

## DAVID J. HOELZLE, PHD

Associate Professor  
Department of Mechanical and Aerospace Engineering  
The Ohio State University  
Columbus, OH 43210  
URL: <https://hrl.engineering.osu.edu/>

Phone: +1 (614) 688-2942  
E-mail: [hoelzle.1@osu.edu](mailto:hoelzle.1@osu.edu)

### RESEARCH INTERESTS

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Control systems, additive manufacturing, robotics, microelectromechanical systems, iterative learning control, tissue engineering, and cell and tissue mechanics.

### EDUCATION

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Doctor of Philosophy in Mechanical Science and Engineering October 2011  
*University of Illinois at Urbana-Champaign, Urbana, IL*  
Thesis: “Flexible Adaptation of Iterative Learning Control with Applications to Synthetic Bone Graft Manufacturing”  
Advisers: Prof. Andrew Alleyne and Prof. Amy Wagoner Johnson

Master of Science in Mechanical Science and Engineering December 2007  
*University of Illinois at Urbana-Champaign, Urbana, IL*  
Thesis: “Reliability Guidelines and Flowrate Modulation for a micro-Robotic Deposition System”  
Advisers: Prof. Andrew Alleyne and Prof. Amy Wagoner Johnson

Bachelor of Science in Mechanical Engineering June 2005  
*The Ohio State University, Columbus, OH*  
Magna Cum Laude

### POSITIONS HELD

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| <b>Associate Professor</b><br><i>Dept. of Mechanical and Aerospace Eng., The Ohio State University</i>           | 2019 – present |
| <b>Assistant Professor</b><br><i>Dept. of Mechanical and Aerospace Eng., The Ohio State University</i>           | 2016 – 2019    |
| <b>Assistant Professor</b><br><i>Dept. of Aerospace and Mechanical Eng., University of Notre Dame</i>            | 2012 – 2016    |
| <b>Post-Doctoral Researcher</b><br><i>Dept. of Int. Biology and Phys., University of California, Los Angeles</i> | 2011 – 2012    |
| <b>Research Intern</b><br><i>Singapore Institute of Manufacturing Technology, Singapore</i>                      | 2007           |

### REFEREED PUBLICATIONS

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#### Submitted to Refereed Journals

1. B. Iezzi, Z. Afkhami, S. Sanvordenker, **D.J. Hoelzle**, K. Barton, M. Shtein, “Electrohydrodynamic Jet Printing of One-Dimensional Photonic Crystals: Part II – Optical Design and Reflectance Characteristics,” *Submitted*, 2020.

### Refereed Journals

2. Z. Afkhami, C. Pannier, L. Aarnoudse, **D.J. Hoelzle**, K. Barton, “Spatial Iterative Learning Control for Multi-material Three-Dimensional Structures,” *Letters in Dynamic Systems and Control*, vol. 1, no. 1, pp. 011011, 2021.
3. Z. Afkhami, B. Iezzi, **D.J. Hoelzle**, M. Shtein, K. Barton, “Electrohydrodynamic Jet Printing of One-Dimensional Photonic Crystals: Part I, An Empirical Model for Multi-material Multi-layer Fabrication,” *Accepted to Advanced Materials Technologies*, 2020.
4. A. Simeunovic, **D.J. Hoelzle**, “Nonlinear and linearized gray box models of direct-write printing dynamics,” *Accepted to Rapid Prototyping Journal*, 2020.
5. A. Asghari Adib, A. Sheikhi, M. Shahhosseini, A. Simeunovic, S. Wu, C.E. Castro, R. Zhao, A. Khademhosseini, **D.J. Hoelzle**, “Direct-write 3D printing and characterization of a GelMA-based biomaterial for intracorporeal tissue engineering,” *Biofabrication*, vol. 12, pp. 045006, 2020.
6. P. Sammons, **D.J. Hoelzle**, K.L. Barton, “Time Scale Transformed ILC for a Class of Nonlinear Systems with Uncertain Trial Duration,” *IEEE Transactions on Control Systems Technology*, In Press, 2020.
7. B. Altin, Z. Wang, **D.J. Hoelzle**, K. Barton, “Robust Monotonically Convergent Spatial Iterative Learning Control: Interval Systems Analysis via Discrete Fourier Transform,” *IEEE Transactions on Control Systems Technology*, vol. 27, no. 6, pp. 2470 – 2483, 2019.
8. M. Ghasri-Khouzani, H. Peng, R. Attardo, P. Ostiguy, J. Neidig, R. Billo, **D.J. Hoelzle**, M.R. Shankar, “Comparing microstructure and hardness of direct metal laser sintered AlSi10Mg alloy between different planes,” *Journal of Manufacturing Processes*, vol. 37, pp. 274 – 280, 2019.
9. Z. Wang, C.P. Pannier, K. Barton, **D.J. Hoelzle**, “Application of Robust Monotonically Convergent Spatial Iterative Learning Control to Microscale Additive Manufacturing,” *IFAC Mechatronics*, vol. 56, pp. 157 – 165, 2018.
10. C. Pannier, L. Ojeda, Z. Wang, **D.J. Hoelzle**, K. Barton, “An electrohydrodynamic jet printer with integrated metrology,” *IFAC Mechatronics*, vol. 56, pp. 268 – 276, 2018.
11. B.S. Preetham, **D.J. Hoelzle**, “Experimental investigation of curved electrode actuator dynamics in viscous dielectric media,” *Applied Physics Letters*, vol. 113, pp. 074102, 2018.
12. H. Peng, M. Ghasri-Khouzani, S. Gong, R. Attardo, P. Ostiguy, B. Aboud Gatrell, J. Budzinski, C. Tomonto, J. Neidig, M.R. Shankar, R. Billo, D.B. Go, **D.J. Hoelzle**, “Fast prediction of thermal distortion in metal powder bed fusion additive manufacturing: Part 1, a thermal circuit network model,” *Additive Manufacturing*, vol. 22, pp. 852 – 868, 2018.
13. H. Peng, M. Ghasri-Khouzani, S. Gong, R. Attardo, P. Ostiguy, R. Rogge, B. Aboud Gatrell, J. Budzinski, C. Tomonto, J. Neidig, M.R. Shankar, R. Billo, D.B. Go, **D.J. Hoelzle**, “Fast prediction of thermal distortion in metal powder bed fusion additive manufacturing: Part 2, a quasi-static thermo-mechanical model,” *Additive Manufacturing*, vol. 22, pp. 869 – 882, 2018.
14. M. Ghasri-Khouzani, H. Peng, R. Attardo, P. Ostiguy, J. Neidig, R. Billo, **D.J. Hoelzle**, M.R. Shankar, “Direct metal laser sintered stainless steel: Comparison of microstructure and

- hardness between different planes,” *International Journal of Advanced Manufacturing Technology*, vol. 95, no. 9 – 12, pp. 4031 – 4037, 2018.
15. M.A. Lake, S. Berry, **D.J. Hoelzle**, “Method to study particle flow bias at a channel bifurcation in a microfluidic device,” *RSC Analytical Methods*, vol. 9, pp. 6719 – 6724, 2017.
  16. M. Ghasri-Khouzani, H. Peng, R. Rogge, R. Attardo, P. Ostiguy, J. Neidig, R. Billo, **D.J. Hoelzle**, M.R. Shankar, “Experimental measurement of residual stress and distortion in additively manufactured stainless steel components with various dimensions,” *Materials Science & Engineering A*, vol. 707, pp. 689 – 700, 2017.
  17. C.P. Pannier, M. Diagne, I.A. Spiegel, **D.J. Hoelzle**, K. Barton, “A dynamical model of drop spreading in electrohydrodynamic jet printing,” *ASME Journal of Manufacturing Science and Engineering*, vol. 139, pp. 111008, 2017.
  18. B.S. Preetham, M.A. Lake, **D.J. Hoelzle**, “A curved electrode electrostatic actuator designed for large displacement and force in an underwater environment,” *Journal of Micromechanics and Microengineering*, vol. 27, pp. 095009, 2017.
  19. C.E. Narciso, N.M. Contento, T.J. Storey, **D.J. Hoelzle**, J.J. Zartman, “Release of applied mechanical loading stimulates intercellular calcium waves in Drosophila wing discs,” *Biophysical Journal*, vol. 113, pp. 491 – 501, 2017. \* Highlighted as a *New and Notable* article.
  20. I. Lim, **D.J. Hoelzle**, K.L. Barton, “A multi-objective Iterative Learning Control approach for additive manufacturing applications,” *Control Engineering Practice*, vol. 64, pp. 74 – 87, 2017.
  21. L.E. Rustom, T. Boudou, B.W. Nemke, Y. Lu, **D.J. Hoelzle**, M.D. Markel, C. Picart, A.J. Wagoner Johnson, “Multiscale porosity directs bone regeneration in biphasic calcium phosphate scaffolds,” *ACS Biomaterials Science & Engineering*, vol. 3, no. 11, pp. 2768 – 2778, 2017.
  22. **D.J. Hoelzle**, K.L. Barton, “On Spatial Iterative Learning Control via Two Dimensional Convolution: Stability Analysis and Computational Efficiency,” *IEEE Transactions on Control Systems Technology*, vol. 24, no. 4, pp. 1504 – 1512, 2016.
  23. C. Narciso, K.R. Cowdrick, V. Zellmer, T. Brito-Robinson, P. Brodskiy, **D.J. Hoelzle**, S. Zhang, J. Zartman, “On-chip three-dimensional tissue histology for microbiopsies,” *Biomicrofluidics*, vol. 10, pp. 021101, 2016.
  24. Y. Xie, L.E. Rustom, A.M. McDermott, J.D. Boerckel, A.J. Wagoner Johnson, A.G. Alleyne, **D.J. Hoelzle**, “Net Shape Fabrication of Calcium Phosphate Scaffolds with Domains of Different Material Compositions,” *Biofabrication*, vol. 8, pp. 015005, 2016.
  25. **D.J. Hoelzle**, C.K. Chan, M.B. Scott, M.A. Lake, A.C. Rowat, “A large displacement, high frequency, underwater microelectromechanical systems actuator,” *Journal of Applied Physics*, vol. 117, pp. 014503, 2015.
  26. **D.J. Hoelzle**, B.A. Varghese, C.K. Chan, A.C. Rowat, “A microfluidic technique to probe cell deformability,” *Journal of Visualized Experiments*, no. 91, pp. e51474, 2014.
  27. **D.J. Hoelzle**, A.J. Wagoner Johnson, A.G. Alleyne, “Bumpless Transfer Filter for Exogenous Feedforward Signals,” *IEEE Transactions on Control Systems Technology*, vol. 22, no. 4, pp. 1581-1588, 2014.
  28. D. Qi, **D.J. Hoelzle**, A.C. Rowat, “Probing Single Cells Using Flow in Microfluidics,” *European Physical Journal E – Soft Matter and Biological Physics*, vol. 204, pp. 85 – 101, 2012.

29. E. Sutanto, K. Shigeta, Y.K. Kim, P.G. Graf, **D.J. Hoelzle**, K.L. Barton, A.G. Alleyne, P.M. Ferreira, J.A. Rogers, "A Multi-Material Electrohydrodynamic Jet (E-Jet) Printing System," *Journal of Micromechanics and Microengineering*, vol. 22, p. 045008, 2012.
30. **D.J. Hoelzle**, S.R. Svientek, A.G. Alleyne, A.J. Wagoner Johnson, "Design and Manufacture of Combinatorial Calcium Phosphate Bone Scaffolds," *ASME Journal of Biomechanical Engineering*, vol. 133, p. 101001, 2011.
31. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, "Basis Task Approach to Iterative Learning Control with Applications to micro-Robotic Deposition," *IEEE Transactions on Control Systems Technology*, vol. 19, no. 5, pp. 1138 - 1148, 2011.
32. K.L. Barton, **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, "Cross Coupled Iterative Learning Control of Systems with Dissimilar Dynamics: Design and Implementation," *International Journal of Control*, vol. 84, no. 7, pp. 1223 - 1233, 2011
33. S.K. Lan Levensgood, S.J. Polak, M.J. Poellmann, **D.J. Hoelzle**, A.J. Maki, S.G. Clark, M.B. Wheeler, A.J. Wagoner Johnson, "The Effect of BMP-2 on Micro and Macroscale Osteointegration of Biphasic Calcium Phosphate Scaffolds with Multiscale Porosity," *Acta Biomaterialia*, vol. 6, no. 8, pp. 3283 – 3291, 2010.
34. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, "Micro Robotic Deposition Guidelines by a Design of Experiments Approach to Maximize Fabrication Reliability for the Bone Scaffold Application," *Acta Biomaterialia*, vol. 4, no. 4, pp. 897 – 912, 2008.

#### **Submitted to Refereed Conference Proceedings (Full Papers)**

None currently.

#### **Refereed Conference Proceedings (Full Papers)**

1. M.F. Alam, M. Shtein, K. Barton, **D.J. Hoelzle**, "Autonomous manufacturing using machine learning: a computational case study with a limited manufacturing budget," *Proceedings of the ASME Manufacturing Science and Engineering Conference*, Cincinnati, June 22 – 26, 2020. Winner of the Best Paper Award.
2. Z. Afkhami, C. Pannier, L. Aarnoudse, **D.J. Hoelzle**, K. Barton, "Spatial Iterative Learning Control for Multi-Material 3D-Structures," *ASME Dynamic Systems and Control Conference*, Park City, UT, Oct. 8 – 11, 2019, pp. V001T10A004.
3. N. Wood, **D.J. Hoelzle**, "'Seeing' the Temperature Inside the Part during the Powder Bed Fusion Process," *Proceedings of the 2019 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 12 – 14, 2019.
4. N. Wood, H. Mendoza, P. Boulware, **D.J. Hoelzle**, "Interrogation of Mid-build Internal Temperature Distributions within Parts Being Manufactured via the Powder Bed Fusion Process," *Proceedings of the 2019 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 12 – 14, 2019.
5. A. Asghari Adib, **D.J. Hoelzle**, "Hybrid System Model of Microextrusion-Based Direct-Write Additive Manufacturing," *IEEE American Control Conference*, Philadelphia, PA, July 10 – 12, pp. 4332 – 4337, 2019.
6. A. Simeunovic, **D.J. Hoelzle**, "Coupled Dynamics of Material Delivery and Robotic Manipulator Axes in Endoscopic Additive Manufacturing," *IEEE American Control Conference*, Philadelphia, PA, July 10 – 12, pp. 687 – 692, 2019.

7. C. Pannier, M. Wu, **D.J. Hoelzle**, K. Barton, “Numerical-simulation-identified LPV models for jet-printed heightmap control,” *IEEE American Control Conference*, Philadelphia, PA, July 10 – 12, 5402 – 5407, 2019.
8. A. Simeunovic, **D.J. Hoelzle**, “Nonlinear and linear gray box models of direct-write printing dynamics,” *Proceedings of the 2018 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 13 – 15, 2018.
9. N. Wood, **D.J. Hoelzle**, “On the feasibility of a temperature state observer for powder bed fusion additive manufacturing,” *IEEE American Control Conference*, Milwaukee, WI, June 27 – 29, pp. 321 – 328, 2018.
10. Z. Wang, P. Sammons, C. Pannier, K. Barton, **D.J. Hoelzle**, “System Identification of a Discrete Repetitive Process Model for Electrohydrodynamic Jet Printing,” *IEEE American Control Conference*, Milwaukee, WI, June 27 – 29, pp. 4464 – 4471, 2018.
11. M. Diagne, P.M. Sammons, **D.J. Hoelzle**, K.L. Barton, “Hybrid Continuous-Discrete Repetitive Process Modeling of Meniscus Dynamics in Electrohydrodynamic Jet Printing,” *Proceedings of the IFAC World Congress*, pp. 13414 – 13419, 2017.
12. I. Spiegel, I. Kovalenko, **D.J. Hoelzle**, P.M. Sammons, K.L. Barton, “Hybrid modeling and identification of jetting dynamics in electrohydrodynamic jet printing,” *IEEE Conference on Control Technology and Applications*, Mauna Lani, HI, Aug. 27 – 30, pp. 695 – 701, 2017.
13. H. Peng, M. Ghasri-Khouzani, S. Gong, R. Attardo, P. Ostiguy, B. Aboud Gatrell, J. Budzinski, C. Tomonto, J. Neidig, M.R. Shankar, R. Billo, D. Go, **D.J. Hoelzle**, “Optimization of Build Orientation for Minimum Thermal Distortion in DMLS Metallic Additive Manufacturing,” *Proceedings of the 2017 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 7 – 9, 2017.
14. **D.J. Hoelzle**, H. Peng, M. Ghasri-Khouzani, S. Gong, R. Attardo, P. Ostiguy, B. Aboud Gatrell, J. Budzinski, C. Tomonto, J. Neidig, M.R. Shankar, R. Billo, D. Go, “Expert survey to understand and optimize part orientation in direct metal laser sintering,” *Proceedings of the 2017 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 7 – 9, 2017.
15. H. Peng, D.B. Go, R. Billo, S. Gong, M.R. Shankar, B. Aboud Gatrell, J. Budzinski, P. Ostiguy, R. Attardo, C. Tomonto, J. Neidig, **D.J. Hoelzle**, “Part-scale model for fast prediction of thermal distortion in DMLS additive manufacturing; Part 1: a thermal circuit network model,” *Proceedings of the 2016 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 8 – 10, 2016.
16. H. Peng, D.B. Go, R. Billo, S. Gong, M.R. Shankar, B. Aboud Gatrell, J. Budzinski, P. Ostiguy, R. Attardo, C. Tomonto, J. Neidig, **D.J. Hoelzle**, “Part-scale model for fast prediction of thermal distortion in DMLS additive manufacturing; Part 2: a quasi-static thermomechanical model,” *Proceedings of the 2016 Annual International Solid Freeform Fabrication Symposium*, Austin, TX, Aug. 8 – 10, 2016.
17. Z. Wang, C.P. Pannier, L. Ojeda, K.L. Barton, **D.J. Hoelzle**, “An Application of Spatial Iterative Learning Control to Micro-Additive Manufacturing,” *Proceedings of the IEEE American Control Conference*, Boston, MA, July 6 – 8, pp. 354 – 359, 2016.
18. C.P. Pannier, K.L. Barton, **D.J. Hoelzle**, Z. Wang, “A model of liquid-drop spreading for electrohydrodynamic jet printing,” *Proceedings of the 2015 ASME Dynamic Systems and Control Conference*, Columbus, OH, October 28 – 30, pp. V002T34A012, 2015.

19. I. Lim, K.L. Barton, and **D.J. Hoelzle**, “Spatial ILC for Multi-Objective Systems,” *Proceedings of the 2014 ASME Dynamic Systems and Control Conference*, San Antonio, TX, Oct. 22 – 24, pp. V002T30A003, 2014.
20. **D.J. Hoelzle** and K.L. Barton, “A New Spatial Iterative Learning Control Approach to micro-Additive Manufacturing,” *Proceedings of the 2014 American Control Conference*, Portland, OR, June 4 – 6, pp. 1805 – 1810, 2014.
21. **D.J. Hoelzle** and K.L. Barton, “Flexible Iterative Learning Control Using a Library Based Interpolation Scheme,” *Proceedings of the IEEE 2012 Conference on Decision and Control*, Maui, HI, December 10 – 13, pp. 3978 – 3984, 2012.
22. **D.J. Hoelzle**, A.G. Alleyne, and A.J. Wagoner Johnson, “Precision Extrusion Control for micro-Robotic Deposition of Near-Net Shape Structures,” *Proceedings of the ASME/ISCIE 2012 International Symposium on Flexible Automation*, St. Louis, MO, June 18 – 20, pp. 271 – 278, 2012.
23. E. Sutanto, **D.J. Hoelzle**, A.G. Alleyne, K. Shigeta, J.A. Rogers, “Micropositioning of a Multimaterial Electrohydrodynamic Jet Deposition System Using Vision Feedback,” *Proceedings of the ASME Dynamic Systems and Control Conference*, Arlington, VA, October 31 – November 2, pp. 851 – 857, 2011.
24. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, “Bumpless Transfer for a Flexible Adaptation of Iterative Learning Control,” *Proceedings of the 2011 IEEE American Control Conference*, San Francisco, CA, pp. 4305 – 4311, June 29 – July 1, 2011.
25. K.L. Barton, **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, “Cross Coupled Iterative Learning Control of Dissimilar Systems Using a Dynamic Filter,” *Proceedings of the Symposium on Learning Control at IEEE CDC 2009*, Shanghai, China, December 14 – 15, 2009.
26. K.L. Barton, **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, “Cross Coupled Iterative Learning Control of Dissimilar Dynamical Systems,” *Proceedings of the 2009 ASME Dynamic Systems and Control Conference*, Hollywood, CA, October 12 – 14, 2009.
27. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, “Iterative Learning Control Using a Basis Signal Library,” *Proceedings of the 2009 IEEE American Control Conference*, St. Louis, MO, pp. 925 – 930, June 10 – 12, 2009.
28. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, “Iterative Learning Control for Robotic Deposition Using Machine Vision,” *Proceedings of the 2008 IEEE American Control Conference*, Seattle, WA, pp. 4541 – 4547, June 11 – 13, 2008.

### Refereed Conference Abstracts

1. C.P. Pannier, Z. Wang, **D.J. Hoelzle**, K.L. Barton, “Novel room temperature microfluidic device fabrication: a high-resolution, 3D printing approach using electrohydrodynamic jet printing,” *Proceedings of the Hilton Head Solid-State Sensors, Actuators and Microsystems Workshop*, Hilton Head, SC, June 3 – 7, 2018.
2. C. Narciso, N. Contento, T. Storey, **D.J. Hoelzle**, J.J. Zartman, “Microfluidic platform to decode mechanotransduction mechanisms in developing organs,” *Proceedings of the AIChE*, Minneapolis, MN, October 29 – November 3, 2017.
3. C. Narciso, N. Contento, T. Storey, **D.J. Hoelzle**, J.J. Zartman, “A mechanically and electrically defined microfluidic environment for micro-organ culture,” *Proceedings of the International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS)*, October 22 – 26, 2017.

4. B.S. Preetham, M.A. Lake, **D.J. Hoelzle**, “Evaluation of curved electrode actuator dynamics in viscous dielectric media for bioMEMS applications,” *Napa Microsystems Workshop*, Napa, CA, August 21 – 23, 2017.
5. W.V. Alvarez Barrios, H. Lu, K.R. Cowdrick, M. Galarneau, L. Jiang, M. Lake, L. Yang, D. Chen, **D.J. Hoelzle**, Z. Peng, S. Zhang, “Integrative platform for the reconstruction and modeling of mechanically arrested single cells in the brain vasculature under spatial constraint and shear stress, *AACR Annual Meeting*, Washington D.C., April 1 – 5, 2017.
6. B.S. Preetham, M. Lake, **D.J. Hoelzle**, “A preliminary study of an electrostatic curved beam actuator for a bio-MEMS force sensor,” *Proceedings of the Hilton Head Solid-State Sensors, Actuators and Microsystems Workshop*, Hilton Head, SC, June 5 – 9, 2016.
7. C.P. Pannier, Z. Wang, **D.J. Hoelzle**, K.L. Barton, “Electrohydrodynamic jet printing: a 3D printing technique for sensor fabrication,” *Proceedings of the Hilton Head Solid-State Sensors, Actuators and Microsystems Workshop*, Hilton Head, SC, June 5 – 9, 2016.
8. S. Moore, **D.J. Hoelzle**, J.D. Boerckel, “Tissue hypoxia and Murray’s law of minimum work control neovascular growth and remodeling,” *Summer Biomechanics, Bioengineering, and Biotransport Conference*, UT, June 17 – 20, 2015.
9. A.J. Wagoner Johnson, L.E. Rustom, **D.J. Hoelzle**, M.D. Markel, B. Nemke, Y. Lu, “Micro porosity dominates bone growth for large and small macropores in BCP scaffolds,” *Summer Biomechanics, Bioengineering, and Biotransport Conference*, UT, June 17 – 20, 2015.
10. **D.J. Hoelzle**, S.R. Svientek, A.G. Alleyne, A.J. Wagoner Johnson, “Manufacturing Controls for the Fabrication of Tissue Scaffolds with Graded Microstructures,” *Proceedings of the Materials Science & Technology Conference & Exhibition*, Columbus, OH, October 16 – 20, pp. 1469 – 1476, 2011.
11. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, “Design of Experiments approach to maximize process reliability for bone scaffold fabrication,” *ASME Summer Bioengineering Conference*, Macro Island, FL, June 25 – 29, 2008.

## UNREFEREED PUBLICATIONS

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1. K. Barton, D. Bristow, **D.J. Hoelzle**, S. Mishra, “Mechatronics advances for the next generation of AM process control,” *IFAC Mechatronics*, vol. 64, pp. 102281, 2019.
2. M.A. Lake, C.E. Narciso, K.R. Cowdrick, T.J. Storey, S. Zhang, J.J. Zartman, **D.J. Hoelzle**, “Microfluidic device design, fabrication, and testing protocols,” *Nature Protocol Exchange*, doi:10.1038/protex.2015.069, 2015.
3. **D.J. Hoelzle**, A.N. Ford, R.D.M. Gregg, M.J. Johnson, J.P. Kemmerer, “Symposium on Emerging Topics in Control and Modeling: Biomedical Systems [Conference Reports],” *IEEE Control Systems Magazine*, vol. 30, no. 6, pp. 132 – 134, 2010.
4. **D.J. Hoelzle**, A.G. Alleyne, A.J. Wagoner Johnson, B.Y. Tay, W. Lin, “Report for the Center for Nanoscale Chemical Electrical Mechanical Manufacturing Systems (NanoCEMMS),” *NSF Second International Research and Education in Engineering Proceedings*, April 2009.
5. **D.J. Hoelzle**, N. Jain, S. Sundaram, “American Control Conference Panel Discussion on the Academic Job Search,” *ASME Dynamic Systems and Control Division Newsletter*, pp. 2 – 3, July 2008.

## INTELLECTUAL PROPERTY

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1. N.J. Wood, **D.J. Hoelzle**, “Algorithm for estimating internal temperature distributions within parts being manufactured via the powder bed fusion process,” U.S. Patent Application No. 62/923,753, *Provisional Application*.
2. **D.J. Hoelzle**, D.M. D’Souza, A. Simeunovic, A. Asghari Adib, “Additive Manufacturing methods utilizing a robotic arm,” Patent Application No. PCT/US20/26616. *Filed, Decision Pending*.
3. **D.J. Hoelzle**, “Additive manufacturing device for biomaterials,” U.S. Patent Application No: 62335438, *Filed, Decision Pending*.
4. S. Zhang, J. Zartman, **D.J. Hoelzle**, C. Narciso. “Microfluidic devices, systems, and methods for evaluating tissue samples,” 2018, U.S. Patent No: 9,975,121 B2.
5. A.C. Rowat, **D.J. Hoelzle**, C.K. Chan, “Mechanical Phenotyping of Single Cells: High-Throughput Quantitative Detection and Sorting,” 2016, U.S. Patent No: 9,423,234.

## INVITED LECTURES AND ADDRESSES

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1. *Ohio State Materials Week*, Columbus, OH, May 8, 2019.
2. Dept. of Mechanical Engineering, *University of Washington*, April 22, 2019.
3. Dept. of Biomedical Engineering, *The Ohio State University*, March 22, 2019.
4. Materials and Manufacturing Directorate, *Air Force Research Lab*, Dayton, OH, August 28, 2018.
5. *NSF Integrated Future of Additive Manufacturing, Design, Production and Qualification Workshop*, Alexandria, VA, July 23, 2018.
6. *Ohio State Materials Week*, Columbus, OH, May 10, 2018.
7. *America Makes TRX+*, San Francisco, CA, September 20, 2017.
8. *America Makes TRX @ GE Global Research*, Niskayuna, NY, July 19, 2016.
9. *Johnson & Johnson 3D Printing Technical Summit*, New Brunswick, NJ, July 13, 2016.
10. *Additive Manufacturing Users Group*, St. Louis, MO, April 4, 2016.
11. Dept. of Mechanical Engineering, *Northwestern University*, February 25, 2016.
12. Dept. of Mechanical and Aerospace Engineering, *Case Western Reserve University*, February 11, 2016.
13. Depts. of Industrial and Mechanical Engineering, *University of Pittsburgh*, February 9, 2016.
14. Dept. of Mechanical Engineering, *Rice University*, January 27, 2016.
15. Dept. of Mechanical and Aerospace Engineering, *The Ohio State University*, January 22, 2016.
16. *Advances in Microfluidics and Nanofluidics*, Beijing, China, August 19, 2015.
17. Systems, Dynamics and Control Seminar Series, Dept. of Mechanical and Aerospace Engineering, *University of California, Los Angeles*, December 9, 2011.
18. Dept. of Mechanical Engineering, *Stevens Institute of Technology*, April 12, 2011.
19. Dept. of Aerospace and Mechanical Engineering, *University of Notre Dame*, March 24, 2011.
20. Dept. of Mechanical Engineering and Materials Science, *Washington University in St. Louis*, October 7, 2010.

## CURRENT GRANTS AND SPONSORED PROGRAMS

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### Extramural Funding

1. NSF IIP-1919204

“PFI-RP: Materials and surgical characterization for minimally invasive additive manufacturing of synthetic tissues inside the body,” PI on a project funded for \$541,811 by the NSF IIP Partnership for Innovation Program, 8/1/2019 – 7/31/2022. PI: **David Hoelzle**. Co-PIs: Desmond D’Souza (OSU Wexner Medical Center) and Jonathan Sorger (Intuitive Surgical).

2. NSF CMMI-1727894

“SNM: Manufacturing Autonomy for Directed Evolution of Materials (MADE-Materials) for Robust, Scalable Nanomanufacturing,” PI on a project funded for \$1,494,719 by the NSF CMMI Scalable Nanomanufacturing Program, 9/1/2017 – 8/31/2021. PI: **David Hoelzle**. Sub-awardees: Kira Barton and Max Shtein (University of Michigan).

3. NSF CMMI-1708819

“CAREER: Manufacturing Tools for the Next Generation of Tissue Engineering, Manufacturing Education for the Next Generation of Engineers,” PI on a project funded for \$507,832 by the NSF CMMI Manufacturing Machines and Equipment Program, 5/1/2016 – 4/30/2021. PI: **David Hoelzle**.

**Intramural Funding**

1. Smart Vehicle Concepts Seed Program.

“‘Seeing’ the temperature inside a 3D printed part,” PI on a project funded for \$15,000, 5/1/2018 – 4/30/2019. PI: **David Hoelzle**.

**Mentored Student Fellowships**

1. GRT00059461-60076146

“(DAGSI) Automation to enable the design of topology optimized monoliths: a feedback control solution to a difficult problem,” PI mentor on a project funded for \$104,552 external + \$48,316 cost share by the Air Force Research Laboratory, 6/1/2020 – 5/31/2021. PI: **David Hoelzle**, Student: Nathaniel Wood.

## COMPLETED GRANTS AND SPONSORED PROGRAMS

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**Extramural Funding**

1. NSF CMMI-1434660

“Collaborative Research: A novel control strategy for 3D printing of micro-scale devices,” lead PI on a project funded for \$479,601 by the NSF CMMI Sensors, Dynamics, and Control Program, 9/1/2014 – 8/31/2017. PIs: **David Hoelzle (lead)** and Kira Barton (University of Michigan). Funding of \$148,337 for ND side of project.

2. NSF CBET-1403887

“Decoding organ-level intercellular signaling in an active, regulated microenvironment,” co-PI on a project funded for \$599,999 by the NSF CBET Biotechnology, Biochemical and Biomass Engineering Program, 6/1/2014 – 5/31/2017. PI: Jeremiah Zartman. Co-PIs: **David Hoelzle** and Mark Alber.

3. America Makes

“Parametric design of functional support structures for metal alloy feedstocks,” University of Pittsburgh led project funded at \$805,966 with Notre Dame sub-contract of \$233,725, 9/15/2015 – 5/31/2017. Notre Dame PI: **David Hoelzle**. Notre Dame Co-PIs: Richard Billo and Steven Schmid.

4. America Makes

“Economic production of next generation orthopedic materials through powder reuse in AM,” University of Notre Dame led project funded at \$638,767, 9/15/2015 – 9/30/2017. America Makes is the flagship institute of the National Network for Manufacturing Innovation. Lead PI: Steven Schmid. Notre Dame co-PIs: Richard Billo and **David Hoelzle**.

### **Intramural Funding**

5. Engineering Novel Solutions to Cancer’s Challenges at the Interdisciplinary Interface (Walther Cancer Foundation)  
“Development of a novel microdevice to understand the link between tumor cell mechanical heterogeneity and cancer invasiveness,” primary mentor on a fellowship funded for \$55,512 per year, renewable up to three years. 7/1/2015 – 12/31/2016. Fellow: Sindhu Preetham Burugupally. Mentors: **David Hoelzle (primary)** and Siyuan Zhang.
6. “Prototype mechanotyping instrument and pilot study: first investigation into the link between mechanotype heterogeneity and cancer phenotypes,” PI on a project funded for \$30,000 by an American Cancer Society Institutional Research Grant, 6/1/2015 – 5/31/2016. PI: **David Hoelzle**.
7. “3D Reconstruction of Tumor Biopsies: an N<sup>th</sup>-Dimensional Imaging Approach for Next Generation Diagnostics,” lead PI on a project funded for \$30,000 by the Advanced Diagnostics and Therapeutics Initiative at Notre Dame, 9/1/2014 – 8/31/2015. PIs: **David Hoelzle (lead)**, Jeremiah Zartman and Siyuan Zhang, all at Notre Dame.

### **Mentored Student Fellowships**

1. NSF DGE-1343012  
NSF Graduate Research Fellowship Program, May 1, 2017 – April 30, 2020. PI: **David Hoelzle**, Student: Andrej Simeunovic.

## **PROFESSIONAL SOCIETIES**

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- Institute of Electrical and Electronics Engineers, 2006 – present
- American Society of Mechanical Engineers, 2006 – present
- Society of Manufacturing Engineers, 2015 – present
- Tau Beta Pi Engineering Honors Society, 2017 – present
- Pi Tau Sigma Mechanical Engineering Honors Society, 2003 – 2005

## **ACADEMIC SERVICE**

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### **Editorial**

|   |                |
|---|----------------|
| Associate Editor, <i>ASME J. Dynamic Systems, Measurement and Control</i>                       | 2019 – present |
| Associate Editor, <i>IFAC Mechatronics</i>  | 2017 – present |
| Guest Editor, <i>IFAC Mechatronics Special Issue on Mechatronics and Additive Manufacturing</i> | 2016 – 2019    |

### **Organization of Professional Meetings**

#### Conference Session Organization

|  |             |
|--|-------------|
| <i>Students and Young Members Chair</i>                                | 2019 - 2021 |
| 2021 ASME Dynamic Systems and Control Conference, Austin, TX           |             |
| <i>Invited Session, Modeling and Control of Advanced Manufacturing</i> | Summer 2018 |

*Processes*

IEEE American Control Conference, Milwaukee, WI  
*Program Committee* Summer 2016  
ASME/ISCIE International Symposium on Flexible Automation,  
Cleveland, OH  
*Invited Session, New Directions in Iterative Learning Control* Summer 2016  
IEEE American Control Conference, Boston, MA  
*Invited Sessions, Emerging Trends in Iterative Learning Control and* Summer 2015  
*Robust and Optimal Iterative Learning Control*  
IEEE American Control Conference, Chicago, IL  
*Frontier Session, Control Systems for Advanced Manufacturing: New* Fall 2014  
*Frontiers or Old Problems Retooled*  
ASME Dynamic Systems and Control Conference, San Antonio, TX  
*Invited Session, Emerging Topics in Iterative Learning Control* Summer 2014  
IEEE American Control Conference, Portland, OR

Symposium Organization: Symposium on Emerging Topics in Control & Spring 2010  
Modeling: Biomedical Systems, Urbana, IL  
URL: <http://biomedsym.beckman.illinois.edu/>

**Institutional**

Co-Director for Alumni Relations and Development, MAE Dept. 2018 – present  
Fellowship Subcommittee Member, Ohio State, MAE Dept. 2016 – present  
Graduate Admissions Subcommittee Member, Ohio State, MAE Dept. 2016 – present  
Faculty Search Committee Member, Ohio State, MAE Dept., Robotics Spring 2018  
Faculty Search Committee Member, Ohio State, MSE Dept., Lincoln Chair in Welding Spring 2018  
Faculty Search Committee Member, Ohio State, MAE Dept., Robotics Spring 2017  
Tau Beta Pi Faculty Adviser, Ohio State 2017 – present  
Faculty Search Committee Member, Notre Dame, AME Dept., General Spring 2016  
Undergraduate Curriculum Committee Member, Notre Dame, AME Dept. 2015 - 2016

**K-12 Educational Outreach**

Program Emcee: Northern Indiana MATHCOUNTS competition 2014 - 2016  
Engineering Career Day Panelist: Montebello (CA) Unified School District College Bound Career Day (Winter 2012, Spring 2012)  
Speaker: Notre Dame Introduction to Engineering Summer program (2015), NanoChallenge (Fall 2008), GAMES Camp (Summers 2009 and 2010), Lego Robotics Team (Fall 2010)

**Reviewer**

Government Panels

|  |      |
|--|------|
| <i>NSF Future Manufacturing</i>  | 2020 |
| <i>NSF Cyberphysical Systems</i>                                       | 2019 |
| <i>NSF Civil, Mechanical and Manufacturing Innovation Division (2)</i> | 2018 |
| <i>NSF Civil, Mechanical and Manufacturing Innovation Division</i>     | 2017 |
| <i>NSF Civil, Mechanical and Manufacturing Innovation Division (2)</i> | 2016 |
| <i>NSF Civil, Mechanical and Manufacturing Innovation Division</i>     | 2015 |
| <i>NSF Civil, Mechanical and Manufacturing Innovation Division</i>     | 2014 |
| <i>NSF Civil, Mechanical and Manufacturing Innovation Division</i>     | 2013 |
| <i>NSF Electrical, Communications and Cyber Systems Division</i>       | 2013 |

Refereed Academic Journals and Conferences (last 5 years)

*Academic Journals*

|  |                        |
|--|------------------------|
| Acta Biomaterialia                               | 2013, 2014, 2015       |
| Asian Journal of Control                         | 2013, 2014, 2016       |
| ASME J. Dyn. Sys., Measurement and Control       | 2017                   |
| ASME J. Manufacturing Sci. and Eng.              | 2014, 2016             |
| IFAC Automatica                                  | 2015, 2016             |
| Biomicrofluidics                                 | 2015, 2016             |
| IEEE Trans. Control Systems Tech.                | 2013, 2015, 2016, 2017 |
| IEEE Trans. Industrial Electronics               | 2015                   |
| IEEE Trans. Robotics                             | 2015                   |
| International J. of Control                      | 2016                   |
| International J. of Robust and Nonlinear Control | 2016                   |
| J. Intelligent Material Systems and Structures   | 2019                   |
| J. Manufacturing Process                         | 2017                   |
| IFAC Mechatronics                                | 2013, 2014, 2016, 2017 |
| Nature Microsystems & Nanoengineering            | 2019                   |
| Nature Scientific Reports                        | 2015                   |
| PLOS ONE   | 2014                   |
| RSC Lab on a Chip                                | 2017                   |
| SME Manufacturing Letters                        | 2017                   |

*Academic Conferences*

|  |                                    |
|--|------------------------------------|
| ASME Dynamic Sys. Control Conf.        | 2014, 2015, 2016                   |
| IEEE American Control Conf.            | 2014, 2015, 2016, 2017, 2018, 2019 |
| IEEE Advanced Intelligent Mechatronics | 2016                               |
| IEEE Conf. Decision and Control        | 2013, 2014, 2015, 2016             |
| IEEE Multi-Conf. on Sys. and Control   | 2015                               |
| IFAC World Congress                    | 2014                               |

**TEACHING EXPERIENCE**

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|   |                             |
|---|-----------------------------|
| <b>Instructor</b> , MECHENG 3360, Systems Integration and Control<br><i>Dept. Mechanical and Aerospace Eng., Ohio State</i> | Springs 2017,<br>2018, 2019 |
| <b>Instructor</b> , MECHENG 6194, Science and Engineering Foundations of  | Fall 2018                   |

Additive Manufacturing, *Dept. of Mechanical and Aerospace Eng., Ohio State*

**Instructor**, MECHENG 7752, Mechanics and Control of Robots Fall 2017  
*Dept. Mechanical and Aerospace Eng., Ohio State*

**Instructor**, AME 30315: Diff. Eqns., Vibrations, and Control II Springs 2013\*,  
2014, 2015,  
and 2016  
*Dept. of Aerospace and Mechanical Eng., University of Notre Dame*  
Average of 122 students per semester

\* Recipient of the Dept. of Aerospace and Mechanical Engineering Award  
for Excellence in Teaching

**Instructor**, AME 50652: Intermediate Control Springs 2015  
and 2016  
*Dept. of Aerospace and Mechanical Eng., University of Notre Dame*

**Course Developer and Substitute Lecturer**, ME 598: Special Topics - Spring 2011  
Iterative Learning Control  
*Dept. Mechanical Science and Eng., University of Illinois*

## POST-DOCTORAL AND STUDENT ADVISING

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### Current Graduate Students

#### Primary Adviser

- | <i>Student Name</i>   | <i>Expected Graduation</i> |
|---|----------------------------|
| ○ Rodrigo Enriquez, Ohio State<br><i>Project: Human-machine interface for endoscopic additive manufacturing</i>       | May 2022                   |
| ○ Md. Ferdous Alam, Ohio State<br><i>Project: Machine learning for manufacturing applications</i>                     | May 2023                   |
| ○ Nathaniel Wood, Ohio State<br><i>Project: Temperature state observers for powder bed fusion</i>                     | May 2023                   |
| ○ Ali Asghari Adib, Ohio State<br><i>Project: Hydrogel biomaterial delivery via endoscopic additive manufacturing</i> | May 2020                   |
| ○ Andrej Simeunovic, Ohio State<br><i>Project: Dynamics of material delivery in additive manufacturing</i>            | May 2021                   |

#### Committee Member

- William Burns, Ph.D., Dept. of Aerospace and Mechanical Engineering, Notre Dame
- Cody Narciso, Ph.D., Dept. of Chemical and Biomolecular Engineering, Notre Dame
- Hongfei Zhu, Ph.D., Dept. of Aerospace and Mechanical Engineering, Notre Dame
- Jiyu Zhang, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Timothy Seitz, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Jingqiang Zha, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Bharatkumar Hegde, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Nathaniel Kingry, Masters, Dept. of Mechanical and Aerospace Engineering, Ohio State
- Sajith Dharmasena, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Christopher Pannier, Ph.D., Dept. of Mechanical Engineering, University of Michigan
- Kirti Mishra, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Changhuang Wan, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Shreshtha Deshpande, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Tianyang Han, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State

- Sean Chillelli, Masters, Dept. of Mechanical and Aerospace Engineering, Ohio State
- Shi-Ling Yeh, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Ta Min Meng, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State
- Cristian Rostiti, Ph.D., Dept. of Mechanical and Aerospace Engineering, Ohio State

#### Previous Post-Doctoral Research Associates

| <i>Associate Name</i>         | <i>Current Employer</i>       | <i>Dates</i>             |
|-------------------------------|-------------------------------|--------------------------|
| ○ Chaitanya Vallabh           | Postdoc, U Pittsburgh         | January 2018 – May 2019  |
| ○ Sindhu Preetham Burugupally | Asst. Prof., Wichita State U. | June 2015 – August 2017  |
| ○ Hao Peng                    | Siemens                       | October 2015 – May 2017  |
| ○ Nicholas Contento           | Choate, Hall & Stewart        | February 2016 – May 2017 |

#### Previous Graduate Students

| <i>Student Name</i> | <i>Current Employer</i> | <i>Degree, Date</i>           |
|---------------------|-------------------------|-------------------------------|
| ○ Zhi Zhang         | ASML                    | Masters, Aug. 2020            |
| ○ Antony George     | Unknown                 | Non-thesis masters, Dec. 2019 |
| ○ Mindy Lake        | Purdue University       | Ph.D., Aug. 2019              |
| ○ Zhi Wang          | Mathworks, Inc.         | Ph.D., May 2018               |
| ○ Stephen Bedard    | Snoptics, Inc.          | Non-thesis masters, Aug. 2016 |
| ○ Thomas Storey     | Vestas Wind Systems A/S | Non-thesis masters, Dec. 2015 |

#### Current and Previous Undergraduate Students (all primary adviser)

| <i>Student Name</i> | <i>Student's Institution</i> | <i>Dates</i>      |
|---------------------|------------------------------|-------------------|
| ○ Marissa Egan      | Ohio State University        | 06/2020 – present |
| ○ Elijah Yates      | Ohio State University        | 06/2020 – present |
| ○ Patrick Tosh      | Ohio State University        | 06/2020 – present |
| ○ Lia Ferguson      | Ohio State University        | 10/2019 – present |
| ○ Christopher Eubel | Ohio State University        | 09/2019 – 08/2020 |
| ○ Jonathan Winkler  | Ohio State University        | 01/2018 – 06/2019 |
| ○ Jerrell Ong       | Ohio State University        | 05/2018 – 12/2018 |
| ○ Taylor Kemp       | University of Wisconsin      | 05/2018 – 08/2018 |
| ○ Jaeyeon Kim       | Ohio State University        | 09/2017 – 12/2017 |
| ○ Jack Chen         | Ohio State University        | 05/2017 – 08/2017 |
| ○ Corey Marcus      | Ohio State University        | 05/2017 – 05/2018 |
| ○ Jordan Mangels    | Ohio State University        | 05/2017 – 08/2017 |
| ○ Nathaniel Wood    | Ohio State University        | 01/2017 – 12/2017 |
| ○ Santiago Martinez | University of Notre Dame     | 05/2015 – 08/2015 |
| ○ Jacob Bur         | University of Notre Dame     | 08/2014 – 05/2015 |
| ○ Maxwell Kennard   | University of Notre Dame     | 05/2014 – 07/2015 |
| ○ John Castellini   | University of Notre Dame     | 08/2014 – 05/2015 |
| ○ Ryan Williams     | University of Notre Dame     | 01/2014 – 05/2014 |
| ○ James Dawahare    | University of Notre Dame     | 01/2014 – 05/2014 |
| ○ Trunghau Nguyen   | University of Notre Dame     | 08/2013 – 05/2014 |
| ○ Matthew Nagy      | University of Notre Dame     | 01/2013 – 05/2014 |
| ○ A. James Schmidt  | University of Notre Dame     | 08/2013 – 05/2014 |
| ○ Daniel Muldoon    | University of Notre Dame     | 08/2013 – 12/2013 |
| ○ Julia Concelman   | University of Notre Dame     | 12/2012 – 05/2013 |
| ○ Sebastian Ortega  | University of Notre Dame     | 01/2013 – 05/2013 |
| ○ Jake Pellegrini   | University of Notre Dame     | 12/2012 – 05/2013 |
| ○ Joseph Williams   | University of Notre Dame     | 12/2012 – 05/2013 |
| ○ Michael Scott     | University of California, LA | 11/2011 – 11/2012 |

|                       |                               |                   |
|-----------------------|-------------------------------|-------------------|
| ○ Olivia Eggenberger  | Albion College                | 06/2012 – 08/2012 |
| ○ Shelby Svientek     | University of Illinois, U-C   | 01/2011 – 10/2011 |
| ○ Heather August      | University of Illinois, U-C   | 08/2009 – 05/2010 |
| ○ Seongsu Yun         | University of Illinois, U-C   | 06/2009 – 09/2009 |
| ○ Stephanie De Coteau | University of the West Indies | 05/2007 – 07/2007 |
| ○ Danchin Chen        | University of Illinois, U-C   | 05/2006 – 09/2006 |

## **SCHOLARSHIPS, FELLOWSHIPS, AND AWARDS**

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- Best Paper Award, Manufacturing Science and Engineering Conference, 2020.
- Ohio State College of Engineering Lumley Research Award, 2019
- National Academy of Engineering US Frontiers of Engineering Symposium participant, 2017
- National Science Foundation CAREER Award recipient, 2016
- Society of Manufacturing Engineers Outstanding Young Manufacturing Engineer Award, 2016
- Dept. of Aerospace and Mechanical Engineering Award for Excellence in Teaching, Notre Dame, 2013
- Best Presentation in Session Award, IEEE American Control Conference, St. Louis, MO, 2009
- Mechanical Science and Engineering Outstanding Scholar Supplement, UIUC, 2006 – 2009
- NSF International Research and Education in Engineering Grant, UIUC, 2007
- Mechanical Science and Engineering Outstanding Scholar Fellowship, UIUC, 2005 – 2006
- Sente Academic Scholarship, OSU, 2002 – 2005
- University Scholarship, OSU, 2001 – 2005
- Mechanical Engineering Alumni Scholarship, OSU, 2003 – 2004
- Scarlet and Gray Scholarship, OSU, 2002 – 2003