2024

Louis E. Brus
Curriculum Vitae

Address:

Chemistry Department, MS 3125
Columbia University
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New York, N.Y., 10027
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Education:

BA in Chemical Physics (magna cum laude), Rice University 1965.
Navy ROTC student; commissioned into the United States Navy in 1965. Active Duty delayed for Graduate School.
PhD in Chemical Physics, Columbia University 1969. Advisor: Richard Bersohn

Professional Experience:

Lieutenant USN 1969-1973, at the U.S. Naval Research Laboratory, Washington DC
Research in the solid state and chemistry divisions as Scientific Staff Officer.
AT&T Bell Laboratories, Murray Hill, NJ. Member of Technical Staff 1973-1984.
Distinguished Member of Technical Staff 1984-1996.
Columbia University: Professor of Chemistry 1996-2001
Thomas Alva Edison Professor 2001-2004
Samuel Latham Mitchill Professor 2004-2018. Emeritus
Professor of Chemical Engineering and Applied Chemistry 1997-2018. Emeritus
Special Research Scientist. 2018-present
Scientific Head, Columbia NSF MRSEC Materials Research Center 1998-2008
Co-Director, Columbia DOE EFRC Energy Research Center 2009-2014
University of Paris VI (P. & M. Curie), Visiting Professor June 2002.

Awards and Honors:

NSF Predoctoral Fellow 1966-1969
U.S. Naval Research Laboratory Award for Best Paper in Chemistry (with J. R. McDonald, Jr.) 1973
Elected Fellow, American Physical Society 1980
Herman Bloch Award, "For Scientific Excellence in Industry", University of Chicago, 1995
Elected Fellow, American Academy of Arts and Sciences 1998
Irving Langmuir Prize in Chemical Physics, from the American Physical Society 2001
Elected to the U. S. National Academy of Sciences 2004
Chemistry of Materials Prize from the American Chemical Society 2005
R. W. Wood Prize from the Optical Society of America (with A. Ekimov and A. Efros) 2006
Inaugural Kavli Prize in Nanoscience (with S. Iijima) 2008
J. Willard Gibbs Medal from the American Chemical Society (Chicago Section) 2009
Elected foreign member of the Norwegian Academy of Science and Letters 2009
US National Academy of Sciences Prize in the Chemical Sciences 2010
R. T. Major Medal from Merck and University of Connecticut 2010
Distinguished Alumnus Award from Rice University 2010.
Peter Debye Award in Physical Chemistry from the American Chemical Society 2011
Bower Award and Prize for Achievement in Science from the Franklin Institute 2012
Welch Foundation Award in Chemistry 2013

Nobel Prize in Chemistry (with A. Ekimov and M. Bawendi) 2023

Lectureships:

Lecturer, Welch Foundation Symposium on "Valency", 1988
Hutchinson Memorial Lecturer, Rochester University, 1991
Lecturer, Nature Symposium on "Nanotechnology" in Tokyo, 1992
Kistiakowsky Memorial Lecturer, Harvard University, 1993
Rohm and Haas Lecturer, University of North Carolina, 1994
C. B. McDowell Lecturer, Univ. of British Columbia, 1994
Fairchild Lecturer, Lehigh University, 1994
Franklin Memorial Lecturer, Rice University, 1995
Lecturer, Welch Foundation Symposium on "Nanochemistry", 1995
A. R. Gordon Lecture Series, Univ. of Toronto, 1996
Kolthoff Lecture Series in Chemistry, Univ. of Minnesota, 1996.
Distinguished Visitor, JILA at University of Colorado, 1999.
Musulin Lecturer, Southern Illinois University, 1999.
H. Nation Lecturer, Georgia Inst. of Technology, 1999.
Riley Lecturer, Notre Dame University, 2001
Professor, 3ième Cycle Seminar in Physical Chemistry, Swiss Federal Universities, Sept. 2002
Pimentel Memorial Lecturer, University of California Berkeley, April 2003
Lane Lecturer, University of Illinois March 2004
ABB Distinguished Lecturer, RPI, October 2004
Hill Memorial Lecturer, Duke University, November 2004
Hascoe Distinguished Lecturer, University of Connecticut, December 2004
Barre Lectures, University of Montreal, May 2005
A. D. Little Lectures in Physical Chemistry, MIT, Sept 2005
Glucker Lecturer, Indiana University, April 2006
L. J. Bircher Memorial Lecturer, Vanderbilt University, March 2007
Eminent Scholar Lecture, University of Arizona, February 2008
Frontier of Science Lectures, Texas A&M, October 2008
Distinguished Visiting Scientist Lectures, University of Toronto, March 2009
Joshua Jortner Lectures, Tel Aviv University January 2010
J. T. Donald Lectures, McGill University March 2010
W. D. Harkins Lecture, University of Chicago May 2010
Plenary Lecture, AVS National Meeting, Albuquerque NM, October 2010
Molecular Foundry Distinguished Lectureship, Lawrence Berkeley Lab, February 2011
E. U. Condon Lecture, University of Colorado, March 2011
Cecil Brown Lecture, ACS North Jersey Section, October 2011
P. C. Cross Lecture, University of Washington, April 2012
Einstein Scholar of the Chinese Academy of Sciences, May 2012: Lectures at Peking University, the National Center for Nanoscience in Beijing, and the Suzhou Institute for Nanotechnology.
Keynote Speaker, Undergraduate Research Symposium of the ACS New York Section, May 2012
R. M. Noyes Lecture, Oregon University, February 2013
Institute for Advanced Science Distinguished Lecture, Hong Kong University of Science and Technology, July 2013
Rudy Marcus 90th Birthday Symposium Lecture, Nanyang Technical University, Singapore 2013
Edison Memorial Lecture, US Naval Research Laboratory, Washington DC, Sept. 2013
Max T. Rodgers Lectures, Michigan State University, October 2013
Appleton Lectures, Brown University, December 2013
Plenary Lecture, 30 Years Quantum Dots Conference, ESPCI ParisTech, Paris France, May 2014

Plenary Lecture, NaNaX6 Conference, Bad Hofgastein, Austria, May 2014
Invited Speaker, Science in Japan Forum, Washington DC, Oct 2014
Plenary Lecture, Frontier Workshop, Korean Academy Science & Technology, London, Oct 2014
W. Albert Noyes Jr. Lectures, Rochester University, March 2015
Keynote Speaker, IUPAC August 2015, Busan, Korea
Kaufman Lectures, University of Pittsburgh, October 2018
Plenary Lecture, NanoNeuro Online Conference, June 2020.

Professional Service:

American Chemical Society
- Editorial Board,
  - Journal of the American Chemical Society 1990-1996
  - Journal of Physical Chemistry 1990-1993, 2003-2006
  - Nano Letters 2000-2004
  - ACS Nano 2007-2015
  - Accounts of Chemical Research 2012-2017
- Alternate Councilor, Physical Chemistry Division, 1988-1991
- Bakeland Prize Committee 1991
- Nobel Signature Award Committee 1984-1987
- Petroleum Research Fund Advisory Board 2002-2003
- Langmuir Prize Committee 2004-2008
- Gibbs Medal Jury 2009-2015

American Physical Society
- Editorial Board: Journal of Chemical Physics 1988-1991
- McGroddy New Materials Prize Committee 2002-2004
- Langmuir Chemical Physics Prize Committee 2002

Department of Energy
- Committee of Visitors, Materials Science Division, Basic Energy Sciences 2015
- Brookhaven National Laboratory, Science &Technology Steering Committee 2009-2018
- NREL/Los Alamos EFRC, External Advisory Board 2010-2017
- DOE Chemical Sciences Council 2003-2006
- Lawrence Berkeley Laboratory, Materials Division Review 1991, 2000, 2010
- National Renewable Energy Laboratory NREL, Review Committee 1999
- Argonne National Laboratory, Chemical Sciences Review Committee 1990
- Pacific Northwest National Laboratory, External Review Committee 1997
- Study Panel on Research Opportunities in Clusters, Co-chairman.1987-1988

Gordon Research Conferences
- Board of Trustees, 1995-2000
- Vice-Chairman 1997, Chairman of the Board 1998

National Academy of Sciences/National Research Council
- NAS review of Physical Measurement Laboratory, JILA Boulder, 2018
- NAS Award in the Chemical Sciences, jury member 2018, 2019
- NAS Award for Scientific Discovery, Committee Chairman 2017, member 2021
- NAS Award for Initiatives in Research, Committee Chairman 2008
- NRC Chemical Sciences Roundtable 2007-2010
- NRC Panel on Benchmarking Chemistry Research Competitiveness 2006
- AFOSR Chemical Sciences Review Panel, 1992-1995
- NRC Committee on Future Opportunities in AMO Science 1991-1993
- NRC Panel on Chemistry in Shock Fronts 1983

Israel National Nanotechnology Initiative, Advisory Board Member 2007-2012
- This 6 person committee (4 Israeli and 2 US) organized and supervised the investment of

$225M in 6 Israeli universities over 5 years.

National Institutes of Health

Chairman, NCI Scientific Review Group on "Quantitative Cell Based Imaging" 2010

Harvard University

Tenure Committee (external member) 1991, 1998, 2006

Center for Imaging and Mesoscale Structures (CIMS) Review Committee 2001, 2017

Visiting Committee for Chemistry 2017

Editorial Board:

Chemical Physics Letters 1992-1995, 2004-2010

Nanostructured Materials 1992-1996

Annual Review of Physical Chemistry 1997-2001

Nano Research (Tsinghua Press and Springer) 2008-present

Canadian Federal Program Directorate, Chemical Physics Standing Committee 1989-1994

Rochester University,

NSF Center for Photoinduced Charge Transfer, External Review Committee, 1990.

Visiting Committee in Chemistry 2005

Rice University, Visiting Committee for Chemistry 1989, 1992, 2016.

UC Berkeley Molecular Design Institute, External Member 1995-1997

University of Toronto, Provost's External Review Committee 1999.

NSF Nanocenter at Rensselaer Polytechnic, Director's Advisory Committee 2002-2006

Dreyfus Foundation

Proposal Reviewer: 2008-2023.

Advisor: 2014-2022.

Ford Foundation, Consultant on Fellowships 2011

Nanosys Inc., Scientific Advisory Board 2001-2004

Francqui Prize in Exact Sciences (Belgium), Jury Member 2009

Blavatnik US National Chemistry Award, jury member 2017-2023

Samsung Research Foundation, proposal reviewer, 2015-2023

US Naval Research Laboratory, Washington DC, materials visiting committee 2018

University of Illinois NSF MRSEC Advisory Board 2018-2021

Research Publications 279 total. Hirsch h-index 120 with 84951 citations on Google Scholar.