

CHAD A. MIRKIN, PH.D.

Northwestern University, Department of Chemistry
2145 Sheridan Road, Evanston, IL 60208-3113

Phone: 847-491-2907 Fax: 847-467-5123 Email: chadnano@northwestern.edu

Education

- 1991 NSF Postdoctoral Fellow in Chemistry, Massachusetts Institute of Technology, Cambridge, MA
- 1989 Ph.D. in Inorganic & Organic Chemistry, The Pennsylvania State University, State College, PA
- 1986 B.S. in Chemistry (Phi Beta Kappa), Dickinson College, Carlisle, PA

Professional Experience

- 2008-present Director, International Institute for Nanotechnology; George B. Rathmann Professor of Chemistry, Medicine, Materials Science & Engineering, Biomedical Engineering, Chemical & Biological Engineering, Northwestern University
- 2004-2008 Director, International Institute for Nanotechnology; George B. Rathmann Professor of Chemistry, Medicine, and Materials Science & Engineering, Northwestern University
- 2000-2004 Director, Center for Nanofabrication and Molecular Self-Assembly and George B. Rathmann Professor of Chemistry, Northwestern University
- 1997-2000 Charles E. and Emma H. Morrison Professor of Chemistry, Northwestern University
- 1995-1997 Associate Professor, Department of Chemistry, Northwestern University
- 1991-1995 Assistant Professor, Department of Chemistry, Northwestern University

Awards and Honors (selected, over 230 national and international total)

- 2020 ACS Division of Colloid and Surface Science Award for Outstanding Achievement in Nanoscience; AAAS Philip Hauge Abelson Award
- 2019 Kabiller Prize in Nanoscience and Nanomedicine; SCI Perkin Medal; Netherlands Award for Supramolecular Chemistry; Yao Yuan Innovation Award; Harry and Carol Mosher Award (Silicon Valley Section of the American Chemical Society)
- 2018 Ralph N. Adams Award in Bioanalytical Chemistry; Friendship Award; *Nano Research* Award; Harrison Howe Award; Remsen Award - Johns Hopkins and Maryland Section of the American Chemical Society; Theodore William Richards Medal
- 2017 New York American Chemical Society Nichols Medal; Dickson Prize in Science; Wilhelm Exner Medal; ACS Fellow; Honorary Professor, Jiangnan University; Crain's Chicago Business Tech 50 2017; "10 Top 10s" Analytical Scientist Power List; Nano Today Award; Elected Foreign Member of the Chinese Academy of Sciences
- 2016 American Institute of Chemists Gold Medal; Thomson Reuters Highly Cited Researcher; Honorary Professor, Shanghai Institute of Applied Physics, Chinese Academy of Sciences; RUSNANOPRIZE; American Institute of Chemists Life Fellow; International Precious Metals Institute 2016 Student Advisor Award; Dan David Prize
- 2015 Royal Society of Chemistry (RSC) Centenary Prize; American Institute for Medical and Biological Engineering Fellow; Thomson Reuters Highly Cited Researcher; Raymond and Beverly Sackler Prize in Convergence Research
- 2014 Friends of the National Library of Medicine Distinguished Medical Science Award; Honorary Degree, Universidade Federal do Rio Grande do Sul; National Security Science and Engineering Fellowship (NSSEFF) Award; Thomson Reuters Highly Cited Researcher (2002-2012); ACS Nano Lectureship Award for the Americas; The Electrochemical Society's Vittorio deNora Award; Fellow of the Royal Society of Chemistry; Honorary Fellow of the Chinese Chemical Society

- 2013 Honorary Professor of ShanghaiTech University; National Academy of Inventors Fellow; Thomas Reuters Citation Laureate; Walston Chubb Award for Innovation; MRS Fellow; Honorary Member of the Materials Research Society of India (MRSI); Linus Pauling Award; RSC's "Chemistry World" Entrepreneur of the Year Award
- 2012 International Material Science Award, International Centre for Materials Science, Bangalore, India; Honorary Professor, Hunan University, China; Lee Kuan Yew Distinguished Visitor to Singapore; Honorary Degree, Nanyang Technological University, Singapore; ACS Award for Creative Invention
- 2011 Elected Member of the American Academy of Arts and Sciences; Van't Hoff Prize
- 2010 Elected Member of the Institute of Medicine, Elected Member of the National Academy of Sciences; Herman S. Bloch Award for Scientific Excellence in Industry, University of Chicago; Einstein Professorship of the Chinese Academy of Sciences (CAS); Ohio State University Edward Mack Jr. Memorial Award
- 2009 \$500,000 Lemelson-MIT Prize; Member, President's Council of Science & Technology (PCAST, Obama Administration); Elected Member of the National Academy of Engineering; Havinga Medal, Leiden University, the Netherlands; Thomson Reuters Most Cited Chemist in the World (#1); Gustavus John Esselen Award; Pittsburgh Analytical Chemistry Award
- 2008 Biomedical Engineering Society's Distinguished Achievement Award; National Security Science and Engineering Fellowship (NSSEFF) Award; ACS Inorganic Nanoscience Award
- 2007 iCON Innovator of the Year Award; Elected Alumni Fellow, Pennsylvania State University
- 2006 Elected into Phi Beta Kappa, Dickinson College
- 2005 Elected to the Board of Trustees, Dickinson College
- 2004 NIH Director's Pioneer Award; Collegiate Inventors Award, National Inventors Hall of Fame; Pennsylvania State University Outstanding Science Alumni Award; Dickinson College Honorary Degree
- 2003 Collegiate Inventors Award, National Inventors Hall of Fame; Raymond and Beverly Sackler Prize in the Physical Sciences, Tel Aviv University, Israel; Dickinson College Metzger-Conway Fellowship Award; ACS Nobel Laureate Signature Award for Graduate Education in Chemistry; The Forbes/Wolfe Nanotech Report, "Nanotechnology's Top 10 Power Brokers"
- 2002 Feynman Prize in Nanotechnology; Ceramographic Competition, American Ceramic Society 1st Place Entry; Esquire Magazine's "Best & Brightest in the Nation"
- 2001 Leo Hendrick Baekeland Award; Crain's Chicago Business "40 under 40 Award"
- 2000 Discover 2000 Award for Technological Innovation; Elected Fellow of the American Association for the Advancement of Science; I-Street Magazine's Top 5 List for Leading Academics in Technology
- 1999 Materials Research Society Young Investigator Award; ACS Award in Pure Chemistry
- 1998 PLU Fresenius Award; E. Bright Wilson Prize, Harvard University
- 1997 BF Goodrich Collegiate Inventors Award
- 1996-01 Camille Dreyfus Teacher-Scholar Award
- 1995-97 Alfred P. Sloan Foundation Award
- 1995-98 DuPont Young Professor Award
- 1994-97 Naval Young Investigator Award
- 1993-98 NSF Young Investigator Award
- 1992-94 Beckman Young Investigator Award
- 1991-96 Camille and Henry Dreyfus Foundation New Faculty Award
- 1989-91 National Science Foundation Postdoctoral Fellowship (MIT)
- 1986-89 Lubrizol Fellowship (PSU)

National Service (selected)

- Member of the President's Council of Advisors on Science and Technology (PCAST, Obama Administration).
- Technology Advisory Group Member of the President's Council of Advisors on Science and Technology (PCAST, Bush Administration).
- Co-chaired the world study on nanotechnology research directions for societal needs resulting in: *Nanotechnology Research Directions for Societal Needs in 2020: Retrospective and Outlook*, Boston and Berlin: Springer **2010**. Roco, M. C.; Mirkin, C. A.; Hersam, M. C., editors.
- Contributed a chapter in *Nanotechnology Research Directions for Societal Needs in 2020: Retrospective and Outlook*, Roco, M. C.; Mirkin, C. A.; Hersam, M. C., editors, Boston and Berlin: Springer **2010** -- Mirkin, C. A.; Nel, A.; and Thaxton, C. S. "Applications: Nanobiosystems, Medicine, and Health" pgs. 209-260.
- Contributed a chapter in *Nanotechnology Research Directions for Societal Needs in 2020: Retrospective and Outlook*, Roco, M. C.; Mirkin, C. A.; Hersam, M. C., editors, Boston and Berlin: Springer **2010** -- Mirkin, C. A.; Tuominen, M. "Synthesis, Processing, and Manufacturing of Components, Devices, and Systems," pgs. 61-98.
- Delegate at Asia-Pacific Economic Cooperation (APEC) 2011 Summit (Honolulu, HI), with 21 world leaders, including President Barack Obama and Secretary of State Hillary Rodham Clinton, and representatives from Fortune 500 companies.
- Spoke at APEC 2011 Summit, Honolulu, HI; "Game Changing Technology Redefining the Region" (2011) with President of Chile, Sebastian Piñera Echenique.
- Co-chaired the PCAST report titled, "Engage to Excel" focusing on teaching and engagement issues involving students who are in their first two years of undergraduate study at R-1, 2 and 4-year institutions, and community colleges.

Professional Organizations and Boards

PNAS Editorial Board Member; Honorary Advisory Board Member, Universal Scientific Education and Research Network; Gordon Research Conferences (GRC) Conference Evaluation Committee (CEC), Associate Editor - *Journal of the American Chemical Society*; American Chemical Society, American Association for the Advancement of Science, NSF Science and Technology Center for Superconductivity, Northwestern Center for Catalysis and Surface Science, Northwestern Materials Research Center, the Robert H. Lurie Cancer Center, the Nanotechnology Technical Advisory Group (nTAG), and the NSF/NIST/NIBIB Workshop: Enhancing Innovation and Competitiveness. Founding editor of *Small*, member of the Editorial Advisory Boards of *ACS Nano*, *Materials Horizons*, *Biosensors and Bioelectronics*, *Chemical Physics*, *Chemical Physics Letters*, *Journal of the American Chemical Society*, *Angewandte Chemie*, *Accounts of Chemical Research* (2003-2011), *Journal of Laboratory Automation*, *Nano Research*, *Advanced Materials*, *SENSORS*, *Encyclopedia of Nanoscience and Nanotechnology*, *Chemistry - A European Journal*, *Chemistry & Biology*, *Nanotechnology Law & Business*, *Journal of Materials Chemistry*, *Nanotech Briefs*, *Chemistry World* of the Royal Society of Chemistry, *Plasmonics*, *The Scientist*, *Journal of Scanning Probe Microscopy (JSPM)*, *Clinical Chemistry*, *Nano Today*, *International Journal of Electrochemical Science*, *Nanotechnology*, *Science*, and *Applications*, *Nano Research*, *Nanoscience and Nanotechnology* and *Beilstein Journal of Nanotechnology*. Homeland Security Innovation and Entrepreneurship Center (NU) 2005 – 2006.

Global Outreach

- Advisory Co-Director, Institute of Chemical Biology and Nanomedicine (ICBN), Hunan University, China (2013-2018)

- Chairman of the Advisory Committee, Nanyang Institute of Technology in Health and Medicine, Nanyang Technological University, Singapore (2013-2018)
- National University of Singapore Exxon Mobil Visiting Chair Professor, Department of Chemical and Biomolecular Engineering (2018-2019)

Publications: over 780 (over 70 in *Science* and *Nature*)

Patents and Patent Applications: over 1,200 filed worldwide (355 issued)

Distinguished Lectureships and Invited Seminars: over 740

Companies Founded: Nanosphere, Inc. (NASDAQ: NSPH; acquired by Luminex); AuraSense, LLC; Exicure, Inc. (Symbol: XCUR; formerly AuraSense Therapeutics, LLC); TERA-print, LLC; Azul 3D, Inc (formerly CDJ Technologies, Inc.)

Students Taught: over 270 graduate students and postdoctoral fellows and thousands of undergraduate students (over 110 alumni hold faculty positions at research institutions worldwide)