

# 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 MoTe<sub>2</sub> 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(MoTe<sub>2</sub>) 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/WO<sub>3</sub> 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

FTIR

UV-Vis

AFM

Profiler

XRD

MBE

CVD/PVD

Ion chromatography

Laser cutter

3D print

### Softwares:

MATLAB

Klayout

Chromeleon

ImageJ

KnowItAll

Gwyddion

ANSYS

MDI Jade

AutoCAD

SolidWorks

Origin