

Center for Embedded Systems

An NSF Industry/University Cooperative Research Center

YEAR 6: IAB Meeting

**Sarma Vrudhula, Professor
Arizona State University**

**Spyros Tragoudas, Professor
Southern Illinois University – Carbondale
IAB Meeting, February 3-4, 2015**

Who We Are

Academia



Industry



Government



What We Do

Enabling Sensing, Communications, Computing, and Control in Everyday Things

Embedded Multicore Architectures and Programming

- Compilers and architectures for multicore embedded systems
- Power-efficient programmable accelerators
- Soft error resilient system design
- Design and programming of low power embedded systems
- Embedded GPU computing for mobile systems

Power, Energy and Thermal-Aware Design

- Low power circuit architectures and design tools
- Performance, power, energy and thermal management for multicore
- Energy efficient architectures

Cyber-Physical Systems

- Modeling and simulation
- Model-based formal verification and semi-formal testing
- Model-based synthesis from high-level specifications

Embedded Software Systems

- Real-time scheduling
- Embedded systems for smart grids
- Scheduling and middleware for multicore-based embedded systems
- Embedded software instrumentation and tools

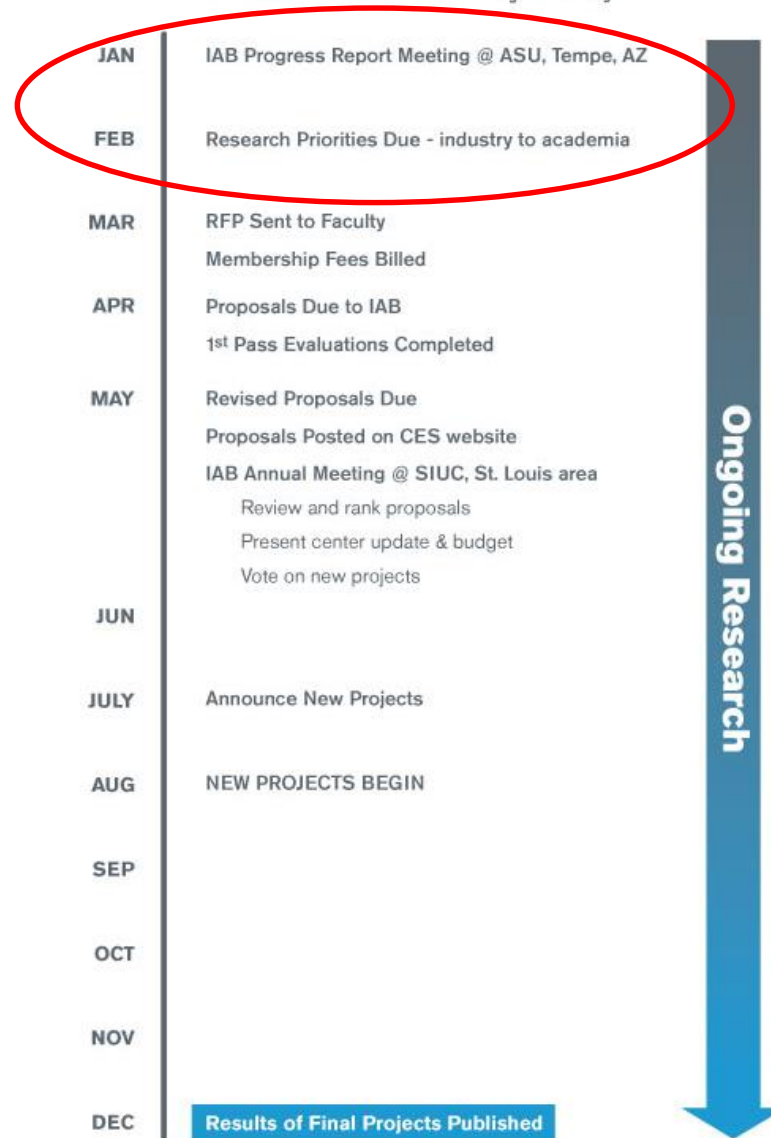
Integrated Circuit Technologies, Design, and Test

- Semiconductors for hostile environments
- Emerging semiconductor technologies
- Sensor design and manufacturing
- Analog/RF/Mixed signal circuit design and test
- Testing and silicon debug of digital circuits



Why We Are Here

Annual Timeline/Project Cycle



Introductions

Center Leadership

- Sarma Vrudhula, Center Director
- Spyros Tragoudas, SIU Director
- Lisa Christian, Center Project Manager
- Nancy Beasley, SIU Project Manager



Introductions

IAB Leadership

- Rathish Jayabharathi, chair
- Rudy Beraha, vice chair



Introductions

National Science Foundation – Craig Scott (Evaluator)



Introductions

Guests from Industry

- Rainer Gmehlich - Robert Bosch
- Timour Paltashev – Advanced Micro Devices
- Russel Enns – The Boeing Co.

Guests from Academia

- Dr. Mircea Stan – University of Virginia
- Dr. Michel Kinsky – University of Oregon

Speakers

National Science Foundation

Craig Scott (Evaluator)

Keynote Address

Energy Efficient Computing in Nanoscale CMOS:
Challenges and Opportunities

Dr. Vivek K. De Director of Circuit Technology, Intel

Agenda


- Rathish Jayabharathi, Intel, IAB Chair
- BREAK – 10 minutes
- Industry Presentations
- Industry Poster Session
- LUNCH

Mid-term Update Process

Presenter

- Each presenter will have 3 minutes for their short “elevator pitch”
- Each presenter has a poster setup in the back of the room to use for deep-dive discussions with the industry members
- Seven presentations back-to-back
- Immediately following the presentations is 60-90 minutes for industry members to interact with all presenters

Industry Members

- Please hold questions for poster sessions
- Please show your appreciation to the presenters when the timer elapses by applauding 
- During poster session, please rotate to all presenters posters when asked to do so
- Be prepared to evaluate each project on LIFE forms after poster session

Host

- Set/Start 3-minute timer at beginning of each presentation
- During the 90 minute poster session, the host will notify industry members when it is time to rotate to next poste

Industry Presentations / Poster

- UTC Aerospace Systems, Frank Ludicky
- Intel, Rathish Jayabharathi
- Toyota, Jyo Deshmukh
- Marvell, Jennifer Wang
- Qualcomm, Rudy Beraha
- Johnson Controls, Samuel Hamilton