

Yang Lu

PhD Candidate interested in post-doc position in functional polymeric materials

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| Education | B.S. in Polymer Materials and Engineering
South China University of Technology, Guangdong, CN | Jul 2014 |
| | Ph.D. in Chemical Engineering
Lamar University, Texas, USA
Advisor: Asst. Prof. Evan K. Wujcik | Aug 2014-
Dec 2016 |
| | M.S. in Chemical and Biomolecular Engineering
The University of Alabama, Alabama, USA
Advisor: Asst. Prof. Evan K. Wujcik | Dec 2016-
Dec 2018 |
| | Ph.D. in Chemical and Biomolecular Engineering
The University of Alabama, Alabama, USA
Advisor: Asst. Prof. Evan K. Wujcik | Dec 2016-
present |
1. **Y Lu**, ZQ Liu, HM Yan, P You, ME Barkey, SR Tang, XF Wang, JW Jeon,* EK Wujcik.* “Ultra-stretchable Strain Sensor based on Homogenous Conductive Polymer Composite with Excellent Linearity and Self-healing Ability” *Advanced Materials*, submitted.
 2. **Y Lu**,† GQ Yu†, († Equal Contribution), X Wei, CX Zhan, JW Jeon, XF Wang, C Jeffryes, ZH Guo, SY Wei, EK Wujcik.* “Fabric/Multi-Walled Carbon Nanotube Ultra-Portable Sensor for Portable On-Site Copper Detection in Water” *Microchimica Acta*, submitted.
 3. **Y Lu**, MC Biswas, C Patton, JW Jeon,* ZH Guo, EK Wujcik.* “Recent Developments in Bio-monitoring via Advanced Polymer Nanocomposite-based Wearable Strain Sensors” *Biosensors and Bioelectronics*, 2018.
 4. Y Ma*, ML Ma, XQ Yin, Q Shao, N Lu, YN Feng, **Y Lu**, EK Wujcik, XM Mai*, C Wang*, ZH Guo,* “Tuning polyaniline nanostructures via end group substitutions and their morphology dependent electrochemical performances” *Composites Part B: Engineering*: 2018, 156: 128-135.
 5. B Song*, TT Wang, L Wang, H Liu, XM Mai*, XJ Wang, N Wang, YD Huang, Y Ma*, **Y Lu**, EK Wujcik, ZH Guo,* “Interfacially reinforced carbon fiber/epoxy composite laminates via in-situ synthesized graphitic carbon nitride (g-C₃N₄)” *Composites Part B: Engineering*: 2018, 158: 259-268.
 6. S Aceto, **Y Lu**, R Narayanan, D Hesket, EK Wujcik, A Bose,* “Hexagonally patterned mixed surfactant-templated room temperature synthesis of titania–lead selenide nanocomposites” *Advanced Composites and Hybrid Materials*: 2018, 1 (2): 389-396.
 7. GQ Yu, **Y Lu**, J Guo, L Doan, M Patel, XF Wang, B Qiu, SY Wei,* ZH Guo* and EK Wujcik.* “Modification and use of nanocarbon adsorbents for heavy metal removal from water.” *Advanced Composites and Hybrid Materials*: 2018, 1 (1): 56-78.
 8. CX Zhan†, GQ Yu†, **Y Lu**† († Equal Contribution), LY Wang, EK Wujcik, and SY Wei.* “Conductive Polymer Nanocomposites: A Critical Review of Modern Advanced Devices.” *Journal of Materials Chemistry C*, 2017, 5 (7): 1569-1585.

9. K Kharel, R Gangineni, L Ware, **Y Lu**, EK Wujcik, S Wei, OG Sen.* “*Dehydrogenation properties of ammonia borane–polyacrylamide nanofiber hydrogen storage composites.*” *Journal of Materials Science*, 2017, 52: 4894.
10. **Y Lu**, JN Huang, GQ Yu, R Cardenas, EK Wujcik,* SY Wei,* and ZH Guo.* “*Coaxial electrospun fibers: applications in drug delivery and tissue engineering.*” *Wires Nanomedicine and Nanobiotechnology*, 2016, 8 (5): 654-677. (Selected as COVER)
11. J Sharma, M Lizu, M Stewart, K Zygula, **Y Lu**, R Chauhan, X Yan, ZH Guo,* EK Wujcik,* SY Wei.* “*Multifunctional Nanofibers towards Active Biomedical Therapeutics.*” *Polymers*, 2014, 7(2): 186-219.
12. TF Lin, SW Ma, **Y Lu**, BC Guo*, "New Design of Shape Memory Polymers based on Natural Rubber via Novel Crosslinking Chemistry" *ACS Appl. Mater. Interfaces*, 2014, 6 (8): 5695–5703

Patents

1. *Ultra-stretchable Strain Sensor based on Homogenous Conductive Polymer Composite with Excellent Linearity and Self-healing Ability*, US Patent Pending, 2018.

Grant Writing Experience

1. *Electrospun Polymer-based Visible Colorimetric Sensor for Selective and Sensitive On-Site Determination of Polycyclic Aromatics Hydrocarbons in Aquatic Ecosystems*, NSF proposal submitted, **Co-PI**, 2018.

Book Chapters

1. **Y Lu***, L Doan, A Bafana, G Yu, C Jeffryes, T Benson, SY Wei, EK Wujcik*.
“*Chapter 6: Multifunctional Nanocomposite Sensors for Environmental Monitoring.*” *Polymer-Based Multifunctional Nanocomposites and Their Applications*: Springer, Netherlands, 2018.

Professional Conference Presentations

1. **Y Lu**, EK. Wujcik*. “Highly Stretchable, Sensitive, and Self-Healable Wearable Strain Sensor Based on an Elastomeric Hierarchical Conductive Nanofiber Network.” Presentation at *American Institute of Chemical Engineers Annual Meeting*, Pittsburgh, PA, Oct 30, 2018.
2. **Y Lu**, EK. Wujcik*. “Chromium Removal from Water Via Composite Nanofibers.” Presentation at *American Institute of Chemical Engineers Annual Meeting*, Pittsburgh, PA, Oct 30, 2018.
3. **Y Lu**, EK. Wujcik*. “Nanocomposite Ultra-Portable Sensor for on-Site Copper Detection in Water.” Presentation at *American Institute of Chemical Engineers Annual Meeting*, Pittsburgh, PA, Oct 29, 2018.
4. **Y Lu**, EK. Wujcik*. “Advanced Nanomaterials for Bio-monitoring.” Presentation at *28th Anniversary World Congress on Biosensors*, Miami, FL, Jun 14, 2018.
5. EK. Wujcik*, **Y Lu**. “Advanced Nanomaterials for Bio-monitoring.” Presentation at *IEEE Southeast Conference*, Charlotte, NC, Apr 1, 2018.

6. **Y Lu**, EK. Wujcik,* and SY Wei.* “Sustainable Anticorrosive Self-Healing Smart Coatings for Metal Protection.” Presentation at *American Institute of Chemical Engineers Annual Meeting*, San Francisco, CA, Nov 17, 2016.
7. **Y Lu**, EK. Wujcik,* and ZH Guo.* “Electrospun Nanocarbon Fibers for the Chromium Removal in Water.” Presentation at *American Institute of Chemical Engineers Annual Meeting*, San Francisco, CA, Nov 15, 2016.
8. **Y Lu**, EK. Wujcik,* “Cellulose acetate/TiO₂-Au nanocomposite reverse osmosis membrane for water purification and desalination” Presentation presented at *American Institute of Chemical Engineers Annual Meeting*, San Francisco, CA, Nov 14, 2016.
9. **Y Lu**, EK. Wujcik.* “Cellulose acetate/TiO₂-Au nanocomposite reverse osmosis membrane for water purification and desalination” Presentation presented at *2016 Southwest Regional Meeting of the American Chemical Society*, Houston, TX, Nov 12, 2016.
10. **Y Lu**, Suying Wei, * EK. Wujcik,* “Sustainable Anticorrosive Self-Healing Smart Coatings for Metal Protection” Exhibitors at *2016 USA Science and Engineering Festival*, Washington, DC, Apr 16-17, 2016.
11. **Y Lu**, Suying Wei, EK. Wujcik,* and ZH Guo.* “Electrospun Nanocomposite Fibers for the Removal of Heavy Metals in Water” Presentation presented at *American Institute of Chemical Engineers Spring Meeting*, Houston, TX, Apr 11, 2016.
12. **Y Lu**, EK. Wujcik,* and ZH Guo.* “Electrospun Polyacrylonitrile / Iron(III) Nitrate Nanocomposite Fibers for the Removal of Chromium in Water.” Presentation at *American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT, Nov 11, 2015.
13. **Y Lu**, EK. Wujcik,* and ZH Guo.* “Magnetic Polyvinyl Alcohol Nanocomposite Fibers Reinforced with Fe₃O₄ Nanoparticles,” Presentation presented at *American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT, Nov 9, 2015.

Honors & Awards

- University Scholarship, South China University of Technology, 2011
- Merit Student, South China University of Technology, 2011
- University Scholarship, South China University of Technology, 2013
- Merit Student, South China University of Technology, 2013
- Fellowship, Lamar University, 2014
- Fellowship, Lamar University, 2015
- Larry and Cynthia Norwood Chemical Engineering Scholarship, 2015
- William Kuhlke Society of Plastics Engineers South Texas Section Endowed Scholarship, 2015
- Fellowship, Lamar University, 2016
- Larry and Cynthia Norwood Chemical Engineering Scholarship, 2016
- Fellowship, The University of Alabama, 2017
- Fellowship, The University of Alabama, 2018

Membership & Service to the Profession

- *Session Co-Chair*, Material Engineering and Science Division [AIChE] (08F Composites), 2018
- *Member*, American Institute of Chemical Engineers [AIChE], 2015-present

Teaching & Outreach Activity

- Graduate: *Nanosensors, Instrumental Analysis*
- Undergraduate: *Transport Phenomena, Mass Transfer, Process Control, Unit Operation Lab.*
- High School: *ChemE 101 Summer Camp*. For engaging high school students in STEM disciplines.

Technical Proficiencies

- **Software & Programming:** Python, Mathematica, 3ds Max, Adobe Illustrator, Adobe Photoshop, Adobe Premiere, Origin 9.0, Matlab, Avogadro, Polymath, ImageJ, Endnote, ChemDraw, Solidworks, Aspen Plus, ChemCAD, OPUS, TA QSeries Advantage, TA Rheology Advantage, Microsoft Office, Apple iWork.
- **Instruments:** Scanning Electron Microscope (SEM), Transmission Electron Microscope (TEM), X-Ray Diffraction (XRD), X-ray Photoelectron Spectroscopy (XPS), Fourier-Transform Infrared Spectroscopy (FTIR), Ultraviolet-Visible Spectroscopy (UV-Vis), Differential Scanning Calorimetry (DSC), Thermogravimetric Analysis (TGA), Dynamic Light Scattering (DLS), BET Surface Area Analyzer, Potentiostat, Source Meter Unit, Glovebox, Rheometer, Universal Tensile Tester, Electrospinning system, Twin-Screw Extruder, Rubber Vulcameter, Rubber Two-Roll Mill Machine, Optical contact angle measuring systems, Freeze Dryer, Centrifuge, Microscope, Pellet Press, Tube Furnace, Ultrasonic Probe, Spin Coater, 3D printing.