JAMES RUDOLPH

Industrial Design Strategy and Leadership

Paul Down Assistant Professor of Industrial Design
University of Notre Dame
Notre Dame Indiana, 46556

Principal Designer, Founder
Rudolph Design Studio, LLC

BIOGRAPHICAL STATEMENT

Design is an inherently cross-disciplinary academic field and professional practice, inspired by research and knowledge from diverse industries and research domains. My work occurs at the intersection of advanced technological breakthroughs and pivotal healthcare challenges, utilizing research-supported design principles to bring meaningful healthcare solutions to market. My recent work focuses on innovative medical device start-ups and nascent healthcare companies, where I collaborate with diverse stakeholders to integrate human-centered design practices into the fabric of corporate culture and development processes.

Informed by an educational background in design and human factors engineering, and guided by over 20 years of industry experience, I develop product innovation strategies to meet the unique demands of early-stage medical device companies. I work in partnership with academics, technologists, and industry practitioners to deliver conceptual direction, integrate human-centered development practices, and provide a vision for important healthcare changes – changes that are empathetic to human needs, savvy of business constraints, and driven by the latest technological advances. As the Paul Down Assistant Professor of Industrial Design at the University of Notre Dame, I merge my research and practice to address complex healthcare challenges and advance critical discourse in the field of design.

EDUCATION

Bentley University | **Waltham, MA** 2012

MS – Masters of Human Factors in Information Design

Cumulative Grade: 3.78 Honors: Distinction

Syracuse University | **Syracuse, NY** 2006

BID – Bachelor of Industrial Design

Cumulative Grade: 3.79 Honors: VPA Scholar, Magna Cum Laude

WORK HISTORY

Founder and Principal Industrial Designer | Rudolph Design Studio, LLC | 2019 - Current

Co-founder of Rudolph Design Studio LLC, an industrial and interaction design consultancy based in St. Joseph, MI. Guided by our iterative, people-centered design process, we help our clients introduce iconic, meaningful, and impactful healthcare products to the market. Our clients include Fortune 500 corporations, medical device start-ups, and advanced research institutions.

Paul Down Assistant Professor of Industrial Design | University of Notre Dame | 2019 - Current

Paul Down Assistant Professor of Design and Design Area Coordinator, overseeing Industrial Design curriculum and coursework development within the Department of Art, Art History, and Design. Additional responsibilities include engagement with community stakeholders, management of corporate-sponsored research and class projects, and teaching advanced design studio courses.

Program Manager | Farm Design | 2013 - 2019

Responsible for team leadership, proposal development, project resourcing, and management of large-scale, multidisciplinary development initiatives within the medical and healthcare sectors. Led a team of skilled designers and design researchers, driving project success through strategic planning and execution. Contributed to business development, team growth, and fostering a collaborative work environment.

Senior Industrial Designer | Farm Design | 2006 - 2013

Led design and user experience initiatives while managing project planning, resource allocation, client relationships, and client presentations. Additionally, as a Design Researcher, oversaw ethnographic research efforts, including proposal development, client management, budget and scope oversight, resource planning, data analysis, and the visual communication of insights.

Adjunct Professor of Industrial Design | MassART | 2013 - 2014

Developed course structures for Human Factors Seminar and Industrial Design I, integrating real-world design challenges while encouraging the exploration of innovative and forward-thinking ideas.

Industrial Designer | RAM Design | 2005 - 2006

Responsible for identifying new product opportunities, concept development, design refinement, and in-depth user research. Developed a series of consumer children's products.

Design Intern | Copesetic, Inc. | Summer 2005

Mastered rapid prototyping techniques, including urethane molding, roto-molding, and CNC machining, to create compelling interaction design and appearance models for clients including IBM and Smart Design.

DISTINCTIONS + AWARDS

International Design Awards – Silver, Sustainable Design | 2025

Awarded a Silver Medal by the International Design Awards in the Conceptual Products / Eco / Sustainable Design category for Tempo (one of only five awarded in the category), a speculative personal comfort device that uses carbon nanotube technology to create individualized thermal microclimates, reducing building-level energy demand and associated carbon emissions. The project was developed through interdisciplinary research and collaboration with the University of California, Berkeley, integrating sustainable design theory and environmental responsiveness into an eco-centric product innovation. See more here: Tempo: Personal Comfort Ecosystem.

Design MasterPrize – Honorable Mention, Conceptual | 2025

Lead Designer for Tempo, a carbon nanotube based radiant heating concept exploring individual thermal comfort as a strategy for reducing building-scale energy demand. The project was recognized with an Honorable Mention at the 2025 Design MasterPrize, an international award for excellence in product design and innovation. See more here: Design MasterPrize.

What would you fight for? NBC Series – Research Highlight | 2025

My work was featured in the University of Notre Dame and NBC collaborative series *What Would You Fight For?,* highlighting my research on early detection systems for avian influenza in poultry farms. This work, which integrates nanoscale sensing technology to identify avian influenza infections before symptoms appear, was also highlighted in an episode of the *Notre Dame Stories* podcast. The recognition highlights the value my work brings in advancing groundbreaking technologies for addressing important personal and societal healthcare challenges.

International Design Awards – Honorable Mention, Conceptual Product | 2025

The OneAir Medical Breath Analysis System enables individuals to quickly identify and respond to personal health conditions, while providing communities with population scale insights to inform public health initiatives. The system uses an advanced nanoscale sensing technology to detect the presence of hazardous VOC biomarkers at high sensitivity and specificity. This work earned Honorable Mention at the 2024 International Design Awards in the Conceptual Product category.

Design Intelligence Award – Honorable Mention | 2024
The OneAir Environment concept builds on the innovation of the Hazard Detection System, advancing its capabilities for atom-level disease detection in home and workplace settings. This groundbreaking work earned an Honorable Mention at the 2024 Design Intelligence Awards, a prestigious global design competition established by the China Academy of Art, and was also selected for exhibition in the New Quality Gravity Design Intelligence Exhibition.

Red Dot – Design Concept | 2024
The OneAir Nanoscale Hazard Detection System represents a transformative conceptual design exploring innovative applications for advanced nanoscale sensing technology under development at the University of Notre Dame. This system analyzes VOCs in air and breath to identify common diseases at atom scale. In 2024, the OneAir Hazard Detection System earned the prestigious Red Dot Award: Design Concept, a distinction awarded to only 8% of entries. Learn more about this achievement here: OneAir Red Dot.

Core77 Design Awards – Runner Up, Speculative Design | 2024
The OneAir Breath System was honored as a Runner-Up in the 2024 Core77 Design Awards, Speculative Design category—placing among the top 4 entries out of 93 submissions. This recognition highlights the system's innovative approach to portable and precise disease detection through speculative design. Learn more here: Core77 Speculative Design.

International Design Excellence Awards (IDEA) – Bronze, Concepts + Speculative Design | 2024
The OneAir Detection System earned a distinguished IDEA Bronze in the Concepts and Speculative Design category at the 2024 IDSA International Design Conference. This accolade celebrates the system's vision for delivering thoughtful healthcare monitoring through speculative innovation. More information here: OneAir Lab IDEA Bronze.

Korean Society of Design Science – Special Prize | 2023
Received the Special Prize at the KSDS 2023 International Fall Invitational Exhibition, hosted by the Korean Society of Design Science, for the design of the NuVasive Medical Robotic Surgical System. This prestigious honor was awarded to only 9 out of 124 international design submissions.

Korean Society of Design Science | 2023
Accepted submission to the 2023 International Fall Invitational Exhibition for design work on the Outset Medical Home Hemodialysis System, a transformative healthcare breakthrough enabling home dialysis for those suffering from chronic kidney disease.

US Design Patent | US D961,365 S | Awarded August 23, 2022
Awarded a US Design patent for a novel hardware clip used to maintain the safety and well-being of dogs while using a martingale collar. The design also enables safe and seamless transitions from home environments to outdoor environments and walking use cases.

IDSA – IDEA Design Award Finalist | 2021
Recognized as a Design Finalist in the Medical Device category for the design and development of the NearWave Imaging System. NearWave, a spin-out from the University of Notre Dame, is developing a smart, wireless, non-invasive handheld device aimed at monitoring the effectiveness of chemotherapy in breast cancer patients.

Eddies Award – Medical Device Category | 2021
Served as lead industrial designer for Dynocardia, which was recognized with an Eddies Award for Innovation by the Massachusetts Innovation Network in the New England Innovation Award competition. Dynocardia was one of six start-ups recognized out of 119 teams representing eight different innovation tracks.

Mira Techpoint Awards – Innovation of the Year | 2021
The NearWave Imaging System earned Innovation of the Year honors at TechPoint's 22nd annual Mira Awards gala, celebrating Indiana's top tech achievements. I played a pivotal role as the lead industrial and user interface designer, shaping both the system's functionality and user experience.

McCloskey New Venture Competition - Grand Prize | 2020
Served as Lead Industrial Designer and faculty advisor for a cross-disciplinary team working to develop a novel imaging system for evaluating breast cancer response and outcomes throughout chemotherapy. The project, including the design, engineering, and business plan, was awarded several prizes in the McCloskey New Venture Competition, including the McCloskey Grand Prize. Additional awards included the Marshall County Prize for Greatest Social Impact and the IrishAngels Award. Funding awarded totaled $100,000.

Chancellors Award for Public Engagement and Scholarship | 2006
The Syracuse University award recognized the successful collaboration between students and the local Syracuse, NY community in developing innovative solutions to address existing housing challenges.

Arthur J. Pulos Award for Intellectual Communication | 2006
This award acknowledges exceptional research and scholarship demonstrated in my senior thesis, recognizing contributions to advancing intellectual discourse on challenges in design. My thesis explored the complex, often addictive relationship between people and everyday products.

Syracuse University Visual and Performing Arts Scholar | 2006
School of Visual and Performing Arts highest honor given in recognition of cumulative personal achievement and scholarship while attending Syracuse University.

Cue Art Foundation | 2005
Distinguished as one of three finalists in a competition focused on environmental solutions for a context-specific art gallery in the SoHo district of New York City.

PEER REVIEWED PUBLICATIONS

From Lived Experience to System Innovation: Co-Creating an Insulin Leak Detection System with Adolescents | 2025 (manuscript under review)
Lead Author on a research article submitted to *CoDesign* (acceptance rate ~22%, Impact Factor: 2.6). presenting a collaborative co-creation case study. Building off previous research in insulin leak detection (see below), the study applies the Generative Co-Design Framework for Healthcare Innovation to translate participant insights into articulated user needs and preliminary product requirements, informing the design of a future insulin leak detection system.

Understanding Insulin Leak Detection and Experience Amongst Type 1 Diabetics | 2024 (submitted)
Co-authored and peer-reviewed paper submitted for publication to the *Journal of Diabetes Science and Technology*. The paper outlines a collaborative co-creation study conducted to gain a deeper understanding of diabetic patients' real-life experiences with insulin leaks, particularly within the high-risk pediatric and young adult population of pump users.

The Culture of Creativity: A Pragmatist Critique of Design Principles and Practices | 2024 (in press)
Peer-reviewed book chapter accepted for publication in the upcoming book: *DESIGN IN ACTION Reflections on Social and Inclusive Practices*. The book is an edited compilation of essays published by the Design Research Society and edited by Anastasios Maragiannis, Head of School of Design at the University of Greenwich, London. Submitted and accepted March 2024.

The Nuance of Need: Mapping User Needs Throughout the Design Process | 2022
Peer-reviewed paper and presentation accepted by the IDSA International Design Conference (IDC) 2022. Main stage presentation at the IDC in September, 2022. Paper published in the IDSA Education Symposium papers as well as the Fall publication of INNOVATION magazine.

Design Agency: Reestablishing Design's Identify Through Education and Practice | 2021
Peer-reviewed paper accepted by the IDSA International Design Conference 2021. Published in the IDSA Education Symposium papers.

Bootstrapping Leadership Through Design | 2020
Peer-reviewed paper accepted by the IDSA International Design Conference 2020. Acceptance rate: 36%. Published in the IDSA Education Symposium papers: Bootstrapping Leadership Through Design

Redefining User Needs | 2020
Peer reviewed paper accepted by the Applied Human Factors and Ergonomics (AHFE) International Conference 2020. Rudolph J. (2020) Redefining User Needs. In: Di Bucchianico G., Shin C., Shim S., Fukuda S., Montagna G., Carvalho C. (eds) *Advances in Industrial Design*. AHFE 2020. Advances in Intelligent Systems and Computing, vol 1202. Springer, Cham. https://doi.org/10.1007/978-3-030-51194-4_41

Contributor to: Contextual Inquiry for Medical Device Design | 2015

Privitera, Mary Beth. (2015) "Time Tracker Tool." Contextual Inquiry for Medical Device Design. Waltham, MA, Elsevier, 2015, pgs. 130-135.

INVITED SPEAKING ENGAGEMENTS

Rethinking Futures: The Role of Speculative Design Today | 2026

An invited lecture series presented at the National College of Art and Design in Dublin, Ireland, which focused on the relationship between human-centered design (HCD) practice and speculative design theory. The lectures outlined historical practices for HCD and speculative design, and presented a framework for leveraging the strengths of both to inform healthcare futures. March 10 + 12, 2026: Dublin, Ireland.

Speculative Design for the Real World: Purpose, Value, and Evaluation Today | 2025

Invited lecture presented at the University of Illinois-Chicago Public Seminar Series. This lecture explored the purpose, value, and methods of evaluating speculative design today. Drawing from the influential work of Victor Papanek and Anthony Dunne & Fiona Raby, amongst others, the lecture examined how speculative design intersects with design practice, provoking participants to consider how designers can harness speculative practices to meaningfully shape the world we live in now. November 20, 2025: Chicago, IL.

Designing for Diabetes: A Generative Co-Design Approach to Insulin Leak Detection | 2025

Peer reviewed paper presentation accepted by the Industrial Designers Society of America (IDSA) 2025 International Design Conference in Detroit (27% acceptance rate), where I shared my recent research titled *Designing for Diabetes*—a co-creation study focused on understanding the lived experiences of individuals with Type 1 Diabetes. The presentation also outlined a novel framework for translating user needs into product requirements for a future insulin leak detection system. September 18, 2025: Detroit, MI.

Conceptual Architectures: Speculative Design in Action | 2025

Presented at Carnegie Mellon's School of Design, this invited lecture examined how speculative design can be applied to real-world challenges by integrating emerging technologies with established design thinking methodologies. The lecture highlighted specific examples from recent work, and emphasized how speculative approaches can shape impactful responses to evolving societal needs. March 20, 2025: Pittsburgh, PA.

Development of a Precise, Real-time Avian Influenza Disease Detection and Monitoring System, Poster Presentation | 2025

Poster presentation at the inaugural Science & Technology Showcase, a Notre Dame IDEA Center event highlighting the University's most promising translational research. Hosted by Notre Dame Research, this showcase aimed to bridge the gap between groundbreaking research and real-world applications, fostering collaborations that align with Notre Dame's mission to be a force for good. September 18, 2025.

Speculative Design for the Real World | 2024
Delivered an invited lecture at UC Berkeley's Center for the Built Environment (WeLL Seminar) on the intersection of design thinking and innovation. I explored how speculative design inspires technological breakthroughs by bridging creativity and functionality, offering practical strategies to develop forward-thinking solutions that address future needs and expand current possibilities. October 23, 2024: Berkeley, CA.

The Value of Vision: The Evolving Role of Design in Healthcare | 2023
Delivered an invited lecture at Syracuse University, presenting my latest research on the critical role of design in driving breakthrough innovations in medical device development and its transformative impact on technological advancement. October 26, 2023: Syracuse, NY.

Mapping the Design Apparatus: An Interactive Exploration and Critique of Design Thinking | 2023
Interactive workshop accepted by the IDSA International Design Conference (IDC) 2023. The workshop explored principles and practices of design thinking, including their shortcomings and impact on design culture and outcomes. The workshop concluded with a discussion of principles to consider to address the challenges identified with design thinking. August 24, 2023, New York, NY.

Design Culture and its Impact on Felt Experience | 2023
Peer-reviewed paper presentation accepted by the Seventeenth International Conference on Design Principles & Practices: New Agendas for Design – Principles of Scale, Practices of Inclusion. Remote multi-media presentation. March 30, 2023: Lisbon, Portugal.

The Nuance of Need: Mapping User Needs Throughout the Design Process | 2022
Main Stage presentation at the IDC Education Symposium. IDSA International Design Conference. September, 2022: Seattle, WA. This lecture presents a theoretical framework reimagining user needs as goal-dependent constructs, mapping distinct need typologies across phases of the design process to support a more rigorous design practice. Drawing on cognitive psychology and design process theory, the work offers guidance for integrating need identification in medical device development.

Design Agency: Reestablishing Design's Identity in Education and Practice | 2021
Education Symposium invited panelist. IDSA International Design Conference. September, 2021: Virtual conference due to COVID-19. This lecture examines the historical fragmentation of design education and argues for reestablishing a disciplinary identity grounded in creative problem-solving theory. Drawing on research from cognitive psychology and creativity studies, it proposes a studio-centered curricular framework that aligns design education with professional practice.

Bootstrapping Leadership Through Design | 2020
Main Stage presentation. IDSA International Design Conference. September, 2020: Seattle, WA. Virtual conference due to COVID-19. This lectures addresses gaps in leadership education within design curricula and proposes a theoretically grounded, project-based framework for integrating leadership development into studio pedagogy.

Tower of Babel: The Conflicting Semantics of User Needs | 2020
Accepted Conversation conducted at Design Research Society 2020. August, 2020: Sydney, Au. Virtual conference due to COVID-19.

Panel Discussion: The Global Ecosystem and Design Education | 2019
Invited panelist. IDSA International Design Conference. August, 2019: Chicago, IL.

Turning Qualitative Insights into Value-Driven Business Opportunities | 2016
Presentation focused on opportunity identification for driving business decisions given at BIOMEDevice Boston 2016 Conference. Boston, MA.

Watch the Sterile Field | 2013
Presentation focused on conducting research in the operating room. Proceedings of the Boston UXPA Chapter, 12th Annual Conference. Boston, MA.

Visualizing Surgical Procedures - A Method for Exploring Surgical Time data | 2013
Poster presented at the International Symposium on Human Factors and Ergonomics in Healthcare. Baltimore, MD.

What is Industrial Design? | 2012
Invited lecture given at the Distinguished Speaker Series: Gordon Engineering Leadership Program, Northeastern University. Boston, MA.

Conducting Research in the OR: What You Should Know | 2010
Paper presented at the National Usability Professionals Association (UPA) Conference. Atlanta, GA.

RESEARCH + GRANT ACTIVITY

Making Obstetrics Care Smart Grant | Advanced Research Projects Agency for Health (ARPA-H)
Senior Personnel for a large grant funded through the ARPA-H program and Carnegie Mellon University. The Making Obstetrics Care Smart (MOCS) initiative will work to develop advanced diagnostics and AI-enabled, noninvasive monitoring tools to improve real-time fetal assessment and enable safer, more reliable deliveries nationwide. My role will focus on industrial design, user experience, user safety, and commercialization. Proposed budget: $3,000.000.

OneAir Avian Health Monitoring System | Phase 2 NSF Convergence Accelerator Grant
I served as Co-Principal Investigator and author on a large NSF-sponsored grant to commercialize groundbreaking nanoscale sensing technology for the detection and monitoring of avian influenza in poultry flocks. My role focuses on establishing robust project management frameworks and implementing human-centered design strategies to guide a multidisciplinary team of scientists, engineers, and commercial development partners toward impactful outcomes. Proposed budget: $4,615,000

OneAir Avian Health Monitoring System | Phase 1 NSF Convergence Accelerator Program
I participated in the NSF Phase 1 Convergence Accelerator program, where I served as lead designer and user researcher on a project utilizing nanoscale sensing technology for early detection of avian influenza. This intense 6-month program included weekly lectures and deliverables, and concluded with a project pitch and a comprehensive proposal for Phase 2 funding, valued at $4,615,000. Funded: $600,00.

Mainstreaming Personal Comfort Devices: Enabling Modular Personal Controls for a Wide Range of Energy and Comfort Applications | University of California - Berkeley
Co-Principal Investigator on a multidisciplinary research initiative with the University of California, Berkeley's Center for the Built Environment. This project focuses on developing a smart personal comfort system to optimize heating and cooling distribution in built environments. The system aims to reduce HVAC energy consumption, enhance environmental resilience, and improve user comfort, productivity, and healthcare outcomes across diverse interior spaces. Funded: $2,914,660.

Advancing the Cross-Disciplinary User Experience Lab: Equipment Restoration and Renewal for Faculty and Graduate Level Research in the Design Department | ND ERR Grant
Spring 2022 ND Equipment Restoration and Renewal Grant supports improvements to existing Industrial and Visual Communication Design facilities, including fabrication equipment, prototyping facilities, and user experience evaluation technologies. Funded: $50,266.

The Value of Vision: Advancing Nanotech Research for the Common Good | ND Flip the Script Grant Proposal | Principal Investigator | Fall 2022
A collaborative effort with Notre Dame engineering faculty, Nosang Myung, aimed at identifying novel and appropriate applications for advanced nanoscale sensing technologies to develop practical yet innovative solutions for those suffering from exposure to harmful biologics, chemicals, and vapors. Funded: $14,850

Design Thinking Grows Up: Application of Design Thinking to Support Social Impact Initiatives | ND Large Research Grant in Humanities | Principal Investigator | Fall 2022
Large Research Grant submitted to support early research into the use of Design Thinking principles and practices for social impact, with a focus on homelessness. Funded: $7,670

PROFESSIONAL PRACTICE + DESIGN WORK

Insulet Corporation | 2025 - Current
Lead industrial designer and design strategist for Insulet's next generation of diabetes therapy systems, integrating insulin pump technology with continuous glucose monitoring in a non-invasive wearable device. My research includes market research, usability testing and evaluation, concept develop, prototyping, and industrial design – integrating advancements from a diverse, multi-disciplinary group of scientists, chemists, engineers, and product managers.

Hamilton Thorne | 2024 - 2025
I led industrial and user interaction design strategy for the development of Hamilton Thorne's next-generation IVOS Sperm Analysis System. As a highly accurate, automated platform, the IVOS system is an industry leader in Computer Assisted Sperm Analysis (CASA). My role encompassed guiding the design vision, ensuring user-centered experiences, and driving innovation to maintain the system's market leadership.

Indiana University CTSI | 2023 - 2024
I partnered with Indiana University's Clinical and Translational Sciences Institute to develop an innovative insulin leak detection system, leveraging advanced sensor technology from Dr. Nosang

Myung's lab at Notre Dame. This collaboration, led in partnership with Dr. Kara Garcia, Ph.D., M.Eng., Assistant Professor of Radiology & Imaging Sciences, included a co-creation research initiative with insulin users in June 2023.

Humatec | 2023 - 2024

I conducted a comprehensive human factors and design review of a motorized wheelchair for the plaintiff in a wrongful death case against Golden Brothers, Inc. I Provided specialized medical device expertise, including developing safety test protocols, reviewing user experience documentation, conducting usability engineering assessments, analyzing corporate representative depositions, evaluating safety reporting practices, and performing usability testing. I delivered the initial expert report for legal review and am scheduled to testify as an expert witness in the spring of 2025.

Dynocardia | 2021 - 2025

I provide design leadership and strategic direction in a collaborative effort with Dynocardia, an MIT spin-off, to advance ViTrack technology. This groundbreaking innovation is the first non-invasive system capable of directly measuring systolic and diastolic pressure, enabling independent and continuous blood pressure monitoring. My role focused on shaping the design vision and driving the integration of design principles to support ViTrack's transformative impact on monitoring solutions.

NuVasive Medical | 2020 - 2024

I led the integration of a comprehensive human-centered design process to advance the development of a cutting-edge robot-assisted surgical system for precision spine surgery. This effort focuses on optimizing operating room workflow, enhancing safety, and improving usability. Key contributions include workflow development, ergonomic assessment, concept ideation, design refinement, and providing design-for-manufacture support to ensure a seamless transition through engineering.

Oryx Additive | 2022

A collaborative multi-disciplinary design effort to support Orxy Additive, Inc. in the development of their next-generation finishing solutions for 3D printing manufacturing.

Outset Medical | 2021 - 2023

Design and development of a home hemodialysis system, enabling patients suffering from chronic kidney disease the flexibility and agency to manage their treatment and health from the privacy of their home. Primary services include: corporate design principles, conceptual architectures, design refinement, and aspirational prototype.

Vascular Technology | 2021

Design of an advanced and portable doppler system for vascular, neurological, urology, and gastrointestinal endoscopy applications. Primary services include: architecture concepts, workflow development, design concepts, design refinement, and visual brand language development.

NearWave Medical | 2019 - 2024

Ongoing collaborative partnership with NearWave, a medical device start-up out of Notre Dame, to develop their advanced imaging system for early detection and monitoring of breast cancer. Our collaboration spans the entirety of the NearWave user experience, including the user interface, industrial design, and contextual renderings to communicate NearWave's value proposition to potential investors.

Notre Dame Institute for Precision Health | 2020 - 2021
Design, development, and proposal support for a series of diagnostic systems, including an intelligent mini-olfactometer, a COVID-19 saliva screening device, and a wastewater detection system for community health monitoring. Concept envisioning, for both industrial design and user interface design, have contributed to NSF and NIH funding proposals valued at over $10,000,000.

Concise Engineering | 2020
A collaborative multi-disciplinary design effort with engineering partners, Concise Engineering, in the development of a wearable ECG device for detecting heart conditions after a myocardial infarction. Primary services include: remote user observations, ergonomic assessment, concept development, prototypes, and design refinement.

Excelsior BioVentures | 2020
Design, ergonomic evaluation, and visual brand language development for medical device start-up, Excelsior BioVentures. Primary services include: remote user observations, ergonomic assessment, mechanical brainstorms, concept development, design for manufacturing and assembly, project management, and design refinement.

Arthrex VET | 2019 -2020
Remote evaluation of user experience, workflow, and ergonomics of a novel orthopedic device for performing a Tibial Plateau Leveling Osteotomy (TPLO) procedure. Ergonomic evaluation to focus on applied anthropometrics, viewing angle, and overall weight distribution for user balance and control. Translation of user needs into appropriate industrial design and an established Arthrex visual brand language.

HistoSonics | 2018 - 2021
Project management and design lead focused on the development of a non-invasive, autonomous robotic platform designed to destroy cancerous tissue at a sub-cellular level.

Canon Medical | 2017 - 2019
Long-term development effort focused on the advancement of a novel Optical Coherence Tomography (OCT) imaging system for the assessment of coronary and peripheral arteries.

Virtual Incision | 2016 - 2018
I managed and design directed a large multi-disciplinary team in the development of an advanced robot-assisted surgical system for abdominal procedures. Focus on: user research, UI, ID, and Engineering.

Teva Pharmaceuticals | 2014 - 2016
Combined contextual inquiry and user resonance testing to optimize product development without sacrificing user-centered design focus. Development of novel smart inhaler device.

Haemonetics, INC. | 2013 - 2014
Global user research and design effort focused on redefining blood donation through apheresis. Led design and user research to reimage the user experience through design.

X-Rite Corporation | 2012
Design and development of a precision color-matching device for fashion, interiors, graphics, and product designers. Focus on: User research, workflow evaluation, and industrial design.

Symmetry Medical | 2009
Design lead for a multi-disciplinary team tasked with the development of a safe, effective, and durable rigid sterilization container for use in rapid sterilization systems.

GSSI, Inc. | 2008 - 2009
User research and industrial design focused on the development of a novel ground-penetrating radar system. Focus on: User research, interaction design, IPx protection, and industrial design.

DePuy Synthes | 2007 - 2008
Global contextual inquiry and design strategy effort focused on the identification of user needs and product opportunities for soft tissue repair in the knee and hips (ACL, PCL, MCL, Labrum).

TEACHING

Course Evaluation Feedback (CIF) Scores

Course	Semester	Enrollment	Avg. Grade	CIF Composite Score
Digital Solid Modeling SolidWorks	Fall 2019	16	3.4	4.7
ID3 Advanced Design Studio Healthcare Practice	Fall 2019	7	3.33	4.9
Digital Solid Modeling SolidWorks	Spring 2020	9	3.67	4.9
Digital Solid Modeling SolidWorks	Spring 2020	9	3.39	4.8
ID3 Advanced Design Studio Entrepreneurship	Fall 2020	13	3.46	4.7
Digital Solid Modeling (DESN 30209-11)	Fall 2020	8	3.63	4.9
Design Research Practices Convivial Research	Spring 2021	17	3.92	4.3
Digital Solid Modeling SolidWorks	Spring 2021	8	3.71	4.4
Digital Solid Modeling SolidWorks	Fall 2021	9	3.4	4.8
Design Research Practices Convivial Research	Spring 2022	8	3.54	4.7
Digital Solid Modeling SolidWorks	Spring 2022	9	3.67	4.3
ID2-2 Intermediate Design Studio Course	Spring 2023	13	3.33	3.8

Design Research Practices Convivial Research	Spring 2023	10	3.77	4.8
ID1 Industrial Design Process and Prototyping	Fall 2023	12	3.56	4.3
ID1 Industrial Design Process and Prototyping	Spring 2024	15	3.53	4.3
Design Research Practices Convivial Research	Spring 2024	15	3.96	3.6
ID4 Design Strategy | User Experience	Fall 2024	6	3.5	4.8
Digital Modeling 3D Form and Fabrication	Fall 2024	9	3.62	4.0
Design Research Practices Convivial Research	Spring 2025	20	3.81	5.0
Digital Modeling 3D Form and Fabrication	Spring 2025	8	3.36	4.9
ID4 Design Strategy | User Experience	Fall 2025	9	3.7	4.9
Digital Modeling 3D Form and Fabrication	Fall 2025	16	3.46	4.1

CLASS SPONSORED PROJECTS

Design Research Practices | 2021-2024 | Sponsor: Lippert Components, Inc.
Undergraduate design research class focused on investigating convivial methods of design research and ideation methods, harnessing the knowledge, expertise, and creativity of non-designers to identify key challenges and opportunities in the RV industry. Collaborative research effort with Lippert Components, Inc., a local manufacturer of RV-related products, to develop a curriculum that would not only identify prioritized challenges in the RV space but also deliver compelling ideas for future product development and investment initiatives. Lippert has asked that Notre Dame Design continue to partner with them on a recurring annual basis, with the most recent project taking place in the spring of 2024. Funding to date: $45,000.00

MFA, BFA, And BA Thesis Advising

Fall 2025	
MFA Thesis Advisor	Ilya Sortor
MFA Thesis Advisor	Lily Dorian
Spring 2025	
MFA Thesis Advisor	Lucy Schultz
Fall 2024	
MFA Thesis Advisor	Lucy Schultz

Spring 2024	
MFA Thesis Committee Member	Katherine Lestingi
BA Honors Thesis Advisor	Julia Cutajar
Fall 2023	
MFA Thesis Committee Member	Katherine Lestingi
BA Honors Thesis Advisor	Julia Cutajar
Spring 2023	
MFA Thesis Committee Member	Katherine Lestingi
MFA Thesis Advisor	Jacob Lehmann
MFA Thesis Advisor	Nik Swift
BA Honors Thesis Advisor	Nadine Daboub
Spring 2022	
MFA Thesis Committee Chair and Advising	Peter Dore
MFA Thesis Advisor	Jason Carley
BA Honors Thesis Advisor	Sammy Mansfield
Fall 2021	
MFA Thesis Committee Chair and Advising	Peter Dore
MFA Thesis Advisor	Jason Carley
BA Thesis Advisor	Sammy Mansfield
Spring 2021	
MFA Thesis Committee Chair and Advising	Peter Dore
MFA Thesis Committee Member	Milagros Ramirez
BFA Thesis Advisor	Allie Champlin
BA Thesis Advisor	Diane Park
Fall 2020	
MFA Thesis Committee Chair and Advising	Peter Dore
MFA Thesis Committee Member	Milagros Ramirez
MFA Advising	Jason Carley
BFA Thesis Advisor	Allie Champlin
BA Thesis Advisor	Diane Park
Spring 2020	
MFA Thesis Committee Member	Milagros Ramirez
Fall 2019	
MFA Thesis Committee Member	Milagros Ramirez
MFA Thesis Committee Member	Peter Dore

SERVICE

Industrial Design Area Coordinator | 2023 - 2026
Responsible for planning, communications, and management of ID area activities, including curriculum planning, teaching assignments, student communications, thesis events, and ID-related student trips and events.

IDSA International Design Conference Paper Submission Judge | 2024, 2025, 2026
I served as an invited judge for paper submissions to the IDSA 2024 International Design Competitions, evaluating scholarly contributions and supporting the advancement of thought leadership in industrial design.

IDSA Student Merit Award Competition Judge | 2024, 2025
I served as an invited judge for the Student Merit Award competition at the 2024 and 2025 Industrial Designers Society of America (IDSA) International Design Conferences, evaluating innovative student design projects and contributing to the recognition of emerging talent in the field.

International Housewares Competition Judge | 2023, 2024, 2025
Invited judge for the International Housewares Competition, the world's leading home and housewares show established by The International Housewares Association (IHA). The Global Innovation Awards was created to invigorate the housewares industry with the fresh ideas of top student designers and to encourage young talent to consider careers in the housewares business.

IDC Committee Member | 2022 - 2026
A collaborative effort with IDSA Education Council members to plan, manage, and emcee the preeminent Industrial Design Education Symposium in the US. I work closely with Education Council members to review and judge paper and presentation submissions, create interactive workshops, and lead education symposium events at the annual IDC Conference.

Max & Emma Lecture Series | Fall 2022
I planned and managed the 2022 Max and Emma Lecture Series event, which brought designer and entrepreneur Kevin Bethune to Notre Dame. Bethune is a 1998 graduate of Notre Dame and founder & Chief Creative Officer of dreams • design + life, a think tank that delivers design and innovation services. Over the course of 3 days, Kevin spent time with design and engineering students, faculty, and staff, culminating in his keynote lecture focused on his new book, *Reimagining Design: Unlocking Strategic Innovation.*

ID Faculty Search Committee Chair | Fall 2022
I served as the hiring committee chair to search, evaluate, and select an Assistant Professor of Industrial Design to start in the fall of 2023. Responsible for outlining the position's role and responsibilities, marketing the open requisition, and evaluating candidates for hire and transition to Notre Dame.

Sara Bea Accessibility Services Advisory Board | Spring 2021 – Spring 2023
I served on the Sara Bea Accessibility Services Advisory Board, which is composed of Notre Dame faculty, staff, and students who have a diverse range of interactions with the SBAS office. The goal of the committee is to increase collaboration with campus partners, receive feedback from SBAS stakeholders, and review any potential changes to SBAS policies and procedures.

University Committee on Intellectual Property | Spring 2021 – Spring 2023

I served on the University Committee on Intellectual Property, which advises the Vice President for Graduate Studies and Research on intellectual property matters and the character of rights in those intellectual properties referred to the Committee. The Committee is also responsible for periodically updating the procedures for implementing the intellectual property policy and proposing amendments.

Notre Dame Design Student Portfolio Portal | Spring 2021

The ND Design portfolio portal provides design students a platform to showcase their latest work and capabilities to employers looking to hire designers for internships or full-time employment. This site provides a gateway for convenient student/employer access, networking, and relationship-building opportunities. The site was completed in the spring of 2021.

IDSA Education Council | Fall 2021 - Current

Elected to the Industrial Designers Society of America (IDSA) Education Council through a vote of IDSA member peers. The Education Council serves to ensure the highest standard of industrial design education, to actively maintain a liaison among all members of IDSA, to promote and develop IDSA Student Chapters and activities, to promote Student Membership, and to consult with, and make recommendations to the Chair and the Board of Directors concerning education policies, planning, and matters within the Society. Re-elected to the council in the fall of 2023.

PROFESSIONAL SOCIETY MEMBERSHIPS

Industrial Designers Society of America | Fall 2019 - Current

Leadership: Elected to the IDSA Education Council in the fall of 2021. Re-elected in the fall of 2023.

Design Research Society | Fall 2019 - Current