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Eckstein is a professor of physics at the University of Illinois at Urbana-Champaign. His research is focused on novel materials and devices. His group uses molecular beam epitaxy to grow complex oxides, topological insulators, III-V semiconductors, metals, superconductors, magnetic phases, and dielectrics. Before coming to the University of Illinois in 1997, he was a research

manager at Varian Research Center in Palo Alto, Calif., where his group developed atomic layer-by-layer molecular beam epitaxy for the growth of artificial complex oxides. He received his PhD in physics in 1978 from Stanford University and his BA in physics from St. Olaf College in 1973.



Jeremy Levy

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Levy received an AB degree in physics from Harvard University in 1988, and a PhD degree in physics from UC-Santa Barbara in 1993. He is professor of physics and astronomy at the University of Pittsburgh, where he directs the Pitt Quantum Initiative and the Center for Oxide-Semiconductor Materials for Quantum Computation. His research interests include oxide

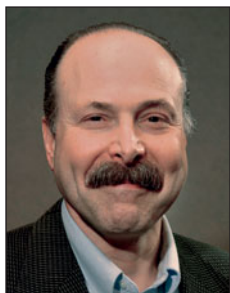
nanoelectronics, experimental and theoretical realizations for quantum computation, semiconductor and oxide spintronics, quantum transport and nanoscale optics, and dynamical phenomena in oxide materials and films.



David T.C. Allcock

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Allcock is a Lindemann Trust postdoctoral fellow in the group of David J. Wineland at the National Institute of Standards and Technology. He received his MPhys degree (2007) and his DPhil degree (2012) in atomic and laser physics from the University of Oxford. His research focuses on the integration of microwave electronics with surface-electrode ion traps for quantum computing applications.



David D. Awschalom

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Awschalom is the Liew Family Professor in Spintronics and Quantum Information at the University of Chicago. His group has research activities in optical and magnetic interactions in semiconductor quantum structures, spin dynamics and coherence in condensed matter systems, and implementations of quantum information processing in the solid state. He received an IBM Outstanding Innovation Award,

the MRS Outstanding Young Investigator Award and David Turnbull Lectureship, the IUPAP International Magnetism Prize and Neel Medal, the APS Oliver E. Buckley Prize, the EPS Europhysics Prize, and the AAAS Newcomb Cleveland Prize. Awschalom is a Fellow of the APS and AAAS and is a member of the American Academy of Arts and Sciences, the National Academy of Sciences, the National Academy of Engineering, and the European Academy of Sciences.



Erik Bakkers

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Bakkers is a professor in the physics departments of both the Eindhoven and Delft Universities of Technology. His research concentrates on the growth and properties of semiconducting nanowires. He received his PhD degree from Utrecht University, which was focused on charge transfer between quantum dots. He worked at the Philips

Research labs in Eindhoven for nine years before moving back to academia. Bakkers received the MIT Technology Review Award from the Massachusetts Institute of Technology in 2007, a VICI Award in 2010—which is a personal research grant, and the AAAS Newcomb Cleveland Prize in 2013.



Yves Colombe

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Colombe is a researcher at the National Institute of Standards and Technology (NIST). He received his PhD degree from Paris 13 University in 2004 with a thesis on Bose-Einstein condensation. He then worked as a postdoctoral researcher in Munich (LMU) and Paris (LKB) on high-finesse optical micro-cavities integrated with atom chips. In 2008, he joined NIST as a research associate and contributed to the development of ion-

trapping experiments using surface-electrode traps.



Susan Coppersmith

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Coppersmith is a Vilas Professor of Physics at the University of Wisconsin-Madison. She received her PhD degree in physics from Cornell University. She is a theoretical condensed matter physicist who has worked on a broad range of problems, including glasses, granular materials, the nonlinear dynamics of magnetic flux lattices in Type II superconductors, and quantum computing. Coppersmith is a Fellow of the

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Mark Eriksson

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Eriksson is an experimental condensed matter physicist at the University of Wisconsin-Madison. He received his PhD degree in physics from Harvard University and was a postdoctoral researcher at Bell Laboratories. His research interests are in the areas of silicon nanostructures, quantum computation, spins in semiconductors, nanomembranes, and thermoelectric materials. Eriksson leads a project to develop science and

technology for semiconductor-based quantum computing that focuses on the development of silicon/silicon-germanium quantum dot spin qubits. He is a Fellow of the American Physical Society.



Sergey Frolov

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Frolov is an assistant professor of physics and astronomy at the University of Pittsburgh. He obtained his PhD degree from the University of Illinois at Urbana-Champaign and worked as a postdoctoral researcher at the University of British Columbia and Delft University of Technology. His research focuses on nanoscale electronic devices for spintronics, quantum computing, and mesoscopic physics. Frolov worked

with GaAs/AlGaAs two-dimensional electron gases, semiconductor nanowires, and superconductors.



Luke Gordon

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Gordon is a PhD degree candidate in the Materials Department at the University of California–Santa Barbara, in the group of Chris Van de Walle. He received a BA degree in theoretical physics from Trinity College Dublin in 2010. His research is centered on first-principles calculations of defects for quantum information science and defects and doping in semiconductors, particularly III-nitrides and oxides.



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Hite is a research associate at the National Institute of Standards and Technology (NIST). He received his PhD degree in 2001 from Louisiana State University in surface physics. He was a postdoctoral research associate at NIST from 2001–2004, followed by a faculty appointment at Western State College of Colorado from 2004–2010. Currently, his research at NIST aims

to understand the origins of high-frequency electric-field fluctuations above metal surfaces by use of trapped ions and surface science.



Anderson Janotti

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Janotti is a project scientist in the Materials Department at the University of California, Santa Barbara (UCSB). He received his PhD degree in 2000 from the Institute of Physics at the University of Sao Paulo, Brazil. He was a postdoctoral researcher at the National Renewable Energy Laboratory from 2000 to 2002, and at Oak Ridge National Laboratory from 2002 to 2004. Janotti joined the Materials Department

at UCSB in 2004. His research interests include electronic structure theory of solids and molecules, defects and doping in semiconductors, oxides and nitride semiconductors, and transition-metal oxides.



Leo Kouwenhoven

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Kouwenhoven is a Distinguished Professor of Physics at Delft University of Technology. His research focuses on nanoscale electronic devices that make explicit use of quantum phenomena such as superposition and entanglement. Examples include solid-state qubits and topological systems hosting Majorana fermions. Kouwenhoven's group is part of the Kavli Institute of Nanoscience at Delft.



Max Lagally

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Lagally is the Erwin W. Mueller Professor and Bascom Professor of Surface Science at the University of Wisconsin–Madison. He fabricates and investigates nanoscale semiconductor materials, holds 26 patents (20 licensed), has more than 400 publications, and has edited 4 books. He is a member of the National Academy of Engineering, the German National Academy of Sciences–Leopoldina, and the National Academy of Inventors. Lagally has received

several awards, and is a Fellow of the AAAS, MRS, APS, and AVS, among others.



Dietrich Leibfried

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Leibfried is a staff researcher at the National Institute of Standards and Technology (NIST). He received a diploma in physics and his PhD degree from LMU Munich, Germany, in 1992 and 1995, respectively. After a postdoctoral appointment in the Ion Storage Group at NIST (1995–1997), he spent three years as an assistant professor at the University of Innsbruck before returning to NIST. His main research interests are precision spectroscopy and quantum state-control of trapped atomic ions, in particular for quantum information processing and quantum simulation.

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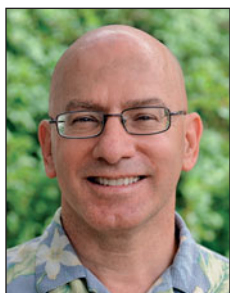
Nadj-Perge is a researcher in the Princeton Nanoscale Microscopy Laboratory. He obtained his PhD degree at Delft University of Technology, studying properties of single spins in semiconductor nanowires. After one year as a postdoctoral researcher at Delft, he moved to Princeton University as a Marie Curie Fellow. Nadj-Perge's work uses scanning tunneling microscopy to investigate topological properties of atomic

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Oliver is an electrical engineer and experimental condensed matter physicist. He is presently a senior staff member at the Massachusetts Institute of Technology's (MIT) Lincoln Laboratory, where he is a technical leader of the laboratory's superconducting quantum information science programs, and a research affiliate with the Research Laboratory of Electronics at the MIT campus. Oliver received his PhD degree from

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Pappas is a project leader in the Quantum Devices group at the National Institute of Standards and Technology (NIST). He received a BA degree in physics from the University of Colorado. He studied surface magnetism at the University of California-Irvine, where he received his master's and PhD degrees as an IBM graduate student fellow. Pappas then was a postdoctoral researcher at IBM Almaden and the Naval Research Center,

followed by a faculty appointment at Virginia Commonwealth University. His research at NIST includes developing superconducting materials for quantum computing applications, magnetic thin-film sensors, and surface science to enhance ion traps.



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Plissard is a postdoctoral researcher at Eindhoven University of Technology (TU/e) in The Netherlands and will begin a position as researcher in the Laboratory for Analysis and Architecture of Systems (CNRS) in France in December 2013. He studied physics at the Grenoble Institute of Technology in France and obtained a PhD degree from CEA-LETI in 2007. After a postdoctoral

term in the Institute of Electronics, Microelectronics and Nanotechnology (CNRS), he moved to TU/e in 2010. Plissard's interests focus mainly on crystal growth and characterization of III-V and II-VI semiconductors: 2D and nanowires for nanoelectronic and optoelectronic applications.



Chris G. Van de Walle
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Van de Walle is a professor in the Materials Department at the University of California-Santa Barbara (UCSB). He received his PhD degree in electrical engineering from Stanford University in 1986. Prior to joining UCSB in 2004, he was a principal scientist at the Xerox Palo Alto Research Center. His research interests include first-principles calculations for materials, defects, and doping in semiconductors and oxides, sur-

faces, and interfaces, and the physics of hydrogen in materials. Van de Walle is a Fellow of the APS, MRS, AAAS, AVS, and IEEE. He also is the recipient of a Humboldt Award for senior US scientists and the David Adler Award from the APS.



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Justin R. Weber
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Weber is a senior software engineer in the Process and Materials Modeling Group at Intel Corporation. He received a PhD degree in physics in 2010 from the University of California, Santa Barbara. After graduation, he joined Intel. His research interests include electronic structure calculations for metals, semiconductors, and insulators as a way to predict novel device performance. He is the recipient of the 2012

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Paul B. Welander

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Welander worked as a staff member at the Massachusetts Institute of Technology's (MIT) Lincoln Laboratory in Lexington, Mass., from 2007 to 2012 before going to the Vacuum Science and Engineering Department at the SLAC National Accelerator Laboratory. He received his PhD degree in physics from the University of Illinois at Urbana-Champaign in 2007. His

research at the MIT Lincoln Laboratory involved epitaxial materials and novel fabrication techniques for both superconducting quantum bits and back-illuminated charge-coupled devices. His current research interests include new superconducting materials for coating future accelerator cavities. Welander is a member of the Materials Research Society and the American Physical Society.

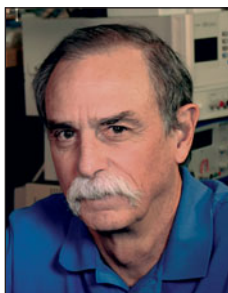


Andrew C. Wilson

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Wilson is a physicist at the National Institute of Standards and Technology (NIST) in Boulder, Colo. He obtained his PhD degree in 1993 from the University of Otago, New Zealand, was a post-doctoral researcher in the Clarendon Laboratory at the University of Oxford, and then a professor at the University of Otago until the beginning of 2010. Wilson then joined the Ion Storage Group at NIST, where he works on trapped-ion quantum

information processing and simulation experiments.



David J. Wineland

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Wineland is the leader of the Ion Storage Group in the Time and Frequency Division at the National Institute of Standards and Technology (NIST). He received a bachelor's degree from the University of California–Berkeley, in 1965 and his PhD degree from Harvard University in 1970. After a postdoctoral appointment at the University of Washington, he joined NBS (now NIST). His group's research has focused

on laser cooling and spectroscopy of trapped atomic ions with applications to atomic clocks, quantum-limited metrology, and quantum state control.

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