












- Dr. Fred E. Arnold Chief of the EO/IR Components Branch (AFRL/RYPH) within the Sensors Directorate. RYPH is focused on three technical areas – Detectors & FPAs, Laser Sources and Photonic & Quantum Substructures.
- Jagmohan Bajaj, Advisor in the Sensors and Electron Devices Directorate, Army Research Laboratory. Retired from Teledyne where I was the President of the Teledyne Imaging Sensors Group.
- Enrico Bellotti received the Laurea in Ingegneria Eletttronica from Politecnico di Milano, Milano, Italy, in 1989, and the Ph.D. degree in electrical engineering from the Georgia Institute of Technology, Atlanta, USA, in 1999. He has been with the Department of Electrical and Computer Engineering, Boston University since September 2000, initially as an Assistant Professor (2000-2006) then with the rank of an Associate Professor (2006-2012), and Professor since 2013. Dr. Bellotti was a recipient of the 2003 ONR Young Investigator Program Award and the 2005 NSF CAREER Award. He is currently the Director of the ARL Consortium for Semiconductor Modelling and the CoPI of the MSME CRA.
- Dr. Nupur Bhargava is currently the Chief Scientist at Lawrence Semiconductor Research lab. She has worked on GeSn/SiGeSn alloys during her PhD and at ASM.
- Josh Caldwell is the Flowers Family Chancellor Faculty Fellow of Mechanical Engineering, Vanderbilt University. His research is focused on infrared characterization of novel materials, metamaterials and advanced opto-electronic and power electronic devices. Caldwell spent 12 years at the US Naval Research Lab in Washington, DC prior to joining Vanderbilt in 2017. Prof. Caldwell is a Fellow of the Materials Research Society. 
- Dr. Bruce “Chip” Claflin is a Senior Research Physicist in the Sensors Directorate of AFRL. My research focuses on remote plasma enhanced CVD (RPECVD) growth and characterization of the GeSiSn material system. For the past two years, I have co-organized the AFRL GeSn and GeSiSn Workshop to help connect active members of Government, Academia, and Industry to advance this technology. 
- Dr. Ben Conley is the EO/IR Program Manager at the Office of Naval Research (ONR).
- Dr. Wei Du is currently the Assistant Professor with the Department of Electrical Engineering and Physics at Wilkes University. His research interests are in the areas of Si Photonics and Nanotechnology. 
- Dr. Charles “Chip” Eddy, Jr., Science Director, Office of Naval Research Global – London. Interested in Power & Energy research as well as broader electronic materials growth and characterization. 

- Steven Estrella is a Senior Photonic Systems Engineer and the Quantum Technology & Applications Technical Leader at Freedom Photonics and is responsible for various aspects of product and technology development, spanning device, module, and system design, as well as testing. He is also pursuing a PhD in Electrical Engineering at the University of California Santa Barbara. His research interests lie in optical links for harsh environments, silicon photonics, and group IV materials.
- Eric Fossum is a professor at Dartmouth College in the Thayer School of Engineering and has worked on image sensors his whole life and also on IR FPAs for some of his life. See [www.ericfossum.com](http://www.ericfossum.com) for more info.
- Ken Goretta manages the GHz-THz Electronics portfolio for AFOSR, He is also a Co-Topic Chief for the SiGeSn MURI project led by Fisher Yu/University of Arkansas.
- Jim Harris is the James and Ellenor Professor of Engineering, Emeritus at Stanford University. He has investigated a broad range of III-V and IV-IV heterojunction materials grown by MBE for photonics over the past 50 years. Most recent work included work on strain control and engineering of SiGeSn nano-patterned and suspended structures. More information about my group can be found on the webpage: <http://www.snow.stanford.edu>
- Lt Col Mike Hogsted is currently assigned to the Multispectral Sensing and Detection division of the AFRL Sensors Directorate. He was recently involved in electrical and optical characterization of GeSiSn as an AFIT faculty member.
- Dr. Dominic Imbrenda is currently a lead member of the engineering staff and an engineering program manager at the Lockheed Martin Advanced Technology Laboratories. His research portfolio includes advanced imaging technologies.
- Dr. Cliff King is Co-Founder & CEO of SemiKing, a visible-to-SWIR imaging company using novel Ge-on-Si growth technology. Dr. King was previously CTO at L3 Technologies, CEO of NoblePeak Vision Corp. and a manager at Bell Labs, Murray Hill, NJ.
- Dr. Jeremy Knopp, Technical Director, Asian Office of Aerospace Research and Development (AOARD) Tokyo, Japan. Program officer for USAF/Taiwan Nanoscience Program.
- Dr. Tianshu Li is an Associate Professor at the George Washington University. He is a computational/theoretical materials scientist studying nanostructures, alloy, and phase transition.



- Prof. Jifeng Liu at Dartmouth College conducts research on optoelectronic materials and devices for integrated photonics, photon management, and solar energy. He is investigating the crystallization and solid phase epitaxy of GeSn and SnGe materials. A full list of his publications can be found at <https://scholar.google.com/citations?user=6jvPkzUAAAAJ&hl=en>
- Zhenqiang (Jack) Ma is the Lynn H. Matthias Professor in Engineering & Vilas Distinguished Achievement Professor at the University of Wisconsin. He earned his PhD from University of Michigan - Ann Arbor. His research interest is lattice-mismatched semiconductor heterostructures and their physics and device applications. He is a fellow of 7 professional societies, including IEEE, OSA and SPIE. 
- Dr. Jay Mathews is an Associate Professor in the Department of Physics at the University of Dayton. He is currently working on studying light absorption and emission in GeSn materials and devices, as well as defect formation in epitaxial Ge and GeSn. His other research interests include hyperdoped silicon for intermediate band IR photodetectors, THz metamaterials for chemical and biological sensing, and 2D materials for flexible electronics and photonics.
- Hello, I'm John McClory a professor of nuclear engineering at the Air Force Institute of Technology (AFIT) and I'll be talking about radiation effects in GeSn and GeSiSn photodiodes. The research I'll present is the work of Dr. Buguo Wang of Wright State University, LtCol. Michael Hogsed of AFRL's Sensors Directorate, and two former AFIT graduate students, Capt. Kevin Choe and 1Lt. Nathan Gale, both now assigned to the Air Force Technical Applications Center. 
- Oussama Moutanabbir is Professor of Engineering Physics holding a Canada Research Chair (Tier 2) in Nanoscale and Quantum Semiconductors at École Polytechnique de Montréal. He is currently leading a network on SiGeSn-based compact mid-infrared and terahertz photonics supported by Defence Canada through its Innovation for Defence Excellence and Security program. 
- Dr. Minh Nguyen, Senior Scientist at HRL Laboratories. My research interest includes materials and device development for Infrared detectors and focal plane arrays. Our work spans across the whole IR spectrum from SWIR to VLWIR.
- Bill Nickerson is the Science Director for aviation and electronic materials at the Office of Naval Research Global in Tokyo, Japan. In his SD position, he is responsible for maintaining collaborations and networks within the international aviation, structures, materials and manufacturing communities. Mr. Nickerson also serves as the country liaison to India, and actively participates in the Indo-Pacom region technical forums.
- Tania Paskova recently joined the Army Research Office as Program Manager for Electronic Sensing program. I am coming from NC State University after completing a 4-year tenure at NSF, being responsible for Electronic and Photonic Materials program.

- Siying Peng is a postdoctoral scholar at Stanford University. Her research interests include mid-infrared photonic materials and advanced characterization techniques for mid-infrared photonics.
- Dr. James Piao, is president of Epitaxial Laboratory, Inc. MBE growth of GeSn was part of his PhD thesis at Columbia University. His research interest include sensors, new materials, lasers including quantum cascade lasers, multijunction ultra-high efficiency solar cells, high speed electronic devices, etc. Current research focus is on GeSn based materials and optoelectronic devices.
- Dr. Gernot Pomrenke is program manager for the Optoelectronics and Photonics portfolio, and the acting program manager for the Laser & Optical Physics portfolio at the Air Force Office of Scientific Research (AFOSR) in Arlington VA. He has been an almost four decade long supporter of Group IV optoelectronics and integrated silicon photonics. He currently co-manages with Dr Ken Goretta the FY19 Group IV Alloy MURI led by the University of Arkansas 
- Dr. Daniel Renner is Chief Business Development Officer at Freedom Photonics, responsible for the identification of new business areas, definition of new products and the successful introduction of these products into the market. Additionally, he supports product manufacturing and engineering with his expertise in photonic components.
- Bridget Rogers is an Associate Professor in the Department of Chemical and Biomolecular Engineering, Vanderbilt University. Her research focus is on surfaces, interfaces, and films of technically important materials. Rogers spent 14 years as an engineer in Motorola's Semiconductor Products sector prior to joining Vanderbilt. Prof. Rogers is a Fellow of the American Vacuum Society. 
- Prof. Krishna Saraswat is the Rickey/Nielsen Professor of Electrical Engineering at Stanford University. His research involves materials, structures, and process technology of semiconductor devices and interconnects for nanoelectronics, and high efficiency and low cost solar cells. 
- Michael Scheibner (University of California, Merced). We study light-matter interactions with and coupling mechanisms between semiconductor quantum emitters, including Ge quantum dots, in order to enhance their functionality for opto-electronic applications. 
- Paul Simmonds (Boise State University). We perform MBE growth of band-engineered Ge quantum dots within III-V matrices under tensile strains in excess of 4%. 

- Greg Sun, Professor and Chair, Engineering Department, University of Massachusetts Boston. My research areas are in semiconductor optoelectronics, group-IV photonics and nanophotonics.



- Dr. David H Tomich is a Principal Research Engineer and Technical Advisor of the EO/IR Components Branch (AFRL/RDHD) within the Sensors Directorate of AFRL. He oversees the technical efforts and mentors the team of more than 50, predominately PhD, government, military and contractor research staff with a diverse portfolio of light/matter interactions spanning Detectors & FPAs, Laser Sources, and Photonics & Quantum Substructures.

- Dr. Tom Vandervelde is a professor at Tufts University with a primary appointment in Electrical and Computer Engineering. He directs the Renewable Energy and Applied Photonics Laboratories group and the Tufts Epitaxial Core Facility with work focusing on the interaction of light and matter. Using molecular beam epitaxy, his group grows multiple semiconductor materials systems, including GeSiSn.



- Tony Vengel spent 22 years in the Air Force – 12 active duty and 10 in the reserves on the operational and then acquisition side (bought the laser designator for the F-117A, GPS satellites, and other classified programs). As a contractor, grew company based on liquid cooling (Spraycool) of computers onboard the U-2 and Global Hawk, helped grow Nova Sensors until it was sold to Teledyne in 2011 – SWIR and MWIR cameras. I helped start IRCamera's under Santa Barbara Infrared growing sales in MWIR, cooled LWIR, and SWIR/MWIR wideband cameras into a multitude of customers including several programs of record. Joined Attollo in 2017 where we have grown from 5 people to now 53 where we have introduced a COTS SWIR camera, on the verge of introducing COTS MWIR both in VGA and HD format in early 2021.

- Benjamin Williams, Professor, Electrical and Computer Engineering, UCLA. My background is in terahertz and mid-infrared photonics, especially intersubband physics, quantum-cascade lasers, and metastructures.



- Dr. Maddy Woodson is the Photodiode Technical Leader at Freedom Photonics LLC, with responsibilities spanning all aspects of design, characterization, and manufacturing of photonic components and photonic integrated device design and characterization. She received her PhD in 2017 from the University of Virginia, focusing on avalanche photodiodes in a quaternary III-V materials system. Currently, her research includes the development of GeSn focal plane arrays for ISR applications.

- Shui-Qing (Fisher) Yu, Professor of Electrical Engineering at University of Arkansas, PI of the AFOSR SiGeSn MURI, research interests of SiGeSn include material growth, property study, devices such as lasers and detectors.



- Yong-Hang Zhang: My areas of research include MBE growth, optical properties of semiconductor heterostructures made of III-V, II-VI, IV-VI (PbSe and PbTe) and IV-IV (GeSnPb) materials families and their applications in solar cells, photodetectors and lasers. More information about his group can be found on the webpage: <https://mbe.engineering.asu.edu/>.
- Stefan Zollner, Professor and Physics Department Head, New Mexico State University, Las Cruces: We determine accurate optical constants of materials (semiconductors, insulators, and metals) using spectroscopic ellipsometry at temperatures from 10 to 800 K. We are interested in the connection between these optical constants and fundamental properties of materials (especially electrons and phonons). We also study the properties of thin films with ellipsometry and x-ray techniques.