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**Position Title:** Assistant Professor  
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Education:	Degree and Area of Study	Institution Name	Degree Date
	Ph.D. in Physical Chemistry	Ohio University	Jun. 2010
	M.S. in Inorganic Chemistry	University of Science and Technology of China	Jun. 2006
	B.S. in Applied Chemistry	Inner Mongolia University	Jun. 2002

**Research:**

- Liquid crystalline polymer and elastomers
- Novel carbon nanomaterials for biomedical and energy applications
- Soft materials for tissue engineering applications
- Soft Robotics

**Teaching:** Physical Chemistry, Physical Chemistry Labs, Advanced Analytical Chemistry, General Chemistry Labs

**Academic Services:** serve as the peer-reviewer for 22 scientific research journals including

Materials Science and Engineering Field: [Advanced Materials]; [Advanced Science]; [Nanocomposites]; [Materials Chemistry and Physics]; [Nanomaterials and Nanotechnology]; [Journal of Nanoparticle Research]; [Materials]; [AIMS Materials Science]; [Crystals]; [Journal of Biomaterial Applications]; [Bioengineering]; [Artificial Cells, Nanomedicine and Biotechnology]

Polymer, Elastomer, and Chemistry Field: [Polymers]; [Reactive Functional Polymers]; [Microchimica Acta]; [Polymer Bulletin]; [Journal of Applied Polymer Science]; [Macromolecular Bioscience]; [Chemistry Select]; [Macromolecular Research]; [International Journal of Molecular Science]; [Journal of Applied Electrochemistry]

## On the News:

**Source 1:** Chinese Academy of Sciences official news release

*Contents:* Being reported as the leading and idea contributor for a research breakthrough in room temperature polymerization of carbon nanotubes and their processing to make strengthened foams and fibers.

Link: [http://english.cas.ac.cn/newsroom/research\\_news/201612/t20161205\\_171639.shtml](http://english.cas.ac.cn/newsroom/research_news/201612/t20161205_171639.shtml)

**Source 2:** Netherlands intelligent innovation-tracking company DATENNA

Link: <https://www.datenna.com/industry/progress-in-carbon-nanotube-research/>

## Patent

*Biocompatible smart responsive scaffold having interconnected pores*

WO2015095768, Jun. 06, 2015

Yunxiang Gao, Elda Hegmann and Torsten Hegmann

## Publications:

Yunxiang Gao, *Carbon nano-allotrope/magnetic nanoparticle hybrid nanomaterials as T2 contrast agents for magnetic resonance imaging applications*. **Journal of Functional Biomaterials**, 9(1), 16, (2018)

M.E. Prévôt *et. al.*, Yunxiang Gao *et. al.*, E. Hegmann, *New developments in 3D liquid crystal elastomers scaffolds for tissue engineering: from physical template to responsive substrate*. **Proceedings of SPIE** (10361), 103610T, (2017)

M.E. Prévôt *et. al.*, Yunxiang Gao *et. al.*, E. Hegmann, *Synthesis of biocompatible liquid crystal elastomer foams as cell scaffolds for 3D spatial cell cultures*. **Journal of Visualized Experiments** (122), e55452 (2017)

Yunxiang Gao, Hongwei Chen & Liwei Chen *Direct intertube cross-linking of carbon nanotubes at room temperature*. **Nano Letters** 16 (10), 6541–6547 (2016)

Yunxiang Gao *et al.*, *Biocompatible 3D liquid crystal elastomer cell scaffolds and foams with primary and secondary porous architecture*. **ACS Macro Letters**, 5, 4–9 (2016)

Anshul Sharma *et. al.*, Yunxiang Gao *et. al.*, Torsten Hegmann, Elda Hegmann *Biocompatible, biodegradable and porous liquid crystal elastomer scaffolds for spatial cell cultures*. **Macromolecular Bioscience** 15(2), 200–214 (2015)

Yunxiang Gao , Elda Hegmann and Torsten Hegmann, *Biocompatible smart responsive (elastomer) scaffold having interconnected pores*, WO2015095768, Jun. 06, **2015** (Patent)

Mei Zhang, Yunxiang Gao, Kevin Caja, Bocheng Zhao and Julian Kim *Non-viral nanoparticle delivers small interfering RNA to macrophages in vitro and in vivo*. **PLoS One** Mar 23;10(3): e0118472 (2015)

(Co-First Author) Lu Yan, Yunxiang Gao, Ryan Pierce, Liming Dai, Julian Kim, Mei Zhang *Development of Y-shaped peptide for constructing nanoparticle systems targeting tumor-associated macrophages in vitro and in vivo*. **Material Research Express** 1, 025007/1. (2014)

Enoch Nagelli, Rajesh Naik, Yuhua Xu, Yunxiang Gao, Mei Zhang, Liming Dai. *Sensor arrays from multicomponent micropatterned nanoparticles and graphene*. **Nanotechnology** 24, 444010/1 (2013)

Ido Braslavsky *et. al.* *Microfluidic experiments reveal that antifreeze proteins bound to ice crystals suffice to prevent their growth*. **Proceedings of the National Academy of Sciences** 110(4), 1309–1314 (2013)  
(Acknowledged Contribution: Training, supervising and consultation for BioMEMS design and fabrication)

Jun Liu , Yuhua Xue , Yunxiang Gao , Dingshan Yu , Michael Durstock , and Liming Dai *Hole and electron extraction layers based on graphene oxide derivatives for high-performance bulk heterojunction solar cells*. **Advanced Materials** 24, 2227 (2012)

Yunxiang Gao and Liwei Chen *Versatile control of multiphase laminar flow for in-channel microfabrication*. **Lab on a Chip** 8, 1695-1699 (2008).

Yunxiang Gao, S.H. Yu, X.H. Guo, *Double hydrophilic block copolymer controlled growth and self-assembly of CaCO<sub>3</sub> multilayered structures at air/water interface*. **Langmuir** 22(14), 6125-6129 (2006)

Yunxiang Gao, S.H. Yu, H. Cong, J. Jiang, An-Wu Xu, W. F. Dong, H. Cölfen *Block copolymer controlled growth of CaCO<sub>3</sub> microrings*. **Journal of Physical Chemistry B** 110(13), 6432-6436 (2006)