



Association for
Computing Machinery

Advancing Computing as a Science & Profession

Advance Program

**ACM Annual International Conference
on Ada and Related Technologies:
Engineering Safe, Secure, and Reliable Software**

**Hyatt Fair Lakes Hotel
Fairfax, Virginia, USA (Washington, DC area)
October 24-28, 2010**



MITRE's Ada-Powered Robot Tractor

Sponsored by the ACM Special Interest Group on the Ada Programming Language (SIGAda)
in cooperation with Ada-Europe, Ada Resource Association, and ACM Special Interest Groups on Embedded
Systems, Programming Languages, Computers and Society, and Computer Science Education

A Few Featured Speakers and Session Leaders



Joe Jarzombek (*U.S. Dept. of Homeland Security*)
Mitigating Risk through Software Assurance



Stephen Michell (*Maurya Software*)
Software Security: Find the Vulnerability



Chris Lane (*Lockheed Martin*)
**Software Integrity Assurance
in Next Generation Air Traffic Control**



Paul Black and Elizabeth Fong
(*National Institute for Standards and Technology*)
Using Software Labels for Trusted Software

William "Brad" Martin (*National Security Agency*)
Ada in Security Systems such as Tokeneer

Corporate Sponsors – Platinum



Corporate Sponsors – Silver



**VISIT <http://www.sigada.org/conf/sigada2010> TODAY
FOR UP-TO-THE-MINUTE TUTORIAL, PROGRAM, AND EXHIBIT INFORMATION
AND ONLINE REGISTRATION**

ACM SIGAda Annual International Conference, October 24-28, 2010

Summary Conference Schedule

PRE-CONFERENCE TUTORIALS Sunday, October 24

Effective Requirements Engineering (Morning)
William Bail (The MITRE Corporation)

Use of Object Oriented Technologies in High-Reliability Systems (Morning)
Jean-Pierre Rosen (Adalog)

Ada for Parallel, Embedded, and Real-Time Applications (Afternoon)
John McCormick (University of Northern Iowa)

PRE-CONFERENCE TUTORIALS Monday, October 25

C#, .NET, and Ada: Keeping the Faith in a Language-Agnostic Environment (Full Day)
Ben Brosgol and Jerome Lambourg (AdaCore)

Designing Real-Time, Concurrent, and Embedded Software Systems using UML and Ada (Morning)
Robert Pettit (The Aerospace Corporation)

Unmanned Systems with Ada and RTEMS (Afternoon)
Cynthia Cicalese, Joel Sherrill, Ricky Sward, and Richard Weatherly (The MITRE Corporation)

TECHNICAL PROGRAM Tuesday, October 26

9 – 10:30 am **Greetings from SIGAda and Conference Officers**
Keynote Address: System Software Integrity Assurance to FAA's Next Generation (NextGen) Constituents
Chris Lane (Lockheed Martin)

10:30 – 11:00 am **Morning Break - Exhibits Open**

11 am – 12:30 pm **A Deterministic Run-Time Environment for Ada 2005 on the ATmega16 Microcontroller**
Jim Ras (University of Houston)

A Methodology for Avoiding Known Compiler Problems Using Static Analysis
Jean-Pierre Rosen (Adalog)

Sponsor Presentation

12:30 – 2:00 pm **Mid-day Break and Exhibits**

2 – 3:30 pm **Panel: Wouldn't It Be Nice to Have Software Labels?**
Paul Black and Elizabeth Fong (National Institute of Standards and Technology)

3:30 – 4:00 pm **Afternoon Break & Exhibits**

4 – 5:30 pm **Experience with SWIM Development**
Richard Schmidt (Lockheed Martin)

Unmanned Systems with Ada
Richard Weatherly et al (The MITRE Corporation)

Real-Time System Development in Ada using LEGO® Mindstorms® NXT
Peter Bradley, Juan A. de la Puente, and Juan Zamorano (Universidad Politécnica de Madrid)

Tuesday Evening Reception (7:00pm - 10:00pm)

TECHNICAL PROGRAM Wednesday, October 27

9:- 10:30 am **Announcements**
Keynote Address: Ada in Security Systems such as Tokeneer
William "Brad" Martin (National Security Agency)

10:30 – 11:00 am **Morning Break and Exhibits**

11 am – 12:30 pm **Parallelism Generics for Ada 2005**
Brad Moore (General Dynamics, Canada)

Extending Ada to Support Multi-Core-based Monitoring and Fault Tolerance
You Li, Lu Yang, Lei Bu, Linzhang Wang, Jianhua Zhao, and Xuandong Lu (Nanjing University)

Sponsor Presentation

12:30 – 2:00 pm **Mid-day Break and Exhibits**

2 – 3:30 pm **Panel: Software Security**
Stephen Michell (Maurya Software, Canada)

3:30 – 4:00 pm **Afternoon Break**

4 – 5:30 pm **Workshop on Software Security: "Find the Vulnerability"**
Stephen Michell (Maurya Software, Canada)

5:30 – 7:00 pm **Dinner Break**

7 – 11 pm **Workshop on ParaSail: Parallel Specification and Implementation Language**
Tucker Taft (SofCheck, Inc.)

Workshop: Developing a Profile for using Object-Oriented Ada in High-Integrity Systems
Jean-Pierre Rosen (Adalog)

Birds of a Feather: GNAT

TECHNICAL PROGRAM Thursday, October 28

9 – 11 am **Announcements**
Panel: Mitigating Risks to the Enterprise via Software Assurance
Joe Jarzombek et al (Dept. of Homeland Security)

11 am – 12:30 pm **An Update on ParaSail: Parallel Specification and Implementation Language**
Tucker Taft (SofCheck, Inc.)

Towards Ada 2012: an Interim Report
Ed Schonberg (AdaCore and Ada Rapporteur Group)

The Rise, Fall, and Persistence of Ada
Ricky E. Sward (The MITRE Corporation)

POST-CONFERENCE TUTORIAL Thursday, Oct. 28

System and Software Architecture Using AADL (Afternoon)
Bruce Lewis (US Army) and Peter Feiler (CMU SEI)

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SIGAda 2010 VENUE AND HOTEL

Hyatt Fair Lakes Hotel

12777 Fair Lakes Circle
Fairfax, Virginia 22033 (USA)
Tel: 1-800-492-8804 (US/Canada) or 1-703-818-1234
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The SIGAda 2010 Conference will be held at the Hyatt Fair Lakes Hotel, in Fairfax, Virginia, in the suburbs of Washington, D.C. The hotel is convenient to Washington Dulles International Airport, and to the spectacular new Steven F. Udvar-Hazy Center of the National Air and Space Museum.

The hotel has reserved a block of rooms for the SIGAda 2010 conference. The conference rate is \$119 for single or double occupancy rooms, \$144 for triple occupancy rooms, and \$169 for quadruple occupancy rooms. Parking at the hotel is free; courtesy shuttle to Metro and to area shopping and business parks. State and local tax (currently 9%) will be added per night. All reservations must be guaranteed by credit card. Reservations must be received by October 1, 2010. See conference website for further details.

SPONSORS/EXHIBITORS

SIGAda 2010 will include vendor participation, featuring presentations on their products and services during main sessions. For specific information, please contact the Exhibits Co-Chairs, **Greg Gicca**, gicca@adacore.com, or **Kristen Ferretti**, kef@ocsystems.com.

GRANTS TO EDUCATORS

As in past years, SIGAda is offering grants to educators to attend the conference. Grants cover the registration and tutorial fees; members of the GNAT Academic Program may be eligible for travel funds from AdaCore. Apply by e-mail, no later than October 1, 2010. Grant program details are available from the conference website or **Prof. Michael B. Feldman**, mfeldman@gwu.edu

WORKSHOPS/BIRDS-OF-A-FEATHER

Focused workshops are important in shaping Ada technology to better meet the needs of the Ada community. Workshops result in a report to be published in *ACM Ada Letters*. Workshop descriptions are listed at the SIGAda 2010 website. Birds-of-a-Feather sessions are informal discussion groups. Additional workshop or Birds-of-a-Feather (BoF) proposals are welcome; please contact the Workshops Chair, **Bill Thomas**, BThomas@MITRE.Org

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Why You Should Attend

Ada software is powering Boeing's 787 Dreamliner; Europe's high-speed trains; the National Ignition Facility that will lead to new breakthroughs in power generation, astrophysics, materials science and many other scientific disciplines; space systems; U.S. and international air traffic control systems; the New York subway; and numerous military and commercial systems in which software reliability, safety, and security are paramount.

Ada is proving itself in the development of secure applications as well. This year there are presentations by the National Security Agency (NSA) and National Institute of Standards (NIST) as well as a panel and workshop on Ada's application in computer and software security.

Don't miss this chance to bring yourself up to date on Ada!

**ADVANCE
PROGRAM**

**Register early
and join SIGAda —
you can SAVE up to**

\$720

Visit the conference website!

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