



Industrial Advisory Board Meeting Agenda
April 29-30, 2015
Steel ORCA, Monmouth Junction, NJ

April 28, 2015

- 3:30 – 5:30 pm VTAS Installation and Training Workshop - *Boardroom*
5:30 – 7:30 pm Networking Reception/ and Student Poster Preview – *VSORCE Lobby*

April 29, 2015

- 7:30 – 7:50 am **BREAKFAST** (light continental) - *VSORCE Lobby*
Auditorium
- 8:00 am Welcome and Opening Remarks/Housekeeping: Dave Crocker, CEO, Steel ORCA
- 8:10 am Introduction of guests and Ex-Officio Advisors – Andrea Palmeri
- 8:15 am Company overviews from potential members
- 8:30 am NSF Evaluator Update: Don Price
- 8:35 am Center Director Report: Bahgat Sammakia

Project Reports

Thermal Management

Air-cooled

- 8:55 am Project 12: *Investigation of Airflow Through Perforated Floor Tiles* –Rehan Khalid and Joshi, GT
- 9:15 am Project 13: *Transient Thermal Response and Control of Data Centers* –Rehan Khalid Joshi, GT
- 9:35 am Project 4: *Direct and Indirect Evaporative cooling for IT Pods (Phase II)* – Betsegaw Gebrehiwot, Agonafer, UTA
- 9:55 am **BREAK**
- 10:10 am Project 14: *Experimental and Analytical Studies on Transport in Fully and Partially Enclosed Cold Aisles in Air Cooled Data Centers* – Husam Alissa, Sammakia, BU

Hybrid

- 10:30 am Project 7: *Models and Metrics for Dynamic Air and Hybrid Liquid Cooled Data Centers Based on Computational and Experimental Approaches* – Marcello del Valle (VU), Husam Alissa, Tianyi Gao, Kourosh Nemati (BU), Rohit Katti/Nachiket Kansara (UTA)



Water-cooled

- 11:00 am Project 6: *Dynamic Cold Plates for Effective Cooling of Multi-Core High-End Chip Scale Packages* – Manasa Sahini, Raturaj Kokate and Agonafer, UTA
- 11:20 am Project 15: *Warm Water Cooling in Data Centers Including Water Storage Systems* – Fleischer, VU/Gao and Sammakia, BU
- 11:40 am Project 11: *Two-Phase Cooling Coupled with Waste Heat Energy Capture from Data Center Environments* – Amy Fleischer, VU
- 12:00 – 1:00 **LUNCH and tours of Steel ORCA data center facility**

Tools

- 1:00 pm Project 1: *Exergy Based Approaches for holistic Design of Energy-Efficient Data Centers* – Anish Bhalerao and Aaron Wemhoff, VU
- 1:20 pm Project 3: *Rapid Modeling Tools for Thermal Management of Modular Data Centers* – Wemhoff, VU and Joshi, GT

Reliability

- 1:40 pm Project 10: *Impacts of Particulate and Gaseous Contamination on IT Equipment Where Air Side Economizers Are Implemented* – Kanan Pujara/Jimil Shah and Agonafer, UTA

Emerging Technologies

- 2:00 pm Project 16: *An In-Depth Understanding of Oil Immersion Cooling Strategies for Data Centers* – Rick Eiland and Agonafer, UTA
- 2:20 pm Project 9: *High Bandwidth Integrated Parallel Optical Communication Links for Power Efficient, Cost Effective Data Center Interconnects* – Ghose, BU

Software/Systems Issues

- 2:40 pm Project 2: *Energy Proportionality in Data Centers and Benchmarking: Synergistic Management of Workload, IT Equipment and Cooling System* – Tyler Stacheki and Kanad Ghose, BU
- 3:00 pm **BREAK – Finish filling out L.I.F.E. forms**
- 3:15 pm Guest Presentation - Dave Crocker, Dennis Cronin – Steel ORCA
- 3:45 pm L.I.F.E. form review and discussion – lead by Don Price
- 4:45 pm Review of evening/day 2 activities



Center for Energy-Smart
Electronic Systems

A National Science Foundation Industry/University Cooperative Research Center

4:50 pm Tours of Steel ORCA data center facility

5:30 pm **Reception** – Dinner/Networking/Poster Session/voting on best poster – *VSORCE Lobby*

April 30, 2015

7:30 - 7:50 am **BREAKFAST** (light continental) – *VSORCE Lobby*

Auditorium

8:00 am Poster Contest feedback session and announcement of winner and morning activities

8:10 am NSF Update – Rathindra DasGupta

8:30 am Guest presentation – Russ Tipton, Emerson Network Power

9:00 am Concurrent sessions

- IAB Closed Meeting – *Auditorium*
- Student Leadership Council Meeting – *Training Center*

10:00 am **BREAK**

Auditorium

10:15 am Group meeting to discuss IAB Feedback

11:15 am Open discussion

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