

# Center for Embedded Systems

An NSF Industry/University Cooperative Research Center

Year 6: Industry Advisory Board (IAB) Annual Meeting  
**IAB Annual Meeting - Minutes**  
May 14, 2014, 8:30 a.m.  
IAB Host / Location: Southern Illinois University / Carbondale, IL

**CONFIDENTIAL**  
revised: July 7, 2014

The meeting was conducted by IAB chair Rathish Jayabharathi, Intel – CA. Attendees:

## **IAB Members (ASU)**

Jennifer Wang	Marvell	<a href="mailto:wangi@marvell.com">wangi@marvell.com</a>
Mark Fichtner	Marvell	<a href="mailto:mrfichtn@marvell.com">mrfichtn@marvell.com</a>
Rudy Beraha	Qualcomm	<a href="mailto:rberaha@qti.qualcomm.com">rberaha@qti.qualcomm.com</a>
Andrew Vandivort	Raytheon	<a href="mailto:amvandivort@raytheon.com">amvandivort@raytheon.com</a>
Xiaoqing Jin	Toyota Technical Center	<a href="mailto:xiaoqing.jin@tema.toyota.com">xiaoqing.jin@tema.toyota.com</a>
Jim Kapinski	Toyota Technical Center	<a href="mailto:jim.kapinski@tema.toyota.com">jim.kapinski@tema.toyota.com</a>

## **IAB Members (SIU)**

Rathish Jayabharathi	Intel - CA	<a href="mailto:rathish.jayabharathi@intel.com">rathish.jayabharathi@intel.com</a>
Steve Koenck (proxy)	Rockwell Collins	<a href="mailto:sekoenck@rockwellcollins.com">sekoenck@rockwellcollins.com</a>
Michael Krenz	UTC Aerospace Systems	<a href="mailto:MICHAEL.KRENZ@utas.utc.com">MICHAEL.KRENZ@utas.utc.com</a>
Jeff Nelson	UTC Aerospace Systems	<a href="mailto:jeff.nelson@hs.utc.com">jeff.nelson@hs.utc.com</a>
Adam White	UTC Aerospace Systems	<a href="mailto:Adam.White@utas.utc.com">Adam.White@utas.utc.com</a>

## **Guests (SIU)**

Acton, Dave	NSWC Crane	<a href="mailto:david.acton@navy.mil">david.acton@navy.mil</a>
Roze, Claudeliah	American Airlines	<a href="mailto:songsofsol@yahoo.com">songsofsol@yahoo.com</a>
Wilson, Howard	Consultant	<a href="mailto:Hawlsn2357@gmail.com">Hawlsn2357@gmail.com</a>

## **Others**

Spyros Tragoudas – site director	Southern Illinois University Carbondale	<a href="mailto:spyros@engr.siu.edu">spyros@engr.siu.edu</a>
Sarma Vrudhula – center director	Arizona State University	<a href="mailto:vrudhula@asu.edu">vrudhula@asu.edu</a>
Nancy Beasley – project manager	Southern Illinois University Carbondale	<a href="mailto:nancyj0@siu.edu">nancyj0@siu.edu</a>
Lisa Christian – project manager	Arizona State University	<a href="mailto:lisa.christian@asu.edu">lisa.christian@asu.edu</a>

## OLD BUSINESS

- All voting IAB members attending, with the exception of Steve Koenck of Rockwell Collins, who gave his proxy votes to the IAB the day prior.
- Motion to approve minutes from January 2014 meeting.
  - [Approved.](#)
- Review Year 6 financial projections
  - [ASU: \\$350; SIU: \\$225.](#)
- Update: FRP- Intel proposal
  - [A Fundamental Research Project, Collaborative Research: Testability and Timing Analysis in Nanoscale Designs in the Presence of Process Variations](#), was submitted to the NSF in February, still awaiting status. Action: Spyros to update the IAB on status.
  - This prompted a discussion about other opportunities mentioned in Alex’s presentation the previous day. Specifically, the Center’s desire to find a company or companies interested in partnering to form a start-up and apply for an AIR award (\$1 M dollar matching from participating companies).
  - Also discussion on the specification of a PFI award (not limited to IUCRCs, but targeted toward centers; requires 2 small business partners).
- Update: Northeastern University to apply for membership
  - [Northeastern University did not apply for the NSF planning grant in the spring. They may be having difficulty signing up three companies. Action: Spyros to call Fabrizio Lombardi to check in.](#)
- Phase II award
  - [As Sarma reported in general session, CES was awarded Phase II status, extending the center for 5 more years as an NSF I/UCRC. SIU has not received its Year 6 award money at meeting time, but ASU had.](#)

## NEW BUSINESS

- Voting on Year 6 projects.
  - [Voting was conducted per the following:](#)

Industry Member	Votes
Johnson Controls	(out of cycle)
Marvell	10
Qualcomm	10
Raytheon	10
Raytheon II	(out of cycle)
Toyota	20
Intel	20
Rockwell Collins	10
UTC Aerospace	15
<b>Total</b>	<b>95</b>

- [Voting trend: out of 16 projects, 2 projects received 0 votes; 4 are multi-company supported. Action: ASU and SIU to post list of approved projects by the beginning of the fall semester, August 2014.](#)
- De-brief of current meeting

- All positive comments. The IAB likes this format and recommends keeping it the same. Notes for the future: liked 5 minutes for proposal presentations; allotted time worked well for poster sessions; be sure to limit each “group” to no more than 5-6 presentations per group; schedule less time for LIFE completion, about 10-15 minutes is enough.
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- Discuss industry member presentation template / schedule for Jan 2015 meeting
  - To create closer collaboration and understanding between faculty members, students, and member companies – the IAB has agreed to participate in the next meeting through industry presentations and a poster session.
  - Content is up to each industry member, providing information they deem useful on their organizations, goals, research programs, priorities, etc. Format will be a 5-minute presentation followed by a poster session of approximately 60-90 minutes.
  - The following companies volunteered to present at the February 2015 meeting in Tempe. Others will be scheduled during subsequent meetings.
    1. UTC Aerospace Systems
    2. Intel
    3. Toyota
    4. Marvell
    5. Qualcomm
  - Action: in the fall, Lisa will remind industry representatives about the presentations, and will follow-up in January with a tentative agenda to confirm timing and who will be presenting for each company.
- Revise approved dates for January 2015 meeting
  - Despite the IAB’s request for Super Bowl XLIX tickets and an all-expenses-paid meeting to be held in Phoenix that weekend (!), the group voted to postpone the meeting until February 3-4, 2015. The meeting will be held on the ASU campus, Tempe, AZ. Action: Lisa to distribute “save the date” and lodging information in the fall.
- Set May 2015 meeting dates
  - May 19-20, 2015 approved.
- Research improvements discussed:
  - Request for collaboration between PIs at different universities on similar topic areas, for example, Luke Pierce’s work and Carole Wu’s work
  - Some companies requested that PIs use specific platforms vs. going to a simulator to generalize problems; however, other board members do not feel that industry should drive specifications such as platforms
  - Suggestion from industry to use industry-trend language for current tools
  - Improvement in “quick technology” transfer
  - Create better definitions of what is a tool set? How can these be fully utilized by industry?
  - Is there need for a “cheat sheet” or template to integrate tools?
  - How can these be maintained in a repository of information?
  - Action: Rathish to work with IAB to begin a list of requirements for technology transfer.
- Technology transfer recommendations:

- Response from Sarma Vrudhula that technology transfer happens best between people: it's truly a "people" transfer. He recommends moving toward a model in which graduate students who are working on CES projects spend summers on-site at industry member locations in an industrial fellows type of position. Benefits: industry has access to hand-picked research associates who are experienced in relevant projects. Companies get customization on Center research, while maintaining protection of ideas within the company.
- Industry members amenable to the idea (some already are pursuing a version of this arrangement); however, caution that budgets set for this type of hire are often set a year in advance.
- Action: ASU (Sarma and Lisa) to formalize a plan to have CES graduate students work at industry sites during the summers. ASU will work individually with each of its industry members to evaluate their interest and to understand their internal requirements for making a program like this work.

#### SUMMARY OF ACTION ITEMS

- Spyros to update the IAB on status of Fundamental Research Project, *Collaborative Research: Testability and Timing Analysis in Nanoscale Designs in the Presence of Process Variations*, after response from the NSF.
- Spyros to call Fabrizio Lombardi at Northeastern University to check in on their intent to apply for a planning grant in the future.
- Lisa to post list of approved projects (ASU and SIU) by the beginning of the fall semester, August 2014.
- In the fall, Lisa will remind industry representatives about the presentations at the next IAB meeting, and will follow-up in January with a tentative agenda to confirm timing and who will be presenting for each company.
- Lisa to distribute "save the date" and lodging information in the fall about the next IAB meeting, February 3-4, 2015.
- Rathish to work with IAB to begin a list of requirements for technology transfer.
- ASU (Sarma and Lisa) to formalize a plan to have CES graduate students work at industry sites during the summers. ASU will work individually with each of its industry members to evaluate their interest and to understand their internal requirements for making a program like this work.