Stanford

Zhiye Li

Research Engineer

Civil and Environmental Engineering

Bio

BIO

Dr. Li is a research engineer in Civil and Environmental Engineering at Stanford University in the field of data-driven innovation and multiscale modeling on climate-resilient and sustainable civil infrastructures. She is also a researcher at the John A. Blume Earthquake Engineering Center at Stanford University and the Stanford Center at the Incheon Global Campus (SCIGC). Her interdisciplinary research integrates multiphysics model, machine learning, life cycle assessment and material innovation to accelerate the global net-zero transition. Within civil engineering, her research focuses on developing new building materials and building practices for more sustainable built environments. She researched at Hopkins Extreme Materials Institute and completed her Ph.D. in Civil Engineering at Johns Hopkins University.

ACADEMIC APPOINTMENTS

- Research Engineer, Civil and Environmental Engineering

LINKS

- Google Scholar: https://scholar.google.com/citations?hl=en&user=AX41v2cAAAAJ
- Stanford Center at the Incheon Global Campus (SCIGC): https://korea.stanford.edu/
- Lepech Research Group Site: https://lepech.sites.stanford.edu/
- Blume Earthquake Engineering Center: https://blume.stanford.edu/
- Stanford News: https://news.stanford.edu/2023/07/18/reusing-plastic-waste-infrastructure/
- social media news: https://www.fastcompany.com/90933072/the-roads-of-the-future-could-be-paved-with-plastic
- social media news: https://www.designboom.com/technology/stanford-engineers-plastic-waste-infrastructure-roads-buildings-08-07-2023/

Publications

PUBLICATIONS

- **Durability and life-cycle implications of repurposing plastic waste in infrastructure: a case study** *Recycled Plastics in Infrastructure: Current Practices, Understanding, and Opportunities*
  Li, Z., Lepech, M. D.
  The National Academies Press.2023: 285-326

- **Net irreversible synergistic effects of environmental deterioration on fatigue and flexure properties of fiber reinforcement composite: A homogenization based model** *COMPOSITES PART B-ENGINEERING*
  Li, Z., Bosse, A. W., Lepech, M. D.
  2022; 246

- **Development of a multiphysics model of synergistic effects between environmental exposure and damage in woven glass fiber reinforced polymeric composites** *COMPOSITE STRUCTURES*
  Li, Z., Lepech, M. D., Furmanski, J.

2021; 258

- **Micromechanics modeling and homogenization of glass fiber reinforced polymer composites subject to synergistic deterioration** *COMPOSITES SCIENCE AND TECHNOLOGY*
  Li, Z., Furmanski, J., Lepech, M. D.
  2021; 203

- **CHARACTERIZATION AND MODELING OF HOW ENVIRONMENTAL AGING AFFECTS FATIGUE DAMAGE EVOLUTION IN FIBER REINFORCED POLYMERIC COMPOSITES**
  Li, Z., Lepech, M., ASME
  AMER SOC MECHANICAL ENGINEERS.2021

- **A Multiphysics Model of Synergistic Environmental Exposure-Assisted Damage of Composite Using Homogenization-Based Degradation Variables**
  Li, Z., Lepech, M., Minerals, M.
  SPRINGER INTERNATIONAL PUBLISHING AG.2021: 711-721

- **Micromechanics modeling and validation of thermal-mechanical damage in DER353 epoxy/borosilicate glass composite subject to high strain rate deformation** *INTERNATIONAL JOURNAL OF IMPACT ENGINEERING*
  Li, Z., Ghosh, S.
  2020; 136

- **Environmental Accelerated Deterioration Modeling of Large Glass Fiber-Reinforced Polymer Composite Structures/Systems**
  Li, Z., Lepech, M., Minerals, M.
  SPRINGER INTERNATIONAL PUBLISHING AG.2020: 1391-1399