**Georgia Tech**

INSTITUTE FOR ELECTRONICS & NANOTECHNOLOGY
2ND ANNUAL JAMES D. MEINDL DISTINGUISHED LECTURE
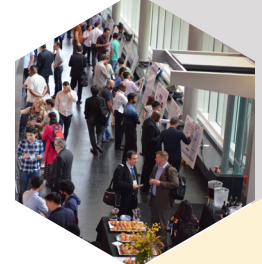SERIES & TECHNICAL EXCHANGE CONFERENCE 2018

MAY 21ST & 22ND

Join us at the Institute for Electronics and Nanotechnology (IEN) for our annual Technical Exchange Conference. This 1.5 day event covers topics ranging from materials to architectures for tomorrow's micro-/nano enabled electronic systems, while also providing one-on-one opportunities to engage with industry and academic technical leaders, GT faculty and students.

### Monday May 21st

| Time | Event |
|---|---|
| 12:30 - 1:00 | Registration |
| 1:00 - 1:10 | Welcome - Steven Cross, Executive Vice President for Research; Professor, H. Milton Stewart School of Industrial and Systems Engineering; Adjunct Professor, College of Computing & Ernest J. Scheller College of Business, Georgia Institute of Technology |
| 1:10 - 1:30 | IEN Host Overview, Event Agenda & Opening - Oliver Brand, Executive Director, Institute for Electronics and Nanotechnology; Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology |

**Session I - Emerging Paradigms of Computing**
Session I Chair: Arijit Raychowdhury, ON Semiconductor Professor; Associate Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology

| Time | Event |
|---|---|
| 1:30 - 2:15 | **James D. Meindl Distinguished Keynote Lecture**<br>"Beyond von-Neumann Computing - A Hardware Perspective"<br>Spike Narayan, Ph.D., Director of Science & Technology, IBM Research - Almadea |
| 2:20 - 2:50 | "Design and Benchmarking of Beyond-CMOS Devices"<br>Azad J. Naeemi - Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology |
| **2:50 - 3:10** | **Break & Networking** |
| 3:15 - 3:45 | "Challenges in Internet-of-Things and Cyber-Physical Systems"<br>Marilyn Wolf - Professor; Georgia Research Alliance Eminent Scholar; Rhesa "Ray" S. Farmer, Jr., Distinguished Chair in Embedded Computing Systems, School of Electrical and Computer Engineering, Georgia Institute of Technology |
| 3:50 - 4:20 | "Inverse Problems and Machine Learning in Modern Signal Processing"<br>Justin Romberg - Schlumberger Professor; Associate Director, Interdisciplinary Research Center for Machine Learning (ML@GT); Associate Chair for Research, School of Electrical and Computer Engineering, Georgia Institute of Technology |
| 4:20 - 4:50 | "Communication-centric Computing for Deep Learning"<br>Tushar Krishna - Assistant Professor; School of Electrical and Computer Engineering, Georgia Institute of Technology |
| **5:00 - 7:30** | **Student Poster Session, Reception & Networking** |

For more information, contact Dean Sutter dean.sutter@ien.gatech.edu
Registration at: ien.gatech.edu/prof-dev
Marcus Nanotechnology Building | 345 Ferst Drive | Atlanta GA | 30332

### Tuesday May 22nd

8:00 - 8:45   Registration and Breakfast

8:45 - 8:55   Day 2 Event Start & Session Introduction - Eric M. Vogel, Deputy Director, Institute for Electronics and Nanotechnology; Associate Director for Shared Resources of the Institute for Materials; Professor, School of Materials Science and Engineering, Georgia Institute of Technology

*Session II - Advanced Flexible Electronics for Biosensors and Bioelectronics*
Session II Co-Chairs: W. Hong Yeo, Assistant Professor, Woodruff School of Mechanical Engineering & Bioengineering, Georgia Institute of Technology and Suresh Sitaraman, Regent's Professor; Morris M. Bryan, Jr. Professor, Woodruff School of Mechanical Engineering, Georgia Institute of Technology

9:00 - 9:45   **James D. Meindl Distinguished Keynote Lecture**
"Soft Electronic and Microfluidic Systems for the Human Body"
John A. Rogers - Louis Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Neurological Surgery, Northwestern University

9:50 - 10:20   "Sampling Interstitial Fluid from Skin Using a Microneedle Patch for Biomarker Detection"
Mark Prausnitz - Regents' Professor; J. Erskine Love Jr. Chair, School of Chemical and Biomolecular Engineering; Director of the Center for Drug Design, Development and Delivery, Georgia Institute of Technology

**10:20 - 10:35   Break & Networking**

10:35 - 11:05   "Non-Invasive Technologies for Physiological Sensing and Modulation"
Omer Inan - Assistant Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology

11:05 - 11:35   "Flexible Tech for Improving Hearing and Balance"
Pamela Bhatti - Associate Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology

11:35 - 12:05   "Designing Multi-Functional Electrodes for Next-Generation Energy Storage Devices"
Seung-Woo Lee - Assistant Professor, Woodruff School of Mechanical Engineering, Georgia Institute of Technology

**12:05 - 12:50   IEN Hosted Luncheon**

12:55 - 1:00   Session III Introduction & Keynote Introduction

*Session III - The Promises and Challenges of High Performance Electronics Everywhere*
Session III Chair: Eric M. Vogel, Deputy Director, Institute for Electronics and Nanotechnology; Associate Director for Shared Resources of the Institute for Materials; Professor, School of Materials Science and Engineering, Georgia Institute of Technology

1:00 - 1:45   **James D. Meindl Distinguished Keynote Lecture**
"There is More than One Way to Expand on Computing"
Gregory Abowd - Regents' Professor; J. Z. Liang Chair, School of Interactive Computing, Georgia Institute of Technology

1:50 - 2:20   "Unlocking the Potential of 4D Printing with Printable Interactivity"
Tico Ballagas, Ph.D., Senior Manager, Immersive Experiences Lab, HP Labs

**2:20 - 2:35   Break & Networking**

2:40 - 3:10   "High Performance Electronics: Can Carbon Compete with Silicon?"
Bernard Kippelen - Joseph M. Pettit Professor; Director, Center for Organic Photonics and Electronics; Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology

3:10 - 3:40   "Single-crystalline Semiconductors and Devices at a Massive Scale?"
Michael Filler - Traylor Faculty Fellow; Associate Professor, School of Chemical & Biomolecular Engineering, Georgia Institute of Technology

3:40 - 4:10   "3D-/4D-Printed Autonomous Wireless Flexible Modules for IoT, Smart Skin and Smart City Applications"
Manos Tentzeris - Ken Byers Professor in Flexible Electronics; Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology

4:10 - 4:15   Conference Wrap Up - Oliver Brand & Eric M. Vogel

**4:15 - 5:15   Laboratory Tours**