Carrick Detweiler

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ACADEMIC EMPLOYMENT

University of Nebraska-Lincoln — Lincoln, NE

Professor, School of Computing	*2022 – present*
Associate Professor, School of Computing (formerly Computer Science and Engineering)	*2016 – 2022*
Faculty Fellow, National Strategic Research Institute	*2020 – present*
Faculty Fellow, University of Nebraska Public Policy Center	*2019 – present*
Faculty Fellow, Robert B. Daugherty Water for Food Institute	*2014 – present*
Courtesy Appointment, Mechanical and Materials Engineering	*2014 – present*
Assistant Professor, Computer Science and Engineering	*2010 – 2016*

Nebraska Intelligent MoBile Unmanned Systems (NIMBUS) Lab

Co-Director and Co-Founder	*2010 – present*

EDUCATION

Massachusetts Institute of Technology — Cambridge, MA

Ph.D., Electrical Engineering and Computer Science — *Sep. 2006 – Sep. 2010*

Thesis: Decentralized Sensor Placement and Mobile Localization on an Underwater Sensor Network with Depth Adjustment Capabilities

Adviser: Daniela Rus

Massachusetts Institute of Technology — Cambridge, MA

M.S., Electrical Engineering and Computer Science — *Sep. 2004 – Sep. 2006*

Thesis: Passive Mobile Robot Localization within a Fixed Beacon Field

Adviser: Daniela Rus

Middlebury College — Middlebury, VT

B.A., Joint CS and Mathematics Major; Minor in Physics — *Sep. 2000 – May 2004*

Magna Cum Laude, Phi Beta Kappa

Thesis: Structure from Motion and Non-Linear Minimization Techniques (*Best Thesis Award*)

Advisers: Amy Briggs and Daniel Scharstein

OTHER EMPLOYMENT

Drone Amplified, INC — Lincoln, NE

CEO and Co-Founder — *2015 – present*

Drone Amplified sells drone-based aerial ignition systems and software based on technology developed at the University of Nebraska and exclusively licensed by Drone Amplified.

Expert Witness

Deposition and Trial Experience

Current External Funding as Principal or Co-Principal Investigator

1. National Science Foundation, CNS-2221648, *Adaptive multi-Robot Configurable Teams Investigating Changing Ecosystem*, $911,860, Oct. 2022-Sept. 2025, PI: Duncan, Co-PI: Detweiler, Bradley.

2. National Strategic Research Institute / Army Research Lab, NSRI FA4600-20-D-0003, *Multi-Agent UAS Teaming for Extended ISTAR and Autonomous Resupply*, $167,732, March 2022-Aug. 2023, PI: Bradley, Co-PI: Detweiler, Duncan, Riggan.

3. DoD Army ERDC, 45-0811-1016-301 *Multilevel Analytics and Data Sharing for OPerations Planning (MADS-OPP)*, $1,392,384, PI: Linzell, Co-PI: Detweiler, Sim, Zhu.

4. National Aeronautics and Space Administration, NASA ULI-80NSSC20M0162, *Real-time Weather Awareness for Enhanced Safety Assurance in UTM*, UNL Portion $805,406, Sept. 2020-Aug. 2024, PI: Jacob (Oklahoma State University), Co-PIs: Bailey (University of Kentucky), Brewster (University of Oklahoma, Norman), Chilson (University of Oklahoma), Elbing (Oklahoma State University), Fala (Oklahoma State University), Faruque (Oklahoma State University), Jensen (NCAR), Pinto (NCAR), Sobash (NCAR), Smith (University of Kentucky), Woolsey (Virginia Tech), Epperson (Vigilant Aerospace Systems), UNL PI: Detweiler, UNL Co-PI Houston.

5. National Science Foundation, IIS-1925052, *Raining Drones: Mid-Air Release & Recovery of Atmospheric Sensing Systems*, $643,600, Oct. 2019-Sept. 2023, PI: Detweiler, Co-PI: Houston.

6. National Science Foundation, IIS-1925368, *Leveraging Environmental Monitoring UAS in Rainforests*, $722,804, Oct. 2019-Sept. 2022, PI: Duncan, Co-PI: Detweiler.

7. National Science Foundation, CNS-1757908, *REU Site: Undergraduate Research Opportunities in Unmanned Systems Foundations and Applications*, $360,649, March 2018-Feb. 2023, PI: Duncan, Co-PIs: Detweiler, and Bradley.

Prior External Funding as Principal or Co-Principal Investigator

1. National Strategic Research Institute, *Fixed Wing VTOL Sensor Emplacement,* $740,798 Jun. 2019-Sept. 2021, PI: Detweiler, Co-PIs: Bradley and Duncan.

2. National Science Foundation, OAC-1762034, *Spokes: MEDIUM: MIDWEST: Smart Big Data Pipeline for Aging Rural Bridge Transportation Infrastructure (SMARTI)*, UNL Portion $476,933, Sept. 2018-Aug. 2021, Lead PI: Gandhi (University of Nebraska-Omaha), Co-PIs: Khazanchi, Linzell, Ricks, Sim, Senior Personnel: Detweiler, Faller, Rilett, Sharif-Kashani, Wittich, Wood, Zhu.

3. USDA National Institute of Food and Agriculture (National Robotics Initiative), 2017-67021-25924, *At the Water's Edge: Installation and Optimization of Robotic Sensing Systems,* $949,716, Nov. 2016-Nov. 2020, PI: Detweiler, Co-PI (UNL): Bradley; Co-PI (University of the Pacific, subaward $362,400): Basha.

4. National Science Foundation, IIS-1638099, *Enabling Unmanned Aerial Systems (UAS) Fire Ignitions in Complex Firefighting Contexts,* $995,470, Aug. 2016-July 2020, PI: Detweiler, Co-PIs: Allen, Bradley, Duncan, Pytlik-Zillig, and Twidwell.

5. National Science Foundation EPSCoR, OIA-1539070, *RII Track-2 FEC: Unmanned Aircraft System for Atmospheric Physics*, Detweiler portion: $400,000 (approx), Sept. 2015-Aug. 2020, UNL PI: Houston (lead PI Jacobs, Oklahoma State University, total $6M).

6. National Strategic Research Institute, *COTS Autonomous Tracking and Indicating Prototype,* $911,086 Jan. 2018-Dec. 2019, PI: Detweiler, Co-PIs: Elbaum, Bradley, and Duncan.

7. National Strategic Research Institute, *Detection of Nuclear Threats using Deployable Sensors,* $484,266 Feb. 2017-Aug. 2019, PI: Detweiler, Co-PIs: Elbaum, Bradley, and Duncan.

8. National Science Foundation, CCF-1718040, *Holistic Analysis: Integrating the Semantics of the World and the Code,* Aug. 2017-July 2018, PI: Elbaum, Co-PIs: Detweiler.

9. USDA National Institute of Food and Agriculture (National Robotics Initiative), 2013-67021-20947, *Co-Aerial-Ecologist: Robotic Water Sampling and Sensing in the Wild,* $956,210, Sept. 2013-Aug. 2017, PI: Detweiler, Co-PIs (UNL): Elbaum, Burgin, Waite; Co-PIs (U.C. Berkeley, subaward $142,857): Thompson, Hamilton.

10. National Science Foundation, CNS-1217400, *CSR: Small: Collaborative Research: Adaptive and Autonomous Energy Management on a Sensor Network Using Aerial Robots*, UNL Portion: $390,000, Sept. 2012-Aug. 2016, PI: Detweiler, (with PI Basha, University of the Pacific).

11. National Science Foundation, Award: IIS-1116221, *RI: Small: Collaborative Research: Adaptive Sampling with Robots for Marine Observations*, Sept. 2011-Aug. 2015, UNL Portion: $249,971, PI: Detweiler, (with PI Rus, MIT).

12. Ascending Technologies UAV Sponsorship Competition, *AscTec UAVs in the Wild*, 2011-2012, 7,500€, PIs: Detweiler, Elbaum.

Prior Internal Funding as Principal or Co-Principal Investigator

1. Robert B. Daugherty Water for Food Institute Graduate Fellowship, *Advancing long-term monitoring of crop and water systems with UASs*, Aug. 2019-July 2020, $17,000, PI: Detweiler, Student PI Daniel Rico

2. UNL Undergraduate Creative Activities and Research Experiences Program (UCARE), *Flying by Fire: Using UAVs for Close Observation of Wildfires*, Aug. 2015-May 2017, $4,000, PI: Detweiler, Student PI Rebecca Horzewski.

3. Robert B. Daugherty Water for Food Institute Graduate Fellowship, *Enabling Sub-Surface Aerial Water Sampling for Water Management and Quality Analysis*, Aug. 2014-July 2016, $72,310, PI: Detweiler, Student PI James Higgins.

4. UNL Undergraduate Creative Activities and Research Experiences Program (UCARE), *Wireless Power Transfer for Underwater Sensors*, Aug. 2014-May 2015, $2,000, PI: Detweiler, Student PI Greenwood.

5. UNL Research Office, Phase II Planning Grant from the Pathway to Interdisciplinary Research Centers, *Autonomous Aerial Instruments*, Sept. 2012-Dec. 2014, $193,000, PIs: Elbaum, Detweiler.

6. UNL Undergraduate Creative Activities and Research Experiences Program (UCARE), *AquaNode Motor Control System*, Aug. 2013-May 2014, $2,000, PI: Detweiler, Student PI Greenwood.

7. NASA Nebraska Space Grant Fellowship, *Wireless Power Transfer*, Sept. 2012-May 2013 $3,500, PI: Detweiler, Student PI: Goeser.

8. NSF Nebraksa EPSCoR FIRST, *Aerial Robots for Scientific Sensing*, April 2012-March 2013 $20,000, PI: Detweiler.

9. UNL Undergraduate Creative Activities and Research Experiences Program (UCARE), *Wireless Power Transfer*, Aug. 2012-May 2013, $2,000, PI: Detweiler, Student PI Berggren.

10. UNL Research Office, Phase I Planning Grant from the Pathway to Interdisciplinary Research Centers, *Workshop on Autonomous Aerial Instruments*, May 2012-Dec. 2012, $10,000, PIs: Detweiler, Elbaum.

11. UNL Research Council Faculty Seed Grant, *Falling Bricks and Flying Balls: Real-time Dynamic Obstacle Avoidance on Flying Robots*, 2011, $10,000, PI: Detweiler.

Awards, Honors, and Fellowships

1. Elected to the National Academy of Inventors as a Senior Member (2021)

2. Awarded the University-wide Susan J. Rosowski Professorship (2018-2023)

3. Faculty Fellow, National Strategic Research Institute (2021-current)

4. Faculty Fellow, University of Nebraska Public Policy Center (2019-current)

5. Faculty Fellow, UNL Robert B. Daugherty Water for Food Institute (2014–current)

6. New York Times 2020 Good Tech Award Winner for Drone Amplified (2020)

7. College Of Engineering Senior Salute Student Recognition (2020)

8. NUTech Startup Company of the Year (2019)

9. Awarded Journal of Unmanned Vehicle Systems Editor's Choice Award (2019)

10. Awarded IEEE/RSJ IROS Best Paper on Safety, Security, and Rescue Robotics in memory of Motohiro Kisoi (2018)

11. US Department of the Interior "Top 12 Made in America" innovations (2017)

12. UNL Parents Association "Certificate of Recognition for Contributions to Students" (2017)

13. ISSTA Best Tool Demonstration Award for "Phriky-Units: A Lightweight, Annotation-Free Physical Unit Inconsistency Detection Tool" (2017)

14. College of Engineering Edgerton Innovation Award (2016)

15. Outstanding Service Award as Technical Program Co-Chair for the Tenth ACM International Conference on Underwater Networks and Systems (WUWNet 2015)

16. College of Engineering Henry Y. Kleinkauf Family Distinguished New Faculty Teaching Award (2014)

17. CSE Department Student Choice Outstanding Teaching Award: Graduate Level (2011-2012)

18. Visiting Researcher, Singapore-MIT Alliance for Research and Technology (SMARTS) Future of Mobility Project, Singapore (July, 2011)

Peer-Reviewed Journal Articles[1]

1. A. Plowcha[3], J. Bradley, J. Hogberg, T. Ammon, M. Nail[1], B. Duncan, and C. Detweiler, "Autonomous long-range sensor emplacement using unmanned aircraft systems," *Field Robotics*, pp. 437–467, 2022

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[1]In my publications I place myself as last author (organizing author) on papers with students, unless I did the super-majority of the work. The following subscripts are used to indicate student and other co-authors under my supervision:
1: Undergraduate student
2: Masters student
3: Ph.D. student

2. P. Fletcher[2], A. Luther, C. Detweiler, and B. Duncan, "Predicting visual differentiability for unmanned aerial vehicle gestures," *IEEE Robotics and Automation Letters*, 2022

3. J.-P. Ore[3], C. Detweiler, and S. Elbaum, "An empirical study on type annotations: Accuracy, speed, and suggestion effectiveness," *ACM Transactions on Software Engineering and Methodology (TOSEM)*, vol. 30, no. 2, pp. 1–29, 2021

4. A. Islam[2], A. Shankar[3], A. Houston, and C. Detweiler, "University of nebraska unmanned aerial system (UAS) profiling during the LAPSE-RATE field campaign," *Earth System Science Data*, vol. 13, no. 6, pp. 2457–2470, 2021

5. A. Shankar[3], S. Elbaum, and C. Detweiler, "Towards in-flight transfer of payloads between multirotors," *IEEE Robotics and Automation Letters*, vol. 5, no. 4, pp. 6201–6208, 2020

6. P. L. F. Albuquerque[2], V. Garcia, A. d. S. O. Junior, T. Lewandowski, C. Detweiler, A. B. Gonçalves, C. S. Costa, M. H. Naka, and H. Pistori, "Automatic live fingerlings counting using computer vision," *Computers and Electronics in Agriculture*, vol. 167, pp. 1–9, 2019

7. J. Walther, L. PytlikZillig, C. Detweiler, and A. Houston, "How people make sense of drones used for atmospheric science (and other purposes): hopes, concerns, and recommendations," *Journal of Unmanned Vehicle Systems*, vol. 7, no. 3, pp. 219–234, 2019 **Editor's Choice Award**

8. A. Islam[2], A. L. Houston, A. Shankar[3], and C. Detweiler, "Design and evaluation of sensor housing for boundary layer profiling using multirotors," *Sensors*, vol. 19, no. 11, p. 2481, 2019

9. C. Fernando[3], C. Detweiler, and J. Bradley, "Co-regulated consensus of cyber-physical resources in multi-agent unmanned aircraft systems," *Electronics*, vol. 8, no. 5, p. 569, 2019

10. L. Barbieri, S. Kral, S. Bailey, A. Frazier, J. Jacob, J. Reuder, D. Brus, P. Chilson, C. Crick, C. Detweiler, A. Doddi, J. Elston, H. Foroutan, J. Gonzalez-Rocha, B. Greene, M. Guzman, A. Houston, A. Islam[2], O. Kemppinen, D. Lawrence, E. Pillar-Little, S. Ross, M. Sama, D. S. III, T. Schuyler, A. Shankar[2], S. Smith, S. Waugh, C. Dixon, S. Borenstein, and G. de Boer., "Small unmanned aircraft systems (sUAS) in atmospheric science: Measurement intercomparison for LAPSE-RATE," *Sensors*, 2019

11. L. M. PytlikZillig, B. Duncan, S. Elbaum, and C. Detweiler, "A drone by any other name: Purposes, end-user trustworthiness, and framing, but not terminology, affect public support for drones," *IEEE Technology and Society Magazine*, vol. 37, no. 1, pp. 80–91, 2018

12. J.-P. Ore[3] and C. Detweiler, "Sensing water properties at precise depths from the air," *Journal of Field Robotics*, vol. 35, no. 8, pp. 1205–1221, 2018

13. K. Song, A. Brewer, S. Ahmadian, A. Shankar[3], C. Detweiler, and A. J. Burgin, "Using unmanned aerial vehicles to sample aquatic ecosystems," *Limnology and Oceanography: Methods*, vol. 15, no. 12, pp. 1021–1030, 2017

14. N. W. Najeeb[3] and C. Detweiler, "Extending wireless rechargeable sensor network life without full knowledge," *Sensors*, vol. 17, no. 7, p. 1642, 2017

15. D. Anthony[3] and C. Detweiler, "UAV localization in row crops," *Journal of Field Robotics*, vol. 34, no. 7, pp. 1275–1296, 2017

16. H. Jiang[2], S. Elbaum, and C. Detweiler, "Inferring and monitoring invariants in robotic systems," *Autonomous Robots*, vol. 41, no. 4, pp. 1027–1046, 2017

17. D. Twidwell, C. R. Allen, C. Detweiler, J. Higgins[2], C. Laney[1], and S. Elbaum, "Smokey comes of age: unmanned aerial systems for fire management," *Frontiers in Ecology and the Environment*, vol. 14, no. 6, pp. 333–339, 2016

18. M. Chung, C. Detweiler, M. Hamilton, J. Higgins[2], J.-P. Ore[3], and S. Thompson, "Obtaining the thermal structure of lakes from the air," *Water*, vol. 7, no. 11, pp. 6467–6482, 2015

19. C. Detweiler, J.-P. Ore[3], D. Anthony[3], S. Elbaum, A. Burgin, and A. Lorenz, "Environmental reviews and case studies: Bringing unmanned aerial systems closer to the environment," *Cambridge Journal of Environmental Practice*, vol. 17, pp. 188–200, 2015

20. E. Basha, M. Eiskamp, J. Johnson, and C. Detweiler, "UAV recharging opportunities and policies for sensor networks," *International Journal of Distributed Sensor Networks*, vol. 11, no. 8, p. 10, 2015

21. J.-P. Ore[3], S. Elbaum, A. Burgin, and C. Detweiler, "Autonomous aerial water sampling," *Journal of Field Robotics*, vol. 32, no. 8, pp. 1095–1113, 2015

22. C. Detweiler, S. Banerjee[2], M. Doniec, M. Jiang, F. Peri, R. Chen, and D. Rus, "Adaptive decentralized control of mobile underwater sensor networks and robots for modeling underwater phenomena," *Journal of Sensor and Actuator Networks*, vol. 3, no. 2, pp. 113–149, 2014

23. D. Anderson, C. Winters, R. Estell, E. Fredrickson, M. Doniec, C. Detweiler, D. Rus, D. James, and B. Nolen, "Characterising the spatial and temporal activities of free-ranging cows from GPS data," *The Rangeland Journal*, vol. 34, no. 2, pp. 149–161, 2012

24. C. Detweiler, M. Doniec, I. Vasilescu, and D. Rus, "Autonomous depth adjustment for underwater sensor networks: Design and applications," *IEEE/ASME Transactions on Mechatronics*, vol. 17, no. 1, pp. 16–24, 2012

25. I. Vasilescu, C. Detweiler, and D. Rus, "Color-accurate underwater imaging using perceptual adaptive illumination," *Autonomous Robots*, vol. 31, no. 2, pp. 285–296, 2011

26. I. Vasilescu, C. Detweiler, M. Doniec, D. Gurdan, S. Sosnowski, J. Stumpf, and D. Rus, "AMOUR V: A hovering energy efficient underwater robot capable of dynamic payloads," *The International Journal of Robotics Research*, vol. 29, no. 5, pp. 547–570, 2010

27. M. Doniec, C. Detweiler, I. Vasilescu, M. Chitre, M. Hoffmann-Kuhnt, and D. Rus, "Aquaoptical: A lightweight device for high-rate long-range underwater point-to-point communication," *Marine Technology Society Journal*, vol. 44, no. 4, pp. 55–65, 2010

28. M. Schwager, C. Detweiler, I. Vasilescu, D. M. Anderson, and D. Rus, "Data-Driven identication of group dynamics for motion prediction and control," *Journal of Field Robotics*, vol. 25, no. 6-7, pp. 305–324, 2008

29. C. Detweiler, M. Vona, Y. Yoon, S.-k. Yun, and D. Rus, "Self-assembling mobile linkages," *IEEE robotics & automation magazine*, vol. 14, no. 4, pp. 45–55, 2007

30. A. J. Briggs, C. Detweiler, Y. Li, P. C. Mullen, and D. Scharstein, "Matching scale-space features in 1D panoramas," *Computer vision and image understanding*, vol. 103, no. 3, pp. 184–195, 2006

31. A. J. Briggs, C. Detweiler, D. Scharstein, and A. Vandenberg-Rodes, "Expected shortest paths for landmark-based robot navigation," *The International Journal of Robotics Research*, vol. 23, no. 7-8, pp. 717–728, 2004

Peer-Reviewed Conference Publications

1. K. Jelonek[3], P. Fletcher[2], B. Duncan, and C. Detweiler, "Examining distance in uav gesture perception," in *Proceedings of IEEE/RSJ of Intelligent Robots and Systems (IROS)*, 2022

2. D. Rico[2], F. Munoz-Arriola, and C. Detweiler, "Trajectory selection for power-over-tether atmospheric sensing UAS," in *Proceedings of IEEE/RSJ of Intelligent Robots and Systems (IROS)*, 2021

3. P. Fletcher[2], C. Detweiler, and B. Duncan, "Investigation of unmanned aerial vehicle gesture perceptibility and impact of viewpoint variance," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, pp. 1–7, 2021

4. A. Shankar[3], S. Elbaum, and C. Detweiler, "Freyja: A full multirotor system for agile & precise outdoor flights," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, pp. 1–7, 2021

5. A. Shankar[3], S. Elbaum, and C. Detweiler, "Multirotor docking with an airborne platform," in *International Symposium on Experimental Robotics (ISER)*, pp. 1–12, 2020

6. A. Plowcha[3], J. Hogberg, C. Detweiler, and J. Bradley, "Online soil classification using a UAS sensor emplacement system," in *International Symposium on Experimental Robotics (ISER)*, pp. 1–11, 2020

7. A. Shankar[3], S. Elbaum, and C. Detweiler, "Dynamic path generation for multirotor aerial docking in forward flight," in *IEEE Conference on Decision and Control (CDC)*, pp. 1564–1571, 2020

8. C. Fernando[3], C. Detweiler, and J. Bradley, "Co-regulated information consensus with delays for multi-agent UAS," in *IEEE Conference on Decision and Control (CDC)*, pp. 180–187, 2020

9. M. E. Lussier[2], J. M. Bradley, and C. Detweiler, "Extending endurance of multicopters: The current state-of-the-art," in *AIAA Scitech 2019 Forum*, pp. 1–13, 2019

10. C. Fernando[3], C. Detweiler, and J. Bradley, "Co-regulating communication for asynchronous information consensus," in *IEEE Conference on Decision and Control (CDC)*, pp. 6994–7001, 2018

11. Y. Sun, A. Plowcha[3], M. Nail[1], S. Elbaum, B. Terry, and C. Detweiler, "Unmanned aerial auger for underground sensor installation," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 1374–1381, 2018

12. A. Shankar[3], S. Elbaum, and C. Detweiler, "Towards aerial recovery of parachute-deployed payloads," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 4700–4707, 2018

13. N. W. Najeeb[3] and C. Detweiler, "UAV based wireless charging of sensor networks without prior knowledge," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3151–3158, 2018

14. E. Beachly[2], C. Detweiler, S. Elbaum, B. Duncan, C. Hildebrandt, D. Twidwell, and C. Allen, "Fire-aware planning of aerial trajectories and ignitions," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 685–692, 2018 **Awarded Best Paper on Safety, Security, and Rescue Robotics in memory of Motohiro Kisoi**

15. J.-P. Ore[3], S. Elbaum, C. Detweiler, and L. Karkazis[1], "Assessing the type annotation burden," in *Automated Software Engineering (ASE)*, pp. 190–201, 2018

16. A. Plowcha[3], Y. Sun, C. Detweiler, and J. Bradley, "Predicting digging success for unmanned aircraft system sensor emplacement," in *International Symposium on Experimental Robotics (ISER)*, pp. 153–164, Springer, 2018

17. A. Shankar[3], S. Elbaum, and C. Detweiler, "In-air exchange of small payloads between multirotor aerial systems," in *International Symposium on Experimental Robotics (ISER)*, pp. 511–523, Springer, 2018

18. B. A. Duncan, E. Beachly[2], A. Bevins, S. Elbaum, and C. Detweiler, "Investigation of communicative flight paths for small unmanned aerial systems," in *IEEE International Conference on Robotics and Automation (ICRA)*, pp. 602–609, 2018

19. E. Beachly[2], C. Detweiler, S. Elbaum, D. Twidwell, and B. Duncan, "UAS-Rx interface for mission planning, fire tracking, fire ignition, and real-time updating," in *IEEE International Symposium on Safety, Security and Rescue Robotics (SSRR)*, pp. 67–74, 2017

20. E. Basha, T. Watts-Willis, and C. Detweiler, "Autonomous meta-classifier for surface hardness classification from UAV landings," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3503–3509, 2017

21. J.-P. Ore[3], S. Elbaum, and C. Detweiler, "Dimensional inconsistencies in code and ros messages: A study of 5.9M lines of code," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 712–718, 2017

22. J.-P. Ore[3] and C. Detweiler, "Sensing water properties at precise depths from the air," in *International Conference on Field and Service Robotics (FSR)*, vol. 5, p. 205, Springer, 2017

23. N. Sharma[2], S. Elbaum, and C. Detweiler, "Rate impact analysis in robotic systems," in *IEEE International Conference on Robotics and Automation (ICRA)*, pp. 2089–2096, 2017

24. J.-P. Ore[3], C. Detweiler, and S. Elbaum, "Lightweight detection of physical unit inconsistencies without program annotations," in *ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA)*, pp. 341–351, 2017

25. E. Beachly[2], J. Higgins[2], C. Laney[1], S. Elbaum, C. Detweiler, C. Allen, and D. Twidwell, "A micro-UAS to start prescribed fires," in *International Symposium on Experimental Robotics (ISER)*, pp. 12–24, Springer, 2016

26. A. Taylor[2], S. Elbaum, and C. Detweiler, "Co-diagnosing configuration failures in co-robotic systems," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 2934–2939, 2016

27. J. Higgins[2] and C. Detweiler, "The waterbug sub-surface sampler: Design, control and analysis," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 330–337, 2016

28. C. Welch, S. Akbarisamani, C. Detweiler, and C. Nelson, "Lightweight, low-cost, compliant grasper for UAV-based pick-and-place operations," in *Proceedings of ASME International Design Engineering Technical Conference & Computers and Information In Engineering Conference*, p. 7, 2015

29. D. Anthony[3], E. Basha, J. Ostdiek[1], J.-P. Ore[3], and C. Detweiler, "Surface classification for sensor deployment from UAV landings," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3464–3470, 2015

30. J. Palmer, N. Yuen, J.-P. Ore[3], C. Detweiler, and E. Basha, "On air-to-water radio communication between UAVs and water sensor networks," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, pp. 5311–5317, 2015

31. S. Banerjee[2] and C. Detweiler, "Path planning algorithms for robotic underwater sensing in a network of sensors," in *Proceedings of the International Conference on Underwater Networks & Systems (WUWNet)*, pp. 1–5, 2014

32. E. Basha, N. Yuen, M. O'Rourke, and C. Detweiler, "Analysis of algorithms for multi-modal communications in underwater sensor networks," in *Proceedings of the International Conference on Underwater Networks & Systems (WUWNet)*, pp. 1–8, 2014

33. D. Anthony[3], S. Elbaum, A. Lorenz, and C. Detweiler, "On crop height estimation with UAVs," in *Proceedings of IEEE/RSJ of Intelligent Robots and Systems (IROS)*, pp. 4805–4812, 2014

34. A. Mittleider[2], B. Griffin[2], and C. Detweiler, "Experimental analaysis of a UAV-based wireless power transfer localization system," in *Proceedings of International Symposium on Experimental Robotics (ISER)*, pp. 357–371, 2014

35. J.-P. Ore[3], S. Elbaum, A. Burgin, B. Zhao, and C. Detweiler, "Autonomous aerial water sampling," in *International Conference on Field and Service Robotics (FSR)*, (Brisbane, Australia), p. 14, 2013

36. H. Jiang[2], S. Elbaum, and C. Detweiler, "Reducing failure rates of robotic systems though inferred invariants monitoring," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 1899–1906, 2013

37. J. Johnson, E. Basha, and C. Detweiler, "Charge selection algorithms for maximizing sensor network life with UAV-based limited wireless recharging," in *Proceedings of IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)*, pp. 159–164, 2013

38. M. O'Rourke, E. Basha, and C. Detweiler, "Multi-modal communications in underwater sensor networks using depth adjustments," in *ACM International Conference on Underwater Networks & Systems (WUWNet)*, (Los Angeles, California), pp. 1–5, 2012

39. C. Detweiler, B. Griffin[2], and H. Roehr, "Omni-directional hovercraft design as a foundation for MAV education," in *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 786–792, 2012

40. B. Griffin[2] and C. Detweiler, "Resonant wireless power transfer to ground sensors from a UAV," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, pp. 2660–2665, 2012

41. M. Doniec, C. Detweiler, and D. Rus, "Estimation of thruster configurations for reconfigurable modular underwater robots," in *Proceedings of International Symposium on Experimental Robotics (ISER)*, pp. 655–666, 2010

42. M. Doniec, C. Detweiler, I. Vasilescu, and D. Rus, "Using optical communication for remote underwater robot operation," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 4017–4022, 2010

43. C. Detweiler, M. Doniec, M. Jiang, M. Schwager, R. Chen, and D. Rus, "Adaptive decentralized control of underwater sensor networks for modeling underwater phenomena," in *Proceedings of ACM Conference on Embedded Networked Sensor Systems (SenSys)*, (Zurich, Switzerland), pp. 253–266, 2010

44. C. Detweiler, M. Doniec, I. Vasilescu, E. Basha, and D. Rus, "Autonomous depth adjustment for underwater sensor networks," in *Proceedings of International Workshop on Underwater Networks (WUWNet)*, (Woods Hole, Massachusetts, USA), pp. 1–4, 2010

45. I. Vasilescu, C. Detweiler, and D. Rus, "Color-accurate underwater imaging using perceptual adaptive illumination," *Robotics: Science and Systems (RSS)*, p. 17, 2010 **Best paper finalist**

46. M. Doniec, C. Detweiler, I. Vasilescu, D. Anderson, and D. Rus, "Autonomous gathering of livestock using a multi-functional sensor network platform," in *Proceedings of ACM Workshop on Hot Topics in Embedded Networked Sensors (HotEMNETS)*, (Killarney, Ireland), pp. 1–5, 2010

47. E. Basha, C. Detweiler, M. Doniec, I. Vasilescu, and D. Rus, "Using a multi-functional sensor network platform for Large-Scale applications to ground, air, and water tasks," in *Proceedings of ACM Workshop on Hot Topics in Embedded Networked Sensors (HotEMNETS 2010)*, (Killarney, Ireland), pp. 1–5, 2010

48. M. Doniec, I. Vasilescu, C. Detweiler, and D. Rus, "Complete SE(3) underwater robot control with arbitrary thruster configurations," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, pp. 5295–5301, 2010

49. M. Doniec, I. Vasilescu, M. Chitre, C. Detweiler, M. Hoffmann-Kuhnt, and D. Rus, "Aquaoptical: A lightweight device for high-rate long-range underwater point-to-point communication," in *OCEANS*, 2009

50. C. Detweiler, S. Sosnowski, I. Vasilescu, and D. Rus, "Saving energy with buoyancy and balance control for underwater robots with dynamic payloads," in *International Symposium on Experimental Robotics (ISER)*, pp. 429–438, 2008 Athens, Greece, July 2008

51. I. Vasilescu, C. Detweiler, and D. Rus, "Aquanodes: an underwater sensor network," in *Proceedings of International Workshop on Underwater Networks (WUWNet)*, pp. 85–88, 2007

52. C. Detweiler, I. Vasilescu, and D. Rus, "An underwater sensor network with dual communications, sensing, and mobility," in *Proceedings of OCEANS - Europe*, pp. 1–6, 2007

53. P. Corke, C. Detweiler, M. Dunbabin, M. Hamilton, D. Rus, and I. Vasilescu, "Experiments with underwater robot localization and tracking," in *IEEE International Conference on Robotics and Automation (ICRA)*, pp. 4556–4561, 2007

54. C. Detweiler, J. Leonard, D. Rus, and S. Teller, "Passive mobile robot localization within a fixed beacon field," *Proceedings of International Workshop on the Algorithmic Foundations of Robotics (WAFR)*, pp. 425–440, 2006

55. M. Vona, C. Detweiler, and D. Rus, "Shady: Robust truss climbing with mechanical compliances," in *International Symposium on Experimental Robotics (ISER)*, pp. 431–440, 2006

56. C. Detweiler, M. Vona, K. Kotay, and D. Rus, "Hierarchical control for self-assembling mobile trusses with passive and active links," in *IEEE International Conference on Robotics and Automation (ICRA)*, pp. 1483–1490, 2006

57. A. Briggs, C. Detweiler, P. Mullen, and D. Scharstein, "Scale-space features in 1D omnidirectional images," in *Omnivis 2004, the Fifth Workshop on Omnidirectional Vision, Prague, Czech Republic*, pp. 115–126, 2004

58. A. J. Briggs, C. Detweiler, D. Scharstein, and A. Vandenberg-Rodes, "Expected shortest paths for landmark-based robot navigation," in *International Workshop on the Algorithmic Foundations of Robotics (WAFR)*, pp. 381–398, 2002

Contributed Chapters

1. C. Detweiler, M. Eiskamp, B. Griffin, J. Johnson, J. Leng, A. Mittleider, and E. Basha. UAV-Based Wireless Charging of Sensor Networks. In *Wireless Power Transfer Algorithms, Technologies and Applications in Ad Hoc Communication Networks*. Eds S. Nikoletseas, Y. Yang, and A. Georgiadis, 2016.

2. C. Detweiler, E. Basha, M. Doniec, and D. Rus. Underwater Networks with Limited Mobility: Algorithms, Systems, and Experiments. In *Mobile Ad hoc Networking: Cutting Edge Directions*. Eds S. Basagni, M. Conti, S. Giordano and I. Stojmenovic. Wiley & Sons, 769-803, 2013.

Patents

1. C. Detweiler, J. Bradley, B. Duncan, P. Plowcha[3], and J. Hogberg, inventors; NUTech Ventures, assignee. Sensor Emplacement using Unmanned Aircraft Systems. United States preliminary patent submission 63/324,355,2022.

2. C. Detweiler, S. Elbaum, J. Higgins[2], C. Laney[1], C. Allen, D. Twidwell, and E. Beachly inventors; NUTech Ventures, assignee. *Fire Suppression and Ignition with Unmanned Aerial Vehicles.* United States patent number 11,045,672 B2 2021.

3. C. Detweiler, D. Anthony[3], and S. Elbaum, inventors; NUTech Ventures, assignee. *Crop Canopy Estimation with Unmanned Aerial Vehicles*. United States patent number 9,969,492. 2018.

4. C. Detweiler, J.P. Ore[3], S. Elbaum, and B. Zhao, inventors; NUTech Ventures, assignee. *Aerial Water Sampler*. United States patent number 9,606,028. 2017.

5. I. Vasilescu, A. Bahr, C. Detweiler, and D. Rus, inventors; MIT, assignee. *Adaptive Illumination for Color-Corrected Underwater Imaging*.
United States patent number 8,106,944. 2012.

OTHER PUBLICATIONS

1. L. M. PytlikZillig, J. C. Walther, C. Detweiler, S. Elbaum, and A. Houston, "Public opinions of unmanned aerial technologies in 2014 to 2019: A technical and descriptive report," 2020

2. D. Rico, C. Detweiler, and F. Muñoz-Arriola, "Power-over-tether UAS leveraged for nearly-indefinite meteorological data acquisition," in *2020 ASABE Annual International Virtual Meeting*, p. 1, American Society of Agricultural and Biological Engineers, 2020

3. J.-Y. Lee[3], C. Sim, C. Detweiler, and K. Won. *Computer-Vision Based UAV Inspection for Steel Bridge Connections*. International Workshop on Structural Health Monitoring (IWSHM), Calfornia, 2019

4. A. Islam[2], A. L. Houston, A. Shankar[3], and C. Detweiler, "Temperature/humidity sensor housing for multirotor UAS," in *99th American Meteorological Society Annual Meeting*, 2019

5. J. Y. Lee[3], C. Sim, C. Detweiler, and B. Barnes, "Computer-vision based UAV inspection for steel bridge connections," *Structural Health Monitoring*, 2019

6. J.-P. Ore[3], C. Detweiler, and S. Elbaum, *Towards Code-Aware Robotic Simulation*. 1st International Workshop on Robotics Software Engineering (RoSE), 2018

7. J.-P. Ore[3], C. Detweiler, and S. Elbaum. *Phriky-Units: a Lightweight, Annotation-Free Physical Unit Inconsistency Detection Tool*. In Proceedings of the 2017 International Symposium on Software Testing and Analysis (ISSTA) - Demonstration Track, Santa Barbara, CA, 2017

8. J. Greenwood[1], and C. Detweiler. *AquaNode v2: An Underwater Sensor Network with Depth Adjustment and Multi-Modal Communication Capabilities*. Poster at the Tenth ACM International Conference on Underwater Networks and Systems (WUWNet 2015), Washington, DC, 2015

9. J. Palmer, E. Basha, J. Greenwood[1], and C. Detweiler, "Analysis and design of radio communication systems for surfaced sensor networks," in *Tenth ACM International Conference on Underwater Networks and Systems (WUWNet)*, pp. 1–2, 2015

10. C. Detweiler. *Collecting Water Samples with Aerial Robots*. National Workshop on Water Quality Markets, Lincoln, NE, 2015

11. D. Anthony[3], and C. Detweiler. *Towards GPS Free Localization in Row Crops*. ICRA Workshop on Robotics in Agriculture, 2015

12. D. Anthony[3], J.-P. Ore[3], E. Basha, and C. Detweiler. *Controlled Sensor Network Installation with Unmanned Aerial Vehicles*. Poster at ACM Conference on Embedded Networked Sensor Systems (SenSys), Memphis, TN, 2014

13. J. Ore[3], A. Burgin, V. Schoepfer, and C. Detweiler. *Towards Monitoring Saline Wetlands with Micro UAVs*. Robot Science and Systems Workshop on Robotic Monitoring, Berkeley, California, 2014

14. D. Anthony[3], J. Ore[3], and C. Detweiler. *Sensor Installation via UAVs for Environmental Monitoring*. Robot Science and Systems Workshop on Robotic Monitoring, Berkeley, California, 2014

15. E.R. Waring, V.A. Schoepfer, A.J. Burgin, J.P. Ore[3], C. Detweiler and S. Elbaum. *Using unmanned aerial vehicles (UAVs) to map sources of groundwater in a saline wetland.* Poster presentation at the Joint Aquatic Sciences Meeting, Portland, OR 18-23 June 2014

16. J.P. Ore[3], S. Elbaum, B. Zhao, and C. Detweiler. *Towards Autonomous Aerial Water Sampling.* Robot Science and Systems (RSS) Workshop on Robotics for Environmental Monitoring, Berlin, Germany, 2013

17. C. Lucas, S. Elbaum, J. Darsie, C. Detweiler and C. Nugent. *Virtual Cage for Cost-Effective MAV Systems and Algorithms Prototyping.* CSE Technical Report, TR-UNL-CSE-2011-0015. 2011

18. C. Detweiler. *Decentralized Sensor Placement and Mobile Localization on an Underwater Sensor Network with Depth Adjustment Capabilities.* Ph.D. Thesis, MIT, 2010

19. D. Anderson, M. Doniec, C. Detweiler, I. Vasilescu, D. Rus, B. Nolen, and R. Libeau. *Gathering Cows Using Virtual Fencing Methodologies.* Poster at Society for Range Management, Denver, Colorado, February 2009

20. I. Vasilescu, C. Detweiler, and D. Rus. *The DRL Underwater Sensor Network: Supporting Dual Communications, Sensing, and Mobility.* Demonstration at WUWNet 2006 in conjunction with ACM MobiCom 2006, Los Angeles, California 2006

21. C. Detweiler. *Passive Mobile Robot Localization within a Fixed Beacon Field.* Masters Thesis, MIT, 2006

22. A. Briggs, C. Detweiler, P. Mullen, and D. Scharstein, "Scale-space features in 1D omnidirectional images," in *Omnivis 2004, the Fifth Workshop on Omnidirectional Vision, Prague, Czech Republic*, pp. 115–126, 2004

TEACHING

Courses[2]

CSCE 990: Robotics Today	Fall 2022
8 Students	
CSCE 439/839: Robotics Algorithms and Applications	Spring 2022
20 Students	
CSCE 496/896: Special Topics: Robotics: Unmanned Aerial Systems	Fall 2020
23 Students	
CSCE 439/839: Robotics Algorithms and Applications	Spring 2020
34 Students	
CSCE 990: Robotics Today	Fall 2019
10 Students	
CSCE 990: Robotics Today	Fall 2018
9 Students	
CSCE 236: Introduction to Embedded Systems	Fall 2017
11 Students	
CSCE 236: Introduction to Embedded Systems	Spring 2016
40 Students	
CSCE 439/839: Robotics Algorithms and Applications	Fall 2015
20 Students (at capacity)	

CSCE 236: Introduction to Embedded Systems   Spring 2015
44 Students (at capacity)

CSCE 990: Robotics Today   Fall 2014
16 Students

CSCE 236: Introduction to Embedded Systems   Spring 2014
45 Students (at capacity)

CSCE 439/839: Robotics Algorithms and Applications   Fall 2013
21 Students

CSCE 236: Introduction to Embedded Systems   Spring 2013
30 Students

CSCE 990: Robotics Today   Fall 2012
12 Students

CSCE 236: Introduction to Embedded Systems   Spring 2012
36 Students

CSCE 990: Unmanned Aerial Vehicles (1 credit)   Spring 2012
5 Enrolled Students, 16 Attend Meetings

CSCE 496/896: Robotics[3]   Fall 2011
11 Students

CSCE 990: Unmanned Aerial Vehicles (1 credit)   Fall 2011
5 Enrolled Students, 14 Attend Meetings

CSCE 436/836: Advanced Embedded Systems   Spring 2011
14 Students

CSCE 990: Robotics: Algorithms and Applications   Fall 2010
21 Students

MIT 6.141: Robotics Science and Systems Teaching Assistant   Spring 2009
30+ Students

Service and Synergistic Activities

Selected Program Committees, Editorial Boards, and Session Chairs

- Associate Editor, IEEE International Conference on Robotics and Automation (ICRA-AE 2012, 2014, 2015, 2016, 2018, 2019, 2020, 2021, 2022, 2023)

- Session Chair, IEEE/RSJ International Conference on Intelligent Robots and Systems (2020, 2022)

- Program Committee, Robotics Science and Systems (RSS-PC 2017, 2018, 2020)

- Program Committee, International Conference on Field and Service Robotics (FSR-PC 2015, 2017, 2019)

- Technical Program Committee, ACM International Conference on Underwater Networks & Systems (WUWNet 2019)

- Session Chair, IEEE/RSJ International Conference on Intelligent Robots and Systems (2018)

- Panel Reviewer, National Science Foundation (2011, 2012, 2014, 2015(x2), 2016, 2018(x2), 2019)

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[3]CSCE 496/896: Robotics is now CSCE 439/839.

- Ad-hoc Reviewer, National Science Foundation (2013, 2020, 2022)

- Ad-hoc Reviewer, United States Department of Agriculture (2018)

- Associate Editor, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-AE 2015, 2016)

- Technical Program Committee, International Symposium on Safety, Security and Rescue Robotics (SSRR 2017)

- Co-Chair Program Committee, ACM International Conference on Underwater Networks & Systems (WUWNet 2015)

- Program Committee, Distributed Autonomous Robotic Systems (DARS-PC 2010, 2016)

- Program Committee, ROBOT (ROBOT-PC 2015)

- Program Committee, International Conference on Distributed Computing in Sensor Systems (DCOSS-PC 2015)

- Co-organized workshop on Robotic Monitoring at Robot Science and Systems (RSS) (2014)

- Session Chair, ACM International Conference on Underwater Networks & Systems (WUWNet 2010, 2014)

- Program Committee, Workshop on the Algorithmic Foundations of Robotics (WAFR-PC 2012)

Selected Journal and Conference Reviews
- IEEE International Conference on Robotics and Automation (ICRA) (2012, 2013, 2014, 2015, 2018, 2019, 2020)

- IEEE Intelligent Robots and Systems (IROS) (2011, 2012, 2013, 2014, 2015, 2018, 2020, 2021, 2022)

- Robotics Science and Systems (RSS) (2017, 2018, 2020)

- International Conference on Field and Service Robotics (FSR) (2015, 2017, 2019)

- IEEE Robotics and Automation Letters (RAL) (2017, 2018, 2020, 2021, 2022)

- Journal of Field Robotics (JFR) (2010, 2017, 2018)

- IEEE Transactions on Automatic Control (TACON) (2010, 2017, 2021, 2022)

- IEEE Transactions on COntrol of NEtwork Systems (CONES) (2020)

- IEEE Robotics and Automation Magazine (RAM) (2015, 2016)

- IEEE Transactions on Image Processing (2011)

- IEEE Transactions on Mobile Computing (2010, 2011, 2012, 2014)

- IEEE Transactions on Mechatronics (2014)

- IEEE Transactions on Robotics (2011, 2012, 2013)

- IEEE Transactions on Sensor Networks (2012, 2013)

- International Journal of Robotics Research (2014)

- Journal on Advances in Signal Processing (2010)

- Journal of Distributed Sensor Networks (2014)

- Journal of Intelligent and Robotic Systems (2010, 2015, 2016)

- Journal of Sensors (2010, 2011, 2012, 2014)

- Journal of Mechanical Engineering Science (2012)

Professional Membership
- Association for Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE)
- IEEE Robotics and Automation Society (RAS)
- IEEE Agricultural Robotics and Automation Technical Committee
- National Academy of Inventors, Senior Member

University and Departmental Activities
- CoE New Faculty Mentor (2022–current)
- CoE Faculty Awards Committee (2022)
- SoC Faculty Search Committee (2021–2022)
- Goldwater Scholarship Reviewer (2021)
- SoC Computer Users Committee (2021–current)
- Nebraska Technology Initiative, Higher Education Committee (2019–current)
- Advisory Board Member for the CAS Inquire Program (2021–2022)
- CSE Faculty Search Committee (2020–2021)
- CSE Qualifying Exam Committee (2020–2021)
- UNL Federal Relations Director Search Committee (2020)
- CSE Advisory Committee (2016–2020)
- Nebraska Hall of Computing Committee (2018–2021)
- UNL VEX Robotics Club Faculty Advisor (2017–current)
- Chair, CSE Qualifying Exam Committee (2018–2020)
- UNL Executive Vice Chancellor for Academic Affairs Search Committee (2019)
- Nebraska Commission of 150, Internal Operations and Infrastructure Subcommittee Member (2018)
- Chair, CSE AdHoc Qualifying Exam Reorganization Committee (2018)
- College of Engineering Dean Search Committee Member (2018)
- Chair, CSE Awards Committee (2017–2018)
- CSE 50th Anniversary Committee (2017–2018)
- University of Nebraska-Lincoln UAS Committee (2016–current)
- CSE Curriculum Committee (2017)
- College of Arts and Science Executive Committee (appointed; 2015–2016)
- College of Arts and Science Awards Committee (2015–2016)
- University of Nebraska UAS Policy Working Group (2015–2016)
- ACM Regional Programming Contest UNL Site Director (2012–2015)
- CSE Graduate Admissions Committee (2010–2012; 2015–2016)
- CSE Colloquium Chair (2013–2015)

- Graduate CE Program Committee (2013–2015)
- Faculty Search Committee (2012, 2014)
- COE *Engineering 10* Computer Engineering Overview Presentation (Fall 2012, Fall 2013)
- CSE Academic Integrity & Grading Appeals Committee (2013–2014)
- Faculty Search Committee, Evaluation of Robotics Candidates (2013)
- CSE Innovation Lab Committee (2011–2013)
- Grad CS Program Committee (2012–2013)
- Undergrad CE Program Committee (2010–2013)
- Space & Computing Facilities Committee (2011–2012)

Mentoring and Advising

Graduate Advisor
1. Mohamed Aly (M.S. in progress)
2. Chandima Fernando (with Dr. Bradley, Ph.D. in progress)
3. Ashraful Islam (M.S. in progress)
4. Karissa Jelonek (with Dr. Duncan, Ph.D. in progress)
5. Ji Young Lee (with Dr. Lee, Ph.D. in progress)
6. Daniel Rico (with Dr. Munoz-Arriola, Ph.D. in progress)

Graduated Students
1. Adam Plowcha (with Dr. Bradley, Ph.D., 2022)
   Now working at: University of Nebraska-Lincoln
2. Paul Fletcher (with Dr. Duncan, M.S., 2022)
   Now working at: Drone Amplified
3. Ajay Shankar (with Dr. Elbaum, Ph.D., 2021)
   Now working at: Post-doc at the University of Cambridge, UK
4. Daniel Rico (M.S., 2021)
   Continuing onto Ph.D. at UNL
5. John-Paul Ore (with Dr. Elbaum, Ph.D., 2019)
   Now working at: Assistant Professor, North Carolina State University
6. Najeeb Najeeb (Ph.D., 2019)
   Now working at: Cruise Automation
7. Pedro Albuquerque (M.S., 2019)
   Now working at: Microsoft
8. Ashraful Islam (M.S. in MME, 2019)
   Now in CS MS Program
9. Marc Lussier (with Dr. Bradley, M.S., 2019)
   Now working at: Aerovironment
10. Minal Khatri (M.S., 2019)

11. Evan Beachly (with Dr. Elbaum, M.S. 2017)
    Now working at: Drone Amplified

12. Nishant Sharma (with Dr. Elbaum, M.S. 2017)
    Now working at: Cruise Automation

13. David Anthony (Ph.D., 2016)
    Now working at: Southwest Research Institute (SwRI)

14. William Wells (M.S., 2016)

15. James Higgins (M.S. in MME, 2016)
    Now working at: Drone Amplified

16. Sreeja Banerjee (M.S., 2014)
    Now working at: Mathworks

17. Jinfu Leng (M.S., 2014)
    Now working at: Facebook

18. Andrew Mittleider (with Dr. Elbaum, M.S., 2014)
    Now working at: Microsoft

19. John-Paul Ore (with Dr. Dwyer, M.S., 2014)

20. Jayasri Janardanan (M.S., 2013)
    Now working at: Paypal

21. Brent Griffin (M.S. in MME, 2012)
    Now working at: University of Michigan

22. Shuai Xie (M.S., 2011)

Committee Member

1. Husein Harun (M.S. in BSE, in progress)

2. Rachael Wagner (M.S. in MME, in progress)

3. Matthew Wilson (Ph.D. in Earth and Atmospheric Sciences, in progress)

4. Siya Kunde (Ph.D., 2022)

5. Alisha Bevins (M.S., 2021)

6. Xinkai Zhang (Ph.D. in ECE, 2021)

7. Nathan Jensen (M.S. in MME, 2020)

8. Mitchell Bruckner (M.S. in MME, 2020)

9. Zhexiong Shang (M.S. in CS, 2019)

10. Thomas Ammon (M.S. in MME, 2018)

11. Urja Acharya (M.S. in CS, 2018)

12. Michaella Chung (Ph.D. at UC Berkeley, 2018)

13. Hossein Dehghani (Ph.D. in MME, 2017)

14. Seth Doebbeling (M.S. in MME, 2017)

15. Pengbo Li (Ph.D. in MME, 2017)

16. Tao Shen (Ph.D. in MME, 2016)

17. Ross Welch (M.S. in MME, 2016)

18. Adam Taylor (M.S., 2015)

19. Beau Christ (Ph.D., 2015)

20. Baoliang Zhao (Ph.D. in MME, 2015)

21. Justin Burnett (M.S. in MME, 2015)

22. Michael Eiskamp (M.S. at University of the Pacific, 2015)

23. Jake Palmer (M.S. at University of the Pacific, 2015)

24. Jennifer Johnson (M.S. at University of the Pacific, 2015)

25. Abolfazl (Sina) Pourghodrat (Ph.D. in MME, 2014)

26. Hengle Jiang (M.S., 2014)

27. Mamur Hossain (CS Minor Advisor, Ph.D. in MME, 2014)

28. Nicholas Yuen (M.S. at University of the Pacific, 2013)

29. Heath Roehr (M.S., 2013)

30. Dave Anthony (M.S., 2012)

31. Javier Darsie (M.S., 2012)

32. Michael O'Rourke (M.S. at University of the Pacific, 2012)

Current Undergraduate Research

1. Brandon Ramos (Research Project, 2022–current)

2. Nathan Simms (Research Project, 2021–current)

3. Jayden Carlon (Research Project, 2021–current)

Past Undergraduate Research

1. Andrew Wiedenmann (Research Project, 2019–2021)

2. Mark Nail (Research Project, 2017-2020; NSF GRFP recipient)
   Attending University of Michigan PhD program

3. Greg Nail (Research Project, 2017-2020)

4. Lambro Karkazis (Research Project, 2018-2019)

5. Chris Morse (REU Project, 2019)

6. Karissa Jelonek (REU Project, 2019)

7. Alex Yen (REU Project, 2019)

8. Christina Youn (REU Project, 2019)

9. Jason Finnegan (REU Project, 2018)

10. Amy Guo (REU Project, 2018)

11. Rebecca Horzewski (UCARE Research Project, 2015-2017)

12. Levi Amen (Research Project, 2015-2016)

13. Christian Laney (Research Project, 2013-2016)

14. Jacob Greenwood (UCARE and other Research Project, 2013-2016)

15. Jared Ostdiek (Research Project, 2013-2014)
    NSF GRFP recipient, attended Stanford University

16. Daniel Rogge (Research Project, 2014)

17. Caleb Bergg (UCARE Research Project, 2012-2013; Research Project, 2013–2014)

18. Dylan Fromm (Research Project, 2013-2014)

19. Nick Goeser (Summer Research, 2012; Undergraduate Research NASA NE Space Grant, 2012–2013)

20. Andrew Rasmussen (Senior Thesis Project, ME, 2011)

21. Tim Echtenkamp (Summer Research Project, 2011)

22. Tyler Lemburg (Summer Research Project, 2011)

Other Personnel Supervised

1. Adam Plowcha (Nimbus Lab Research Engineer, 2022-current)

2. Paul Fletcher (Nimbus Lab Research Engineer, 2022)

3. Jacob Hogberg (Nimbus Lab Research Engineer, 2018-2021)

4. Andrew Rasmussen (Nimbus Lab Manager, 2016-2018)

5. Christian Amelinckx (Nimbus Lab Applications Engineer, 2014-2015)

6. Seth McNeill, Ph.D. (Nimbus Lab Applications Engineer, 2013-2014)