

# Paul T. Grogan

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## Employment

Arizona State University	Tempe, AZ
Ira A. Fulton Schools of Engineering	
School of Computing and Augmented Intelligence	
Associate Professor (with Tenure)	Aug. 2023–Present
Stevens Institute of Technology	Hoboken, NJ
School of Systems and Enterprises	
Associate Professor (with Tenure)	Jan. 2023–Aug. 2023
Assistant Professor	Jan. 2016–Dec. 2022
Massachusetts Institute of Technology	Cambridge, MA
Institute for Data, Systems, and Society	
Postdoctoral Research Associate	Jun. 2014–Dec. 2015

## Education

Ph.D. Engineering Systems	Jun. 2014
Massachusetts Institute of Technology	Cambridge, MA
Thesis Advisor: O.L. de Weck	
S.M. Aeronautics & Astronautics	Sep. 2010
Massachusetts Institute of Technology	Cambridge, MA
Thesis Advisor: O.L. de Weck	
B.S. Engineering Mechanics & Astronautics	May 2008
University of Wisconsin–Madison	Madison, WI
Double Major in Mathematics, Certificate in Computer Science	
Engineering Honors in Liberal Arts	

## Publications

### *Refereed Journal Articles*

1. J. L. Stern, A. Siddiqi, and P. T. Grogan, “Effects of individual strategies for resource access on collaboratively maintained irrigation infrastructure,” *Systems Engineering*, pp. 1–17, 2023. DOI: 10.1002/sys.21701
2. A. Z. Avşar and P. T. Grogan, “Effects of differential risk attitudes in collaborative systems design,” *Systems Engineering*, pp. 1–13, 2023. DOI: 10.1002/sys.21687
3. R. Andrade, P. Grogan, and S. Moazeni, “Simulation-based assessment of data-driven processes in customer support systems,” *IEEE Open Journal of Systems Engineering*, pp. 1–10, 2023. DOI: 10.1109/OJSE.2023.3265435

4. B. Chell, M. LeVine, L. Capra, J. J. Sellers, and P. T. Grogan, “New observing strategies testbed: A digital prototyping platform for distributed space missions,” *Systems Engineering*, pp. 1–12, 2023. DOI: 10.1002/sys.21672
5. J. F. Anderson, M.-A. Cardin, and P. T. Grogan, “Design and analysis of flexible multi-layer staged deployment for satellite mega-constellations under demand uncertainty,” *Acta Astronautica*, vol. 198, pp. 179–193, 2022. DOI: 10.1016/j.actaastro.2022.05.022
6. J. L. Stern and P. T. Grogan, “Federated space systems trade-space exploration for strategic robustness,” *Journal of Spacecraft and Rockets*, vol. 59, no. 4, pp. 1240–1254, 2022. DOI: 10.2514/1.A35103. engrXiv: osf.io/6enz8
7. J. L. Stern, A. Valencia-Romero, and P. T. Grogan, “Strategic robustness in bi-level collaborative systems design,” *Design Science*, vol. 8, no. e6, pp. 1–31, 2022. DOI: 10.1017/dsj.2022.2. engrXiv: osf.io/gm9kx
8. B. M. Gardner and P. T. Grogan, “Probabilistic launch delay models for human spaceflight missions,” *Journal of Spacecraft and Rockets*, vol. 58, no. 5, pp. 1563–1567, 2021. DOI: 10.2514/1.A34896
9. P. T. Grogan, “Perception of complexity in engineering design,” *Systems Engineering*, vol. 24, no. 4, pp. 221–233, 2021. DOI: 10.1002/sys.21574. engrXiv: engrxiv.org/mscp6
10. P. T. Grogan, “Co-design and co-simulation for engineering systems: Insights from the Sustainable Infrastructure Planning Game,” *Design Science*, vol. 7, no. e11, pp. 1–45, 2021. DOI: 10.1017/dsj.2021.10. arXiv: 2008.04353 [cs.CY]
11. H. Chen, B. M. Gardner, P. T. Grogan, and K. Ho, “Flexibility management for space logistics through decision rules,” *Journal of Spacecraft and Rockets*, vol. 58, no. 5, pp. 1314–1324, 2021. DOI: 10.2514/1.A34985
12. J. Thekinen and P. T. Grogan, “Information exchange patterns in digital engineering: An observational study using web-based virtual design studio,” *Journal of Computing and Information Science in Engineering*, vol. 21, no. 4, pp. 041 012–1–14, 2021. DOI: 10.1115/1.4050087
13. A. Valencia-Romero and P. T. Grogan, “Structured to succeed?: Strategy dynamics in engineering systems design and their effect on collective performance,” *Journal of Mechanical Design*, vol. 142, no. 12, pp. 121 404–1–14, 2020. DOI: 10.1115/1.4048115
14. A. Chaudhari, E. L. Gralla, Z. Szajnfarter, P. T. Grogan, and J. H. Panchal, “Designing representative model worlds to study socio-technical phenomena: A case study of communication patterns in engineering systems design,” *Journal of Mechanical Design*, vol. 142, no. 12, pp. 121 403–1–17, 2020. DOI: 10.1115/1.4048295
15. Z. Szajnfarter, P. T. Grogan, J. H. Panchal, and E. Gralla, “A call for consensus on the use of representative model worlds in systems engineering and design,” *Systems Engineering*, vol. 23, no. 4, pp. 436–442, 2020. DOI: 10.1002/sys.21536
16. A. Ehsanfar and P. T. Grogan, “Auction-based algorithms for routing and task scheduling in federated networks,” *Journal of Network and Systems Management*, vol. 28, pp. 271–297, 2020. DOI: 10.1007/s10922-019-09506-y

17. A. Ehsanfar and P. T. Grogan, "Mechanism design for exchanging resources in federated networks," *Journal of Network and Systems Management*, vol. 28, pp. 108–132, 2020. DOI: 10.1007/s10922-019-09498-9
18. P. T. Grogan and A. Valencia-Romero, "Strategic risk dominance in multi-actor engineered systems," *Design Science*, vol. 5, no. e24, pp. 1–28, 2019. DOI: 10.1017/dsj.2019.23
19. M. Törngren and P. T. Grogan, "How to deal with the complexity of future cyber-physical systems?" *Designs*, vol. 2, no. 4, pp. 1–16, 2018. DOI: 10.3390/designs2040040
20. P. T. Grogan, K. Ho, A. Golkar, and O. L. de Weck, "Multi-actor value modeling for federated systems," *IEEE Systems Journal*, vol. 12, no. 2, pp. 1193–1202, 2018. DOI: 10.1109/JSYST.2016.2626981
21. P. T. Grogan, "Data on multi-actor parameter design tasks by engineering students with variable problem size, coupling, and team size," *Data in Brief*, vol. 20, pp. 1079–1084, 2018. DOI: 10.1016/j.dib.2018.08.162
22. P. T. Grogan and O. L. de Weck, "Infrastructure system simulation interoperability using the High Level Architecture," *IEEE Systems Journal*, vol. 12, no. 1, pp. 103–114, 2018. DOI: 10.1109/JSYST.2015.2457433
23. P. T. Grogan and S. A. Meijer, "Gaming methods in engineering systems research," *Systems Engineering*, vol. 20, no. 6, pp. 542–552, 2017. DOI: 10.1002/sys.21409
24. P. T. Grogan and O. L. de Weck, "Collaboration and complexity: An experiment on the effect of multi-actor coupled design," *Research in Engineering Design*, vol. 27, no. 3, pp. 221–235, 2016. DOI: 10.1007/s00163-016-0214-7
25. P. T. Grogan and O. L. de Weck, "The ISoS modeling framework for infrastructure systems simulation," *IEEE Systems Journal*, vol. 9, no. 4, pp. 1139–1150, 2015. DOI: 10.1109/JSYST.2015.2420553
26. H. K. Yue, P. T. Grogan, and O. L. de Weck, "Logistical analysis of a flexible human and robotic Mars exploration campaign," *Journal of Spacecraft and Rockets*, vol. 51, no. 2, pp. 640–645, 2014. DOI: 10.2514/1.A32373
27. A. Adepetu, P. T. Grogan, A. Alfari, D. Svetinovic, and O. L. de Weck, "Functional and spatial system model for city infrastructure systems: A City.Net IES case study," *Systems Engineering*, vol. 17, no. 1, pp. 62–76, 2014. DOI: 10.1002/sys.21251
28. P. T. Grogan, A. Siddiqi, and O. L. de Weck, "Matrix methods for optimal manifesting of multi-node space exploration systems," *Journal of Spacecraft and Rockets*, vol. 48, no. 4, pp. 679–690, 2011. DOI: 10.2514/1.51870

### Book Chapters

1. P. T. Grogan, "Evolving university programs on systems engineering," in *Systems Engineering in the Digital Age: Practitioner Perspectives*, D. Verma, Ed. Wiley, 2023, ch. 40, In production.
2. J. H. Panchal and P. T. Grogan, "Designing for technical behaviour," in *Handbook of Engineering Systems Design*, A. Meijer, J. Oehmen, and P. Vermaas, Eds. Springer, 2021, ch. 19, pp. 1–30. DOI: 10.1007/978-3-030-46054-9\_17-2

*Refereed Conference Proceedings*

1. A. Z. Avşar and P. T. Grogan, "Identification of designer search strategies and their effects on performance outcomes in pair parameter design tasks," in *2023 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Boston, MA, Aug. 2023
2. J. I. Tapia and P. T. Grogan, "Dynamic targeting for precipitation observing missions: Integrating the GEOS-5 nature run data set," in *2023 IEEE International Geoscience and Remote Sensing Symposium*, Pasadena, CA, Jul. 2023
3. J. Bardaji, A. Bayazid, J. I. Tapia, E. Cho, C. Vuyovich, and P. T. Grogan, "Constellation evaluation tools for a new snow observing strategy," in *2023 IEEE International Geoscience and Remote Sensing Symposium*, Pasadena, CA, Jul. 2023
4. J. I. Tapia and P. T. Grogan, "Efficient coverage methods for earth observing tradespace analysis," in *2023 IEEE International Systems Conference (SysCon)*, Vancouver, Canada, Apr. 2023. DOI: 10.1109/SysCon53073.2023.10131142
5. P. T. Grogan and J. I. Tapia, "Using JSON Schema to model satellite systems in the Tradespace Analysis Tool for Constellations," in *2023 Conference on Systems Engineering Research (CSER)*, Hoboken, NJ, Mar. 2023
6. J. I. Tapia and P. T. Grogan, "Analysis of ground network selection for data latency in precipitation-observing space missions," in *2023 IEEE Aerospace Conference*, Big Sky, MT, Mar. 2023. DOI: 10.1109/AER055745.2023.10115792
7. A. Z. Avşar, J. L. Stern, and P. T. Grogan, "Measuring risk attitudes for strategic decision-making in a collaborative engineering design process," in *2022 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, St. Louis, MO, Aug. 2022. DOI: 10.1115/DETC2022-90216
8. J. Thekinen and P. T. Grogan, "Effects of augmented information system on design communication: A human-subject study using aircraft design studio," in *2022 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, St. Louis, MO, Aug. 2022. DOI: 10.1115/DETC2022-91086
9. M. J. LeVine, B. Chell, L. Capra, J. J. Sellers, and P. T. Grogan, "Planning, implementing, and executing test campaigns with the New Observing Strategies Testbed (NOS-T): The FireSat+ example," in *2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, Jul. 2022. DOI: 10.1109/IGARSS46834.2022.9883290
10. M. Seablom, J. Le Moigne, S. Kumar, B. Forman, and P. Grogan, "Real-time applications of the NASA Earth Science "New Observing Strategy"," in *2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, Jul. 2022. DOI: 10.1109/IGARSS46834.2022.9883850
11. B. Smith, S. Kumar, L. Nguyen, T. Chee, J. Mason, S. Chien, C. Frost, R. Akbar, M. Moghaddam, A. Getirana, L. Capra, and P. Grogan, "Demonstrating a new flood observing strategy on the NOS Testbed," in *2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, Jul. 2022. DOI: 10.1109/IGARSS46834.2022.9883411

12. B. Chell, M. J. LeVine, L. Capra, J. J. Sellers, and P. T. Grogan, "Conceptual design of space missions integrated with real-time, in situ sensors," in *Transdisciplinary Engineering 2022: The Future of Engineering*, B. R. Moser, P. Koomsap, and J. Stjepandić, Eds., ser. Advances in Transdisciplinary Engineering, vol. 28, IOS Press, 2022, pp. 350–359. DOI: 10.3233/ATDE220664. engrXiv: <https://doi.org/10.31224/2408>
13. A. Z. Avşar, S. S. Chiesi, and P. T. Grogan, "Effects of data exchange methods on perceived risk and trust in digital engineering," in *Transdisciplinary Engineering 2022: The Future of Engineering*, B. R. Moser, P. Koomsap, and J. Stjepandić, Eds., ser. Advances in Transdisciplinary Engineering, vol. 28, IOS Press, 2022, pp. 249–258. DOI: 10.3233/ATDE220653
14. H. Behrooz, Y. M. Hayeri, and P. T. Grogan, "A discrete-time simulation model for NYC bike-share system," in *2022 International Conference on Transportation & Development*, Seattle, WA, May 2022. DOI: 10.1061/9780784484340.001
15. S. S. Chiesi and P. T. Grogan, "A surrogate model approach for studying performance cycle time in complex system development," in *32nd Annual INCOSE International Symposium*, Detroit, MI, Jun. 2022
16. I. J. Tapia-Tamayo and P. T. Grogan, "Tradespace analysis of cross-calibration in missions observing ocean color," in *2022 IEEE International Systems Conference (SysCon)*, Virtual, Online, Apr. 2022. DOI: 10.1109/SysCon53536.2022.9773825
17. J. L. Stern and P. T. Grogan, "Sampling evaluation to measure observing system representativeness," in *2021 IEEE International Geoscience and Remote Sensing Symposium*, Virtual, Online, Jul. 2021. DOI: 10.1109/IGARSS47720.2021.9554889
18. P. T. Grogan, H. C. Daly, M. S. Brand, and J. J. Sellers, "New Observing Strategies Testbed (NOS-T) architecture: Evaluating dynamic response to emergent events," in *2021 IEEE International Geoscience and Remote Sensing Symposium*, Virtual, Online, Jul. 2021. DOI: 10.1109/IGARSS47720.2021.9555131
19. P. T. Grogan and J. L. Stern, "Coordinating observation at global and local scales: Service-oriented platform to evaluate mission architectures," in *2020 IEEE International Geoscience and Remote Sensing Symposium*, Virtual, Online, Sep. 2020. DOI: 10.1109/IGARSS39084.2020.9323712
20. A. Avşar and P. T. Grogan, "Effects of Locus of Control personality trait on team performance in cooperative engineering design tasks," in *2020 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Virtual, Online, Aug. 2020. DOI: 10.1115/DETC2020-22641
21. H. C. Daly and P. T. Grogan, "Towards a reference architecture for digital and model-based engineering information systems," in *Recent Trends and Advances in Model Based Systems Engineering*, A. M. Madni, B. Boehm, D. Erwin, M. Moghaddam, M. Sievers, and M. Wheaton, Eds., Springer, 2022, pp. 3–13. DOI: 10.1007/978-3-030-82083-1\_1
22. A. Avşar, A. Valencia-Romero, and P. T. Grogan, "The effects of Locus of Control and Big Five personality traits on collaborative engineering design tasks with negotiation," in *2019 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Anaheim, CA, Aug. 2019. DOI: 10.1115/DETC2019-97311

23. P. T. Grogan, "Modeling challenges for Earth observing systems of systems," in *2019 IEEE International Geoscience and Remote Sensing Symposium*, Yokohama, Japan, Jul. 2019. DOI: 10.1109/IGARSS.2019.8898636
24. P. T. Grogan and O. L. de Weck, "LEGO product design and manufacturing simulations for engineering design and systems engineering education," in *2019 ASEE Annual Conference & Exposition*, Tampa, FL, Jun. 2019. DOI: 10.18260/1-2--33056
25. P. T. Grogan, "Stag hunt as an analogy for system-of-systems engineering," in *Procedia Computer Science: 17th Annual Conference on Systems Engineering Research (CSER)*, P. Korfiatis, M. J. Pennock, and A. Salado, Eds., vol. 153, 2019, pp. 177–184. DOI: 10.1016/j.procs.2019.05.068
26. A. Valencia-Romero and P. T. Grogan, "Toward a model-based experimental approach to assessing collective systems design processes," in *2018 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Québec City, Canada, Aug. 2018. DOI: 10.1115/DETC2018-85786
27. P. T. Grogan and A. E. Bayrak, "Operational and strategic decisions in engineering design games," in *2018 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Québec City, Canada, Aug. 2018. DOI: 10.1115/DETC2018-85317
28. T. Alelyani, Y. Yang, and P. T. Grogan, "Understanding designers' behaviors in parameter design activities," in *2017 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Cleveland, OH, Aug. 2017. DOI: 10.1115/DETC2017-68335
29. J. Le Moigne, P. Dabney, O. de Weck, V. Foreman, P. Grogan, M. Holland, S. Hughes, and S. Nag, "Tradespace analysis tool for designing constellations (TAT-C)," in *2017 IEEE International Geoscience and Remote Sensing Symposium*, Fort Worth, TX, Jul. 2017. DOI: 10.1109/IGARSS.2017.8127168
30. A. W. Johnson, S. Willner-Giwerc, P. T. Grogan, and E. E. Danahy, "Pre-college students' use of systems engineering methods in design," in *2016 IEEE Frontiers in Education Conference*, Erie, PA, Oct. 2016. DOI: 10.1109/FIE.2016.7757657
31. A. W. Johnson, S. Willner-Giwerc, and P. T. Grogan, "Developing a systems engineering activity for middle school students using LEGO robotics," in *2016 ASEE Annual Conference & Exposition*, New Orleans, LA, 2016. [Online]. Available: <https://www.asee.org/public/conferences/64/papers/15529/view>
32. P. T. Grogan and O. L. de Weck, "Collaborative design in the sustainable infrastructure planning game," in *2016 Spring Simulation Multi-Conference, Annual Simulation Symposium*, Pasadena, CA, Apr. 2016. DOI: 10.5555/2962374.2962378
33. P. T. Grogan, K. Ho, A. Golkar, and O. L. de Weck, "Bounding the value of collaboration in federated systems," in *2016 IEEE International Systems Conference*, Orlando FL, Apr. 2016. DOI: 10.1109/SYSCON.2016.7490657
34. P. T. Grogan, O. L. de Weck, A. M. Ross, and D. H. Rhodes, "Interactive models as a system design tool: Applications to system project management," in *Procedia Computer Science*:

- 2015 Conference on Systems Engineering Research*, J. Wade and R. Cloutier, Eds., vol. 44, 2015, pp. 285–294. DOI: 10.1016/j.procs.2015.03.015
35. P. T. Grogan and O. L. de Weck, “Interactive simulation games to assess federated satellite system concepts,” in *2015 IEEE Aerospace Conference*, Big Sky, MT, Mar. 2015. DOI: 10.1109/AERO.2015.7119101
  36. I. Lluch, P. T. Grogan, U. Pica, and A. Golkar, “Simulating a proactive ad-hoc network protocol for federated satellite systems,” in *2015 IEEE Aerospace Conference*, Big Sky, MT, Mar. 2015. DOI: 10.1109/AERO.2015.7118984
  37. P. T. Grogan, A. Golkar, S. Shirasaka, and O. L. de Weck, “Multi-stakeholder interactive simulation for federated satellite systems,” in *2014 IEEE Aerospace Conference*, Big Sky, MT, Mar. 2014. DOI: 10.1109/AERO.2014.6836253
  38. C. Lee, P. T. Grogan, and O. L. de Weck, “Process-oriented evaluation of user interactions in integrated system analysis tools,” in *IEEE International Conference on Systems, Man, and Cybernetics*, Seoul, South Korea, Oct. 2013. DOI: 10.1109/ICSMC.2012.6377840
  39. P. T. Grogan and O. L. de Weck, “An integrated modeling framework for infrastructure system-of-systems simulation,” in *2013 IEEE International Systems Conference*, Orlando, FL, Apr. 2013. DOI: 10.1109/SysCon.2013.6549926
  40. A. Adepetu, P. T. Grogan, A. Alfari, D. Svetinovic, and O. L. de Weck, “City.Net IES: A sustainability-oriented energy decision support system,” in *2012 IEEE International Systems Conference*, Vancouver, Canada, Mar. 2012. DOI: 10.1109/SysCon.2012.6189470

#### *Non-Refereed Conference Proceedings and Extended Abstracts*

1. M. J. LeVine, B. Chell, and P. T. Grogan, “Leveraging a digital engineering testbed to explore mission resilience for new observing strategies,” in *AIAA SCITECH 2023 Forum*, National Harbor, MD, Jan. 2023. DOI: 10.2514/6.2023-0257
2. L. Capra, M. J. LeVine, and P. T. Grogan, “Demonstration of a utility-based priority algorithm for filtering commercial satellite tasking requests,” in *AIAA SCITECH 2023 Forum*, National Harbor, MD, Jan. 2023. DOI: 10.2514/6.2023-1501
3. P. T. Grogan, M. LeVine, B. Chell, L. Capra, and J. J. Sellers, “New Observing Strategies Testbed: Co-simulation for Earth science technology demonstration,” in *SISO Simulation Innovation Workshop*, Virtual, Online, Feb. 2022
4. L. Capra, J. Hilton, S. Bentley, T. Sherman, A. Alfaro, R. Savin, O. L. de Weck, and P. T. Grogan, “SpaceNet Cloud: Web-based modeling and simulation analysis for space exploration logistics,” in *AIAA ASCEND 2021*, Virtual, Online, Nov. 2021. DOI: 10.2514/6.2021-4068
5. J. Laughland and P. T. Grogan, “Analyzing the calibration and validation support architecture for CYGNSS as a design problem,” in *AIAA ASCEND 2020*, Virtual, Online, Nov. 2020. DOI: 10.2514/6.2020-4057
6. H. Chen, B. M. Gardner, P. T. Grogan, and K. Ho, “Flexibility management for space logistics through decision rules,” in *AIAA ASCEND 2020*, Virtual, Online, Nov. 2020. DOI: 10.2514/6.2020-4187

7. T. Alelyani, P. T. Grogan, Y. Tausczik, and Y. Yang, "Software crowdsourcing design: An experiment on the relationship between task design and crowdsourcing performance," in *Human Computer Interaction International 2020*, Virtual, Online, Jul. 2020. DOI: 10.1007/978-3-030-60152-2\_1
8. S. S. Chiesi and P. T. Grogan, "Modeling spacecraft design activities as rugged fitness landscapes," in *AIAA Scitech 2019 Forum*, San Diego, CA, Jan. 2019. DOI: 10.2514/6.2019-0764
9. L. Portelli, M. Sabatini, and P. T. Grogan, "Ontology development for knowledge-driven distributed space mission systems engineering," in *AIAA Scitech 2019 Forum*, San Diego, CA, Jan. 2019. DOI: 10.2514/6.2019-1032
10. H. P. L. Lee and P. T. Grogan, "Measuring strategic risk dominance using the multi-actor value model: A study of the National Polar-orbiting Operational Environmental Satellite System," in *AIAA Scitech 2019 Forum*, San Diego, CA, Jan. 2019. DOI: 10.2514/6.2019-1031
11. H. Chen, K. Ho, B. M. Gardner, and P. T. Grogan, "Built-in flexibility for space logistics mission planning and spacecraft design," in *AIAA SPACE and Astronautics Forum and Exposition 2017*, Orlando, FL, Sep. 2017. DOI: 10.2514/6.2017-5348
12. P. T. Grogan and O. L. de Weck, "Strategic engineering gaming for improved design and inter-operation of infrastructure systems," in *Third International Engineering Systems Symposium*, Delft, Netherlands, Jun. 2012
13. P. T. Grogan and O. L. de Weck, "Multi-stakeholder gaming and simulation environment for a future resource economy in space," in *Global Space Exploration Conference*, Washington, D.C., May 2012
14. P. T. Grogan and O. L. de Weck, "Federated simulation and gaming framework for a decentralized space-based resource economy," in *ASCE Earth and Space 2012 Conference*, Pasadena, CA, Apr. 2012. DOI: 10.1061/9780784412190.156
15. P. T. Grogan, C. Lee, and O. L. de Weck, "Comparative usability study of two space logistics analysis tools," in *AIAA Space 2011 Conference and Exposition*, Long Beach, CA, Sep. 2011. DOI: 10.2514/6.2011-7345
16. P. T. Grogan, H. K. Yue, and O. L. de Weck, "Space logistics modeling and simulation analysis using SpaceNet: Four application cases," in *AIAA Space 2011 Conference and Exposition*, Long Beach, CA, Sep. 2011. DOI: 10.2514/6.2011-7346
17. N. Essilfie-Conduah, P. T. Grogan, P. M. Cunio, R. McLinko, and O. L. de Weck, "A university perspective on the NASA/SISO smackdown modeling and simulation outreach event," in *2011 Fall Simulation Interoperability Workshop*, Orlando, FL, Sep. 2011
18. P. T. Grogan, A. Siddiqi, and O. L. de Weck, "Matrix methods for optimal manifesting of multi-node space exploration systems," in *AIAA Space 2010 Conference and Exposition*, Anaheim, CA, Aug. 2010. DOI: 10.2514/6.2010-8805
19. I. Ferreira and P. T. Grogan, "Data management, collaboration, model integration for space exploration system analysis and design," in *AIAA Space 2010 Conference and Exposition*, Anaheim, CA, Aug. 2010. DOI: 10.2514/6.2010-8808



20. M. G. O'Neill, H. Yue, S. Nag, P. T. Grogan, and O. L. de Weck, "Comparing and optimizing the DARPA System F6 program value-centric design methodologies," in *AIAA Space 2010 Conference and Exposition*, Anaheim, CA, Aug. 2010. DOI: 10.2514/6.2010-8828
21. P. T. Grogan, O. L. de Weck, N. Armar, T. Ishimatsu, A. Siddiqi, G. Lee, E. Jordan, and R. Shishko, "A flexible architecture and object-oriented model for space logistics simulation," in *AIAA Space 2009 Conference and Exposition*, Pasadena, CA, Sep. 2009. DOI: 10.2514/6.2009-6548

### *Conference Abstracts*

1. L. Wang, B. A. Forman, S. V. Kumar, Y. Kwon, P. Grogan, R. S. Kim, and Y. Yoon, "Towards an integrated terrestrial freshwater remote sensing system using the NASA land information system, data assimilation, and synthetic retrievals of snow, soil moisture, and vegetation over western Colorado," in *AGU 2020 Fall Meeting*, Virtual, Online, Dec. 2020
2. B. A. Forman, S. V. Kumar, P. Grogan, L. Wang, Y. Kwon, R. S. Kim, and Y. Yoon, "What is the optimal mixture of space-borne sensors for remote sensing of terrestrial freshwater?: A comparative analysis of passive optical, passive microwave, active microwave, and LiDAR retrievals," in *AGU 2020 Fall Meeting*, Virtual, Online, Dec. 2020
3. P. Grogan, "Co-design and co-simulation infrastructure for a new observing strategies testbed," in *AGU 2020 Fall Meeting*, Virtual, Online, Dec. 2020
4. L. Wang, B. A. Forman, S. V. Kumar, Y. Kwon, P. Grogan, R. S. Kim, M. L. Wrzesien, and Y. Yoon, "On the complementary value of space-based snow observations for snow mass estimation within an observing simulation system experiment," in *77th Eastern Snow Conference*, Virtual, Online, Jun. 2021

### *Other Publications*

1. P. T. Grogan, A. Valencia-Romero, and M. Sabatini, "Game-theoretic risk assessment for distributed systems (GRADS)," Systems Engineering Research Center, Tech. Rep. SERC-2019-TR-011, Jul. 2019
2. M. Blackburn, D. Verma, R. Dillon-Merrill, *et al.*, "Transforming systems engineering through model-centric engineering," Systems Engineering Research Center, Tech. Rep. SERC-2017-TR-111, Aug. 2018
3. P. T. Grogan, "Interoperable simulation gaming for strategic infrastructure systems design," Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge, MA, Jun. 2014. [Online]. Available: <https://dspace.mit.edu/handle/1721.1/90169>
4. P. T. Grogan, "A flexible, modular approach to integrated space exploration campaign logistics modeling, simulation, and analysis," M.S. thesis, Massachusetts Institute of Technology, Cambridge, MA, Sep. 2010. [Online]. Available: <https://dspace.mit.edu/handle/1721.1/62317>

*In Preparation, Review, and Revision*

1. J. L. F. P. Cardoso, P. T. Grogan, and M. J. Pennock, "Interoperability problems in cyber-physical systems: Empirical cases from the OpenWrt project," 2022, In revision for *IEEE Systems Journal*.
2. A. Z. Avşar and P. T. Grogan, "Identification of design strategies and their effects on performance outcomes in pair parameter design tasks," 2023, In revision for *Journal of Mechanical Design*.
3. A. Valencia-Romero and P. T. Grogan, "The strategy dynamics of collective systems: The underlying hindrances beyond two-actor coordination," 2023, In preparation.
4. A. Valencia-Romero and P. T. Grogan, "The strategy dynamics of collective systems: The exponentiality of multi-actor fear and greed," 2023, In preparation.
5. I. J. Tapia-Tamayo, I. Feldman, and P. T. Grogan, "A reference architecture for scalable and interoperable model-centric engineering artifacts using OpenAPI," 2023, In preparation.
6. J. L. Stern and P. T. Grogan, "Impacts of robust design on strategic decisions: An experiment," 2023, In preparation.
7. A. Z. Avşar and P. T. Grogan, "Effects of locus of control on teamwork in engineering design: How important is context?," 2023, In preparation.
8. P. Zhang, J. Wade, and P. T. Grogan, "Simulation environment for systems engineering assessment and training," 2023, In preparation.

*Preprints and e-Prints*

1. S. Bosomworth and P. T. Grogan, "Effects of staged deployment on the economics of global broadband internet satellite constellations," 2021. DOI: 10.31224/osf.io/svnt2. engrXiv: [engrxiv.org/svnt2](https://engrxiv.org/svnt2)
2. I. J. Tapia-Tamayo and P. T. Grogan, "Stakeholder analysis of government-commercial satellite radio occultation architectures," 2021. DOI: 10.31224/osf.io/zeqj9. engrXiv: [engrxiv.org/zeqj9](https://engrxiv.org/zeqj9)

*Media Appearances*

1. "Professor speaks on Shatner's trip to space and Blue Origin," *Daily Mail*, Oct. 12, 2021.
2. Quoted in "How NASA Cleared the Artemis Rocket for Launch Despite Hurricane Nicole Damage," *Popular Mechanics*, Nov. 15, 2022. <https://www.popularmechanics.com/space/rockets/a41971415/artemis-1-ready-for-launch-after-hurricane-damage/>

**Research Grants and Contracts**

Total awarded and expended sponsored research (inclusive of F&A) exceeds \$3.8M.

1. “An OSSE Framework for the NASA PBL Incubation Activity,” National Aeronautics and Space Administration,” National Aeronautics and Space Administration, P.T. Grogan (Co-I), Oct. 2022–Oct. 2025, \$210,000.  
Sub-contract for Jet Propulsion Laboratory, DSI-21, PI: Derek Posselt.
2. “Observing System Simulation Experiment Tradespace Capability for NOAA’s Future Mission Design,” National Oceanographic and Atmospheric Administration, P.T. Grogan (Co-PI), Sep. 2022–Sep. 2024, \$129,928.  
Sub-contract for Jet Propulsion Laboratory, PI: Derek Posselt.
3. “A New Snow Observing Strategy in Support of Hydrological Science and Applications,” National Aeronautics and Space Administration, Grant No. 80NSSC22K1705, P.T. Grogan (Co-PI), Aug. 2022–Aug. 2025, \$300,000.  
Sub-award for Goddard Space Flight Center, AIST-21, PI: Carrie Vuyovich.
4. “WRT-1049: Data-Driven Capability Portfolio Management Pilot,” U.S. Department of Defense via Acquisition Innovation Research Center, Contract No. HQ003419D0003, Order HQ003421F0309, P.T. Grogan (Co-I), Jul. 2021–Sep. 2022, \$100,000.  
Sub-award for Systems Engineering Research Center, PIs: D. DeLaurentis and J. Panchal.
5. “Co-simulation for Partnerships to Observe Convective Storm Systems,” National Aeronautics and Space Administration, Grant No. 80NSSC21K1515, P.T. Grogan (PI), Jul. 2021–Jul. 2024, \$375,000.
6. “CAREER: Understanding Strategic Dynamics in the Engineering of Decentralized Systems,” National Science Foundation, Grant No. 1943433, P.T. Grogan (PI), Sep. 2020–Aug. 2025, \$500,000.
7. “ART-015: New Observing Strategies Testbed (NOS-T) Design and Development” U.S. Department of Defense for NASA Earth Science Technology Office via Systems Engineering Research Center, Contract No. W15QKN18D0040, Delivery Order W15QKN20F0551, P.T. Grogan (PI), Aug. 2020–Aug. 2023, \$965,091.
8. “Integrating TAT-C, STARS, and VCE for New Observing Strategies Mission Design,” NASA Earth Science Technology Office, Grant No. 80NSSC20K1118, P.T. Grogan (PI), Co-I: J. Johnson, M. French, M. Paolieri, Jun. 2020–Apr. 2022, \$264,880.
9. “Mission Engineering for Multi-domain Operations (MEMO),” Lockheed Martin Corporation, P.T. Grogan (PI), Co-PI: B. Fidler, May 2020–Jan. 2021, \$71,471.
10. “Future Engineers as Augmented Teams (FEAT),” Lockheed Martin Corporation, P.T. Grogan (PI), Nov. 2018–Jan. 2020, \$292,273.
11. “EAGER: Collaborative Research: Demonstrating the Importance of Research Setting Representativeness in Systems Engineering and Design Research,” National Science Foundation, Grant No. 1841109, P.T. Grogan (Co-PI), PI: Z. Szajnfarber, Co-PIs: E. Gralla, J. Panchal, Sep. 2018–Aug. 2020, \$55,571.
12. “Knowledge Representation for Distributed Space Mission Design using TAT-C with Machine Learning,” National Aeronautics and Space Administration, Grant No. 80NSSC17K0586, P.T. Grogan (Co-I to Oct. 2018, Co-PI from Oct. 2018), Oct. 2017–Sep. 2019, \$219,876.  
Sub-award for Goddard Space Flight Center, AIST-16, PI: J. Le Moigne (to Oct. 2018), J. Verville (from Oct. 2018).

13. “EAGER: Model-based Foundations of Collective Systems Design,” National Science Foundation, Grant No. 1742971, P.T. Grogan (PI), Sep. 2017–Aug. 2020, \$117,895.
14. “RT-207: Game-theoretic Risk Assessment for Distributed Systems (GRADS),” U.S. Department of Defense via Systems Engineering Research Center, Contract No. HQ003413D0004, Delivery Order HQ064288204, P.T. Grogan (PI), Jul. 2018–Jul. 2019, \$163,518.
15. “RT-180: Game-theoretic Risk Assessment for Distributed Systems (GRADS),” Incubator Project (Competed within SERC), U.S. Department of Defense via Systems Engineering Research Center, Contract No. HQ003413D0004, Delivery Order HQ003417F0286, P.T. Grogan (PI), Jun. 2017–Nov. 2017, \$19,978.  
Sub-award for Systems Engineering Research Center, PI: J. Wade.
16. “Knowledge Base for Designing Earth Science Distributed Missions,” National Aeronautics and Space Administration, Grant No. NNX17AE06G, P.T. Grogan (Co-I), Jan. 2017–Jul. 2017, \$81,995.  
Sub-award for Goddard Space Flight Center, AIST-14, Tradespace Analysis Tool for Constellations (TAT-C), PI: J. Le Moigne.

### Selected Seminars, Lectures, Panels, and Workshops

1. “Earth Science Space Mission Design,” Design Project Workshop for Art Harper Saturday Academy, Hoboken, NJ, Feb. 25, 2023.
2. “Transdisciplinarity and Research on Engineering,” Panel Moderator at *Transdisciplinary Engineering 2022 Conference*, Cambridge, MA, Jul. 7, 2022.
3. “New Observing Strategies Testbed: Co-simulation for Earth Science Technology Demonstration,” Presentation at *SISO 2022 Simulation Innovation Workshop*, Virtual, Online, Feb. 7, 2022.
4. “New Observing Strategies Testbed Design and Development,” Presentation at *SERC Sponsor Research Review*, Virtual, Online, Nov. 3, 2021.
5. “Comparison of Model World Representativeness: Two Cases in Systems Engineering and Design,” Presentation at *Eighth International Engineering Systems Symposium*, Charlottesville, VA, Oct. 11, 2021.
6. “CESUN Panel on Engineering Systems Education,” Panel Moderator at *Eighth International Engineering Systems Symposium*, Charlottesville, VA, Oct. 11, 2021.
7. “Robust Collaborative Space Systems: Design Theory and Methods,” University of Alabama at Huntsville Department of Industrial and Systems Engineering and Engineering Management/Mesmer Lab Seminar, Virtual, Online, Jul. 27, 2021.
8. “New Observing Strategies Testbed (NOS-T) Architecture: Evaluating Dynamic Response to Emergent Events,” Paper Presentation at *2021 IEEE International Geoscience and Remote Sensing Symposium*, Virtual, Online, Jul. 15, 2021.
9. “New Observing Strategies Testbed Design and Development,” *2021 Earth Science Technology Forum*, Virtual, Online, Jun. 10, 2021.

10. "Robust Collaborative Space Systems: Design Theory and Methods," Massachusetts Institute of Technology Department of Aeronautics and Astronautics/Engineering Systems Lab Seminar, Virtual, Online, May 12, 2021.
11. "Co-Design and Co-Simulation Infrastructure for a New Observing Strategies Testbed," eLightning Talk, *2020 AGU Fall Meeting*, Virtual, Dec. 10, 2020.
12. "Risk Dominance as a Decision Criterion for Collective Systems Design," Invited Seminar at George Washington University Department of Engineering Management and Systems Engineering, Virtual, Oct. 16, 2020.
13. "Future of Earth Science Missions," Presentation at Stevens School of Systems and Enterprises Dean's Virtual Seminar Series, Virtual, Jul. 29, 2020.

## Teaching Experience

<b>Course, Section, Term at Arizona State University</b>	<u>(Responses)</u> <u>Instructor Rating</u>
IEE 545 (FA23): Advanced Simulating Stochastic Systems	(TBD/12) TBD/TBD

<b>Course, Section, Term at Stevens Institute of Technology</b>	<u>(Responses)</u> <u>Instructor Rating</u>
SYS 611-A (SP23): Systems Modeling & Simulation	(17/25) 4.94/5.00
EM 365-A (FA22): Statistics for Engineering Management (with Lab)	(17/25) 5.00/5.00
EM 364-A (FA22): Statistics for Engineering Management (Lab Only)	(0/2) NA/5.00
SYS 611-A (FA22): Systems Modeling & Simulation	(22/31) 4.77/5.00
SYS 611-A (SP22): Systems Modeling & Simulation	(22/32) 5.00/5.00
EM 365-A (FA21): Statistics for Engineering Management (with Lab)	(22/29) 4.82/5.00
EM 364-A (FA21): Statistics for Engineering Management (Lab Only)	(2/2) 5.00/5.00
SYS 611-A (FA21): Systems Modeling & Simulation	(28/30) 4.96/5.00
SYS 611-A (SP21): Systems Modeling & Simulation	(26/32) 4.92/5.00
EM 365-A (FA20): Statistics for Engineering Management (with Lab)	(23/28) 4.96/5.00
EM 364-A (FA20): Statistics for Engineering Management (Lab Only)	(5/7) 5.00/5.00
SYS 611-A (FA20): Systems Modeling & Simulation	(33/37) 4.88/5.00
SYS 611-A (FA19): Systems Modeling & Simulation	(28/34) 4.82/5.00
SYS 611-WS (FA19): Systems Modeling & Simulation	(39/44) 4.77/5.00
SYS 501-A (FA18): Probability & Statistics for Systems Engineering	(12/12) 5.00/5.00
SYS 611-A (FA18): Simulation & Modeling	(27/29) 4.96/5.00
SYS 611-WS (FA18): Simulation & Modeling	(22/27) 4.91/5.00
SYS 601-A (SP18): Probability & Statistics for Systems Engineering	(13/15) 4.92/5.00
SYS 601-A (FA17): Probability & Statistics for Systems Engineering	(12/12) 4.90/5.00
SYS 611-A (FA17): Simulation & Modeling	(30/33) 4.96/5.00
SYS 611-WS (FA17): Simulation & Modeling	(21/25) 4.86/5.00
SYS 601-A (SP17): Probability & Statistics for Systems Engineering	(7/8) 4.86/5.00
SYS 611-A (FA16): Simulation & Modeling	(27/28) 4.96/5.00
SYS 611-WS (FA16): Simulation & Modeling	(8/12) 4.88/5.00

## Professional Activities

<b>Professional Organizations</b>	<u>Dates Active</u>
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Officer, ASME Design Theory and Methodology (DTM) Tech. Comm. Vice Chair (Nov. 2022–Present), Secretary (Oct. 2021–Nov. 2022)	Oct. 2021–Present
Executive Committee, Council of Engineering Systems Universities (CESUN) Secretary (Feb. 2021–Present)	Feb. 2021–Present
Senior Member, American Inst. for Aeronautics and Astronautics (AIAA)	Aug. 2005–Present
Senior Member, IEEE (formerly Inst. of Electrical and Electronics Eng.)	Mar. 2012–Present
Member, American Society of Mechanical Engineers (ASME)	Jul. 2016–Present
Member, Simulation Interoperability Standards Organization (SISO)	Jan. 2019–Present
Member, Institute for Industrial and Systems Engineers (IISE)	Feb. 2023–Present

**Editorial Board Service**Associate Editor, *Systems Engineering* JournalDates Active

Apr. 2023–Present

**External Review and Panel Service**

Panelist, National Aeronautics and Space Administration

Panelist, National Science Foundation

Dates Active

2023, 2022, 2021

2022, 2021, 2020, 2019,  
2018 (2), 2017 (2)

Panelist, American Society for Engineering Education

2015

Product Support Group Member, SISO Standard for

Space Reference Federation Object Model (Space FOM)

Aug. 2020–Aug. 2022

Ballot Group Member, SISO Standard for Space Reference

Federation Object Model (Space FOM)

Mar. 2019–May 2019

**Conference Service**

Member, Tech. Program Committee, CESUN Symposium

Review Coordinator, ASME IDETC (Design Theory and Methodology)

Member, Scientific Committee, IEEE/GRSS IGARSS

Member, Program Committee, Design Computing and Cognition Conference

Member, Tech. Program Committee, IEEE/INCOSE SoSE Conference

Co-Organizer, ASME IDETC (DAC/Design of Complex Systems)

Co-Organizer, ASME IDETC (DAC/Gaming Methods)

Reviewer, SCS SpringSim Annual Simulation Symposium

Dates Active

Jun. 2023

Mar. 2018–2023

Feb. 2020–2023

Feb. 2022

Feb. 2021

Mar. 2017–2019

Mar. 2018

Feb. 2016–2017

**Departmental, School, and University Service**

Stevens Institutional Review Board (IRB)

Interim Chair (Jan. 2023–Aug. 2023); Member (Aug. 2016–Dec. 2022)

Elected Member, Stevens Academic Affairs and Operations Comm. (AOAC)

Chair (Sep. 2022–Aug. 2023); Member (Sep. 2021–Aug. 2022)

School of Systems and Enterprises Faculty Search Committee

Member, Faculty Search Committee

Member, Humphrey's Endowed Chair Search Committee

Member, Faculty Search Committee

Member, Stevens Graduate Curriculum Committee (GCC)

Representative, Systems Engineering Program

Member, Stevens Strategic Plan Steering Committee (Graduate Education)

Member, School of Systems and Enterprises Doctoral Program Comm.

Dates Active

Aug. 2016–Aug. 2023

Sep. 2021–Aug. 2023

Nov. 2022–Mar. 2023

Feb. 2022–May 2022

Aug. 2016–May 2018

Aug. 2020–Aug. 2022

Sep. 2021–May 2022

Aug. 2017–May 2019

**Volunteer and Outreach Service**Dates Active

Adjunct Instructor, Stevens Pre-college Programs, Hoboken, NJ	Summers 2018–2023
Instructor (Volunteer), Art Harper Saturday Academy, Hoboken, NJ	Oct. 2021–Apr. 2022
After Hours Education Host (Volunteer), Adler Planetarium, Chicago, IL	Sep. 2014–Dec. 2015

## Supervision

### *Doctoral Students*

1. Abbas Ehsanfar, “Allocative Mechanisms and Information Exchange in Task Processing and Interactive Networks,” Ph.D. Systems Engineering, Dec. 2018. (Chairperson P. Grogan; Co-advisor: M. Mansouri). Currently Senior Data Scientist at Vanguard.
2. Turki Alelyani, “Understanding Design Factors in Software Crowdsourcing,” Ph.D. Software Engineering, Aug. 2019. (Chairperson: Y. Yang, Co-advisor P. Grogan). Currently Assistant Professor at Najran University (Saudi Arabia).
3. Rodrigo Caporali de Andrade, “Data-driven Operations Management in Multichannel Customer Support Systems,” Ph.D. Engineering Management, Aug. 2020. (Chairperson: S. Moazeni, Co-advisor P. Grogan). Currently Senior Quantitative Risk Analyst at Bunge.
4. Joana I. Lacerda da Fonesca Pinto Cardoso, “Understanding Interoperability in the Co-design of Cyber-Physical Systems: A Causal Graph-based Method,” Ph.D. Systems Engineering, May 2021. (Chairperson: P. Grogan, Supervisor: M. Pennock). Currently Research Scientist at Massachusetts Institute of Technology.
5. Ambrosio Valencia-Romero, “Strategy Dynamics in Collective Systems Design,” Ph.D. Systems Engineering, Aug. 2021. (Chairperson: P. Grogan). Currently Postdoctoral Research Associate at Roux Institute, Northeastern University.
6. Jordan Stern, “Strategically Robust System-of-Systems Design,” Ph.D. Systems Engineering, May 2022 (Chairperson: P. Grogan). Currently Assistant Professor at Air Force Institute of Technology. **School of Systems and Enterprises 2022 Fabrycky-Blanchard Award.**
7. Alkim Avşar, “Intervention in Collaborative System Design to Increase Efficiency by Focusing on Social Factors,” Ph.D. Systems Engineering, Aug. 2023. (Chairperson: P. Grogan).
8. I. Josue Tapia Tamayo, “A Conceptual Mission Engineering Framework for Evaluating the Performance of Precipitation Observing Missions,” Ph.D. Systems Engineering, Aug. 2023. (Chairperson: P. Grogan).
9. Peizhu (Alex) Zhang, “Assessment of Systems Engineering Competencies using Simulations and Automated Tools,” Ph.D. Systems Engineering, Aug. 2023. (Chairperson: P. Grogan).

### *Master’s Thesis Students*

1. Henry Lee, “Measuring the Strategic Risk of Collaboration for Satellite Programs, A Case Study on the National Polar-orbiting Satellite System,” M.E. Systems Engineering, Dec. 2018. **School of Systems and Enterprises 2019 Best Master’s Thesis Award.**
2. Alkim Avşar, “Effects of Personality on Performance in Parameter Design Tasks,” M.E. Engineering Management, May 2019.

3. Iser Pena, "Improving Satellite-based Convective Storm Observations: An Operational Policy Based on Static Historical Data," M.E. Space Systems Engineering, May 2023.
4. Benjamin Stanley, "An Economic Model for the Development and Implementation of Resource Management Technologies in Human Space Settlement Analogs," M.E. Space Systems Engineering, Aug. 2023.

### *Master's Project Students*

1. Sigfried Hache, "A Taxonomy of Spacecraft Mission Architectures," M.E. Space Systems Engineering (SYS-800), May 2017.
2. Alex Sabella, "A Querying System to Extract System Model Data," M.E. Systems Engineering (SYS-800), May 2017.
3. Dillon Uzar, "A Framework for MBSE Alternative Architecture Management," M.E. Systems Engineering (SYS-800), May 2017.
4. Stephen Bosomworth, "Effects of Staged Deployment on the Economics of Global Broadband Internet Satellite Constellations," M.E. Systems Engineering (SYS-800), May 2019.
5. Cian Cavooris, "Modeling the Development and Evolution of Federated Space Systems," M.E. Space Systems Engineering (SYS-800), May 2019.
6. Sharuk Senthil Kumar, "Active Debris Removal Technology using CubeSat for Mega Constellation Satellites," M.E. Space Systems Engineering (SYS-800), Dec. 2019.
7. James Laughland, "Analyzing the Calibration and Validation Support Architecture for CYGNSS as a Design Problem," M.E. Space Systems Engineering (SYS-800), Dec. 2019.
8. I. Josue Tapia Tamayo, "Analysis of Satellite Radio Occultation Architecture and its Stakeholders," M.E. Space Systems Engineering (SYS-800), Dec. 2019.
9. Brian Brown-Martey, "Multi-year Budget Modeling for Distributed Spacecraft Missions," M.E. Systems Engineering (SYS-800), Dec. 2019.
10. Mark Spence, "Logistics Modeling and Simulation of a 50 Day Lunar Excursion," M.E. Systems Engineering (SYS-800), May 2020.
11. Nicholas Spataro, "Validating the Tradespace Analysis Tool for Constellations (TAT-C) for a FireSat Design Study," M.E. Space Systems Engineering (SYS-800), Dec. 2021.
12. Nathan Tahbaz, "A Supply-based Model for Logistics and Supply of the International Space Station," M.E. Space Systems Engineering (SYS-800), Dec. 2021.
13. Isaac Feldman, "Multi-actor Tradespace Exploration Methods for Collaborative Space Systems," M.E. Space Systems Engineering (SYS-800), May 2022.
14. Anam Bayazid, "Snow Observing Using Optical Sensor and Synthetic Aperture Radar (SAR)," M.E. Space Systems Engineering (SYS-800), May 2023.
15. Ankith Dinakar Veena, "Precipitation Classification Model for Earth Observation," M.E. Space Systems Engineering (SYS-800), May 2023.



16. Alex S. Yucra Castaneda, “Ground Station Availability Model for Earth-Observing Missions,” M.E. Space Systems Engineering (SYS-800), May 2023.
17. Ryan Schaefer, “Collaborative Constellation Trade-space Analysis for Wildfire Observing Missions,” M.E. Space Systems Engineering (SYS-800), Aug. 2023.

### *Postdoctoral Research Associates*

1. Joseph Thekinen, Postdoctoral Research Associate, Jan. 2019–Jan. 2020. Ph.D. Mechanical Engineering, Purdue University, Dec. 2018. Currently Assistant Professor at University of Calgary, Canada.
2. Matthew LeVine, Postdoctoral Research Associate, Jun. 2021–Aug. 2023. Ph.D. Aerospace Engineering, Georgia Institute of Technology, Dec. 2015.
3. Brian Chell, Postdoctoral Research Associate, Jun. 2021–Aug. 2023. Ph.D. Systems Engineering, Stevens Institute of Technology, May 2021.

### **Honors, Awards, & Fellowships**

2022 ASME <i>Journal of Computing and Info. Sci. in Engr.</i> Reviewers of the Year	Feb. 2023
2022 Stevens Early Career Award for Research Excellence*	May 2022
2nd Place AIRC Defense Data Grand Prix, Heat 1	Feb. 2022
2020 <i>Systems Engineering</i> Journal Reviewer of the Year	Jul. 2021
2020-21 Stevens “Excellence In All We Do” Employee Excellence Award*	Apr. 2021
2019 <i>Systems Engineering</i> Journal Reviewer of the Year	Oct. 2020
National Science Foundation CAREER Award	Feb. 2020
School of Systems and Enterprises Dean’s Special Recognition Award*	May 2018
2014 Daniel and Eva Roos Engineering Systems Dissertation Prize <sup>‡</sup>	Sep. 2017
2015 American Society of Civil Engineering (ASCE) Outstanding Reviewer	May 2016
2016 SCS SpringSim Annual Simulation Symposium (ANSS) Best Paper	Apr. 2016
Japan Student Services Organization (JASSO) Scholarship	Aug. 2013
National Defense Science and Engineering Graduate (NDSEG) Fellowship	Aug. 2010
Boeing Company Scholarship <sup>†</sup>	Sep. 2007
3rd Place Tong Prototype Competition <sup>†</sup>	Feb. 2007
3rd Place Schoofs Creativity Competition <sup>†</sup>	Feb. 2007
Wisconsin Space Grant Consortium Undergraduate Scholarship	Apr. 2007
Gilbert and Genevieve Buske Scholarship <sup>†</sup>	Sep. 2006
Wisconsin Space Grant Consortium Undergraduate Scholarship	Apr. 2006
Engineering Physics Undergraduate Scholarship <sup>†</sup>	Sep. 2005
Robert C. Byrd Honors Scholarship	May 2003
Wisconsin All-State Scholar	May 2003

\* Awarded by Stevens Institute of Technology

<sup>‡</sup> Awarded by Massachusetts Institute of Technology

<sup>†</sup> Awarded by University of Wisconsin–Madison

Last updated: September 4, 2023

Collective Design Laboratory [code-lab.org](http://code-lab.org)