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| **Education** |  |
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| Carnegie Mellon UniversityPhD in Mechanical Engineering | Aug. 2020 |
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| University of Illinois at Urbana-ChampaignMasters of Science in Mechanical Engineering | Aug. 2015 |
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| University of PittsburghBachelors of Science in Mechanical Engineering, *Magna Cum Laude* | May 2013 |
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| **Teaching Experience** |  |
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| AP Physics and Introduction to Engineering, Pittsburgh Science and Technology Academy* Developed class material and taught 10th and 11th graders college-level physics and fundamentals of mechanical/civil engineering.
* Responsible for managing a class of approximately 6 to 12 high-school students for 1 hour (once every 1-2 weeks).
 | Aug. 2015 – Present |
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| Teaching Assistant, Fundamentals of Mechanical Engineering, Carnegie Mellon University* Formulated material for midterms and final exams, lead recitations for labs and exam reviews, and managed class project for over 120 students.
 | Aug. 2016 – May 2017 |
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| Teaching Assistant, Mechanobiology, University of Illinois at Urbana-Champaign* Responsible for grading homework and exams of over 40 students in interdisciplinary class that covered the importance of mechanical signaling in cell biology and diseases.
 | Jan. 2015 – May 2015 |
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| **Engineering Experience** |  |
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| Graduate Research Assistant, Carnegie Mellon University, Mechanical Engineering Department (Advised by Philip LeDuc and Alan Russell)* Development of freestanding carbon electrodes from intact plant material and food waste for desalination and water disinfection.
 | Aug. 2015 – Present |
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| Biomechanical Engineering Injury Consultant* Measurement and analysis of pressure-induced injuries for lawsuits.
 | Nov. 2018 – Mar. 2019 |
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| Graduate Research Assistant, University of Illinois at Urbana-Champaign, Mechanical Science and Engineering Department (Advised by Ning Wang)* Research in how the mechanical properties of cancer cells and the extracellular matrix contribute to tumor cell invasion and metastasis.
 | Aug. 2013 – Aug. 2015 |
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| Undergraduate Researcher, University of Pittsburgh, Mechanical Engineering and Material Science Department* Created 3-D finite element model of human head for blast induced traumatic brain injury research.
 | Aug. 2012 – Feb. 2013 |
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| Quality Design Engineer Intern, Alstom Grid* Failure analysis of high voltage circuit breakers.
 | Jan. 2011 – Aug. 2012 |
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| Undergraduate Researcher, University of Pittsburgh, Mechanical Engineering and Material Science Department* Research in reconstructed ACL graft tension when subjected to varying surgical techniques and knee flexion.
 | Jan. 2012 – April 2012 |
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| **Volunteer Work and Community Service** |  |
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| Executive Experience Mentor, Pittsburgh Science and Technology Academy* Provided guidance to groups of high school students for year-long engineering project.
 | Aug. 2016 – May 2018 |
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| Nanostruct Team Member, University of Illinois at Urbana-Champaign* Designed, created, and ran informative/hands-on activities to teach 3rd graders about nanotechnology and bioengineering at Booker T. Washington STEM Academy.
* Presented teaching modules at the local farmer’s market twice a year to promote interest in science throughout the community.
 | Sept. 2014 – Aug. 2015 |
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| Urbana Little League Baseball Coach (Urbana, Illinois)* Taught 10-12 year olds the fundamentals of baseball and proper sportsmanship. (10-15 hours per week).
 | April 2014 – July 2015 |
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| Physics Tutor and Mentor, Champaign Central High School (Champaign, Illinois)* Tutored 11th grade physics and mentored students interested in pursuing science and engineering degrees.
 | Oct. 2014 – March 2015 |
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| Urbana Parks District Youth Soccer Coach (Urbana, Illinois)* Taught 10-12 year olds the fundamentals of soccer and proper sportsmanship (7-8 hours per week).
 | July 2014 – Oct. 2014 |
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| **Publications** |  |
|  |  |
| **Wood, A. R.,** Garg, R., Justus, K., Cohen-Karni, T., Russell, A. J., LeDuc, P. R., *Toward sustainable desalination using food waste* (submitted). |
|  |  |
| Sonmez, U. M., Justus, K., **Wood, A. R.,** Jiang, W., Syed-Picard, F., LeDuc, P. R., Kalinski, P., Davidson, L. A., *Chemotactic responses of jurkat cells in microfluidic flow-free gradient chambers*, Micromachines (under peer review). |
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| Justus, K., Hellebrekers, T., Lewis, D.D., **Wood, A. R.**, Ingram, C., Majidi, C., LeDuc, P. R., Tan, C., *A biosensing soft robot: Autonomous parsing of chemical signals through integrated organic and inorganic interfaces*, Science Robotics (2019) 4, eaax0765. |
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| **Wood, A. R.,** Garg, R., Justus, K., Cohen-Karni, T., LeDuc, P. R., Russell, A. J., *Intact mangrove root electrodes for desalination*, RSC Advances (2019) 9, 4735-4743. |
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| Tan, Y., **Wood, A. R.**, Jia, Q., Zhou, W., Luo, J., Yang, F., Chen, J., Chen, J., Sun, J., Seong, J., Tajik, T., Singh, R., Wang, N., *Soft matrices downregulate FAK activity to promote growth of tumor-repopulating cells*, Biochemical and Biophysical Research Communications (2017) 483, 456-462. |
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| Wang, C., Pahk, J. B., Balaban, C. D., Miller, M. C., **Wood, A. R.**, Vipperman, J. S., *Computational study of human head response to primary blast waves of five levels from three directions*, PLOS One (2014) 9, e113264. |
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| **Technical Skills and Software Proficiency** |
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| * Scanning electron microscopy
* Energy-dispersive X-ray spectroscopy
* Water conductance (design and fabrication of measurement devices)
* Mechanical strength of materials testing
* High-pressure system design and fabrication
* Mammalian cell culture
* Bacteria cell culture
* Fluorescence microscopy
* Arduino-based mechanical measurement
 | * Solidworks
* Matlab
* Mathcad
* Excel
* ImageJ
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