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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 250 national and international total)

- 2026 ACS Award in the Chemistry of Materials (ACS National Award); Harvey Prize
2025 J. Willard Gibbs Medal (Chicago Section of the ACS); Nadrian C. Seeman Nanoscience Prize from the International Society for Nanoscale Science, Computation and Engineering (ISNSCE)
2024 Guggenheim Fellowship; Kavli Prize in Nanoscience; Elected Member of the Norwegian Academy of Science and Letters
2023 Colloid and Surface Technology Award (ACS); Paul Terasaki Innovation Award; King Faisal Prize in Science (Chemistry); Honorary Degree – City University of Hong Kong
2022 MRS Medal; Faraday Medal (IET); STEM Leadership Award for Outstanding Entrepreneurial Innovation (CME); John P. McGovern Science and Society Award (Sigma Xi); International Precious Metals Institute (IPMI) Jun-ichiro Tanaka Distinguished Achievement Award; *Acta Biomaterialia* Gold Medal
2021 Royal Society of Chemistry (RSC) de Gennes Prize; G. M. Kosolapoff Award (Auburn Univ. and the Auburn American Chemical Society (ACS)); UNESCO-Equatorial Guinea International Prize for Research in Life Sciences

- 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 ACS)
- 2018 Ralph N. Adams Award in Bioanalytical Chemistry; *Nano Research* Award; Harrison Howe Award (Rochester ACS); Remsen Award (Johns Hopkins and Maryland Section of the ACS); Theodore William Richards Medal (Northeastern ACS)
- 2017 Nichols Medal (New York ACS); 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
- 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 (Israel)
- 2015 RSC Centenary Prize; American Institute for Medical and Biological Engineering Fellow; Thomson Reuters Highly Cited Researcher; NAS 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; Vannevar Bush Faculty Fellowship; Thomson Reuters Highly Cited Researcher (2002-2012); *ACS Nano* Lectureship Award for the Americas; The Electrochemical Society's Vittorio deNora Award; Fellow RSC; Honorary Fellow of the Chinese Chemical Society
- 2013 Honorary Professor of ShanghaiTech University; National Academy of Inventors Fellow; Thomas Reuters Citation Laureate (Nobel Watch); Walston Chubb Award for Innovation; MRS Fellow; Honorary Member of the Materials Research Society of India (MRSI); Linus Pauling Award (Puget Sound, Oregon, Portland ACS); 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 Member of the American Academy of Arts and Sciences; Van't Hoff Prize
- 2010 Member of the National Academy of Medicine, 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); 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; Vannevar Bush Faculty Fellowship; ACS Inorganic Nanoscience Award

2007 iCON Innovator of the Year Award; Elected Alumni Fellow, Pennsylvania State University

2006 Phi Beta Kappa, Dickinson College

2005 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

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; 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; 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 Camille Dreyfus Teacher-Scholar Award

1995 Alfred P. Sloan Foundation Award

1995 DuPont Young Professor Award

1994 Naval Young Investigator Award

1993 NSF Young Investigator Award

1992 Beckman Young Investigator Award

1991 Camille and Henry Dreyfus Foundation New Faculty Award

1989 National Science Foundation Postdoctoral Fellowship (MIT)

1986 Lubrizol Fellowship (PSU)

Center Leadership (selected)

- Director, Center for NanoCombinatorics (2021-present)
- Director, Convergence Science & Medicine Institute (CSMI) (2019-present)
- Director, Ronald and JoAnne Willens Center for Nano Oncology (2015-present)
- Director, Air Force Center of Excellence for Advanced Bioprogrammable Nanomaterials (C-ABN; 2015 – 2021)

- Director, NTU-Northwestern Institute for Nanomedicine (2014-2019)
- Director, Northwestern Center of Cancer Nanotechnology Excellence (2005-2021)
- Director, NSF Nanoscale Science and Engineering Center (2001-2012)

Global Outreach (selected)

- Kavli Prize Selection Committee, Nanoscience (2025-present)
- Advisory Board Member, *Polymers Advanced Technologies* (2025-present)
- Entrepreneurship Advisor, New Venture Board, NanoPalm Ltd (2024-present)
- Scientific Advisory Board, Digital Medicine & Artificial Intelligence Translational Research Program (WISDM), Yong Loo Lin School of Medicine, National University of Singapore (2022-present)
- Exxon Mobil Visiting Chair Professor, National University of Singapore, Department of Chemical and Biomolecular Engineering (2018-2019)
- Scientific Advisory Board, Institute for Basic Science Center for NanoMedicine, Yonsei University (2017-present)
- 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)
- Advisor to the President of Nanyang Technological University (2009-2017)

National Service (selected)

- Juror, 2025 Blavatnik National Awards
- Member of the President's Council of Advisors on Science and Technology (PCAST, Obama Administration; 2008-2016)
- Technology Advisory Group Member of the President's Council of Advisors on Science and Technology (PCAST, Bush Administration)
- Nanotechnology Technical Advisory Group (nTAG)
- Science and Technology Experts Group (ISTEG), administered by the National Academies of Sciences, Engineering, and Medicine (2017-present)
- Delegate at Asia-Pacific Economic Cooperation (APEC) 2011 Summit (Honolulu, HI), with 21 world leaders including President Barack Obama, Secretary of State Hillary Rodham Clinton and representatives from Fortune 500 companies.
- Speaker, APEC 2011 Summit, Honolulu, HI; "Game Changing Technology Redefining the Region" (2011) with President of Chile, Sebastian Piñera Echenique

- Member of the Temporary Nominating Group (TNG) of the National Academy of Sciences (NAS), responsible for ensuring equal representation in the NAS by facilitating the election of eight diverse candidates (2011-2017).
- Testimony before the U.S. Senate Committee on Commerce, Science, and Transportation, July 14, 2011
- Member, ACS Presidential Commission on Graduate Education in the Chemical Sciences, which produced the report, “Advancing Graduate Education in the Chemical Sciences”
- 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.
- Co-Chair, 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 & 4-year institutions, and community colleges.

Editorial Activities (selected)

- Member Editor, *Proceedings of the National Academy of Sciences* (2012-2021)
- Editorial Board Member, *Proceedings of the National Academy of Sciences* (2018-2024)
- Associate Editor, *Journal of the American Chemical Society* (2012-2021)
- Founding Editor, *Small*
- Member of the Editorial Advisory Boards of over 30 scholarly journals: (e.g., *Nano Letters*, *ACS Nano*, *Journal of the American Chemical Society*, *Angewandte Chemie*, *Accounts of Chemical Research*, *Advanced Materials*, *Journal of Materials Chemistry*)

Conference Organization and Professional Leadership (selected)

- BioEngineering at Moffitt External Advisory Board (2023-present)
- International Organizing Committee, PACIFICHEM 2025 (2022-present)
- International Organizing Committee, PACIFICHEM 2020 (2016-2021)
- Gordon Research Conferences (GRC) Conference Evaluation Committee (CEC) (2016-2021)

- Gordon Research conferences Board of Trustees (2024-present)

Publications: over 930 (over 95 in *Science* and *Nature*)

Patents and Patent Applications: over 1,420 filed worldwide (over 450 issued)

Distinguished Lectureships and Invited Seminars: over 960

Companies Founded (selected): Nanosphere; TERA-print; Azul 3D; Mattiq; Flashpoint Therapeutics

Students Taught: over 360 graduate students and postdoctoral fellows and thousands of undergraduate students (over 160 alumni hold faculty positions at research institutions worldwide)