

# HPPEC 2006

High Performance Embedded Computing



# HPEC 2006 Acknowledgments

## Technical Committee

Dr. Stan Ahalt / Ohio State University  
Dr. James C. Anderson / MIT Lincoln Laboratory  
Mr. Masahiro Arakawa / MIT Lincoln Laboratory  
Dr. Ray Artz / Lockheed Martin  
Mr. William Bent / CSPI  
Dr. Lawrence Bergman / Jet Propulsion Laboratory  
Mr. Robert Bernecky / Naval Undersea Warfare Center  
Dr. Jay Brockman / University of Notre Dame  
Dr. Keith Bromley / SPAWAR  
Mr. David Cousins / BBN Technologies  
Dr. Jack Dongarra / University of Tennessee  
Dr. Neall Doren / Sandia National Laboratories  
Dr. Alan Edelman / MIT  
Dr. Maya Gokhale / Los Alamos National Laboratory  
Mr. John Grosh / OSD  
Mr. Michael Harris / BAE Space Systems IEWS  
Dr. William Harrod / DARPA IPTO  
Dr. Daniel Katz / Louisiana State University  
Mr. Bruce Kinney / Raytheon  
Dr. Miriam Leeser / Northeastern University  
Dr. Richard Linderman / AFRL  
Mr. Michael Lucas / Northrop Grumman  
Mr. Craig Lund / Mercury Computers  
Dr. Elias Manolakos / Northeastern University  
Mr. Michael McCollister / Northrop Grumman  
Ms. Janice McMahon / ISI  
Dr. Brent Nelson / Brigham Young University  
Mr. David Ngo / BAE Systems  
Mr. Rick Pancoast / Lockheed Martin  
Dr. Robert G. Pettit / The Aerospace Corporation  
Dr. Viktor Prasanna / University of Southern California  
Dr. Albert Reuther / MIT Lincoln Laboratory  
Dr. John Reynders / Eli Lilly  
Dr. Mark Richards / Georgia Institute of Technology  
Dr. Martin Rinard / MIT  
Dr. Sharon Sacco / MIT Lincoln Laboratory  
Mr. Craig Sather / The Aerospace Corporation  
Dr. Philip Sementilli / Raytheon  
Dr. Gary Shaw / MIT Lincoln Laboratory  
Dr. Anthony Skjellum / Univ. of Alabama at Birmingham  
Dr. Henk Spaanenburg / Advanced Principles Group, Inc.  
Mr. Brian Sroka / MITRE  
Mr. Dan Wells / Boeing Satellite Systems

## Sponsors

Missile Defense Agency  
DARPA Information Processing Technology Office  
DARPA Microsystems Technology Office  
Air Force Research Laboratory  
High Performance Computing Modernization Office

## Advisory Committee

Mr. David Martinez / MIT Lincoln Laboratory  
Dr. Richard Games / MITRE

## Workshop Administrator

Ms. Holly Musto

## Workshop Support

Ms. Lori Tsoulas  
Ms. Joanne Zukowski  
Ms. Terry Reutherford  
Ms. Cindy Sullivan  
Ms. Sarah Peterson  
Ms. Robin Lucente  
Ms. Gina O'Donovan

## Technical Support

Mr. Keith Fox  
Mr. Igor Marchenko  
Mr. Troy McClean

## Document Production

Mr. Michael Burke  
Ms. Dorothy Ryan  
Ms. Linda Palumbo

## Projectionists

Mr. Mike Imbeault  
Mr. Jon Barron  
Mr. Dana Gaudette

## Security

Ms. Roslyn Wesley  
Ms. Karen Allen  
Security Officers

## Special Services

Mr. Richard Gabriele  
Mr. James Armao  
Mr. Hugo Volpe

## Corporate Chefs

Mr. Jack Haight

## Audience

[All of you attending](#)



# 2006 HPEC Workshop

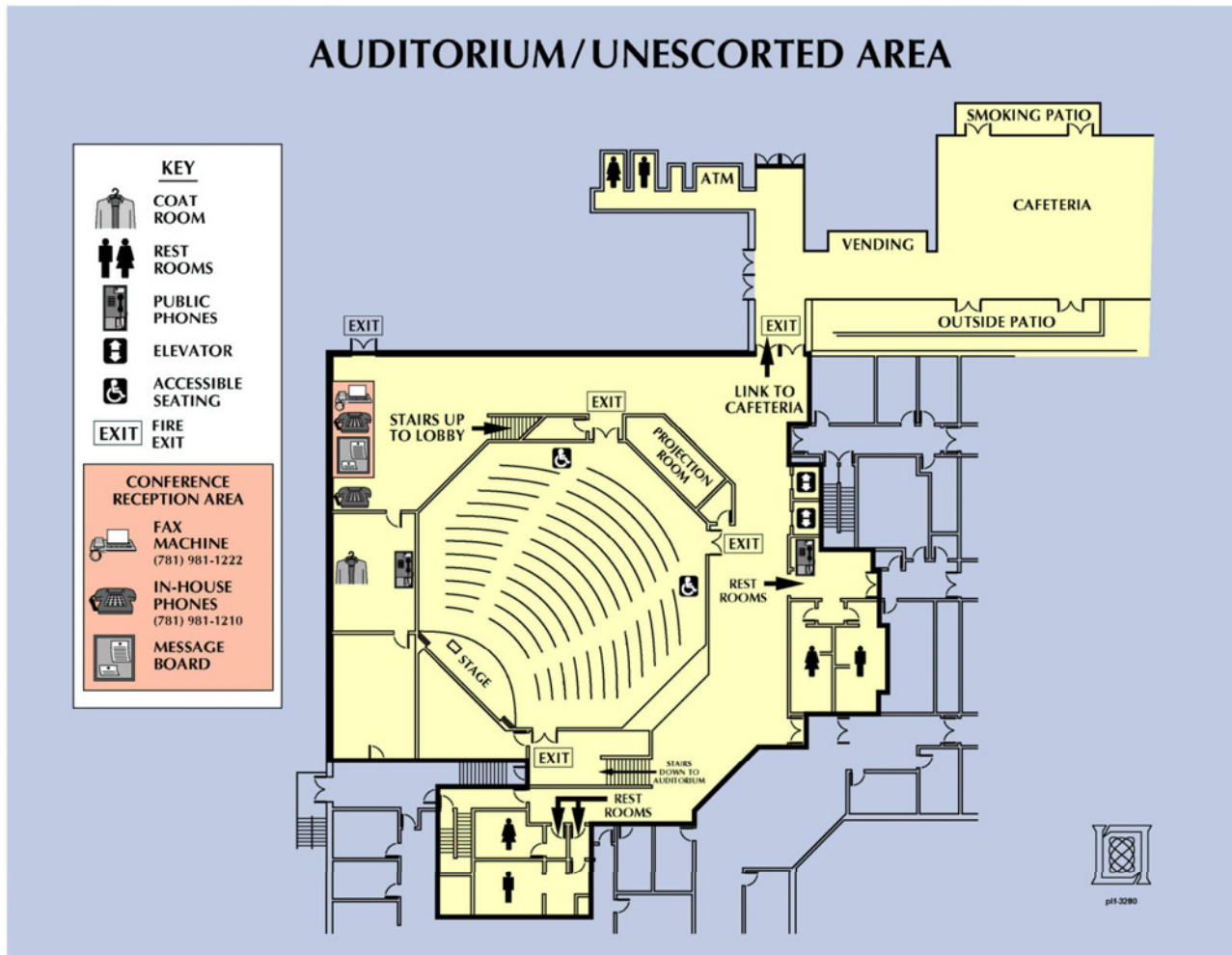
## - Administrative Information -

- **Unclassified & U.S. Only Sessions**
- **Workshop is being videotaped**
- **No smoking inside the Laboratory**
- **Lunch and refreshments served**
- **Cell phones may only be used in the unescorted areas and outside**
- **Cameras and recording devices are not permitted in the Laboratory**
  - **Phones with cameras MUST be left at the registration table.**
- **Badges**
  - **ID check is required each day**
  - **Drop off badges at the end of each night at the registration table**
  - **Your badge will be re-issued each morning**
  - **May not be taken outside the facility**
- **Proceedings (on Web and CD)**
- **Address changes**
- **Workshop questionnaire**





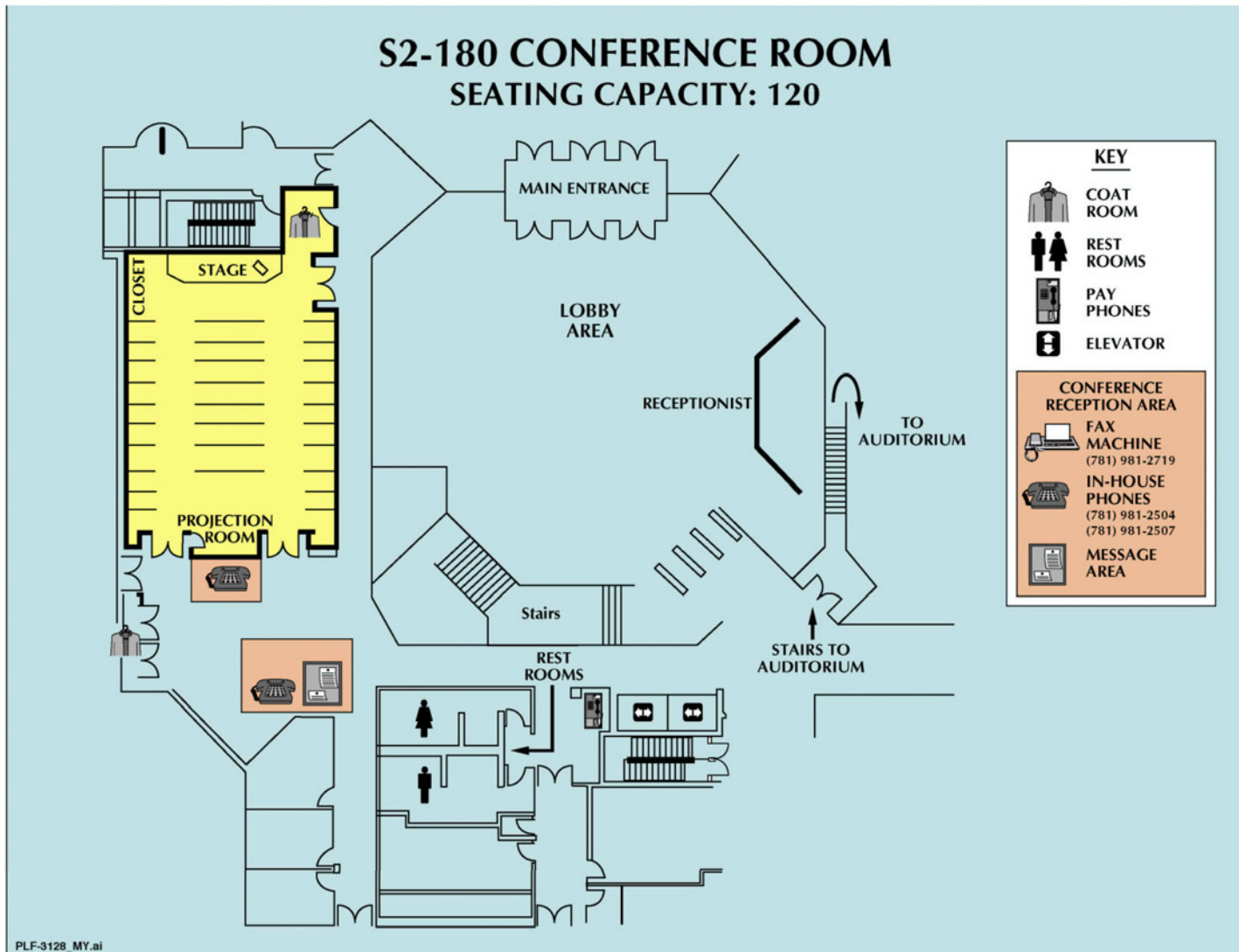
# Unescorted Area



**Lincoln Laboratory is a secure facility. Access to any other portion of the facility requires continuous escort by a white-badged employee.**



# Focus Sessions in S2-180





# Agenda Highlights

## Day 1

Tuesday  
19 September

**Keynote Address – Dr. Anita Jones / University of Virginia**

**Session 1:** *Novel Hardware and Device Technologies*      **Focus 1:** *FPGA / ASIC Systems Technologies*

**Poster / Demo A:** *Advanced Algorithms and Hardware*

**Session 2:** *Applications on New Architectures*

**Focus 2:** *Intelligent Software Technologies*

**Continuation of Poster A and Session 2 (Burlington Marriott)**

**Reception and Banquet (Burlington Marriott)**

**Banquet Presentation – Prof. Rodney Brooks / MIT CSAIL**

## Day 2

Wednesday  
20 September

**Keynote Address – Mr. David Martinez / MIT Lincoln Laboratory**

**Session 3:** *Challenging Computing Environments*

**Focus 3:** *High Performance Systems*

**Poster / Demo B:** *High Performance FPGA Technologies and Applications*

**Session 4:** *Cognitive Computing*

**Focus 4:** *High Performance Rapid Prototyping*

**Panel “Looking Forward, Looking Back” Dr. James Anderson et al**

## Day 3

Thursday  
21 September

**Keynote Address – Dr. Robert Kahn / Corporation for National Research Initiatives**

**Session 5:** *Standards and Metrics*

**Focus 5:** *Harnessing the Cell Processor*

**Poster / Demo C:** *Software Standards*

**Session 6:** *Awards Session*



# HPEC 2006 Banquet

## Banquet Speaker

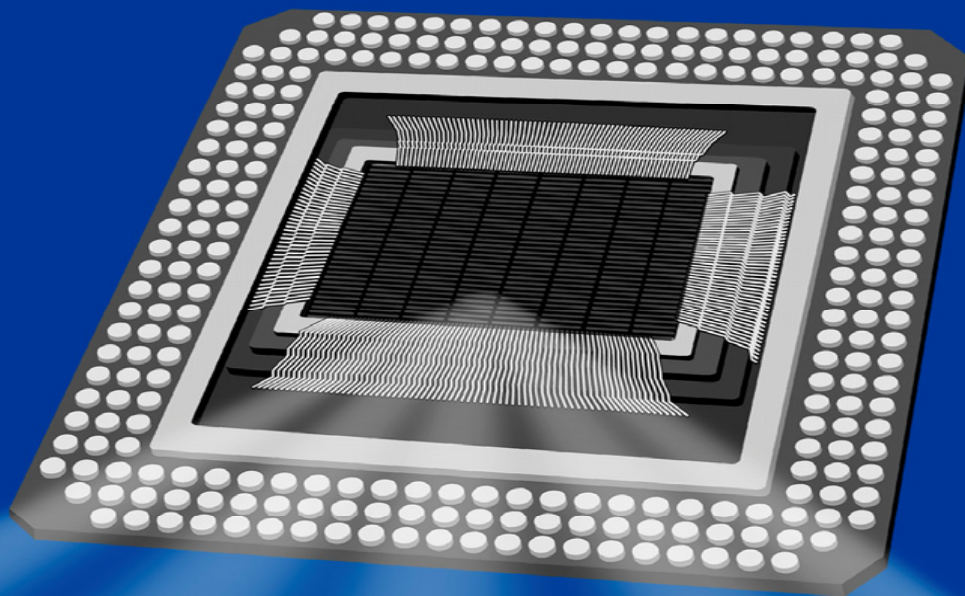
**Prof. Rodney Brooks**  
**MIT CSAIL**



*A few tickets  
still available  
\$40*

Place: **Burlington Marriott**

Time: **1740 – Reception**  
**1840 – Speaker**  
**1910 – Banquet**



# HPPEC 2006

High Performance Embedded Computing