

ZHEWEN YIN

Looking for Materials/Mechanical Engineering Positions.

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EXPERIENCE

Postdoctoral Researcher & Graduate Research Assistant

NM3L Laboratory, University of South Florida

Aug 2018 - Ongoing Tampa, FL

- Primary research areas include the manufacturing, engineering, and optic/electronic applications of two-dimensional materials.
- Collaborated with groups from the University of Toronto, University of Illinois, and Clemson University, completing projects including microplastics tracking in water systems, self-assembly of gold nanoparticles, etc.
- Three international/U.S. patents on the manufacturing methods of nanomaterials are published or under review.
- Mentored six undergraduate and graduate students, with the output of oral/poster presentations and publications.

Chief Technology Consultant

Lingjing Haptics (Beijing) Technology Co., Ltd.

Sep 2021 - Aug 2022 Beijing

- Led a team in the development of haptic gloves based on liquid-crystalline elastomer; published four related patents.
- Assisted in obtaining financing of over 2,000,000 RMB.

PROJECTS

Scalable Nanomanufacturing of 2D Nanoribbons

Oct 2023 - Ongoing

- Pioneered a mechanical fracture method to achieve the scalable assembly of nanoribbons from diverse 2D materials with uniform width and spacing under ambient conditions (International Patent #WO2025015336A1). This technique provides a pathway for mass-producing next-generation nano-electronics.

Strain engineering of two dimensional materials

Aug 2019 - Dec 2024

- Revealed directionally resolved strain-coupled phononic properties of monolayer MoTe₂ via in situ Raman spectroscopy, estimated the corresponding Grüneisen parameters.
- Implemented a self-assembly method to align Au nanoparticles of various sizes with templates designed from instability-driven, deformed 2D nanomaterials.
- Developed a mechanical fracture method for scalable assembly of nanoribbons with uniform width/spacing and Ångström-precision edges under ambient conditions.

Haptic gloves based on liquid-crystalline elastomer

Sep 2021 - Aug 2022

- Optimized the synthesis of liquid-crystalline elastomer films and fibers, realizing a reversible deformation of 50% within 2s.
- Designed and built a driving mode to achieve fast heating and cooling of the LCE films under low voltage (~7V).

EDUCATION

Ph.D. in Mechanical Engineering

University of South Florida

Aug 2018 - May 2025

Tampa, FL

Advisor: Michael Cai Wang

M.S. in Materials Science and Engineering

University of South Florida

Aug 2016 - Jun 2018

Tampa, FL

Advisor: Venkat R. Bhethanabotla

B.S. in Nuclear Science and Technology

University of Science and Technology of China

Aug 2012 - Jun 2016

Hefei, China

PUBLICATIONS

- Directionally-Resolved Phononic Properties of Monolayer 2D Molybdenum Ditelluride(MoTe₂) under Uniaxial Elastic Strain
 Zhewen Yin, Michael Cai Wang, et al.
 Nano Letters 2023
- Large Scale Self-assembly of Plasmonic Nanoparticles on Deformed Graphene Templates
 Matthew T. Gole*, **Zhewen Yin***, Michael Cai Wang*, et al.
 Scientific Reports 2021
- Effects of Hydrodynamics on the Cross Sectional Distribution and Transport of Plastic in an Urban Coastal River
 Charlotte J. Haberstroh, Mauricio E. Arias, **Zhewen Yin**, Michael Cai Wang.
 Water Environment Research 2020
- Engineering Surface and Morphology of La/WO₃ for Electrochemical Oxygen Reduction
 Swetha Ramani, **Zhewen Yin**, Bradley Miller, Venkat R Bhethanabotla, John N Kuhn.
 CrystEngComm 2020

SKILLS

Tools:	SEM/TEM	E-beam litho	EDS
	Photolitho	RIE	Raman
	AFM	Profiler	XRD
	Ion chromatography	Laser cutter	3D print
Softwares:	MATLAB	Kllayout	Chromeleon
	ImageJ	KnowItAll	Gwyddion
	MDI Jade	AutoCAD	SolidWorks
			Origin

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			Origin