On September 28 the ECE Advisory Board met and as part of their agenda they heard from two teams of ORS scholars. Each team presented their compelling work and described the impact of these projects on our local and global community. The students also shared their perspectives on how involvement in ORS has been instrumental in their professional development, and how the board can become involved to support and sustain valuable initiatives like ORS in the School of ECE.

Upcoming Events:

**JANUARY**
- 22 Anaren Co. Presentation
- 24 Sandia Nat. Labs Presentation
- 31 Discussion about summer research, internships & IDC Tour

**FEBRUARY**
- 11 NEETRAC & Dielectrics Lab Tour
- 14 Graduate School Admissions Talk
- 19 TECHCON Conf Info Session
- 21 Competition Format Workshop

**MARCH**
- 7 Research Poster Design Workshop
- 14 Technical Research Poster Workshop

**APRIL**
- 8-11 Research Competition & Peer Review Judging
- 15 ORS Research Awards Banquet

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ors.ece.gatech.edu
The Semiconductor Research Corporation announced a new initiative in 2018 called the Joint Undergraduate Microelectronics Program (JUMP). Attracting and retaining US undergraduate students in science and engineering disciplines relevant to technology-based industries, smart computing, and communications is the program's focus. Increasing the progress of these students to graduate school with an emphasis on diversity is as well. Through a nationwide competitive process, the Georgia Tech School of Electrical and Computer Engineering ORS Program was selected along with the University of California, Berkeley, the University of Texas, Austin, and the University of Virginia to receive committed program support for a five-year period.

Twelve ORS undergraduate scholars: Brennnon Farmer, Ashton Hattori, Laura Heller, Sterling James, Jesse Jiang, Alexander Joo, Connor McMahon, Denden Mussie, Ruth Pavoor, Thomas Rodriguez, Will Scott, and Daniel Yang, will be supported though this program. In addition to the rigorous line-up of ORS research, skill-building workshops, and community activities, students will have the opportunity to be exposed to work in the microelectronics realm. Each will also be encouraged to submit a proposal to present their research at the TECHCON Conference, which takes place in Austin, Texas in September 2019.

This latest addition to the longstanding ORS/Semiconductor Research Corporation partnership is intended to position young professionals to make wise career direction decisions and to be an instrument to effectively aid in the workforce development for the microelectronics industry. With exposure to this multifaceted and exciting field, opportunities to engage with companies, and experiential learning and skill-building through the ORS methodology, JUMP lines up the stars—so to speak. Young professionals are well prepared to address the technological challenges of the next century with creative solutions.

**SCHOLAR ACHIEVEMENTS**

**ADAM KINSEL, BRIA MATTHEWS, and JAKE SMITH, North American Power Symposium, September 2018, Fargo, ND, Paper and Presentation: “HAITI RELAY: A Cost-Effective and Portable Solar Home System for Rural Haitian Regions”, team received President’s Undergraduate Research Award travel funds to attend.**

**JIANNI ADKISSON, HOPE HONG, ADAM KINSEL, BRIA MATTHEWS, and WILL SCOTT, Research Poster Presentation, TECHCON Conference, Austin, Texas, September 2018**

**ERIK CENTENO and OGUZHAN YILMAZ, Fall 2018 PURA Salary Award Recipients**
YIJUN BAO  

FU-JEN CHU  
40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society 2018  
“The Helping Hand: An Assistive Manipulation Framework Using Augmented Reality and Tongue-Drive Interfaces”


ALINE EID  
NSF Award to attend conference & Best Paper Award, IEEE 13th Nanotechnology Materials and Devices Conference, October 2018, Portland, OR, Paper and Pres., “Nanotechnology-Enabled Additively Manufactured RF and Millimeter-wave Electronics”

IEEE Nanotechnology Magazine  
“Nanotechnology-Empowered Flexible Printed Wireless Electronics”, 2018

IEEE Conference on Antenna Measurements & Applications  
“UAV-Enabled RF Sensor Wake-up”, pp. 1-3, 2018

Second Place Award, International Microwave Symposium 2018 Student Design Competition

ALINE EID (continued)  
International Journal of High-Speed Electronics and Systems  
“Additively Manufactured Inkjet-/3D-/4D-Printed Wireless Sensors Modules”, Vol. 27, pp. 1840012, 2018


AISHWARYA NATARAJAN  
IEEE Transactions on Biomedical Circuits and Systems 2018, “Hodgkin Huxley Neuron and Dynamics on the FPAA”, 12, no. 4: 918-926

CHENG QI  
WiSEE Conference, December 2018, Huntsville, AL, “A 5.8 GHz energy Harvesting Tag for Sensing Applications in Space”

SRIDHAR SIVAPURAPU  
TECHCON Conference September 2018, Austin, TX, Paper and Presentation: “Model Development for Inductors on Flexible Substrates for Integrated Power Delivery Applications”

JAKE SMITH  
2018 William Brown Fellowship Recipient  
(Note: et al. applies to selected work)

10-13-18 ORS members Adam Kinsel, Jake Smith and Angel Daruna with ECE Associate Chair Dr. Mary Ann Weitnauer, ORS Faculty Advisor Dr. Tom Gaylord, and ORS Asst. Director Julie Ridings take the opportunity to engage with alumni and faculty during a Tech Football game.

11-7-18 Course Paths for Semiconductor Careers Workshop with Paul Emerson

11-15-18 Grad School Panel ORS Mentors Alex Chang, Angel Daruna, Aline Eid, Aishwarya Nararajan, and Cheng Qi tell scholars about their path to graduate school and answer probing scholar questions.

11-26-18 Raytheon Company Interactive Presentation Jon Peobles, with Raytheon, conducts an interactive Missiles and Movies Presentation that reveals truths about missiles that are portrayed in popular movies.

...who work together to broaden the academic experience
This program would not be possible without our forward-thinking Sponsors:

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**2018-2019 Research Teams**

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<tr>
<th>Dr. Adibi Ali</th>
<th>Dr. Sonia Chernova</th>
<th>Dr. Mark Davenport</th>
<th>Dr. Deepak Divan</th>
<th>Dr. Greg Durgin</th>
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<tr>
<td>Ali Estghian Dorche</td>
<td>Angel Daruna</td>
<td>Nauman Ahad (Ph.D. Mentor)</td>
<td>Nishant Bilakanti (Ph.D. Mentor)</td>
<td>Qi Cheng (Ph.D. Mentor)</td>
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<td>(Ph.D. Mentor)</td>
<td>(Ph.D. Mentor)</td>
<td>Jordan Ray</td>
<td>(Ph.D. Mentor)</td>
<td>(Ph.D. Mentor)</td>
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<td>Laura Heller</td>
<td>Malik Burton</td>
<td>Aditya Retnanto</td>
<td>Adrija Bhattacharya</td>
<td>Erik Centeno</td>
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<td>Ethan Jones</td>
<td>Brennan Farmer</td>
<td>Yifan Shen</td>
<td>Choukri Nyon</td>
<td>Rafael Figueroa</td>
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<td>Edward Zhou</td>
<td>Sterling James</td>
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<td>Jason Palmer</td>
<td>Evan Shi</td>
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| Dr. Mohammad Alhassoun    | Dr. Thomas Gaylord  | Dr. Lukas Graber                    | Dr. Jennifer Hasler             | Dr. Omer Inan                |
| Jesse Jiang              | Ashton Hattori      | Taylor Johnson                      | Luz Evelinth Cueto              | Arpan Bhavasar               |
| Kibeom Kim               | Ji Ye Chun          | Nia Rich                            | Justin Kelley                   | Shayan Siahpoushan            |
| Siddharth Kotapati       | Ibrahim Islam       | Brian Sang                          | Sai Kilaru                      | Connor McMahon               |

| Dr. Bernard Kippelen     | Dr. Madhavan Swaminathan | Frank Lambert | Dr. Manos Tentzeris | Dr. Patricio Vela |
| Felipe Larain            | Sridhar Sivapurapu     | Jake Smith (Mentor)                 | Aline Eid (Ph.D. Mentor)        | Alex Chang (Ph.D. Mentor)    |
| (Ph.D. Mentor)           | (Ph.D. Mentor)         | Adam Kinsel                         | Will Scott                      | (Ph.D. Mentor)               |
| Varun Madabushi          | Lionel Jones           | Kevin Liow                          | Denden Mussie                  | Ali Allaire, Gabrielle Duva  |
| Kimberly Lie             | Alexander Joo         | Bria Matthews                       | Daniel Yang                    | Alex Fache, Nelson Raphael   |
| Ruth Pavoor              | Thomas Rodriguez      |                                     |                                | Joao Nascimento Francolin    |
|                         |                      |                                     |                                | Liz Prucka                   |

| Dr. Patricio Vela        | Dr. Alenka Zajic     | Dr. Ying Zhang                      | Dr. Ying Zhang                  |
| Fu-Jen Chu (Ph.D. Mentor)| Nader Sehatbakhsh    | Zongyang Xia (Ph.D. Mentor)         | Yen-Pang Lai (Ph.D. Mentor)     |
| (Ph.D. Mentor)           | (Ph.D. Mentor)       | (Ph.D. Mentor)                      | (Ph.D. Mentor)                  |
| Janni Adkisson           | Jacob Bruhn          | Jigna Bhatt                         | Thoai Pham                     |
| Nick Flint, Anina Mu     | Hope Hong            | Akhsaya Manickandan                 | Jonghoun Park                  |
| Satwik Nandala           | Alison Kennedy       | Maria Saito                         |                                |
| Josh Shafran             | Oguzhan Yilmaz       |                                     |                                |

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**A community of dedicated students who work together to broaden the academic experience.**

**Opportunity Research Scholars’ Program**

School of Electrical and Computer Engineering

777 Atlantic Drive, NW, E470 Van Leer Bldg.

Georgia Institute of Technology

Atlanta, GA 30332-0250

Tel: 404.894.4707

ors.ece.gatech.edu

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Julie Ridings
Assistant Director

Emily Pitts
Graduate Assistant

Jill Auerbach
Founder & Director

Dr. Greg Durgin
Professor & Faculty Director