

SIGAda Annual Report

July 1, 2007 - June 30, 2008

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SIGAda Awards

Started in 1994, the ACM SIGAda Awards recognize individuals and organizations that have made outstanding contributions to the Ada community and to SIGAda.

This year the Outstanding Ada Community Contribution Award was awarded to two individuals and one group:

Karl Nyberg
Jean-Pierre Rosen
The GNAT Team

SIGAda also makes the Outstanding Student Paper Award at its annual conference. At SIGAda 2007 this award was presented to Zheng Wang for the paper "Verified Component-based Software in SPARK: Experimental Results for a Missile Guidance System". Kung-Kiu Lau coauthored this paper.

Significant Papers published in proceedings

The recent increase in the number of papers on the use of Ada by education seen in 2006 continued with this year's conference. This increase reflects the interest in AdaCore's GNAT Academic Program (GAP). Currently 140 educational organizations in 25 countries participate.

"Timing Neural Networks in C and Ada" by Martin C. Carlisle and Leemon C. Baird III of the US Air Force Academy. The paper shows that Ada is as efficient and far safer than C.

"Parallel Evolution of Game Evaluation Functions in Ada" by Tyler B. Hallmark and Eugene K. Ressler of the U.S. Military Academy. It demonstrates that the Ada's tasking and distributed processing facilities make it a good research tool for experimentation with algorithms that may need multiple processors. Tyler's student project may be the best Connect4 player in the world.

"Using SPARK for a Beginner's Course on Reasoning about Imperative Programs" by Kung-Kiu Lau of the University of Manchester, UK, demonstrated that SPARK Ada provides a means for students to connect the seemingly abstract concepts of discrete mathematics to what they love to do - write programs.

"Verified Component-based Software in SPARK: Experimental Results for a Missile Guidance System" by Kung-Kiu Lau and Zheng Wang showed that students can successfully use SPARK Ada to formally verify software.

Significant Programs that provided a springboard for further technical efforts

A formal liaison exists between SIGAda and WG9. ISO/IEC JTC1/SC22 WG9 is that body of international representatives responsible for the maintenance and evolution of the Ada International Standard. The National Bodies represented on WG9 are Belgium, Canada, France, Germany, Italy, Japan, Switzerland, the United Kingdom, and the United States.

In March 2007 the ISO (the International Organization for Standardization) in Geneva, Switzerland announced the formal completion of the process to revise the Ada 95 language, with the publication of the Ada 2005 standard — officially named ISO/IEC 8652:1995/Amd 1:2007. This announcement culminates a collaborative international effort under ISO's Ada Working Group (WG9) to enhance the 1995 version of the Ada language.

At least one SIGAda Officer participates and represents the membership at the WG9 meetings held twice each year.

Innovative Programs which provide service to some part of our technical community

Since 1994 SIGAda has conducted an "Ada Awareness Initiative". Its centerpiece has been our SIGAda professional booth display unit in exhibition halls at important software engineering conferences. This lets folks know that Ada is very much alive and a sound part of any software engineering effort having real-time, high integrity, high-assurance, and highly distributed requirements. Last year we purchased a new display booth which has now been exhibited at four conferences. Via this exhibiting, SIGAda sustains Ada visibility ("name recognition"), provides various Ada-advocacy materials and makes available Ada experts (our booth staff volunteers) who can intelligently answer questions, provide pointers and help, and debunk the misinformation about Ada that many attendees at these shows have. This program continues to be extremely successful and viewed as a highly important thrust by the SIGAda membership. SIGAda graciously acknowledges and thanks the Ada Resource Association (ARA), a consortium of Ada vendors, for their financial support of SIGAda's Ada Awareness Initiative and our booth activities.

Summary of key issues to deal with in the next 2-3 years

Although our retention rate is higher than most ACM SIGs, our membership numbers continue to decline. The "graying" of SIGAda is a continuing problem for the vitality of the organization. We need to find some way to encourage these people to participate in the SIGAda organization.

While gender imbalances are common in the computing disciplines, SIGAda seems to have a greater imbalance than other areas.

We need to increase the proportion of SIGAda members who actively participate in our conference and journal.

John McCormick
Chair ACM SIGAda



Dr. Jean-Pierre Rosen (left) receives the Outstanding Ada Community Contribution Award from Prof. John W. McCormick, Chair ACM SIGAda.