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- Career Objectives**
- To utilize my broad soft matter/biophysics skill set to understand fundamental problems in biological systems, biomechanics, and soft matter
  - To investigate the role of activity in differentiating living from non-living materials
  - To pursue a career in research and teaching
- Education**
- **Ph.D.** Physics  
Georgetown University, 2017
  - **M.S.** Physics  
Georgetown University, 2014
  - **B.S.** Physics *cum laude*  
Gonzaga University, 2011
- Positions Held**
- *Postdoctoral Associate*, Yale University, Department of Biomedical Engineering  
June 2017 – current. Advisor: Michael P. Murrell
  - *Research Assistant*, Georgetown University, Department of Physics  
June 2013 – May 2017. Advisor: Daniel L. Blair
- Teaching**
- *Guest Instructor*, Molecular and Cellular Biomechanics, Engineering 556, Yale University 2019
  - *Guest Lecturer*, Introduction to Biomechanics, Physics 353, Yale University 2018
  - *Guest Lecturer*, Molecular and Cellular Biomechanics, Engineering 556, Yale University 2018
  - *Teaching Assistant*, Georgetown University, Department of Physics  
September 2011 – May 2013.
  - *Teaching Assistant*, Gonzaga University, Department of Physics  
September 2008 – May 2011
- Mentorship**
- Frank Fazekas, Undergraduate, 2018 – 2019  
Diffusion of semiflexible filaments within 2D nematics
  - Joseph Tibbs, Undergraduate, 2018  
Implementing a variable timestep in molecular dynamics simulations of the cytoskeleton
  - Clare Singer, High School/Undergraduate, 2013/2014  
Measuring the intrinsic viscosity of reconstituted silk fibroin
- Awards**
- Mayer Fellowship, Georgetown University, 2016
  - Mayer Fellowship, Georgetown University, 2015
  - NSF Research Experience for Undergraduates, Advisor: Daniel L. Blair, 2010
  - NSF Research Experience for Undergraduates, Advisor: Jeffrey S. Olafsen, 2009
- Scientific Skills**
- Confocal microscopy
  - MATLAB<sup>®</sup> (data and image processing)
  - Molecular dynamics simulations
  - Cell culture
  - Bulk rheology
  - Practical biochemistry
  - Neutron and optical scattering
- Communication Skills**
- Mentoring both undergraduate and graduate students
  - Explaining complicated scientific results and significance to a general audience
  - Organizing and leading group discussions
- Invited Talks**
- YINQE Seminar, Yale University, February 2019  
Force dependent binding kinetics and energy storage/dissipation within the cytoskeleton

- Soft Matter Day, University of Massachusetts Amherst, July 2018  
What conserved physical principles govern the mechanical outputs of cells?
- Tufts University, March 2016  
A silk protein's guide to aggregation
- George Mason University, March 2016  
Associating microscope structure with mechanical properties in silk gels
- Technische Universität München, June 2015  
From cocoon to gel: making silk based materials

- Contributed Talks**
- 74th New England Complex Fluids, March 2018
  - Multidisciplinary University Research Initiative - Traction Force Workshop, March 2018
  - American Chemical Society Colloid and Surface Science Symposium, 2015, 2016
  - Society of Rheology Annual Meeting, 2014
  - American Physical Society March Meeting, 2013, 2014, 2016, 2017

- Poster Presentations**
- Yale Systems Biology Retreat, November 2018
  - Cancer Systems Biology at Yale, May 2018
  - Cancer Systems Biology at Yale- Flipped Science Fair, May 2018
  - Multidisciplinary University Research Initiative, March 2018
  - Yale Systems Biology Retreat, November 2017 –**poster award**
  - Murdock Charitable Trust, 2010, 2011

- Proposals**
- Accepted, NIST Neutron Beam Time Proposal S32-21: 2.0 days of SANS
  - Accepted, NIST Neutron Beam Time Proposal U32-08: 6.0 days of USANS

- Schools/Workshops**
- Rheology of Dense Particulate Suspensions, Georgetown University, Summer 2016
  - SUPOLEN Workshop on Supramolecular Polymeric Assemblies, Capri Italy, Summer 2015
  - University of Delaware Colloidal Gel Day, January 2015
  - **Founder:** Georgetown Institute for Soft Matter Synthesis and Metrology Journal Club, 2014 – 2017
  - NIST Center for Neutron Research Fundamentals of Neutron Scattering, Summer 2014
  - Soft Solids and Complex Fluids, University of Massachusetts Amherst, Summer 2013
  - Mid-Atlantic Soft Matter Workshop, 2010 – 2017

- Active Collaborations**
- David Kaplan, Tufts University - Department of Biomedical Engineering
  - Shiladitya Banerjee, University College of London - Department of Physics

- Publications - Most to Least Recent**
- V. Ajeti\*, **A.P. Tabatabai\***, A.J. Fleszar, M.F. Staddon, D.S. Seara, C. Suarez, M.S. Yousafzai, D. Bi, D. Kovar, S. Banerjee, and M.P. Murrell, *Wound healing coordinates actin architectures to regulate mechanical work* (accepted- Nature Physics 2019).
  - **A.P. Tabatabai**, B.P. Partlow, N.R. Raia, D.L. Kaplan, and D.L. Blair, *Silk molecular weight affects the kinetics of enzymatically crosslinked silk hydrogel formation*, Langmuir 34 (50) 2018.
  - D.S. Seara, V. Yadav, I.A. Linsmeier, **A.P. Tabatabai**, P.W. Oakes, S.M.A. Tabei, S. Banerjee, and M.P. Murrell, *Entropy production rate is maximized in non-contractile actomyosin*, Nature Communications (9) 2018.
  - M.F. Staddon, D. Bi, **A.P. Tabatabai**, V. Ajeti, M.P. Murrell, and S. Banerjee, *Cooperation of dual modes of cell motility promotes epithelial stress relaxation to accelerate wound healing*, PLoS Computational Biology 14 (10) 2018.
  - **A.P. Tabatabai**, K.M. Weigandt, and D.L. Blair, *Acid-induced assembly of a reconstituted silk protein system*, Physical Review E (96) 2017.
  - B.P. Partlow\*, **A.P. Tabatabai\***, G.G. Leisk, P. Cebe, D.L. Blair, and D.L. Kaplan, *Silk*

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*fibroin degradation and its impact on mechanical properties*, Macromolecular Bioscience (16) 2016.

- **A.P. Tabatabai**, D.L. Kaplan, and D.L. Blair, *Rheology of reconstituted silk fibroin protein gels: the epitome of extreme mechanics*, Soft Matter (11) 2015.

\*These authors contributed equally