IAB2026:

MTL Industrial Advisory Board Annual Meeting

MTL: MICROSYSTEMS TECHNOLOGY LABORATORIES

January 29, 2026
Cambridge, MA

MICROSYSTEMS TECHNOLOGY LABORATORIES • MASSACHUSETTS INSTITUTE OF TECHNOLOGY

IAB2026:
AGENDA

INDUSTRIAL ADVISORY BOARD
ANNUAL MEETING
JANUARY 29, 2026

7:45am	**Breakfast**
8:30am	**MTL Director's update,** *Tomás Palacios*
9:00am	**Discussion with MIT/MTL Leadership** *Tomás Palacios*
9:30am	Group Photo
9:40am	**Break**
10:00am	**MTL Start-up Pitch Presentations (Part 1)**
10:45am	**Research Update: MTL Centers (Part 1)** *Ahmad Bahai, Jeehwan Kim*
11:35am	**Lunch**
12:35pm	**Research Update: MTL Centers (Part 2)** *Ruonan Han, Aude Oliva*
1:00pm	**Research Update: Faculty Research Highlights** *Sam Coday, Elsa Olivetti, Suraj Cheema, Jelena Notaros*
2:20pm	**MTL Start-up Pitch Presentations (Part 2)**
3:23pm	**Break**
3:30pm	**MIT.nano Update** *Vladimir Bulović*
3:45pm	**Discussion with Faculty**
4:15pm	**IAB Discussion and Feedback to MTL leadership**
5:00pm	**Adjourn**

MIG MEMBER BIOGRAPHIES

Mike DeLaus
Fellow, Global Operations & Technology
Analog Devices

Mike DeLaus is a Fellow in the Global Operations & Technology group at Analog Devices. He currently manages the Wafer-Level Packaging Team. He is responsible for ADI's wafer bumping, flip-chip, and fanout packaging strategies. He also manages development programs involving Through-Silicon Vias (TSVs), 3D integration, chiplets and other advanced packaging technologies. He has been at ADI for over 35 years and previously had roles managing bipolar transistor development and radiation hardening of process technologies. He has served on the Technical Program Committee for the Symposium on VLSI Technology and Circuits. He is a member of the IEEE Heterogeneous Integration Roadmap Committee. Mike received his B.S. degree in Materials Science and Engineering from the Massachusetts Institute of Technology.

Clifford King
Sr. Director of External Engagement
Analog Devices

Cliff King is Sr. Director of External Engagement at Analog Devices in Wilmington, MA. He received his Ph.D. in EE from Stanford Univ. where he fabricated the world's first SiGe heterojunction bipolar transistor in 1988 using chemical vapor deposition, the dominant technique used today. He was a Distinguished Member of Technical Staff and manager at Bell Laboratories in Murray Hill, NJ where he led a team that developed and placed a high-speed SiGe BiCMOS process into production for optical networking and wireless applications. In 2002, he founded NoblePeak Vision Corp. to produce shortwave infrared cameras using a low dark current Ge-enhanced CMOS image sensor process. He joined L-3 Technologies in 2010 as CTO of the Warrior Systems Division before coming to Analog Devices in 2022. He is a Fellow of the IEEE.

Milan D. Pešić
Director of Technology Development
Applied Materials

George Courville
Business Development Manager, Technology
Edwards

Milan D. Pešić received a M.Sc. and Ph.D. Electrical Engineering from the Technical University of Dresden, Germany. He is currently Director of Technology development at Applied Materials Inc, Santa Clara USA. He is leading a device pathfinding and overseeing device and cell physics and research activities in the field of advanced logic, (emerging) (non)volatile memories and devices. Previously, he was with MDLSoft Inc., Santa Clara, USA, Ferroelectric Memory Company, Dresden, and NaMLab, Dresden. Up to now, he has given 14 invited talks at major electron-devices conferences (IEDM, IRPS, etc.) and (co)authored over 90 technical papers, five book chapters, and filed over 30 patents.

George has over 25 years of experience as a marketing and business development professional. His career has included senior management positions with both large, multi-national corporations as well as small, nanotechnology startups. He has led global business development teams offering high performance materials and equipment for many uses in semiconductor, display, solar and other high technology markets. He was responsible for managing a marketing and applications team that introduced and supported the first dry vacuum pumps for the semiconductor market.

George received his Bachelor of Science degree in Chemical Engineering from Tufts University, and an MBA from Boston University.

Anthony Taylor
Applications Technologist
Edwards

Fredrik Dahlgren
Head of Device Platform Research
Ericsson Research

Anthony has over 30 years' experience working in the semiconductor industry and conducting research in thin film technology and microsystems. He has been with Edwards, Sanborn, New York, as an Applications Engineer and Applications Technologist for the past 28 years and a visiting scientist at MIT since 2014. His work at MIT has focused on novel fabrication methods of micro and nano-systems, specifically graphene-based gas sensors for vacuum and exhaust management applications, and 3D-printed miniature vacuum and liquid pumps. He received a Bachelor of Science degree in Physics (cum laude) from Saint Lawrence University, a Master of Science degree in Physics from the University of Arizona, and the Doctor of Philosophy in Physics from Rensselaer Polytechnic Institute (RPI).

Fredrik Dahlgren is Head of Device Platform Research at Ericsson Research. He is also an Adjunct Professor at Chalmers University of Technology. Before this, he was Director of WARA, the Research Arenas of the Wallenberg Autonomous Systems and AI research program, during 2016-2017, and in that role he was also a Guest Professor at Linköping University. Fredrik Dahlgren has a PhD in Computer Architecture from Lund University in 1994. He was a visiting scientist at MIT 1995/1996 after which he became an associate professor at Chalmers. From 1999, he has been with Ericsson Group in various leading positions, including Head of Research at Ericsson Mobile Platforms, Head of Technology Management in the CTO Office (ST-Ericsson), and system architecture program manager for highly integrated multi-core and multimedia-centric smartphone platforms at ST-Ericsson.

Ted Letavic
Corporate Fellow
Senior Vice President of Technology
GlobalFoundries

Ted Letavic is a Corporate Fellow and Senior Vice President of Technology Innovation at GlobalFoundries. He is a group leader with technical roadmap responsibility for solution architecture and semiconductor innovation in market segments that include compute and datacenter, wired and wireless infrastructure, mobility, industrial/IoT/ATV, and high speed communications. His recent research interests include silicon photonics, sub tera-Hertz semiconductor devices, analog compute-in-memory, and quantum systems. He has over 60 US patents granted, has authored over 70 reviewed scientific papers, and serves on numerous academic and industrial advisory boards. He received a PhD in Electrical Engineering from Rensselaer Polytechnic Institute.

Hiroshi Suzuki
General Manager, Technology Strategy Division
Hitachi High-Tech

Dr. Hiroshi Suzuki is the General Manager of the Technology Strategy Division of Hitachi High-Tech (HHT) headquarters in Tokyo and is responsible for the technology strategy of the HHT group.

He joined Central Research laboratory (CRL), Hitachi Ltd. in 1989, and researched electron-beam instruments for improving yields of semi-conductor and/or magnetic devices. He developed several methods and apparatuses to characterize the electrical properties of LSIs and to analyze the magnetic properties of several magnetic devices used in HDDs. He received academic awards including the Technology Development Award (JIM, 1999) and the Technology Award (JSPE, 2003). As a part of his carrier in Hitachi, he worked in research planning at CRL for several years, and he was temporary transferred to the corporate venture capital (CVC) of Hitachi's R&D division from 2004 to 2005.

He moved to Hitachi High-Technologies Corporation in 2011, where he was in charge of R&D planning and strategy, and he was temporary transferred to the HHT's subsidiary company to develop new technologies for inspection of social infrastructure from 2016 to 2018.

He graduated with his Bachelor's and Master's degrees in precision engineering from Tohoku University in 1987 and 1989. He obtained a Ph.D. in engineering from Tohoku University in 2007 when he worked for CRL, Hitachi Ltd.

Junichi Tanaka
Senior Chief Engineer
Chief Technology Officer of Nano-technology Solution Business Group
Hitachi High-Tech

Junichi Tanaka is the Senior Chief Engineer and Chief Technology Officer of Nano-technology Solution Business Group at Hitachi Hightech. He is dedicated to the careful monitoring and control of semiconductor device fabrication processes. Dr. Tanaka's first research was designing plasma process simulators and crafting monitoring tools specifically for plasma etchers. From 1998 to 1999, he was a Visiting Scholar at the University of California, Berkeley. During this tenure, he spearheaded the development of a pioneering force-potential model, which facilitated molecular dynamics simulations of SiO2 reactive ion etching, providing predictions of etched pattern shapes.

He innovated various techniques to enhance etched profiles by harnessing the power of plasma spectra and integrating a customized FTIR wall monitor. These advancements paved the way for his involvement in a comprehensive Advanced Process Control (APC) project.

In 2008, he was awarded the Semicon-Japan Technology Symposium Award. A significant component of this achievement hinged on the consistent repeatability of CDSEM measurements. His current work is focused on exploring state-of-the-art technologies within the realms of metrology and inspection. Dr. Tanaka especially interested in various time-domain metrologies employing both lasers and electron beams.

Dirk Pfeiffer
Director, Microelectronics Research Laboratory (MRL)
IBM

Dr. Dirk Pfeiffer is the director of the Microelectronics Research Laboratory (MRL) at the IBM TJ Watson Research Center. The MRL is a semiconductor R&D facility with key capabilities including a 200mm wafer scale fabrication line, die and wafer level packaging & assembly, surface mount technology, characterization and other for advanced prototyping and process development of new materials and devices. The key mission of the MRL is to accelerate technologies from early stages of innovation to wafer scale development and manufacturing ("Lab to Fab" prototyping). Its project portfolio include quantum, semiconductor device and materials development, embedded analog devices for memory and AI applications, IoT and biomedical devices for health care applications, 2.5 and 3D packaging development and cooling and others. Dr. Dirk Pfeiffer has 25 years of experience in semiconductor and material process development as well as building and operating semiconductor fabrication facilities. He is author and coauthor of 80 plus patents, publications as well as several IBM outstanding technology achievement awards and has a PhD in Chemistry.

Myung-Hee Na
Vice President and General Manager of
Technology Research and Technology Systems
Intel

Han Wui Then
Senior Principal Engineer
Intel

Myung-Hee Na is currently the Vice President and General Manager of Technology Research in Intel. Over 20 years, she has been known as the semiconductor technologist and held various executive positions in global semiconductor companies including US, Belgium and Korea. She has been very diverse and deep semiconductor experiences from device to designs including logic and memory technologies over 20 years. Prior to joining Intel in April 2024, over the past three years she was Vice President of the Revolutionary Technology Center in SK Hynix, Korea. In this role she was responsible for multi-decade semiconductor research roadmaps and strategies for memory centric and emerging computing domains such as emerging memory, and beyond memory.

From 2019-2023, Myung-Hee also worked at imec in Belgium where she was Vice President, Technology Solutions and Enablement. In this role she was responsible for overall 10-year research strategies for CMOS pathfinding and emerging computing domains such as edge computing. After completing her Ph.D. in Physics, Dr. Na started her career at IBM in 2001, where she held various technical, managerial and executive roles until early 2019. During that time, she was promoted to Distinguished Engineer and Technical Executive. At IBM Research, she successfully led Research and Development for multiple generations of semiconductor technologies, including high-K metal gate, FinFET, and Nanosheet development. Moreover, she has co-authored numerous research papers and U.S. and international patents.

Han Wui Then is a Senior Principal Engineer at Intel Foundry Technology Research, where he leads process technology R&D in analog transistors, gallium nitride electronics and heterogeneous 3D integration. He is an IEEE Fellow, and an active champion of semiconductor research through industry and university collaborations. He has authored > 70 publications and invited talks, held > 150 US patents granted; and served on the Technical Committees of IEEE IEDM, CSICS, DRC and IWN. He received his PhD and BSc in ECE from the University of Illinois at Urbana-Champaign.

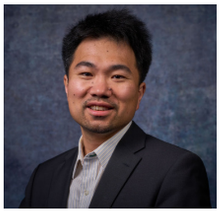
Bill Lee
Sr. Director of Ecosystem and Collaborations
Lam Research

Bill Lee is Sr. Director of Ecosystem and Collaborations in the Office of the CTO at Lam Research. He has worked extensively in the semiconductor equipment industry at both large companies (Lam Research, Applied Materials, and Schlumberger) and small (two start-ups). He has worked in engineering, marketing, and product management on a variety of product technologies (ALD/CVD, PVD, Etch, Plating and E-beam) across several industry segments (semiconductors, photonics, photovoltaics, and displays), and most recently worked in corporate strategy. He has authored numerous publications and holds 15 patents. Bill has a BS and MS EECS from MIT, and an MBA from Stanford.

John Callahan
Research Scientist, Senior Staff
Lockheed Martin

John J. Callahan, Ph.D. is a Research Scientist, Senior Staff at Lockheed Martin Space in Billerica, MA. John received his PhD and Masters degrees from the Georgia Institute of Technology and BSEE from the University of Lowell. His graduate work focused on optoelectronic heterogenous integration creating one of the first optical transceivers. Dr. Callahan has a career spanning over two decades advancing commercial semiconductor, assembly, and optoelectronic technologies. His current efforts at Lockheed Martin focus on advancing GaN technology for high-temperature applications, integrated optoelectronics and heterogenous integration utilizing chiplet technology for advanced processing platforms.

Prior to joining Lockheed Martin, John was the VP of Technology at BRIDG, a 200mm semiconductor fabrication organization. While at BRIDG he spearheaded the creation and managing of BRIDG's technology roadmap, managed the operations and facilities teams, and provided technical sales by creating processing solutions to customer requests. Prior to BRIDG, he served at the Vice President of Engineering at SemiNex, a developer of long wavelength high-power semiconductor lasers. He oversaw both engineering and operations, managing the international supply chain. He was responsible for the creation of eight major product lines and over 300 products for the military, industrial, consumer and datacom markets. Before his tenure at Seminex, John served as the Director of Engineering at Cubic Wafer, where he led the efforts to create manufacturing process for 3D Heterogeneous Integration assembly techniques. His organization was one of the first to produce through silicon vias (TSV's) and 3D assembly using microcontacts. Prior to Cubic Wafer, he was the Director of Research and Development at Xanoptix where he oversaw Process, Mechanical, IC Design Engineering teams to create a high-speed large aggregated data optical transceiver for the datacom market.



Rui Ma
Director of mmWave PA Systems
Murata Electronics North America, Inc.

Dr. Rui Ma is currently a Director of mmWave PA Systems at pSemi, A Murata Company. Prior to joining pSemi, he was with Mitsubishi Electric Research Labs working in the area of RF devices and circuits research. Dr. Ma was a Visiting Scientist with THz Integrated Electronics Group at MIT. He currently serves as an IEEE Distinguished Microwave Lecturer (DML).

Johan Suzuki
Manager, Corporate Technology & Innovation
Murata Electronics North America, Inc.

Johan Suzuki is a Corporate Technology & Innovation Manager at Murata Manufacturing Co., Ltd. Since 2024, he has been engaged as a Visiting Scientist at MIT, aiming to strengthen the company's R&D through industry-academia collaboration. The research in his group focuses on next-generation communication / 6G, optics & semiconductors, the environment, and bioelectronics.

He began his career at Murata in 2015, where he was responsible for the design of wireless communication modules at the headquarters in Kyoto, Japan. From 2020 to 2024, he served as Corporate Venturing Manager in San Jose, CA, contributing to developing partnerships with startups and creating new business opportunities.

He received his B.S. and M.S. degrees in electrical engineering from Keio University. Prior to joining Murata, he worked as an RF engineer involved in the design of PCs and smartphones.

Sota Kagami
Researcher
NEC Corporation

Akihiro Kirihara
Senior Manager
NEC Corporation

Mr. Sota Kagami is a Researcher at NEC Secure System Platform Research Laboratories. His research has focused on quantum sensing, including atomic clocks based on atomic vapor cells and cold atoms. He received B.S. and M.S. degrees in physics from Tokyo Institute of Technology, Japan, in 2007 and 2009, respectively. He joined NEC Corporation in 2009 and engaged in the research and development of infrared detectors based on semiconductor nanostructures. From 2016 to 2017, he joined NIST in Boulder, Colorado, U.S. as a visiting scholar and was engaged in developing atomic optical magnetometers. His research interests include devices and sensors based on quantum nanostructures, superconducting circuits, atoms, and nitrogen vacancy centers in diamond.

Mr. Akihiro Kirihara is a Senior Manager in NEC System Platform Research Laboratories. He obtained B. Eng. (2002) and M. Eng. (2004) from the University of Tokyo. He has belonged to NEC Corporation since 2004. He was a visiting researcher at Technische Universitaet Kaiserslautern (2013-2014).

Tomo Tanaka
Principal Researcher
NEC Corporation

Tsuyoshi Yamamoto
Research Fellow
NEC Corporation

Dr. Tomo Tanaka is a Principal Researcher at NEC Corporation's Secure System Platform Research Laboratories. He received his Ph.D. in Engineering from Hokkaido University in 2014, focusing his doctoral thesis on the electrical conduction properties of carbon nanotube (CNT) networks and their applications in device technology. Since joining NEC, he has been engaged in the development of various infrared detectors. He is currently leading research to enhance the detectivity of bolometer-type array sensors through the integration of semiconducting carbon nanotubes. Additionally, his recent work includes the development of compact atomic clocks utilizing neutral atom gas cells. He is particularly interested in the device implementation of nanocarbon materials and quantum technologies.

Dr. Tsuyoshi Yamamoto is a Research Fellow in NEC Secure System Platform Research Laboratories and is working on the R&D of superconducting quantum devices.

He received Ph.D. degree in applied physics from the University of Tokyo in 2001. In 2001, he joined NEC Corporation, Tsukuba, Japan, where he has been engaged in research on superconducting quantum circuits. From 2009 to 2010, he was a visiting researcher at University of California, Santa Barbara. Since 2019 he has also joined NEC-AIST Quantum Technology Cooperative Research Laboratory, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan.

Steve Babureck
Executive Vice President, Strategy, Communications & Marketing
Soitec

Cesar Roda Neve
R&D Program Manager
Soitec

Steve Babureck is Executive Vice-President of Strategy, Communications & Marketing at Soitec and President of Soitec USA, where he shapes the company's global direction and market positioning. He brings extensive international experience across corporate development, investor relations, and strategic operations, having led major initiatives in San Diego and Singapore that strengthened Soitec's worldwide alignment and growth. Prior to his tenure at Soitec, Babureck was engaged as a financial analyst with Natixis, followed by a position at BNP Paribas (Exane) in Paris and London. He holds a degree in Materials Science Engineering from Polytech Nantes and a Specialized Master's degree from ESCP Europe Business School.

Cesar Roda Neve received his Msc. Engineer degree from the ICAI Universidad Pontificia de Comillas, Madrid, Spain, in 2000. In 2004 he joined the University Carlos III of Madrid where he worked on optoelectronic devices for ROF links. In 2006 he joined the Microwave Laboratory of the UCLouvain, Belgium, where he specialized on the use of Si-based substrates for RF applications, in particular trap-rich HR-SOI. He received his Ph.D. degree by UCLouvain in engineering sciences in 2010. Since then, he has worked on R&D and new technologies development at several companies and for a wide variety of topics, from RF and large signal characterization, 2.5D/3D integration, to GNSS and UAV/satellite communications. In 2021 he joined Soitec as R&D Program Manager, working on strategic research applications and emerging technologies, focusing on quantum technologies and applications, as well as on RF, 6G, and advanced CMOS technologies.

Dr. Ionut Radu
Senior Director, Emerging Technologies
Soitec

Chin-Hang Tung
Deputy Technical Director
TSMC

Ionut Radu is Senior Director, Emerging Technologies at Soitec. He leads the path finding and worldwide partnerships with industrial and academic innovation platforms supporting strategic developments of engineered substrate technologies for semiconductor industry.

Dr. Radu obtained his B.S. and Ph.D in physics from University of Bucharest and Martin-Luther University Halle-Wittenberg respectively. Dr. Radu has 25 years of experience in semiconductor and material development and he has co-authored more than 100 papers in peer-reviewed journals, conference proceedings and reference handbooks and holds 80 patents. Ionut is an IEEE Fellow and he serves on several IEEE conference committees.

Chih Hang is Deputy Director in IIP, R&D tsmc. He joined tsmc in 2008 with the team that later established 2.5D/3D integration technology platforms, e.g. CoWoS, InFO, and SoIC. Chih Hang has been working in Taiwan and Singapore semiconductor industry for over 35 years. His research interests covered front-end gate dielectric reliability, High-K/Metal-Gate, Si-nanowire, backend Cu/low-k, and far-backend advanced 3D chip stacking and packaging. Chih Hang has authored a book (ULSI Semiconductor Technology Atlas, Wiley), co-authored book chapters, as well as over 200 journal/conf papers and more than 40 world-wide patents. He has also been invited to international conferences (IEEE VLSI, IEDM, ECTC) presenting invited papers, short courses, and tutorials. Chih Hang is a senior member of IEEE.

Shenggao Li
Director
TSMC

Jim Wieser
Director of University Research and Technology
Texas Instruments

Dr. Shenggao Li Joined TSMC in 2020 as a Director leading R&D activities on high-speed Chiplet Interconnects and 200-400G Optical Networks. He was with Intel from 2000 to 2020, where he led the high speed IO team and designed PCIe3.0, 4.0, 5.0 Serdes IPs for 5 generations of high-profile Intel CPU products in data centers. Dr. Li is a TPC co-chair of IEEE CICC'26, a WG co-chair for the UCIe Consortium on Chiplet interface standardization and a guest editor for Open Journal of the Solid-State Circuits Society.

Jim serves Texas Instruments as Director of University Research and Technology within the university relations organization in close collaboration with the CTO Office. In this role he identifies and drives strategic technology initiatives, research strategy and aligns university research to the needs of the company. His semiconductor experience spans over 40 years in the areas of design, product development management and technologist. He is an IEEE Senior Member and SRC Executive Technical Advisory Board member for TI.

Jim received his BSEE and MSEE from University of Michigan and joined National Semiconductor starting his career in the semiconductor industry. He began as a circuit designer in the pioneering days of analog CMOS, including switched capacitor filters and data converters. Jim developed circuits and managed design of telecom products, including voice band codecs, modems, ISDN and ADSL. Jim spent two years as Director/VP of Analog/Mixed Signal Methodology refining the analog design flow to address National's SoC product strategy. Later he led the development of 10/100 and Gigabit Ethernet Phys and MACs in the Networking division as Design Director. In 2002 Jim was promoted to Chief Technologist of the Interface Division and was later promoted to Chief Technologist for the Product Group covering four product divisions. He later joined the CTO office to drive strategic technology and university research. Jim holds 21 patents in the area of analog circuits and system design.

Danielle Griffith
Fellow
Texas Instruments

Danielle Griffith is a Fellow at Texas Instruments, responsible for system architecture of next generation low power wireless connectivity SoCs. Her focus areas are circuits and architectures for efficient wireless systems and semiconductor technology development. Danielle has contributed to many generations of radios which have sold >1B units to date. She has published two book chapters and >70 papers and holds 25 US patents. Danielle has given numerous IEEE conference plenary talks, tutorials and workshop sessions. She has been a TPC member for top IEEE conferences, including RFIC, ISSCC, and VLSI and is a senior member of the IEEE. She was an associate editor of the IEEE Journal of Solid-State Circuits from 2020-2023 and a Distinguished Lecturer of the SSCS 2021-2022. She received the Bachelors and Masters degrees in electrical engineering from the Massachusetts Institute of Technology.

MTL LEADERSHIP BIOGRAPHIES

Tomás Palacios

Director, Microsystems Technology Laboratories
Clarence J. LeBel Professor, Department of Electrical Engineering & Computer Science

Tomás Palacios is the Clarence J. LeBel Professor in the Department of Electrical Engineering and Computer Science at MIT. He received his PhD from the University of California - Santa Barbara in 2006, and his undergraduate degree in Telecommunication Engineering from the Universidad Politécnica de Madrid (Spain). His current research focuses on demonstrating new electronic devices and applications for novel semiconductor materials such as graphene and gallium nitride. His work has been recognized with multiple awards including the Presidential Early Career Award for Scientists and Engineers, the IEEE George Smith Award, and the NSF, ONR, and DARPA Young Faculty Awards, among many others. Prof. Palacios is the founder and director of the MIT MTL Center for Graphene Devices and 2D Systems, as well as the Chief Advisor and co-founder of Cambridge Electronics, Inc. He is a Fellow of IEEE.

Ruonan Han

Associate Director, MTL
Associate Professor, Department of Electrical Engineering and Computer Science
Director of MTL Center of Integrated Circuits and Systems

Ruonan received his B.S. degree in microelectronics from Fudan University, China, in 2007, M.S. degree in electrical engineering from University of Florida in 2009, and Ph.D. in electrical and computer engineering from Cornell University in 2014. He joined MIT in July 2014 and is now an associate professor at the Department of Electrical Engineering and Computer Science. His research group aims to explore microelectronic circuits and systems to bridge the terahertz gap between microwave and infrared domains. He has served on the committees of a few conferences, including the technical-program committee (TPC) of IEEE International Solid-State Circuits Conference (ISSCC) (2022~present), IEEE Radio-Frequency Integrated Circuits (RFIC) Symposium (2017~present), and 2019 International Microwave Symposium (IMS) Steering Committee. He was the associate editor of the IEEE Transactions on Quantum Engineering (2020~present) and IEEE Transactions on Very-Large-Scale Integration (VLSI) Systems (2018~2021), and the Guest Editor of the IEEE Transactions on Microwave Theory and Techniques (T-MTT) (2019). He is the 2020~2022 Distinguished Microwave Lecturer of IEEE Microwave Theory Techniques Society (MTT-S). Ruonan is the recipient of three Best Student Paper Awards from IEEE RFIC Symposium (2012, 2017 and 2021), NSF Faculty Early CAREER Development Award (2017), Intel Outstanding Researcher Award (2019) and the IEEE Solid-State Circuit Society New Frontier Award (2023). In 2023, he was appointed as the Associate Director of Microsystem Technology Laboratories (MTL) and Director of MTL Center of Integrated Circuits and Systems (CICS).

Bilge Yildiz

Associate Director, MTL
Professor, Department of Nuclear Science and Engineering

Bilge Yildiz is the Breene M. Kerr (1951) Professor at Massachusetts Institute of Technology, where she leads the Laboratory for Electrochemical Interfaces. Yildiz's research focuses on laying the scientific groundwork to enable next generation electrochemical devices for energy conversion and information processing. Yildiz's teaching and research efforts have been recognized by the Argonne Pace Setter (2006), ANS Outstanding Teaching (2008), NSF CAREER (2011), IU-MRS Somiya (2012), the ECS Charles Tobias Young Investigator (2012), the ACerS Ross Coffin Purdy (2018) and the LG Chem Global Innovation Contest (2020) awards. She is a Fellow of the American Physical Society (2021), the Royal Society of Chemistry (2022), and the Electrochemical Society (2023) and an elected member of the Austrian Academy of Science (2023)

2025 ANNUAL RESEARCH REPORT

MTL MICROSYSTEMS TECHNOLOGY LABORATORIES

IN APPRECIATION OF OUR MTL INDUSTRIAL GROUP MEMBER COMPANIES:

Analog Devices
Applied Materials
Edwards
Ericsson
GlobalFoundries
Hitachi High-Tech
IBM
Intel
Lam Research Corp.
Lockheed Martin
muRata
NEC
Soitec
TSMC
Texas Instruments