

Cole A. DeForest

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EDUCATION

- California Institute of Technology**, Pasadena, CA March 2012 – November 2013
Postdoctoral research scholar under Prof. David Tirrell, Division of Chemistry and Chemical Engineering
- University of Colorado**, Boulder, CO August 2011
Ph.D. in Chemical & Biological Engineering under Prof. Kristi Anseth, Certificate in Molecular Biophysics
- Princeton University**, Princeton, NJ June 2006
B.S.E. in Chemical Engineering – *Magna Cum Laude* (class rank 3 of 30), Concentration in Bioengineering and Biotechnology, Certificate in Material Science and Engineering; Certificate in Engineering Biology

PROFESSIONAL EXPERIENCE

- Core Member**, Diabetes Institute, University of Washington School of Medicine 2018 –
- Adjunct Assistant Professor**, Department of Bioengineering, University of Washington 2014 –
- Core Faculty**, Institute for Stem Cell & Regenerative Medicine, University of Washington 2014 –
- Assistant Professor**, Department of Chemical Engineering, University of Washington 2014 –
- Postdoctoral Research Scholar**, California Institute of Technology, Pasadena, CA 2012 – 2013
- Research Scientist**, GeoSynFuels, LLC, Golden, CO 2011 – 2012

AWARDS

- Early Career Award in Cancer Research**, Safeway and the Cancer Consortium 2018
- 35 Under 35 Award**, Bioengineering Category, American Institute of Chemical Engineers (AIChE) 2017
- Young Investigator Presentation Award**, Biomaterials & Tissue Engineering, Gordon Research Conf. 2017
- Emerging Investigator Award**, Journal of Materials Chemistry B 2017
- Young Investigator Award**, Polymeric Materials: Science & Eng. Division, American Chemical Society 2017
- NSF CAREER Award**, National Science Foundation 2017
- Presidential Distinguished Teaching Award** (highest teaching award from U. Washington, 1 awarded/year) 2016
- Jaconette L. Tietze Young Scientist Award**, The John H. Tietze Foundation June 2015
- Distinguished Teaching Award Nominee**, University of Washington 2014 & 2015
- Ruth L. Kirschstein Postdoctoral Fellow (*declined*)**, National Institute of Health 2014
- Rising Star / Student Fellow Award**, Biomedical Engineering Society January 2013
- DSM Polymer Technology Award**, DSM and American Chemical Society August 2011
- Excellence in Graduate Polymer Research Award**, American Chemical Society 2010
- Graduate Student Research Gold Award**, Materials Research Society 2009
- Molecular Biophysics Training Grant**, National Institute of Health (NIH) 2007 – 2009
- Biomolecular GAANN Fellowship**, US Dept. of Education 2007 – 2010
- Outstanding Achievement Award**, Society for Biomaterials Annual Meeting April 2009
- First-Year Graduate Research Fellowship**, University of Colorado August 2006
- Material Science Student of the Year**, Princeton University June 2006
- Sigma Xi Chemical Engineering Book Award**, Princeton University June 2006
- Graduate Research Fellowship Honorable Mention**, National Science Foundation 2006 & 2007
- Tau Beta Pi Engineering Honor Society Induction**, Tau Beta Pi 2005
- Most Approachable Resident Advisor**, Princeton University June 2005
- Valedictorian**, Boulder High School, CO June 2002

PUBLICATIONS (*denotes corresponding authorship, total citations = 2640, h-index = 16)

- 36) Liu, L., Shadish, J.A., Arakawa, C.K., Shi, K., Davis, J. & **DeForest, C.A.*** Cyclic Stiffness Modulation of Cell-Laden Protein-Polymer Hydrogels in Response to User-Specified Stimuli including Light. *Advanced Biosystems (In Press, 2018)*. DOI: 10.1002/adbi.201800240.
- 35) Fellin, C.R., Adelmund, S.M., Karis, D.G., Shafranek, R.T., Ono, R.J., Martin, C.G., Johnston, T.G. **DeForest, C.A.** & Nelson, A. Tunable Temperature- and Shear-Responsive Hydrogels Based on Poly(alkyl glycidyl ether)s. *Polymer International, (In Press, 2018)*. DOI: 10.1002/pi.5716.
- 34) **DeForest, C.A.*** Introduction to Editorial Board Member: Professor Kristi S. Anseth. *Bioengineering & Translational Medicine, (In Press, 2018)*. DOI: 10.1002/btm2.10117.
- 33) Uto, K., Aoyagi, T., **DeForest, C.A.** & Ebara, M. Dynamic Alterations of Hepatocellular Function by On-Demand Elasticity and Roughness Modulation. *Biomaterials Science*, **6**, 1002-1006 (2018).
- 32) Badeau, B.A., Comerford, M.P., Arakawa, C.K., Shadish, J.A. & **DeForest, C.A.*** Engineering Modular Biomaterial Logic Gates for Environmentally Triggered Therapeutic Delivery. *Nature Chemistry*, **10**, 251-258 (2018).

- ** This article appears on the cover of the March 2018 issue of *Nature Chemistry* and has the 10th highest Altmetric Attention Score of any of the >1,840 articles that have ever appeared in this journal. This article has been highlighted in *C&E News*, *GeekWire*, *Materials Today*, as well as others.
- 31) Ruskowitz, E.R. & **DeForest, C.A.*** Photoresponsive Biomaterials for Targeted Drug Delivery and 4D Cell Culture. *Nature Reviews Materials*, **3**, 17087 (2018) DOI: 10.1038/natrevmats.2017.87.
** This article appears on the cover of the February 2018 issue of *Nature Reviews Materials*.
- 30) Adelmund, S.M., Ruskowitz, E.R., Farahani, P.E., Wolfe, J.V. & **DeForest, C.A.*** Light-Activated Proteomic Labeling via Photocaged Bioorthogonal Non-Canonical Amino Acids. *ACS Chemical Biology*, **13**, 573-577 (2018).
- 29) Arakawa, C.K., Badeau, B.A., Zheng, Y. & **DeForest, C.A.*** Multicellular Vascularized Engineered Tissues through User-Programmable Biomaterial Photodegradation. *Advanced Materials*, **29**, 1703156 (2017).
** This article appears on the cover of the October 2017 issue of *Advanced Materials*.
- 28) Farahani, P.E., Adelmund, S.M., Shadish, J.A. & **DeForest, C.A.*** Photomediated Oxime Ligation as a Bioorthogonal Tool for Spatiotemporally-Controlled Hydrogel Formation and Modification. *Journal of Materials Chemistry B*, **5**, 4435-4442 (2017).
** This article appears on the cover of the June 2017 issue of *Journal of Materials Chemistry B* and was selected for the journal's 2017 Emerging Investigator Award issue.
- 27) Swift, B.J., Shadish, J.A., **DeForest, C.A.** & Baneyx, F. Streamlined Synthesis and Assembly of a Hybrid Sensing Architecture with Solid Binding Proteins and Click Chemistry. *Journal of the American Chemical Society*, **139**, 3958-3961 (2017).
- 26) Uto, K. & **DeForest, C.A.** 時空間制御バイオマテリアルを用いた細胞力学記憶メカニズムの解明 Spatiotemporally Tunable Biomaterials for Revealing the Mechanism of Cellular Mechanical Memory (Article in Japanese). *Journal of Japanese Biomaterials*, **35**, 36-41 (2017).
- 25) Uto, K., Aoyagi, T., **DeForest, C.A.**, Hoffman, A.S. & Ebara, M. A Combinational Effect of “Bulk” and “Surface” Shape-Memory Transitions on the Regulation of Cell Alignment. *Advanced Healthcare Materials*, **6**, 1601439 (2017).
- 24) Uto, K., Tsui, J.H., **DeForest, C.A.*** & Kim, D.H. Dynamically Tunable Cell Culture Platforms for Tissue Engineering and Mechanobiology. *Progress in Polymer Science*, **65**, 53-82 (2016).
- 23) Arakawa, C.K. & **DeForest, C.A.*** Designing Smart Biomaterials to Mimic & Control the Stem Cell Niche in *Biology and Engineering of Stem Cell Niches*, Elsevier. Oxford, UK. 295-314 (2017).
- 22) Tibbitt, M.W., Shadish, J.A. & **DeForest, C.A.*** Photopolymers for Multiphoton Lithography in Biomaterials and Hydrogels. Appears in *Multiphoton Lithography: Techniques, Materials, and Applications*, Wiley Publishing, 183-220 (2016).
- 21) Urrios, A., Parra-Cabrera, C., Bhattacharjee, N., Gonzalez-Suarez, A.M., Rigat-Brugarolas, L.G., Nallapatti, U., Samitier, J., **DeForest, C.A.**, Posas, F., Garcia-Cordero, J.L. & Folch, A. 3D-printing of Transparent Bio-Microfluidic Devices in PEG-DA. *Lab on a Chip*, **16**, 2287-2294 (2016).
- 20) Uto, K., **DeForest, C.A.** & Kim, D.H. Soft Shape-Memory Materials in *Biomaterials Nanoarchitectonics*, Elsevier. Oxford, UK. (2016).
- 19) **DeForest, C.A.*** & Tirrell, D.A. A Photoreversible Protein-Patterning Approach for Guiding Stem Cell Fate in Three-Dimensional Gels. *Nature Materials*, **14**, 523-531 (2015).
- 13-18) **DeForest, C.A.**, Zhang, H., Memic, A., Dokmeci, M.R. & Khademhosseini, A. Research Highlights. *Lab on a Chip*, **12**, 3540-3542 (2012).
** Note: citation is given for just one of 6 Invited Research Highlights for Lab on a Chip
- 12) Adzima, B.J., Kloxin, C.J., **DeForest, C.A.**, Anseth, K.S. & Bowman, C.N. 3D Photofixation Lithography in Diels-Alder Networks. *Macromolecular Rapid Communications*, **33**, 2092-2096 (2012).
- 11) Kloxin, A.M., Lewis, K.J.R., **DeForest, C.A.**, Seedorf, G.J., Tibbitt, M.W., Balasubramaniam, V. & Anseth, K.S. Responsive Culture Platform to Examine the Influence of Microenvironmental Geometry on Cell Function in 3D. *Integrative Biology*, **4**, 1540-1549 (2012).
- 10) **DeForest, C.A.** & Anseth, K.S. Advances in Bioactive Hydrogels to Probe and Direct Cell Fate. *Annual Review of Chemical and Biomolecular Engineering*, **3**, 421-444 (2012).
- 9) **DeForest, C.A.** & Anseth, K.S. Photoreversible Patterning of Biomolecules within Click-based Hydrogels. *Angewandte Chemie International Edition*, **51**, 1816-1819 (2012).
** This article appears on the cover of the February 2012 issue of *Angewandte* and was selected as a “Very Important Paper” by the journal editors. It also was featured in *Nature*, *Angewandte Chemie*, and *Lab on a Chip*.
- 8) **DeForest, C.A.** & Anseth, K.S. Cytocompatible Click-based Hydrogels with Dynamically-Tunable Properties through Orthogonal Photoconjugation and Photocleavage Reactions. *Nature Chemistry*, **3**, 925-931 (2011).
** This article appears on the cover of the December 2011 issue of *Nature Chemistry* and has been highlighted in *Chemistry World*.
- 7) Adzima, B.J., Tao, Y., Kloxin, C.J., **DeForest, C.A.**, Anseth, K.S. & Bowman, C.N. Spatial and Temporal Control of the Alkyne-Azide Cycloaddition by Photoinitiated Cu(II) Reduction. *Nature Chemistry*, **3**, 256-261 (2011).

- 6) Sims, E.A., **DeForest, C.A.** & Anseth, K.S. A Mild, Large-Scale Synthesis of 1,3-Cyclooctanedione: Expanding Access to Difluorinated Cyclooctyne for Copper-Free Click Chemistry. *Tetrahedron Letters*, **52**, 1871-1873 (2011). **This article was featured by *Vertical News*
- 5) **DeForest, C.A.**, Sims, E.A. & Anseth, K.S. Peptide-Functionalized Click Hydrogels with Independently Tunable Mechanics and Chemical Functionality for 3D Cell Culture. *Chemistry of Materials*, **22**, 4783-90 (2010).
- 4) Johnson, L.M., **DeForest, C.A.**, Pendurti, A., Anseth, K.S. & Bowman, C.N. Formation of Three-Dimensional Hydrogel Multilayers Using Enzyme-Mediated Redox Chain Initiation. *ACS Applied Material Interfaces*, **2**, 1963-1972 (2010).
- 3) Lawson, M.C., Hoth, K.B., **DeForest, C.A.**, Bowman, C.N. & Anseth, K.S. Inhibition of *Staphylococcus epidermidis* Biofilms using Polymerizable Vancomycin Derivatives. *Clin Orthop Relat Res*, **468**, 2081-2091 (2010).
- 2) **DeForest, C.A.**, Polizzotti, B.D. & Anseth, K.S. Sequential Click Reactions for Synthesizing and Patterning 3D Cell Microenvironments. *Nature Materials*, **8**, 659-664 (2009). ** This article has been highlighted in *Nature*, *Chemistry World*, *F1000*, as well as others.
- 1) Benton, J.A., **DeForest, C.A.**, Vivekanandan, V. & Anseth, K.S. Photocrosslinking of Gelatin Macromers to Synthesize Porous Hydrogels that Promote Valvular Interstitial Cell Function. *Tissue Engineering Part A*, **15**, 3221-3230 (2009).

CONFERENCE PRESENTATIONS (representative subset of >60 total presentations)

- DeForest, C.A.** Logical Breakdown: Encoding Boolean-Based Degradative Responsiveness into Synthetic Biomaterials. *Bioinspired and Biomimetic Hydrogels* (Cologne, Germany, 2018) *Invited Keynote Presentation
- Shadish, J.A., Liu, L. & **DeForest, C.A.** User-Programmable Hydrogel Biomaterials to Probe and Direct Biological Fate in 4D. *Thinking Beyond the Dish* (Wiston House, England, 2018) *Invited Keynote Presentation
- Liu, L., Shadish, J.A. & **DeForest, C.A.** Cyclic Stiffness Photomodulation of Cell-Laden Protein-Polymer Hydrogels. *ACS Fall Meeting* (Washington, D.C., 2017) *Invited Presentation
- Badeau, B.A., Comerford, M.P., Arakawa, C.K., Shadish, J.A. & **DeForest, C.A.** Engineered Modular Biomaterial Logic Gates for Environmentally Triggered Therapeutic Delivery. *Gordon Research Conference – Biomaterials and Tissue Engineering* (Holderness School, NH, 2017). *Invited Presentation
- Shadish, J.A., Liu, L. & **DeForest, C.A.** Dynamic and User-Programmable Biomaterials for 4D Cell Culture. *ACS Spring Meeting – PMSE Young Investigator Symposium* (San Francisco, CA, 2017) *Invited Presentation
- DeForest, C.A.** Photoreversibly-Patterned Hydrogel Materials to Probe and Direct 4D Stem Cell Fate. *2nd International Symposium on Nanoarchitectonics for Mechanobiology* (Tsukuba, Japan, 2016) *Invited Keynote Presentation
- Shadish, J.A., Arakawa, C.K. & **DeForest, C.A.** Photoreversible Patterning of Hydrogel Biomaterials with Site-Specifically-Modified Proteins. *Gordon Research Conference – Signal Transduction by Engineered Extracellular Matrices* (Biddeford, ME, 2016). *Invited Presentation
- Shadish, J.A., Arakawa, C.K. & **DeForest, C.A.** Photoreversible Patterning of Hydrogel Biomaterials with Site-Specifically-Modified Proteins. *ACS Spring Meeting* (San Diego, CA, 2016). *Invited Presentation
- DeForest, C.A.** Reversible Protein Patterning of 3D Hydrogels via Bioorthogonal Photochemistry. *International Symposium on Nanoarchitectonics for Mechanobiology* (Tsukuba, Japan, 2015) *Invited Keynote Presentation
- Shadish, J.A., Arakawa, C.K. & **DeForest, C.A.** Directed Stem Cell Fate within Photoreversibly-Patterned Polymer-Based Hydrogels. *ACS Polymers in Medicine and Biology Meeting* (Santa Rosa, CA, 2015). *Invited Presentation
- DeForest, C.A.** & Tirrell, D.A. Dynamic Protein-Patterned Hydrogels to Direct 4D Stem Cell Fate. *Gordon Research Conference – Signal Transduction by Engineered Extracellular Matrices* (Waltham, MA, 2014).
- DeForest, C.A.** & **Tirrell, D.A.** Photoreversible Protein Patterning for Dynamic Tailorability of the Stem Cell Niche. *ACS PMSE Tribute to Jeffrey Moore* (Indianapolis, IN, 2013). *Invited Presentation
- DeForest, C.A.** Photoreversible Protein Patterning for Dynamic Tailorability of the Stem Cell Niche. *ACS Polymers in Medicine and Biology Meeting* (Santa Rosa, CA, 2013). *Invited Presentation

PATENTS

- DeForest, C.A.**, Shadish, J.A. & Liu, L. Dynamic User-Programmable Materials from Photoresponsive Proteins, *Invention Disclosure filed 4/2017. Provisional Patent Filed 4/2017.*
- DeForest, C.A.** & Badeau, B. Molecular Logic Gates for Controlled Material Degradation, *Invention Disclosure filed 9/2016. Provisional Patent Filed 9/2016. PCT Filed 9/2017.*
- DeForest, C.A.** & Adelmund, S. Caged Amino Acids for Controlled Metabolic Incorporation, *Invention Disclosure filed 2/2016.*
- Aimetti, A.A., **DeForest, C.A.** & Anseth, K.S. Method for Synthesizing Cyclic, Multivalent Peptides using Thiol-Mediated Reactions. *PCT Patent Application Filed 6/2010.*
- Polizzotti, B.D., Anseth, K.S. & **DeForest, C.A.** Hydrogels and Methods for Producing and Using the Same. *US Patent Application (12678920) Filed 6/2010, PCT Patent Application Filed 9/2008.*

GRANTS

- NSF, DMR BMAT 1807398**, National Science Foundation, “Logic-based Degradation of Stimuli-Responsive Polymeric Materials” (DeForest, PI) (8/2018 – 7/2021)
- Collaborative Team Grant**, U. Washington Molecular Engineering Materials Center, “Digitally-Programmed 3D-Printing of Functional Multi-Materials” (DeForest, Co-PI) (6/2018 – 6/2019)
- ISCRM Innovation Pilot Award**, Institute for Stem Cell & Regenerative Medicine, “Drug-controlled Modification of Transplants’ Microenvironments for Stem Cell Differentiation” (DeForest, Co-PI) (6/2018 – 6/2019)
- NSF, CBET CBE 1803054**, National Science Foundation, “Spatiotemporally-resolved Proteomics through Photomediated Protein Labeling” (DeForest, PI) (6/2018 – 5/2021)
- Collaboration Grant**, Koniku, Inc., “Geometric Control Over Neural Network Formation, Maturation, and Function” (DeForest, PI) (5/2018-10/2018)
- Safeway Early Career Award in Cancer Research**, Washington Cancer Consortium (DeForest, PI) (4/1/18 – 3/31/19)
- NIH R01**, NHLBI R01HL141570, “Perfusible 3D Human Cardiac Constructs for Heart Regeneration” (DeForest, Co-I) (4/2018 – 3/2022)
- ITHS Collaborative Innovation Award**, Institute of Translational Health Sciences, “Pre-Clinical Modeling of a Novel Tissue Engineering Technology for Improved Cell Engraftment” (DeForest, Co-PI) (3/2018 – 2/2019)
- ISCRM Innovation Pilot Award**, Institute for Stem Cell & Regenerative Medicine, “Recapitulating Human Nephron Patterning In Vitro” (DeForest, Co-PI) (7/2017 – 6/2017)
- NSF CAREER**, DMR 1652141, National Science Foundation, “CAREER: User-Programmable Hydrogel Biomaterials to Probe and Direct 4D Stem Cell Fate” (DeForest, PI) (1/2017 – 12/2021)
- Collaborative Grant**, Gree Foundation, “Tissue Engineering a Functional Heart Tube” (DeForest, Co-PI) (6/15/17 – 6/14/18)
- Collaborative Research Award**, Allen Institute for Brain Science, “Degradable Resin Systems for Improved High-Resolution Molecular Imaging Applications” (DeForest, PI) (6/1/17 – 12/31/17)
- Royalty Research Fund Grant**, University of Washington, “Spatiotemporally-resolved Subcellular Proteomics through Photomediated Protein Labeling” (DeForest, PI) (6/2016 – 5/2017)
- Jaconette L. Tietze Young Scientist Award**, John H. Tietze Foundation, “Spatiotemporal Regulation of Notch Signaling via Site-Specific Immobilization of Full-Length Delta-1 Protein” (DeForest, PI) (6/2015 – 5/2016)
- University of Washington Strategic Research Initiative Grant**, “Rapid Deployment of Designer Materials in Devices and Smart & Resilient Infrastructure (SRI) Enabled by Additive Manufacturing” (DeForest, Co-PI) (6/2015 – 6/2016)
- Biomaterials Day Conference Support Grant**, Society for Biomaterials (DeForest, PI) (11/2014)
- NIH F32**, NIBIB, Ruth L. Kirschstein National Service Award Individual Postdoctoral Fellowship (Percentile: 1, PI funding declined to accept faculty position at UW) (DeForest, PI) (1/2014)
- NSF, DMR 1006711**, “Spatiotemporal Regulated Click Hydrogels for 3D Cell Culture” (Anseth, PI) (6/2010 – 5/2012)
- Howard Hughes Medical Institute**, “Two-Photon Confocal Laser Scanning Microscope for 3D Gel Patterning” (Anseth, PI) (9/2008)

TEACHING

- | | |
|-------------------------------------------------------------------------------------------------------------|------------------------------|
| Faculty Fellows Program , Participant, Univ. of Washington | Summer 2015 |
| Polymer Chemistry Laboratory , Professor, Univ. of Washington, Teaching Score 4.9/5 | 2016, 2017, 2018 |
| Polymer Chemistry , Professor, Univ. of Washington, Teaching Score 4.8/5 | 2015 |
| Biological Frameworks for Engineers , Professor, Univ. of Washington, Teaching Score 4.8/5 | 2015, 2016, 2017, 2018 |
| Reactor Design , Professor, Univ. of Washington, Teaching Score 4.7/5 | 2014, 2015, 2016, 2017, 2018 |
| Advanced Polymer Chemistry , Professor, Univ. of Washington, Teaching Score 4.6/5 | Winter 2014 |
| Tissue Engineering , Teaching and Laboratory Assistant, Univ. of Colorado, Teaching Score N/A | Spring 2009 |
| Polymer Chemistry , Advanced Teaching Assistant, Univ. of Colorado, Teaching Score 5.3/6 | Spring 2008 |
| Chemistry for Engineers , Teaching and Laboratory Assistant, Univ. of Colorado, Teaching Score 5.4/6 | Spring 2007 |

SERVICE

- | | |
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| Founder & Lead Organizer, Young Biomaterial Scientists Group , Society for Biomaterials | 2016 – |
| Formed with the primary goal of supporting Young Biomaterial Scientists, this group provides a melting pot for career development ideas, where senior members guide grads, postdocs, and junior faculty on the path towards impactful research and outreach, fulfilling an unmet need within the Biomaterials community. | |
| Member, Education & Professional Development Committee , Society for Biomaterials | 2016 – |
| Area Chair, Biomaterials Division (MESD Area 8b) , AIChE | 2015 – 2018 |
| Faculty Mentor, Women in Science and Engineering (WiSE) Bridge Program , Univ. of Washington | 2016 – |
| Lead Faculty Organizer, UW Distinguished Young Scholar Seminar Series , Univ. of Washington | 2015 – |
| Faculty Mentor, Association of Chemical Engineering Graduate Students , Univ. of Washington | 2014 – |
| Faculty Organizer, Graduate Recruitment , Chemical Engineering, Univ. of Washington | 2014 – |

Faculty Participant, Engineering Discovery Days , Univ. of Washington	2014 –
Faculty Mentor, Washington Aerospace Scholars , Univ. of Washington	2014 –
Lead Faculty Organizer, UW Biomaterials Days , Univ. of Washington	2014 & 2015
Lead Faculty Organizer, UW Chemical Engineering Graduate Student Symposium , UW	2014 & 2015
Session Chair , Variety of Conferences (4 including SFB, MRS, AIChE, ACS)	2013 –
Co-Organizer and Instructor, “Genes to Gels” High School Science Program , Caltech	2013
Developed three-week-long, full-time summer hands-on laboratory pilot program to introduce high school students to concepts and research at the interface between biological and material science (with Prof. David Tirrell)	
Graduate Board Member, Engineering Excellence Fund , Univ. of Colorado	2009 – 2011
Allocated more than \$1,000,000 in annual support for the improvement of engineering educational opportunities	
Graduate Student Representative , Univ. of Colorado	2009
Student Board Member, ABET Accreditation , Univ. of Colorado	2007, 2010
Co-Chair, Student Annual Research Symposium , Univ. of Colorado	2008 – 2009
Scientific Referee , Variety of Peer-Reviewed Journals (18 including <i>Science</i>) & Conference Abstracts	2006 –
Member , Variety of Professional Societies (AIChE, MRS, ACS, SFB, BMES, AHA, Tau Beta Pi, Sigma Xi)	2005 –
Outreach Coordinator, High School Honors Institute , Boulder, CO	2006 – 2011
AIChE Vice President, Princeton Chapter , Princeton, NJ	2005 – 2006
Residential Adviser , Mathey College, Princeton Univ.	2004 – 2006
Tau Beta Pi , New Jersey Delta Chapter, Senior Member	2005 – 2006
Engineering Interactor Freshman Mentor , Princeton Univ.	2004 – 2006

STUDENTS CURRENTLY MENTORED IN RESEARCH

1. Dr. Teresa Rapp, Chemical Engineering Postdoctoral Research	2019 –
2. Dr. Ivan Batalov, Bioengineering Postdoctoral Researcher (co-advised with K. Stevens, UW BioE)	2017 –
3. Barry Badeau, Chemical Engineering Ph.D. thesis student	2014 –
4. Jared Shadish, Chemical Engineering Ph.D. thesis student	2014 –
5. Steven Adelmund, Chemical Engineering Ph.D. thesis student	2015 –
6. Emily Ruskowitz, Chemical Engineering Ph.D. thesis student	2015 –
7. Eric Nealy, Molecular Medicine Ph.D. student (co-advised with J. Olson, Fred Hutch Cancer Research)	2016 –
8. Ross Bretherton, Bioengineering Ph.D. thesis student	2018 –
9. Arbel Sisso, Bioengineering M.S. thesis student	2017 –
10. Rossana Scavone, Chemical Engineering M.S. thesis student	2017 –
11. Hannah Locken, Chemical Engineering undergraduate thesis student	2017 –
12. Alder Strange, Bioengineering undergraduate thesis student	2017 –
13. Eric Yang, Bioengineering undergraduate thesis student	2017 –
14. Sebastian Kurniawan, Chemical Engineering undergraduate thesis student	2018 –

PAST ADVISEES

1. Dr. Koichiro Uto, Bioengineering Senior Postdoctoral Researcher, JSPS Postdoctoral Fellow, May 2015 – October 2016 (ICYS-MANA Researcher, NIMS, Japan).
2. Christopher Arakawa, Fall 2015 – Summer 2018, Graduated with BioE PhD Thesis, “4D Control of Tissue Development and Blood Vasculature using Photo-mediated Chemistries” (NIH/JSPS Postdoctoral Fellow)
3. Michael Comerford, January 2014 – June 2015, Graduated with ChemE MS Thesis, “Programmable Logic-Based Delivery of Small Molecule Therapeutics from Gels” (Staff Engineer, U.S. Coast Guard Marine Safety Center).
4. Prathamesh Gawade, January 2015 – June 2016, Graduated with ChemE MS Thesis, “Logic-Based Delivery of Site-Specifically-Modified Proteins from Gels through Engineered Biomacromolecular Architecture” (Ph.D. Student, Ohio State University, Chemical Engineering).
5. Luman Liu, January 2016 – June 2017, Graduated with ChemE MS Thesis, “Cyclic Stiffness Photomodulation of Cell-Laden Protein-Polymer Hydrogels” (Ph.D. student, Iowa State University).
6. Austin Im, Chemical Engineering undergraduate thesis student, Fall 2015 – Spring 2016 (Shift Test Engineer, Puget Sound Naval Shipyard for the Department of Defense)
7. Mira Liu, Visiting undergraduate researcher (Claremont McKenna College, Chemistry/Economics), Summer 2016 (Ph.D. student, University of California Berkeley, Chemistry)
8. Payam Farahani, Chemical Engineering undergraduate thesis student, January 2015 – August 2017 (Ph.D. student, Princeton University, Chemical and Biological Engineering, NSF GRFP fellow)
9. Gabrielle Benuska, Bioengineering undergraduate thesis student, Winter 2015 – Spring 2018 (Point B Consultant)
10. Julie Wolfe, Chemical Engineering undergraduate student, Spring 2017 – Fall 2017 (Undergraduate student, UW Chemical Engineering)