Fulbrights Abroad in Computer Science

Tom Armstrong

Wheaton College
26 E. Main Street
Norton, MA 02766
508.286.5686
tarmstro@wheatoncollege.edu

Matthew Boutell
(moderator)

Rose-Hulman Institute of Technology
5500 Wabash Avenue
Terre Haute, IN 47803
812.877.8534
boutell@rose-hulman.edu

Linda Ott

Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931
906.487.2315
linda@mtu.edu

SUMMARY
The Fulbright Scholar Program is the flagship academic exchange program of the U.S. Department of State; approximately 1,100 American scholars travel worldwide annually to lecture and conduct research. The program is open to all U.S. citizens with university teaching experience and a Ph.D. or equivalent professional/terminal degree [1]. Opportunities for Computer Science educators to win Fulbright scholarships are many. The goal of this panel is to inform the community of computer science educators about the Fulbright program, including the application process, and to answer questions about the program. After an introduction to the program at large, the panelists will each give a 10-15 minute overview of their personal experience as a Fulbright scholar in 2011-2012, leaving ample time for questions from educators considering applying for a Fulbright scholarship. The panelists will offer diverse perspectives based on their experiences in India, Zambia, and Siberia.

Categories and Subject Descriptors
K.3.0 [**Computers and Education**]: General

General Terms
Experimentation

Keywords
Fulbright, international experience, international exchange, teaching abroad

1. TOM ARMSTRONG
Tom is Assistant Professor of Computer Science at Wheaton College in Norton, Massachusetts. He was named a Fulbright-Nehru Scholar to the Republic of India for 2011-2012 to Hemchandracharya North Gujarat University (HNGU) in Patan, Gujarat, India – a location that, while not achieving gender parity in the STEM (science, technology, engineering, and mathematics) disciplines, is notably more successful than institutions in the United States in the attraction to and retention of women in Computer Science. Wheaton holds the honor and distinction of being the nation's first four-year baccalaureate institution of higher education for women. In keeping with that tradition, he is conscious of the need to increase the participation of women and students from underrepresented minority groups in Computer Science.

Tom spent a semester teaching in the Department of Computer Science at HNGU. During his time at the University, his goals were to: 1) develop curricula and expand the scope of their Computer Science department; 2) explore their practices and environments that result in recruitment and retention of women in Computer Science; and 3) actively learn a new language in a multilingual environment to inform course content and build a collaborative research agenda. He taught a course in Artificial Intelligence to 5th and 9th semester MCA and MScIT students, respectively, at the University.

He chose India, in part, because of nascent relationships during his graduate studies to, now, collaborators and friends in the professoriate. He expanded his social network to include computer scientists from many states in India. Among the intangible benefits, the sheer linguistic diversity of the group speaks to the broader multilingualism of India. A multilingual environment is ideal for two of his research and teaching interests: 1) language immersion to study language acquisition; and 2) language change and genesis. Speakers in multilingual environments frequently use multiple languages concurrently (e.g., English, Hindi, and Gujarati). He wanted firsthand experience in that type of environment to inform his research on computational language acquisition Language.

The academic successes and failures were personally and professionally fruitful. The entire experience resulted in establishing new and renewed connections. Tom plans to return to India annually between the fall and spring semesters with students from Wheaton.

2. MATTHEW BOUTELL
Matt is Associate Professor of Computer Science and Software Engineering at Rose-Hulman Institute of Technology. He won a 10-month lecturing/research grant to the Computer Science Department at Copperbelt University in Kitwe, Zambia for the 2011-2012 academic year. His initial contact with the university was very positive, since the Dean at CBU had worked with a Fulbright scholar previously to create a syllabus for Zambia's first MSc program in Computer Science. The plan was for Matt to teach the first intake of students in May. After teaching classes on Android Application Development and preparing for the new MSc courses for several months, he found out less than two weeks before MSc classes were to start that the program would not begin until after he left Zambia, due to circumstances at the University beyond his control. Instead, he taught undergraduate courses on software development, which is his passion. He also developed an Android application which will soon be available on Google Play.

His greatest contributions to the department were mentoring young faculty members, working with lecturers to update the curriculum to include more software development, and teaching the BSc program's first course in Java. In all, he modeled active

learning and a greater emphasis on hands-on programming in practice and assessment than had previously been the case.

Matt's wife and five children, ages 13, 11, 9, 7, and 4, accompanied him to Kitwe. They homeschooled their children in both the US and in Zambia, which, along with electronic book readers, made that part of the transition incredibly easy.

While in Zambia, they especially appreciated the friendliness of the Zambian people, the fresh locally-grown food, the predictable weather, and the simplicity of life. Back home in Indiana, they now appreciate clean and plentiful tap water, consistent electricity, and smooth roads.

Matt attended a similar panel at SIGCSE two years ago, and was greatly encouraged by the panelists; he hopes that this panel will be as encouraging to fellow educators considering applying for a Fulbright scholarship.

3. LINDA OTT

Linda is Professor of Computer Science at Michigan Technological University. She was awarded a three month Fulbright to visit Siberian State Aerospace University (SibSAU) in Krasnoyarsk, Russia. Krasnoyarsk is a city of over one million people located in Siberia along the Trans-Siberian Railroad.

While at SIBSAU, Linda interacted with three different groups: faculty members and students in the Institute of Computer Science and Telecommunications, teachers and students in the Foreign Languages Department, and staff in the International Cooperation Department. Her primary teaching responsibility was a course on advanced software engineering for Masters students in computer science. In addition to teaching the software engineering course, she was involved in a range of other educationally related activities. She consulted with faculty members on course materials, discussing issues related to both content and their presentation in English. She also consulted with several faculty members and graduate students on their research projects.

She lectured in an English course for scientific and technical Ph.D. students covering such topics as the types of venues for publishing research results and preparing papers for submitting to international technical conferences and journals. She visited a class for students learning to be specialized English interpreters. She also held informal English Clubs with students desiring to practice English with a native speaker and/or to learn more about the United States.

With members of the International Cooperation Department, she drafted a cooperation agreement between SibSAU and Michigan Tech. Through the International Cooperation Department she also had the opportunity to interact with international students and visiting faculty members.

She enjoyed the variety of experiences and the opportunities to interact with the Russian people, particularly the students. She found it rewarding to discover that she could comfortably cope with walking into a class thinking she was going to lecture to an upper level computing class and finding out as she began her lecture on privacy that it was actually a class for students majoring in tourism. Finally, she found that a vegetarian can survive a Siberian winter.

4. ACKNOWLEDGMENTS

5. REFERENCES

[1] Council for International Exchange of Scholars (CIES) Fulbright, Retrieved September 07, 2012 from http://www.cies.org/about_fulb.htm.