



### Naomi Halas

Guest Editor for this issue of *MRS Bulletin*

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She was a co-founder of Nanospectra Biosciences and a co-founder of Eureka Sun. She is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and a Fellow of the APS, OSA, IEEE, SPIE, MRS, and AAAS. She is a board member of the Optical Society of America, an advisor to the Mathematical and Physical Sciences Directorate of the National Science Foundation of the United States, and an associate editor of *Nano Letters*. She is the author of more than 250 refereed publications, has more than 15 issued patents, and has presented more than 400 invited talks.



### Martin Moskovits

Guest Editor for this issue of *MRS Bulletin*

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Moskovits is a professor of chemistry at the University of California, Santa Barbara, where he also served as the Susan and Bruce Worster Dean of Science from 2000 to 2007. From 2007 to 2010, he was Chief Technology Officer of API Technologies Corp. He also co-founded Spectra Fluidics, a startup company developing sensors based on SERS and microfluidics. His research spans various areas of nanoscience and nano-

technology, including the electronic and optical properties of nanoparticles and nanowires, plasmonics, and solar energy conversion. He has degrees in physics and chemistry from the University of Toronto, where he received his PhD in 1971.



### Martin Blaber

Northwestern University, Department of Chemistry, Evanston, IL, USA; tel. 847-467-4983; and email [m-blaber@northwestern.edu](mailto:m-blaber@northwestern.edu).

Blaber has been a postdoctoral research scholar in the Department of Chemistry at Northwestern University since 2010. He received a PhD degree from the Department of Physics and Advanced Materials at the University of Technology, Sydney in 2010. His research interests focus on simulations of novel metal nanostructures and alternative materials for plasmonics. He recently won the International Institute for Nanotechnology's Outstanding Researcher Award.



### María Fernanda Cardinal

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Cardinal received her degree in chemistry from the Universidad de Buenos Aires, Argentina, in 2005 and her PhD degree in physical chemistry from the Universidade de Vigo, Spain, in 2012 under the supervision of Professor Luis M. Liz-Marzán and Professor Jorge Pérez-Juste. In 2012, she joined the Van Duyne Group at Northwestern University as a postdoctoral fellow.

Her current research involves the synthesis and assembly of metal nanoparticles as substrates for surface-enhanced Raman spectroscopy and localized surface plasmon resonance sensing.

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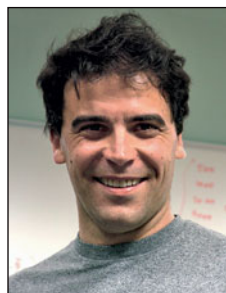


### Lev Chuntunov

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Chuntunov received his PhD degree from Technion-Israel Institute of Technology in 2009 with Professor Zohar Amitay, where he worked on coherent control of multiphoton excitation using shaped femtosecond pulses. During 2009–2012, he was a postdoctoral fellow at the Weizmann Institute of Science with Professor Gilad Haran, where he worked in the field of nanoplasmonics and single-molecule surface-enhanced Raman

scattering spectroscopy. He is currently a postdoctoral fellow at the University of Pennsylvania with Professor Robin M. Hochstrasser, studying the dynamics of structural change using multidimensional vibrational spectroscopy.



### Pablo G. Etchegoin

School of Chemical and Physical Sciences, MacDiarmid Institute for Advanced Materials and Nanotechnology, Victoria University of Wellington, New Zealand.

Etchegoin studied physics at the Balseiro Institute in Bariloche (Argentina) and obtained a PhD degree from the University of Stuttgart working at the Max-Planck-Institut für Festkörperforschung under Manuel Cardona's supervision. After a postdoctoral stay in Cambridge (UK) and academic positions in Centro Atómico Bariloche (Argentina) and Imperial College London, he moved in 2003

to the MacDiarmid Institute and Victoria University of Wellington in New Zealand, where he was appointed Professor of Nanotechnology in 2007 and became a Fellow of the Royal Society of New Zealand. His interests focused on Raman spectroscopy across his research career and on surface-enhanced Raman spectroscopy (SERS) over the last decade. Pablo passed away on April 29, 2013, following a three-year battle with pancreatic cancer. He will be remembered as a passionate and gifted scientist and a selfless, generous man by all of his friends, students, and colleagues.



### Renee R. Frontiera

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Frontiera received her BA degree in chemistry and Chinese linguistics from Carleton College in 2004. She carried out her PhD work with Professor Richard A. Mathies at the University of California–Berkeley, on the use of femtosecond-stimulated Raman spectroscopy to examine ultrafast vibrational dynamics and anharmonic couplings. She was a postdoctoral researcher with Professor Richard P. Van Duyne at Northwestern

University, developing new ultrafast plasmonic spectroscopies to monitor plasmonically enhanced reactions and examine molecule–plasmon coupling effects. She has recently joined the faculty at the University of Minnesota.



### Sanjiv Sam Gambhir

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Gambhir is the Virginia and D.K. Ludwig Professor of Cancer Research and the Chair of Radiology at Stanford University School of Medicine. He also heads the Canary Center at Stanford for Cancer Early Detection and directs the Molecular Imaging Program at Stanford. He received his MD/PhD degrees from the UCLA Medical Scientist Training Program. He has over 475 publications in the field and over 40 patents pending or granted. His lab's

work has been featured on the cover of over 20 journals. His work focuses on interrogating fundamental molecular/cellular events in living subjects. He is the recipient of numerous awards and honors and is a member of the Institute of Medicine of the US National Academies.


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Greeneltch recently completed his PhD degree in chemistry from the group of Professor Richard P. Van Duyne at Northwestern University. He earned his BS degree from the University of Central Florida in 2008. His research efforts focus on substrate fabrication and application development for surface-enhanced Raman spectroscopy (SERS). His current application

work includes using SERS for biosensing of sugars and forensic analysis of illicit drugs.


**Gilad Haran**

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Haran is currently the Dean of Chemistry at the Weizmann Institute of Science. He is a professor in the Department of Chemical Physics of the Institute and holds the Hilda Pomeranic Memorial Professorial Chair. He earned his PhD degree at the Weizmann Institute with Profs. Ephraim Katchalsky-Katzir and Elisha Haas. He was then a post-doctoral fellow with Professor Robin Hochstrasser at the University of Pennsylvania.

Haran's lab is using single-molecule spectroscopy to study a broad range of phenomena, from protein folding and association to molecular dynamics on metal surfaces and plasmonics.


**Jesse Jokerst**

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Jokerst is a postdoctoral research fellow in radiology at Stanford University. He earned his BS degree in chemistry from Truman State University (2003) and his PhD degree from the University of Texas, Austin (2009). He received a postdoctoral fellowship from the American Cancer Society (2012–2014), a postdoctoral fellowship from the Stanford Molecular Imaging Scholars Program (2009–2012), and served as an invited speaker at the Gordon Research

Seminar on Bioanalytical Sensors (2010).


**Samuel L. Kleinman**

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Kleinman received a BS degree in chemistry from the University of California, Berkeley. He received a PhD degree in physical chemistry from the laboratory of Richard P. Van Duyne at Northwestern University. His thesis research focused on structure–function relationships in single-molecule and single-nanoaggregate surface-enhanced Raman spectroscopy. His

interests include lithographic techniques for generating plasmonic nanostructures used in ultrasensitive detection platforms. He is currently a research scientist at Ondavia, Inc.


**Eric C. Le Ru**

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Le Ru studied physics at Ecole Polytechnique (Paris) and obtained a PhD degree in 2002, working at Imperial College London on semiconductor quantum dots for telecom applications. After a one-year postdoctoral position at Imperial College, he moved to New Zealand in 2004 as a postdoctoral fellow of the MacDiarmid

Institute. He is now an associate professor in physics at Victoria University. His research focuses on various aspects, both theoretical and experimental, of nano-photonics with a particular emphasis on surface-enhanced Raman spectroscopy.


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Pohling is a postdoctoral research fellow in Radiology at Stanford University. He earned his Vordiplom (2004) and Diplom (2007) degrees at Philipps–Universität Marburg/Lahn in Germany. He completed his PhD degree at Heidelberg University in 2012.


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Schatz is the Charles E. and Emma H. Morrison Professor of Chemistry and of Chemical and Biological Engineering at Northwestern University. He has a BS degree from Clarkson University and a PhD degree from Caltech. He was a post-doc at MIT, and has been at Northwestern since 1976. Schatz is a member of the National Academy of Sciences, the American Academy of Arts

and Sciences, and is editor-in-chief of the *Journal of Physical Chemistry*. He has broad interests in using theory to study fundamental issues in nanoscience.


**Bhavya Sharma**

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Sharma is currently a postdoctoral fellow with Professor Richard P. Van Duyne at Northwestern University. She received a BS degree in exercise science/athletic training with a minor in biology at SUNY Buffalo. She completed her PhD degree in chemistry in 2011 at the University of Pittsburgh under the guidance of Professor Sanford Asher. In her PhD research, she used

UV resonance Raman spectroscopy and excitation profiles to examine electronic transitions in peptides and proteins. Her research interests include biological applications of SERS and Raman spectroscopy, and Raman imaging.





**Richard P. Van Duyne**

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covery of surface-enhanced Raman spectroscopy, the invention of nanosphere lithography, and development of ultrasensitive nanosensors based on localized surface plasmon resonance spectroscopy.

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