

in the same area), flicker noise, and even headroom.

The transistor f_t drops when it is biased in weak inversion. But SoC radios in the 2–5-GHz range are usually designed on 280-nm-and-below process nodes. The MOS transistors with such a short channel have a very high f_t even in weak inversion, and a few gigahertz frequencies are nearly dc for these. It seems that the only domains left for strong inversion are the 60-GHz-and-above applications.

Panel Summary

Here, the panelists provided guidance on testing, modeling, and circuit design

for both beginning and experienced engineers. Specifically, the panelists suggested that the ignored aspects are the ones that are most likely to come back and bite you. This is particularly true for interactions between digital and analog circuits and among the start-up circuits, floating nodes, and test-circuit interfaces.

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ISSCC Special Event: ICs in PandemICs

The COVID-19 pandemic has imposed a powerful test globally. As the current situation unfolds, revolutionary social and economic changes have accelerated what would have otherwise taken decades to materialize, especially the digital transformation of the whole world, enabling a virtual presence. The IC industry continues to forge ahead, providing the building blocks for innovations that improve the economic and social prosperity of the world. From smarter robots and automation to connected medical devices and artificial intelligence (AI)-driven data analytics, cost-effective, secure, portable, and high-accuracy IC technology is already in place.

The special session "ICs in PandemICs" at the International Solid-State Circuits Conference was cosponsored by the IEEE Solid-State Circuits Society (SSCS) and the SSCS Women in Circuits Committee and brought together experts from industry and academia in cloud-connected biosensors,

The poster for the WiC Special Event: ICs for PandemICs at ISSCC 2021 features four speakers:

- Hillery Hunter, IBM Research**: Accelerating Innovation with Confidence: A Look at Cloud Security (All the Way Down to the Transistors!)
- Purna Dogra, Nvidia**: Building a Time Machine for Drug Discovery and Healthcare Research
- Mahsa Shoaran, EPFL**: AI-Enhanced Neural Prostheses
- Milin Zhang, Tsinghua University**: Pandemics - An opportunity for biomedical IC?

The poster also includes the SSCS logo and the IEEE logo.

The invited speakers of the IC for PandemICs special event at ISSCC 2021.

advanced algorithms, and AI to discuss our preparedness to combat the spread of infectious diseases now and in the future.

The event, moderated by Ulkuhan Guler from Worcester Polytechnic Institute, USA, was kicked off by two distinguished speakers. Hillery Hunter, chief technology officer of IBM Cloud, discussed how custom ICs are being used today to help

protect data in the cloud and how processors designed with confidential computing in mind can help researchers and enterprises compute in the cloud with confidence. Purna Dogra, senior product manager for health care at NVIDIA, USA, took the audience in a time machine and covered how NVIDIA is accelerating the pace of innovation for health-care research and drug discovery

with its partner ecosystem to solve one of the greatest challenges of our times. These highly interesting and technical presentations were followed by two invited talks by aspiring young professionals: Mahsa Shoaran from EPFL, Switzerland,

and Milin Zhang from Tsinghua University, China. Shoaran discussed in depth the use of machine learning and algorithmic tools toward more effective neural prosthesis designs. Zhang walked the audience through the possible beneficial longer-term

impacts of a COVID-19 breakout on biomedical IC designs. The talks were followed by a live Q&A, during which the attendees asked notably probing questions.

—Zeynep Toprak Deniz

Live Panel at ISSCC 2021: Making a Career Choice

The “Making a Career Choice” live panel and Q&A session were organized by Denis Daly, S. Zeynep Lulec, and Rabia Tugce Yazicigil as a part of the 2021 International Solid-State Circuits Conference. The special event was held virtually.

The event included six distinguished panelists who represented a broad variety of career choices in the areas of start-ups, industry, research, and academia available to graduates in electrical and computer engineering. Following short introductory remarks

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Special event 5: “Making a Career Choice” was presented at ISSCC 2021.

**MY PASSIONS & CHALLENGES
ACADEMIA AND INDUSTRY CAREER**

MY PASSIONS

<p>ACADEMIA</p> <ul style="list-style-type: none"> <input type="checkbox"/> Freedom to explore new things & its theory behind (possibly big impact) <input type="checkbox"/> Opportunity to push things beyond its limit <input type="checkbox"/> Full hands-on experience (bottom to top) <input type="checkbox"/> Impact by cultivating & shaping young gen. <input type="checkbox"/> Worldwide networking (academic interactions & conferences) 	<p>INDUSTRY</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solving shorter-term real-life problems <input type="checkbox"/> Foreseeable real impact (products in the market) <input type="checkbox"/> Team work w/ efficient & effective execution <input type="checkbox"/> Worldwide networking (multi-site & -cultural teams + world's leading players) <input type="checkbox"/> Relatively higher reward
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MY CHALLENGES

<p>ACADEMIA</p> <ul style="list-style-type: none"> <input type="checkbox"/> Seeking & applying for research grant <input type="checkbox"/> Insufficient & usually inadequate resources to transform researches for end-use to market <input type="checkbox"/> No actual weekend & holiday (open-ended research) 	<p>INDUSTRY</p> <ul style="list-style-type: none"> <input type="checkbox"/> “Don't Touch” principle <input type="checkbox"/> Expertise in specific areas/functions <input type="checkbox"/> Complex process for decision making <input type="checkbox"/> Overtime working for late decision from customer who is always at the first priority
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A slide presented by Seng-Pang (Ben) U during the live panel.