

# IMS2022 Panel Sessions

*Jasmin Grosinger, Mona M. Hella, and Jeffrey A. Jargon*

The panel sessions at this year's IEEE International Microwave Symposium (IMS) Week, scheduled during lunches, cover a broad range of topics and events spanning the week. Panel sessions are (co)sponsored by the IEEE Radio Frequency Integrated Circuits (RFIC) Symposium, the IEEE Microwave Theory and Techniques Society's (MTT-S) IMS, and the Automatic Radio Frequency Techniques Group (ARFTG) Microwave Measurement Conference.

The week starts with an RFIC panel on Monday and a joint IMS/RFIC panel on Tuesday, the latter one on 5G and 6G technologies ties to the IMS-sponsored Connected Future Summit. With the start of the IMS Systems Forum on Tuesday, one panel session per day is explicitly devoted to the day's Systems Forum

theme: Quantum Systems Day on Tuesday, Radar and Aerospace Day on Wednesday, and Phased Arrays and Over-the-Air (OTA) Applications Day on Thursday. Two intersociety panels complement the panels on Wednesday and Thursday, (co)organized by the Intersociety Committee of MTT-S's Administrative Committee. You can find details on the individual panel sessions in the following sections.

## Monday, 20 June, RFIC Panel: Industry Versus Academia: Who Is Leading Whom?

*Session organizers:* Hossein Hashemi (University of Southern California) and Oren Eliezer (Apogee Semiconductor).

This panel will debate the roles of academia and industry in shaping the future

of RFIC design and in leading the next generation of RFIC systems. The panel, formed of industry experts, university professors, and those who crossed the line between academic and industry careers, will look at past, current, and future RFIC research and education.

## Tuesday, 21 June, Joint RFIC/IMS Panel: Race to the Next G—Ride the mmWave or Wave Goodbye!

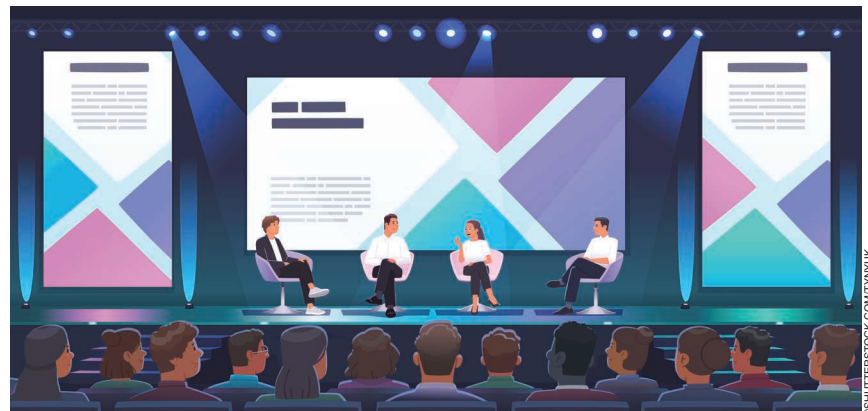
*Session organizers:* Francois Rivet (University of Bordeaux) and Aida Vera Lopez (Intel).

This panel will reexamine the technology and economics of 5G millimeter-wave deployment and assess the

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- *SDC4*: high-efficiency power amplifier
- *SDC5*: high-sensitivity motion-sensing radar
- *SDC6*: measurement and extraction of device parameters of an RF transistor.

The deadline for applications is fast approaching and due by 10 May 2022. Details on the application process can be found on the SDC website. The SDC will take place on Tuesday, 21 June

2022, with the competition winners recognized at the Student Awards Luncheon on Thursday, 23 June 2022.

Student competitors should be aware that the IMS will not assist participants in getting the necessary equipment or designed circuits/systems into the United States.

The SDC is sponsored by the technical committees of the MTT-S. Each committee has been given US\$2,000 in prize money if it chooses to sponsor a competition

**Each committee has been given US\$2,000 in prize money if it chooses to sponsor a competition in its technical area.**

in its technical area. Not all technical committees participate in the competition every year. Each will make its own rules for the competitions that it sponsors.

General questions or comments can be directed to IMS2022 SDC Committee Chair Jan Verspecht via email at [jan\\_verspecht@keysight.com](mailto:jan_verspecht@keysight.com). Questions or comments regarding a specific design competition should be directed to the organizers of the competition in question, which will be listed on the SDC website. The SDC website can be found at <https://ims-ieee.org/SDC2022>.



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potential use of terahertz technologies in next-generation 6G wireless communications. The panelists will include experts from various industry sectors and academia.

### **Tuesday, 21 June, IMS Systems Forum Panel: This is the Right Way to Architect the Microwave Control for a Quantum Computer!**

*Session organizers:* Mark Gouker (Massachusetts Institute of Technology Lincoln Laboratory) and Vadim Issakov (Technical University of Braunschweig).

The panel will debate the different approaches explored for microwave control signals of quantum computers, scaling to larger qubit circuits. The panelists will include researchers from Google, Intel, SEEQC, and Equal1.Labs.

### **Wednesday, 22 June, IMS Systems Forum Panel: Small Satellites and Constellations: Who Will Be the Winners of the New Race to Space?**

*Session organizers:* Markus Gardill (Brandenburg University of Technology), Steven Reising (Colorado State

University), and Jan Budroweit (German Aerospace Center).

The panel will discuss the latest developments of small satellites for low-Earth orbit and their effects on the environment and frequency spectrum usage. The panelists are leading experts from small businesses, space agencies, regulatory agencies, and academia.

### **Wednesday, 22 June, IMS Intersociety Panel: The Trend of Tiny AI: Will Ultra-Low-Power Fully Integrated Cognitive Radios Become a Reality?**

*Session organizers:* Jasmin Grosinger (Graz University of Technology), Oren Eliezer (Apogee Semiconductor), Ke Wu (École Polytechnique Montreal), and J.-C. Chiao (Southern Methodist University).

The panel will discuss if the trend of tiny artificial intelligence (AI) will allow us to realize fully integrated cognitive radios on energy-constrained devices. The panelists will be experts from multiple disciplines and IEEE Societies.

### **Thursday, 23 June, Joint IMS/ARFTG Systems Forum Panel: Modern Phased Arrays and**

### **OTA Testing: A Design or a Measurement Challenge?**

*Session organizers:* Gerardo Orozco (National Instruments), Thomas Williamson (Georgia Tech Research Institute), Jeffrey A. Jargon (National Institute of Standards and Technology), and Jon Martens (Anritsu).

This panel will address current and future challenges regarding OTA characterization, measurement, and calibration of modern phased arrays. The panelists will be experts from academia, the defense and aerospace industry, and the cellular industry.

### **Thursday, 23 June, IMS Intersociety Panel: Wearables—Our Lives Depend on Them!**

*Session organizers:* Ke Wu (École Polytechnique Montreal) and J.-C. Chiao (Southern Methodist University).

The panel will discuss wearables and the multidisciplinary collaboration needed for their design. The panelists will be experts from multiple IEEE Societies in various disciplines, such as sensing, communication, materials, networking, and system integration.

You can find more information on the IMS2022 website, <https://ims-ieee.org> 