

## Dr. Jiayi Cui

DoB: March 5<sup>th</sup>, 1980  
PoB: Xiangzhou, China  
Nationality: China  
Marital Status: married, one son

### Education and Research Experience

09/2015-present, INM - Leibniz Institute for New Materials, Saarbrücken, Germany

**Head** of the Independent Junior Research Group Switchable Microfluidics

12/2012-06/2015, Harvard University, USA

**Postdoc researcher fellow** in the Biomineralization and Biomimetics Lab  
(Prof. Joanna Aizenberg)

10/2010-12/2012, Max-Planck Institute for Polymer Research, Mainz, Germany

**Postdoc researcher fellow** in Dynamic Biointerfaces Lab  
(Prof. Aránzazu del Campo)

09/2008-06/2010, Peking University, China

**Postdoc researcher fellow** with Prof. Xinhua Wan

09/2003-06/2008, Peking University, China

**Ph. D.** in *Polymer Chemistry and Physics*  
Advisor: Prof. Xinhua Wan

09/1999-06/2003, Sun Yat-sen University, China

**Bachelor** in *Chemistry of Materials*

### Research interests

1. **Dynamic soft materials:** hydrogel and elastomer etc., develop novel bio-inspired materials by combining dynamic polymer materials and bio-inspired strategies;
2. **Switchable microfluidics:** the fabrication of microfluidic devices by smart materials;
3. **Switchable surfaces:** develop switchable surface with dynamic polymer materials.

### Selected Peer-Reviewed Journal Publications

1. Yu, M.; Zhang, P.; Krishnan, B. P.; Wang, H.; Gao, Y.; Chen, S.; Zeng, R.; **Cui, J.\***; Chen, J.\*, From a Molecular Toolbox to a Toolbox for Photoswitchable Fluorescent Polymeric Nanoparticles. **Adv. Funct. Mater.** 2018, Online, 1804759.
2. Zhao, H.; Sun, Q.; Deng, X.\*; **Cui, J.\***, Earthworm-inspired rough polymer coatings with self-replenishing lubrication for adaptive friction-reduction and antifouling surfaces. **Adv. Mater.** 2018, 30, 1802141.
3. Ye, X.; **Cui, J.#**; Li, B.; Li, N.; Zhang, J.; Wan, X.\*, Self-Reporting Inhibitors: A Single Crystallization Process To Obtain Two Optically Pure Enantiomers. **Angew. Chem., Int. Ed.** 2018, 57, 8120-8124.

4. Xiong, X.; Xue, L.; **Cui, J.\*** Phototriggered Growth and Detachment of Polymer Brushes with Wavelength Selectivity. **ACS Macro Letters** 2018, 7, 239.
5. Ye, X.; Zhang, J.; **Cui, J.\***; Wan, X.\*, Thermo-responsive Recoverable Polymeric Inhibitor for the Resolution of Racemic Amino Acid. **Chem. Commun.** 2018, 54, 2785.
6. Zheng, Y.; Liu, X.; Xu, J.; Zhao, H.; Xiong, X.; Hou, X.; **Cui, J.\***, Thermoresponsive Mobile Interfaces with Switchable Wettability, Optical Properties, and Penetrability. **ACS Applied Materials & Interfaces** 2017, 9, 35483.
7. Zhao, H.; Xu, J.; Prieto-López, L. O.; Jing, G. Deng, X. \*, **Cui, J.\***, Controlling the localization of liquid droplets in polymer matrices by evaporative lithography. **Angew. Chem. Int. Ed.** 2016, 55, 10861.
8. Jeon, I.; **Cui, J.\***; Illeperuma, W. R.K.; Aizenberg, J.; Vlassak, J. J. \*, Extremely Stretchable and Fast Self-Healing Hydrogel. **Adv. Mater.** 2016, 28, 4678.
9. **Cui, J.**; Daniel, D.; Grinthal, A.; Lin, K.; Aizenberg, J. \*, Dynamic Polymer Systems with Self-Regulated Secretion for the Control of Surface Properties and Material Healing. **Nat. Mater.** 2015, 14, 790-795.
10. **Cui, J.**; Gropeanu, R. A.; Stevens, D. R.; Rettig, J.; del Campo, A. \*, New Photolabile BAPTA-Based Ca<sup>2+</sup> Cages with Improved Photorelease. **J. Am. Chem. Soc.** 2012, 134, 7733-7740.

(\* corresponding author, # co-first author)

### **Patent**

1. Aizenberg, J.; Aizenberg, M.; Cui, J.; Dunn, S.; Hatton, B.; Howell, C.; Kim, P.; Wong, T. S.; Yao, X. Slippery self-lubricating polymer surfaces. **PCT Int. Appl.**, 2014, WO2014012080A1.
2. Li, L.; Aizenberg, J.; Cui, J.; Weaver, J. C. Bio-inspired tough glass hybrid materials comprising polymeric adhesives. WO2016196040A1, 2016

### **Selected Award**

2009 Peking University Outstanding Postdoc Award

### **Scientific Services**

- Reviewer for scientific journals such as Angewandte Chemie, Advanced Materials, Advanced Functional Materials, ChemSuschem, Small, Macromolecules, Scientific Reports, Journal of Materials Chemistry A, etc.;
- Organizer of 2018 MRS Spring Symposium “Smart Hydrogels and Living Materials” in Phoenix, USA.