Geomatics calls for excellently educated young professionals with various skills. Besides sufficient knowledge about the technical contributions to solving current tasks the importance of soft skills grows. The Geomatics engineer no longer is understood as merely a technician receiving orders. In order to deepen the awareness of students for global issues, the shaping of a new profile of the typical young Geomatics engineer is necessary. The young Geomatics engineer will have to be educated for professional careers in leading positions. It will be his task to initiate networks of international experts and to lead interdisciplinary teams. Therefore, a combination of technical and social skills is needed. Hence, all Geomatics groups should make an input in order to create the desired education. One important group besides e.g. the German Association of Surveying (DVW) is the students themselves. All Geomatics students studying Geomatics at Universities in Austria, Germany, the Netherlands and Switzerland are represented by the Association of Geomatics Students ARGEOS (Arbeitsgemeinschaft der Geodäsiestudierenden).

2. ARGEOS

The ARGEOS was founded in 1970 in order to enhance the students' education at the universities. A second Geomatics association, KonVers, exists which represents all students of universities for applied sciences. All members of the ARGEOS meet once a semester at one of the member universities. The ARGEOS board additionally meets during the semesters in order to talk about new perspectives and decide for new topics of ARGEOS. Every meeting consists of four days of lectures, working groups, subject related trips, touristy trips and parties.

Approximately 100 students travel to the venue and make each ARGEOS meeting an inspiring time full of new friends and creative ideas (see figure 1). The gathering of students with various backgrounds, thoughts and views of Geomatics lead towards challenging discussions. In a very friendly atmosphere the creation of expert networks of the future is facilitated. A large number of tomorrow's leading professionals will have set up their networks with the support of ARGEOS.



Fig. 1: Delegates of the ARGEOS meeting in May 2006 in Munich

ARGEOS tries to shape the new Geomatics engineer's role in society and thus invites students of related subjects e.g. civil engineers to each event. Geomatics engineers are very well educated in a large variety of fields and my therefore play a major role in bringing together interdisciplinary teams. Furthermore, it is the Geomatics engineer's goal to give essential input to these teams and lead them. Hence, ARGEOS reinforces the communication to experts from related subjects nationally, regionally and globally.

The ARGEOS closely cooperates with the German Association of Surveying (DVW). The DVW sponsors ARGEOS events financially and provides e.g. the stand for the ARGEOS at the Intergeo. One student representative is continuously involved in the work of the DVW working group AK1 (Profession). The DVW also grants the possibility of publishing reports of current ARGEOS activities in its journal ZfV. In 2005 the DVW sponsored the attendance of two Geomatics students at the FIG congress in Cairo, Egypt. This years FIG sees even greater and more comprehensive support of students since the entrance fee for all Geomatics students is subsidized by the DVW. Additionally, on behalf of the DVW the ARGEOS will organize a young Geomatics engineer's session at the Intergeo in Munich as it already did in 2005 in Düsseldorf.

3. WORKING GROUPS

The core part of an ARGEOS meeting is the working groups. Each university sends representatives to each of the working groups in order to exchange information and discuss current issues. The topics of these working groups always depend on present tasks that need to be solved. At the last ARGEOS meeting in Munich in may 2006 five different working groups took place: *public relations*, *professional perspectives for Geomatics engineers*, *advertisement for new Geomatics students*, *introduction of the bachelor/master system* and *organization of scientific events*. Although these working groups meet only once a semester all work is continuously proceeded during the semesters.

3.1 Public Relations

The working group *public relations* (see figure 2) is responsible for intensifying ARGEOS' relations to Geomatics expert groups. Also this working group writes articles about the students' perspective on Geomatics in professional journals and maintains relations to the International Geodetic Students Organization (IGSO). Its main goal is to promote the subject of Geomatics and make its impact to society more obvious to the broader public. The ARGEOS webpage www.argeos.de is maintained by members of this working group.



Fig. 2: Members of the working group public relations in may 2004 in Darmstadt

3.2 Professional Perspectives for Geomatics Engineers

The working group *professional perspectives for Geomatics engineers* discusses possible careers for young Geomatics engineers. However, the general perspective of Geomatics and its impact on today's society is also talked about. In order to enhance the students education it is essential to first identify the optimum Geomatics engineer layout. This working group also gives input to various gatherings of experts and discussions at e.g. subject related fairs in order to promote the students view of Geomatics.

3.3 Advertisement for New Geomatics Students

Since all German universities are suffering from very low numbers of Geomatics students advertisement for new students becomes an essential issue for the courses' survival. The subject Geomatics is not very well known in Germany and its public reputation is often distorted. Therefore this working group cooperates closely with the working group *public relations* in order to improve the public's big picture of Geomatics. New concepts of promotion, like holding talks at high schools or the attendance of appropriate fairs, are important contents of this working group.

3.4 Introduction of the bachelor/master system

In this working group information about the introduction of the bachelor/master system to all German universities is exchanged. Since students are involved in creating new educational plans at the universities via various commissions their input is very important. The current introduction stage and experiences with already running bachelor semesters are discussed.

3.5 Organization of scientific events

The working group *organization of scientific events* carries out all necessary work to run the ARGEOS stand at e.g. the Intergeo. New possible events are thought about and the invention of self organized scientific gatherings is discussed.

4. SUPPORTIVE CLUB FV ARGEOS e.V.

The supportive club FV ARGEOS e.V. was founded in 2003 in order to guarantee continuous financial support of the ARGEOS activities. Three different kinds of members exist: Geomatics students, seniors and supportive members. Members benefit from the growing Geomatics network ARGEOS, the connecting link between scientific research, education and the Geomatics economy. A newsletter is send quarterly to all members in order to inform about latest news and current developments. Additionally, subject related events are promoted in this news letter.

5. SUMMARY AND OUTLOOK

The ARGEOS is a key player in the world of Geomatics of the involved countries. It makes an important contribution to the education of young Geomatics engineers by spreading their horizons, bringing together tomorrow's experts and distributing tolerance and respect for an international community. Further issues in the future will be

- the intensification of international cooperation,
- the improvement of communication between students of the member universities
- the improvement of communication between ARGEOS, the universities and the Geomatics economy
- and the introduction of a internet based forum for promotion materials in cooperation with the universities.

In cooperation with the universities, the Geomatics economy, the DVW and the FIG the ARGEOS will make an effort to shape the change.

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