WARRENDALE, PA – [December, 2016] – The Von Hippel Award, the Materials Research Society’s (MRS) highest honor, has been presented to Charles M. Lieber, Optoelectronics Group, Harvard University. Lieber was recognized “for pioneering contributions to nanoscience, defining the foundations of rational synthesis of nanoscale wires, characterization of their fundamental physical properties, and the development of applications of these materials in chemistry, biology and medicine.” The Von Hippel Award is conferred annually to an individual in recognition of the recipient's outstanding contribution to interdisciplinary research on materials, as exemplified by the life of Arthur von Hippel.

Lieber accepted the honor during the Awards Ceremony of the 2016 MRS Fall Meeting in Boston on November 30. There, he also presented his award lecture, Nanowires, Nanoelectronics and Revolutionary Tools for Brain Science.

Nanoscale materials enable unique opportunities at the interface between the physical and life sciences, for example, by integrating nanoelectronic devices with cells to communicate at the length scales relevant to biological function. In Lieber's award talk, the
development of electronics as powerful tools for probing the activity of single cells to cell networks of tissues was discussed. He introduced key constraints for developing electronic devices for biological studies, and the advances that have led to nanoelectronic probes capable of cellular studies, including intracellular measurements and biochemical targeting. He also presented an "out-of-the-box" approach for seamlessly merging nanoelectronic arrays with the brain using syringe-injectable polymer-like mesh electronics, including quantitative studies demonstrating unprecedented absence of tissue immune response and stable recording at the single neuron/neural circuit level for more than a year. Lastly, he outlined the prospects for broad-ranging applications in the life sciences—from basic research to electronic therapeutics—as the distinction between electronic and living systems is blurred in the future.

About Charles M. Lieber

Charles M. Lieber attended Franklin and Marshall College for his undergraduate education and graduated with honors in chemistry. After doctoral studies at Stanford University and postdoctoral research at the California Institute of Technology, he moved to the East Coast in 1987 to assume a position of assistant professor at Columbia University. There Lieber embarked upon a new research program addressing the synthesis and properties of low-dimensional materials. He moved to Harvard University in 1991 and now holds a joint appointment in the Department of Chemistry and Chemical Biology as the Mark Hyman Professor of Chemistry and the Harvard John A. Paulson School of Engineering and Applied Sciences. He also serves as the chair of the Department of Chemistry and Chemical Biology. At Harvard, Lieber has pioneered the synthesis of a broad range of nanoscale materials, the characterization of the unique physical properties of these materials and
the development of methods of hierarchical assembly of nanoscale wires, together with the demonstration of applications of these materials in nanoelectronics, nanocomputing, biological and chemical sensing, neurobiology and nanophotonics. Lieber has also developed and applied a new chemically sensitive microscopy for probing organic and biological materials at nanometer to molecular scales. His work has been recognized by a number of awards, including the MRS Von Hippel Award (2016); Remsen Award (2016); Nano Research Award, Tsinghua University Press/Springer (2013); IEEE Nanotechnology Pioneer Award (2013); Willard Gibbs Medal (2013); Wolf Prize in Chemistry (2012); Fred Kavli Distinguished Lectureship in Nanoscience (2010); Inorganic Nanoscience Award of the ACS Division of Inorganic Chemistry (2009); Einstein Award, Chinese Academy of Sciences (2008); NBIC Research Excellence Award, University of Pennsylvania (2007); Nanotech Briefs Nano 50 Award (2005); ACS Award in the Chemistry of Materials (2004); World Technology Award in Materials (2004 and 2003); Scientific American 50 Award in Nanotechnology and Molecular Electronics (2003); New York Intellectual Property Law Association Inventor of the Year (2003); APS McGroddy Prize for New Materials (2003); Harrison Howe Award, University of Rochester (2002); MRS Medal (2002); Feynman Prize in Nanotechnology (2001); NSF Creativity Award (1996); and ACS Award in Pure Chemistry (1992). Lieber is an elected member of the National Academy of Sciences and the American Academy of Arts and Sciences, Fellow of the Materials Research Society and American Chemical Society (Inaugural Class), Honorary Fellow of the Chinese Chemical Society, and member of the American Physical Society, Institute of Electrical and Electronics Engineers, International Society for Optical Engineering and American Association for the Advancement of Science. Lieber is co-editor of Nano Letters, and serves on the editorial and advisory boards of a large number of science and technology
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Lieber has published over 380 papers in peer-reviewed journals and is the principal inventor on more than 40 patents. In his spare time, Lieber has been active in commercializing nanotechnology, and has founded the nanotechnology companies: Nanosys, Inc. in 2001 and the new nanosensor company Vista Therapeutics in 2007.

Photo of Lieber available upon request at macbeth@mrs.org.

About the Materials Research Society

MRS is an international organization of almost 15,000 materials researchers from academia, industry and government, and a recognized leader in promoting the advancement of interdisciplinary materials research and technology to improve the quality of life. MRS members are engaged and enthusiastic professionals hailing from physics, chemistry, biology, mathematics and engineering—the full spectrum of materials research. Headquartered in Warrendale, Pennsylvania (USA), MRS membership now spans over 90 countries, with more than 46 percent of members residing outside the United States. In addition to its communications and publications portfolio, MRS organizes high-quality scientific meetings, attracting over 13,000 attendees annually and facilitating interactions among a wide range of experts from the cutting edge of the global materials community. MRS is also a recognized leader in education outreach and advocacy for scientific research. More information about the Materials Research Society can be found on its website, www.mrs.org.

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