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**

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

1:30 - 2:15  **James D. Meindl Distinguished Keynote Lecture**

“Beyond von-Neumann Computing - A Hardware Perspective”
Spike Narayan, Ph.D., Director of Science & Technology, IBM Research - Almeda

2:20 - 2:50  “Design and Benchmarking of Beyond-CMOS Devices”
Azad J. Naeemi - Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology

**Break & Networking**

2:50 - 3:10

3:15 - 3:45  “Challenges in Internet-of-Things and Cyber-Physical Systems”
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”
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

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 22\textsuperscript{nd}

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

\textit{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 \textbf{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

Seung-Woo Lee - Assistant Professor, Woodruff School of Mechanical Engineering, Georgia Institute of Technology

12:05 - 12:50 \textit{IEN Hosted Luncheon}

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

\textit{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 \textbf{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 \textit{Laboratory Tours}