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Education

Ph.D. Polymer Science & Engineering, University of Massachusetts, Amherst, MA
June 1984

M.S. Polymer Science & Engineering, University of Massachusetts, Amherst, MA
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B.S. Materials Science & Engineering, Cornell University, Ithaca, NY
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Employment Experience

10/2021 to present	**Associate Dean for Research**, A. James Clark School of Engineering **Professor,** Dept. of Materials Science and Engineering University of Maryland, College Park, MD
4/2020 to 9/2021	**Interim Dean**, A. James Clark School of Engineering **Professor,** Dept. of Materials Science and Engineering University of Maryland, College Park, MD
7/2015 to 4/2020	**Associate Dean for Research**, A. James Clark School of Engineering **Professor,** Dept. of Materials Science and Engineering University of Maryland, College Park, MD
7/2003 to 6/2015	**Professor and Chair**, Department of Materials Science and Eng. University of Maryland, College Park, MD
7/1997 to 7/2003	**Associate Professor**, Department of Materials and Nuclear Eng., University of Maryland, College Park, MD
1/1992 to 6/1997	**Assistant Professor**, Department of Materials and Nuclear Eng., University of Maryland, College Park, MD
6/1986 to 1/1992	**Research Scientist** in the Institute for Materials Science & Engineering, Polymers Division, National Institute of Standards and Technology, Gaithersburg, MD
6/1984 to	**National Research Council Postdoctoral Fellow** at the National Bureau

6/1986 of Standards, Gaithersburg, MD

9/1979 to 6/1984 **Graduate Research Assistant**, Department of Polymer Science & Engineering, University of Massachusetts, Amherst, MA

Summer 1979 **Summer Research Associate**, B.F. Goodrich Co., Brecksville, OH.

Summer 1978 **Materials Research Laboratory Summer Fellowship**, University of Massachusetts, Amherst, MA.

Publications

As of 04/2024 Web of Science: Total Number of Citations: ~5050 h-index: 40
Google Scholar: Total Number of Citations: ~7100 h-index: 44
Web of Science ResearcherID: A-3588-2012

Books Edited

1. "Morphological Control of Multiphase Polymer Mixtures", edited by R.M. Briber, C.C. Han and D.G. Peiffer, MRS Symposium Proceedings Series, volume 461, Fall 1996 meeting, Boston, MA ISBN: 1-55899-365-7

Book Chapters

superscript key: *: students under my direction; †: students not under my direction but with whom I worked closely; ‡: post-docs under my direction or with whom I worked closely; all other authors: collaborators.

5. R.M. Briber, "Linear Chains in Networks", article for the *Encyclopedia of Materials: Science and Technology*, Edited by K.H. Jurgen, R.W. Cahn, M.C. Flemings, B. Ilschner, E.J. Kramer and S. Mahajan, 2001, p. 7227-7231 published by Elsevier Science Ltd., ISBN: 0-08-0431526

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2. B.J. Bauer, R.M. Briber, B. Dickens, "Studies of Grafted Interpenetrating Polymer Networks", Interpenetrating Polymer Networks, Advances in Chemistry Series 239, D. Klempner, L.H. Sperling, L.A. Utracki, editors, American Chemical Society, 179-204, 1995

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Articles in Refereed Journals

superscript key: *: students under my direction or co-direction; †: students not under my direction but with whom I worked closely; ‡: post-docs or researchers under my direction or with whom I worked closely; all other authors: collaborators.

127. Peihua Ma, Xiaoxue Jia, Xin Zhang‡, Yue Li, Yiyang He, Tangyuan Li, Christine Wu, Yong Hoon Joo, Seong-Ho Lee, Taotao Meng, Alexandra H. Brozena, Stephanie Li, Qin Wang, Cheng-I Wei, Robert M. Briber, Yimin Mao‡, Liangbing Hu, "Ion-chelated porous chitosan nanocrystal for highly efficient postharvest preservation", *Matter*, **2024**, 7(7), 2567-2580, DOI: 10.1016/j.matt.2024.06.004

126. Yimin Mao‡, Peihua Ma, Tangyuan Li, He Liu, Xinpeng Zhao, Shufeng Liu, Xiaoxue Jia, Shaik O. Rahaman, Xizheng Wang, Minhua Zhao, Gang Chen, Hua Xie, Alexandra H. Brozena, Bin Zhou, Yaguang Luo, Rodrigo Tarté, Cheng-I Wei, Qin Wang, Robert M. Briber, Liangbing Hu, "Flash Heating Process for Efficient Meat Preservation", *Nature Communications*, **2024**, 15, 3893, DOI: 10.1038/s41467-024-47967-1

125. Shuaishuai Chena, Jiajun Feng, Feng Jiang‡, Robert M. Briber, Howard Wang, Facile preparation of near-monodisperse oligocellulose and its elastomeric derivatives with tunable mechanical properties, *Carbohydrate Polymers*, **2023**, 324, 21493-21493, DOI: 10.1016/j.carbpol.2023.121493

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121. Feng Jiang‡, Zhiqiang Wang, Xin Zhang‡, Doug Henderson*, Wonseok Hwang‡, Robert Briber, Howard Wang, "Synergistically Tailoring Mechanical and Optical Properties of Di-Block Copolymer Thermoplastic Elastomers via Lanthanide Coordination", *Chemistry of Materials*, **2022**, 34(4), 1578-1589, DOI: 10.1021/acs.chemmater.1c03264

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Mounesha Garaga, Yue Qi, Steven G. Greenbaum, Robert M. Briber, Yushan Yan, Liangbing Hu, "A high-performance hydroxide exchange membrane enabled by Cu2+-crosslinked chitosan", *Nature Nanotechnology*, **2022** 17, 6, 629 DOI 10.1038/s41565-022-01112-5

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7. M.A. Schen, R.M. Briber, J. Cline, "X-ray Analysis of a Liquid Crystal Phase Diacetylene Polymerization", *Proceedings of the American Chemical Society, Polymer Preprints*, 32, 290(1990)

6. R.M. Briber, "Microanalysis and Electron Energy Loss Spectroscopy of Polymers", *Proceedings of the Annual Meeting of the Electron Microscope Society of America*, 1987

5. R.M. Briber, "Electron Microscopy of Polymer Blends", *Proceedings of the Annual Meeting of the Electron Microscope Society of America*, 1987

4. B.J. Bauer, R.M. Briber, C.C. Han, "Small Angle Neutron Scattering Studies of Single Phase Interpenetrating Polymer Networks", *Proceedings of the American Chemical Society*, *Polymer Preprints*, 28(2), 169(1987)

3. R.M. Briber, F. Khoury, "The Phase Diagram and Morphology of Blends of PVF_2 and PEA, *Proceedings of the American Chemical Society, Polymer Preprints*, 26(2), 310(1985)

2. R.M. Briber, "The Identification and Characterization of Two Crystal Forms in MDI/BDO Based Polyurethanes by STEM, TEM and Microdiffraction", *Proceedings of the Electron Microscope Society of America*, 1982, p. 674, Presidential Scholarship Award Winning Paper

1. A.L. Chang, R.M. Briber, E.L. Thomas, "Morphological Studies of PPO-EO/MDI/BDO Based Segmented Urethanes", *Proceedings of the American Chemical Society, Polymer Preprints*, 22(2), 301(1980)

Invited Talks

- NIST, SURF Seminar, June 2018
- University of Massachusetts, Department of Polymer Science and Engineering, February 2016
- University of Delaware, Department of Materials Science and Engineering, October 2014
- Montgomery County CC, Germantown, MD November 2013
- 2013 NIST SURF Seminar Series, NIST, Gaithersburg, MD June 2013
- University of Connecticut, Department of Materials Science and Engineering February 2013
- Carnegie Mellon University, Institute of Materials Science and Engineering March 2013
- University of Maryland Distinguished Scholar-Teacher Lecture November 2012
- ACS National Meeting, San Diego, CA March 2012
- Naval Research Lab, Washington, DC October 2011
- 2011 NIST SURF Seminar Series, NIST, Gaithersburg, MD June 2011
- Joint Institute for Neutron Scattering Workshop, Oak Ridge National Lab, ORNL, May 2011
- GaTech MSE Department Seminar, Atlanta, GA November 2010
- Symposium Honoring Dr. F. Khoury, Univ. Akron, Akron, OH September 2010

- 2010 NIST SURF Seminar Series, NIST, Gaithersburg, MD June 2010
- Annual Meeting of the American Crystallographic Association, Knoxville, TN June 2008
- Plenary Talk, American Conference on Neutron Scattering, Santa Fe, NM May 2008
- NIST/Japan Workshop, NIST, Gaithersburg, MD, December 2007
- Materials Research Society, Boston, MA, November 2007
- National Institutes of Health, NICHD/NIH, Bethesda, MD, October 2006
- International Conference on Small Angle Scattering, Kyoto, Japan, July 2006
- International Conference on Neutron Scattering, Sydney, Australia, November 2005
- Advanced Photon Source Colloquium, Argonne National Lab, October 2005
- Small Angle Scattering Workshop, Army Research Lab, Aberdeen, MD, July 2005
- The Alan Lawley Seminar, Department of Materials Science and Engineering, Drexel University, January 2005
- NIST/University of Maryland Joint Symposium on Biotechnology, College Park, MD October 2004
- American Conference on Neutron Scattering, College Park, MD June 2004
- Princeton University, Department of Chemical Engineering, Princeton, NJ November 2003
- Naval Research Laboratory, Workshop on National User Facilities, Washington, DC October 2003
- NC State University, Department of Chemical Engineering, Raleigh, NC, January 2002
- American Chemical Society Local Chapter, North Carolina Polymer Group Raleigh, NC, January 2002
- Materials Research Society, Boston, Massachusetts, November 2001
- American Chemical Society, Chicago, IL, August 2002
- Advanced Metallization Conference Workshop, Montreal, Canada, September 2001
- IUPAC Macro2000, Warsaw, Poland, July 2000
- Virginia Tech, Dept. of Materials Science and Eng., Blacksburg, VA, March 2000
- Army Research Lab, Aberdeen, MD April 1999
- Institute for Physical Sciences, University of Maryland, December 1998
- National Academy of Sciences/National Research Council Committee on Developing a Federal Materials Facilities Strategy, Irvine CA, November 1998
- Howard University, Department of Chemistry, Washington, DC October 1998
- American Chemical Society Meeting in Nashville, TN September 1998
- NIST Center for Neutron Research Gaithersburg, MD, Short Course on Applications of Cold Neutrons, June 1998
- Materials Research Society Meeting, San Francisco, CA, March 1997
- Department of Chemical Engineering, Columbia University, New York, NY, September 1996
- Cold Neutron Research Facility, NIST, Gaithersburg, MD, Short Course on Applications of Cold Neutrons, June 1996
- University of Delaware, Department of Chemical Engineering, Newark, DE April 1996
- IBM Almaden Research Center, San Jose, CA February 1996
- Cold Neutron Research Facility, NIST, Gaithersburg, MD, Short Course on Applications of Cold Neutrons, August 1995
- American Physical Society, San Jose, CA March 1995
- Army Office of Research, Dendrimer Technology Workshop Research Triangle, North Carolina March 1995

- Materials Research Society, Boston, MA, November 1994
- Intense Pulsed Neutron Source, Argonne National Lab, Argonne, IL September 1994
- Exxon Research and Engineering, Annadale, NJ May 1994
- Reactor Radiation Division, National Institute of Standards and Technology, Gaithersburg, MD April 1994
- Chemical Physics Program, University of Maryland, College Park, MD January 1994
- Chemical Engineering Department, University of Maryland, College Park, MD February 1994
- Sandia National Laboratory, Albuquerque, NM September 1993
- Du Pont, Central Research, Wilmington, DE, October 1992
- American Chemical Society, Washington, D.C., August 1992
- NSF/CNRS U.S. France Workshop on High Performance Polymers, Annecy, France, June 1992
- American Chemical Society, San Francisco, CA, April 1992
- Queens College, Department of Physics, Flushing, NY, February 1992
- North Carolina State University, Department of Materials Science and Engineering, Raleigh, NC, April 1991
- American Physical Society, Cincinnati, OH, March 1991
- Polymer Science Society of Japan, Nagoya, Japan, October 1990
- Cornell University, Department of Materials Science and Engineering, October 1990.
- Materials Research Society Meeting, Boston, MA, December 1989
- University of Chicago, James Franck Institute Colloquium, Chicago, IL, October 1989
- The Goodyear Tire and Rubber Company, Akron, OH, May 1989 Polymers West Gordon Research Conference, Ventura, CA, January 1989
- University of Illinois, Department of Materials Science and Engineering, Urbana Champaign, IL, September 1988
- Northwestern University, Department of Materials Science and Engineering, Evanston, IL, May 1988
- Electron Microscope Society of America, Annual Meeting, Baltimore, MD, August 1987
- Polymers West Gordon Research Conference, Santa Barbara, CA, January 1986
- American Chemical Society, Chicago, IL, September 1985
- Eastman Kodak Company, Rochester, NY, May 1985
- Electron Microscopy Workshop on Polymers, Sponsored by the Univ. of Mass. and JEOL USA, Boston, MA, June 1985
- Case Western Reserve University, Department of Macromolecular Science, Cleveland OH, May 1985
- Brown University, Department of Engineering, Providence RI, April 1985
- University of Minnesota, Department of Chemical Engineering and Materials Science, Minneapolis, MN, February 1985
- The Johns Hopkins University, Department of Materials Science, Baltimore, MD, February 1985
- Du Pont, Central Research, Wilmington, DE, November 1984
- Princeton University, Department of Chemical Engineering, Princeton, NJ, November 1984
- Rutgers University, Department of Mechanics and Materials Engineering, New Brunswick, NJ, October 1984

Contributed Talks

Approximately 2-3 contributed talks per year at national and international meetings.

Patents and Patent Applications

superscript key: *: students under my direction; †: students not under my direction but with whom I worked closely; ‡: postdocs or researchers under my direction or with whom I worked closely; all other authors: collaborators.

"Ion-Conducting Structures, Devices including Ion-Conducting Structures, and Methods for use and Fabrication Thereof"
Inventors: Liangbing Hu, Tian Li, Chunpeng Yang, Xin Zhang‡, Robert M. Briber, Meiling Wu,
Assignee University of Maryland
Patent No.: US 11901505B2
Date of Patent: Feb. 13, 2024

"High-Performance Hydroxide Exchange Membrane"
Inventors: Liangbing Hu, Meiling Wu, Xin Zhang‡, Robert M. Briber
Assignee University of Maryland
United States Patent Application Publication Pub. No.: US20230317997A1
Pub Date: Oct. 5, 2023
Patent Pending

"Antimicrobial Materials, and Systems and Methods for Fabrication and Use Thereof"
Inventors: Liangbing Hu, Qian Ji, William Bentley, Kayla Chun, Yimin Mao‡, Robert M. Briber, Jiaqi Dai
Assignee University of Maryland
United States Patent Application Publication Pub. No. WO2024107790A1
Pub Date: May 23, 2024

"Nanoparticle Array with Tunable Nanoparticle Size and Separation"
Inventors: Woonjoo Lee*, Seung Yong Lee, Oded Rabin, Robert M. Briber, Xin Zhang‡
Assignee University of Maryland
Patent No.: US 9279759 B2
Date of Patent: March 8, 2016

Entrepreneurial Activities

Co-founded with Professors Chunsheng Wang and Liangbing Hu the start-up company WH-Power (wh-power.com) to develop advanced batteries

Fellowships, Prizes and Awards

Neutron Scattering Society of America Award for Exceptional Service, 2006, 2018
Neutron Scattering Society of America, Fellow (elected 2014)
University of Maryland Distinguished Scholar-Teacher AY2012-13
American Physical Society, Fellow (elected 1995)
Department of Commerce Bronze Medal for "Contributions to the Understanding of Crosslinked Polymer Blends", December 1990
Electron Microscope Society of America Presidential Student Scholarship, 1982

Editorships, Editorial Boards, and Reviewing Activities for Journals

Editorial Board Member, *Emergent Materials* (10/2018 to present)
The journal *Emergent Materials* is a multidisciplinary peer-reviewed journal published by Springer, which publishes reviews, mini reviews, communications, progress reports, research news and original research articles at the forefront of physics, chemistry, biology, and engineering of advanced materials.

Editor, *Journal of Polymer Science –Polymer Physics Edition* (1/99-01/07)
The *Journal of Polymer Science –Polymer Physics Edition* is one of the top 3 archival polymer The Journal of Polymer Science –Polymer Physics Edition published by Wiley-Interscience is one of the top refereed journals for publication of research results in polymer science.

Reviewer for the archival journals: *Macromolecules, Nature, Carbohydrate Polymers, Cellulose, Physical Review Letters, Science*, *Journal of Chemical Physics*, *Polymer*, *Polymer Engineering and Science*. Typically I review about 10 papers per year for these journals.

Conferences Organized

Co-Organizer, *Neutrons for the Future*, October 2023, Rockville MD. This was a 3-day workshop with about 200 participants

Co-Organizer, *13th international Polarized Neutrons for Condensed-Matter Investigations (PNCMI)*, July 2022, Annapolis, MD. This is a 4-day workshop with about 100 participants

Co-Organizer, *8th Design and Engineering of Neutron Instruments Meeting (DENIM VIII)* Bethesda, Maryland, September 2019. This is a 4-day workshop with about 100 participants

Co-Organizer, ASEE Engineering Research Council Annual Meeting, 2017, 2018, 2019, 2023, 2024 in Washington DC, March each year. This is an annual workshop organized by the Board of Directors of the ASEE Engineering Research Council with about 100 participants

Co-Organizer, *American Conference on Neutron Scattering*, College Park, MD, June 2018. This is an international conference with about 400 participants

Co-Organizer, *19th Mid-Atlantic Soft Matter Workshop* at the University of Maryland, February 2018. This is 1-day workshop with about 100 participants

Co-Organizer, *ASEE Engineering Research Council Annual Meeting*, Arlington, VA, March 2018. This is a 3-day meeting for Engineering Research Deans with about 100 participants

Co-Organizer, *International Workshop on Sample Environment at Scattering Facilities* in Gettysburg, PA, September 2016, Organizing Committee, This is a 4-day workshop with about 80 participants

15th Mid-Atlantic Soft Matter Workshop at the University of Maryland, July 2015. 1-day workshop with about 100 participants

University of Maryland / NIST Center for Neutron Research *Workshop on Neutron Measurements for Materials Design and Characterization* in Potomac, MD, August 2014. This is 2-day workshop with 100 participants

University of Maryland / NIST Center for Neutron Research Neutron Day at the University of Maryland, October 2014. This is ½-day workshop with about 100 participants held

9th Mid-Atlantic Soft Matter Workshop at the University of Maryland, July 2012. This is a 1-day workshop with about 100 participants

International Organizing Committee, *9th meeting of the Ionizing Radiation and Polymers Symposium*, (IRaP 2010) at the University of Maryland, October 2010

International Advisory Committee, *International Conference on Neutron Scattering*, Knoxville, TN May 2009

General Chair, *American Conference on Neutron Scattering,* College Park, MD June 2004. This is an international conference with about 500 participants.

First American Conference on Neutron Scattering, Knoxville, TN, June 2002. This is an international conference which had ~400 participants. It was the inaugural conference and it is now run every two years.

Soft Materials and Structural Biology Breakout Session at the SNS Users Meeting, May 2000, Washington, DC

SNS LWTS Polymers, Colloids & Biology Workshop, April 2000 at University of Maryland, College Park, MD

Morphological Control of Multiphase Polymer Mixtures, MRS Fall 1996 meeting, Boston, MA

Session Chair at 2-3 conferences per year, typically APS, ACS, MRS and Gordon Conferences

Professional Elected Offices

Member of the ASEE Engineering Research Council Board of Directors 2017-2020 & 2022-2024
Neutron Scattering Society of America, President 2002-2005
Neutron Scattering Society of America, Vice President 1999-2002
Member-at-Large to the Executive Committee of the Division of Polymer Physics, American Physical Society, 1999-2002

Professional Memberships

American Physical Society (Fellow of the APS)
Neutron Scattering Society of America (Fellow of the NSSA)
Materials Research Society
American Chemical Society
Biophysical Society

American Society for Engineering Education

Professional Committee Memberships

- ASEE Engineering Research Council Board of Directors
- Review of the Instrument Suite for SANS/Reflectometry at the Spallation Neutron Source (SNS) and High Flux Isotope Reactor (HFIR) January 2017
- DOE BESAC Subcommittee on Facility Upgrades April 2016
- NIST Center for Neutron Research Program Advisory Committee, member 2014-2017
- DOE-BES Review Panel at the LBNL Materials Science Division 2014
- Oak Ridge National Lab Neutron Scattering Science Review Committee Member 2007 to 2014
- DOE UTenn/ORNL EPSCoR Review Committee 11/2009
- NIST Center for Neutron Research Program Advisory Committee, member 1999 to 2004
- University of Chicago Review Committee for the Intense Pulsed Neutron Source at Argonne National Laboratory 1997, 1999, 2001
- Large Length Scales Working Group, Spallation Neutron Source, Oak Ridge National Lab, Dept. of Energy, November 1998
- Basic Energy Science Advisory Committee Review of the High Flux Isotope Reactor at Oak Ridge National Lab, October 1998
- Scheduling Committee, American Physical Society, Division of High Polymer Physics March Meeting, 1994-1998
- Los Alamos -Argonne National Laboratory Pulsed Neutron Source Program Advisory Committee 1993-1997 (Chair 1996-97)
- Society of Plastics Engineers (SPE) Research Award Committee, 1994-1997
- American Physical Society Division of High Polymer Physics Nominations Committee
- NASA Microgravity Research Review Panel for Polymers, 1995, 1997