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EDUCATION

- Ph.D. Condensed Matter Physics - Kansas State University (1999)
- M.S. Inorganic Chemistry - Kansas State University (1999)
- M.S. Condensed Matter Physics - Shanghai JiaoTong University (1994)
- B.S. Applied Physics (Major) - Shanghai JiaoTong University (1991)
- B.S. Telecommunication Engineering (Minor) - Shanghai JiaoTong University, (1991)

PROFESSIONAL APPOINTMENT

- 2011-current Joint Staff and Case Fellow, James Franck Institute, University of Chicago,
- 2006-current Scientist, Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL
- 2002- 2006 Assistant Scientist, Materials Science Division, Chemistry Division and Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL.
- 2000-2002 Postdoctoral Fellow - The James Franck Institute, University of Chicago.

SELECTED PUBLICATIONS

1. Gang Wan, Guanghui Zhang, Xiao-Min Lin, Toward Efficient Carbon and Water Cycles: Emerging Opportunities with Single-Site Catalysts Made of 3d Transition Metals, *Adv. Mater.* 32, 1905548, (2020).
2. Jonghun Lee, Zhang Jiang, Alec R. Sandy, Suresh Narayanan and Xiao-Min Lin Unraveling the Role of Order-to-Disorder Transition in Shear Thickening Suspensions, *Phys. Rev. Lett.*, 120, 028002, (2018).
3. Jun Tian, Dali Yang, Jianguo Wen, Alexander S. Filatov, Yuzi Liu, Aiwen Lei, Xiao-Min Lin, Stable Rhodium Single-Atom Catalyst Encapsulated within Dendritic Mesoporous Nanochannels, *Nanoscale*, 10,1047-1055, (2018).
4. Jiangwei Wen, Kun Wu, Dali Yang, Jun Tian, Zhiyuan Huang, Alexander S. Filatov, Aiwen Lei, and Xiao-Min Lin, Low-Pressure Flow Chemistry of CuAAC Click Reaction Catalyzed by Nanoporous AuCu Membrane, *ACS Appl. Mater. Inter.* 10 (31), 25930–25935 (2018).
5. Zhang Jiang, Jinbo He, Sanket A. Deshmukh, Pongsakorn Kanjanaboos, Daniel, S. Bolintineanu, Gary Grest, Subramanian K.R.S. Sankaranarayanan, Jin Wang, Heinrich Jaeger, Xiao-Min Lin, Sub-Nanometer Ligand Shell Asymmetry Leads to Janus-like Membranes. *Nature Materials*, 14, 912-917, (2015).
6. Edward Barry, Sean P. McBride, Heinrich M. Jaeger, Xiao-Min Lin, Ion Transport Controlled by Nanoparticle Functionalized Membranes, *Nature Communications*, 5, 5847 (2014).
7. Yi Liu, Chengjun Sun, Trudy Bolin, Michael Sternberg, Shouheng Sun, Xiao-Min Lin, Kinetic Pathway of Palladium Nanoparticle Sulfidation Process at High Temperatures, *Nano Lett.*, 13, 4893-4901 (2013).
8. Jinbo He, Xiao-Min Lin, Henry Chan, Lela Vukovic, Petr Kral, Heinrich Jaeger, Diffusion and Filtration Properties of Self-assembled Gold Nanocrystal Membranes, *Nano Letts.*, 11, 2430-2435, (2011).
9. Zhang Jiang, Xiao-Min Lin, Michael Sprung, Suresh Narayanan, Jin Wang, Capturing the crystalline phase of two-dimensional nanocrystal superlattices in action, *Nano Lett.* 10, 799, (2010).

10. Klara E. Mueggenburg, Xiao-Min Lin, Rodney H. Goldsmith, Heinrich M. Jaeger, Elastic Properties of Close-packed, Free-standing Nanoparticles Arrays, *Nature Materials*, 6, 656-660, (2007).
11. Terry .P. Bigioni, Xiao-Min Lin, Toan T. Nguyen, Eric I. Corwin, Thomas A. Witten, Heinrich M. Jaeger, Kinetically-Driven Self Assembly of Highly-Ordered Nanoparticle Monolayers, *Nature Materials*,5, 265, (2006).
12. Anna.C.S. Samia, Kylee Hyzee, John Schlueter, Chang-Jin Qin, J. Samuel Jiang, Samuel D. Bader, Xiao-Min Lin, Ligand Effect on the Growth and the Digestion of Co Nanocrystals. *J. Am. Chem. Soc. (Communications)*127 (12): 4126, (2005).
13. Suresh Narayanan, Jin Wang, Xiao-Min Lin, Dynamical Self-assembly of Nanocrystal Superlattices during Colloidal Droplet Evaporation by in situ Small Angle X-ray Scattering, *Phys. Rev. Lett.* 93, 135503, (2004).

PATENTS:

- US Patent 11,027,260: "Low Pressure Nanowire Membrane Catalyzed Chemical Reaction, Xiao-Min Lin, Jiangwei Wen, Kun Wu, Jun Tian, filed on February 13, 2019, Granted on June 15, 2021.
- US Patent, 11,020,711 "Nanoscale membrane for removing trace organic contaminants in a fluid and methods of making and using the same" Xiao-Min Lin, Kun Wu, and Subramanian Sankaranarayanan, filed on Sep 30, 2018, Granted on June 1, 2021,
- WO2015195650A1, US Provisional Application on June 16, 2014, with Christopher Sorensen, Stefan Bossmann, Emily McLaurin, Jessica Changstrom, Pablo Coll, Jeffrey Powell, Hongwang Wang, Asanka Yapa, Raghavender Siramdas "Direct Dissolution of Bulk Materials to Nanoparticles" WO2015195650 A1
- US Provisional Patent 20140246384 A1, Heinrich Jaeger, Jinbo He, Xiao-Min Lin, Nanoparticle-based Desalination and Filtration System, Nov 14, 2012.
- US Patent 7251040, Single metal nanoparticle scattering interferometer, issued on July 31, 2007.

SYNERGISTIC ACTIVITIES:

- Reviewer for the following professional journals: *Nature*, *Nature Nanotechnology*, *Phys. Rev. Lett.*, *Appl. Phys. Lett.*; *J. Appl. Phys.*; *J. Am. Chem. Soc.*; *J. Phys. Chem. C.*; *J. Vacu. Soc.*; *J. Mag. Mater.*; *Nano Lett.*; *J. Colloid. Inter. Sci.*; *Nanotechnology*.
- Invited panel reviewer for NSF DMREF Metals & Metallic Nanostructure Proposal Call, June 4-5, 2014. DMREF represents the NSF component of the US Materials Genome Initiative
- Lead-organizer for Symposium Joint NSRC Workshop on Nanoparticle Science, Argonne National Laboratory, November 5-6, 2012.
- Co-organizer for Symposium "Evaporative Self-Assembly of Polymers, Nanoparticles, and DNA", Materials Science Society 2010 spring meeting.
- Co-organizer for Symposium "Low-dimensional materials – synthesis, assembly, property scaling and modeling", Materials Science Society 2007 Spring meeting.
- Co-organizer for Workshop "Synthesis and Self-Assembly of Nanomaterials", 2007 User meeting, Center for Nanoscale Materials, Argonne.

RECENT COLLABORATIONS

- Jeff Guest, Subramanian Sankaranarayanan, Suresh Narayanan, Wei Chen, Jin Wang, Zhang Jiang, Elena Shevchenko, Jianguo Wen, Richard Schaller, Argonne National Lab, U.S.A.
- Heinrich M. Jaeger, University of Chicago, U.S.A.
- Aiwen Lei, Wuhan University, P.R. China
- Christopher M. Sorensen, Stephan H. Bossmann, Emily McLaurin Kansas State University, U.S.A.