

**LANCE RAKE**

PROFESSOR DESIGN  
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For nearly 50 years, I have been learning, practicing, and teaching industrial design, often at the same time. Honored as a Fulbright Senior Scholar in 2015 and again in 2018, I am currently Professor of Industrial Design at the University of Kansas. I have also taught full-time at Auburn University and Carrington Technical Institute in Auckland, New Zealand. Additionally, I have taught short courses at Konstfackskolan in Stockholm and been a visiting professor at Staffordshire University in Stoke-on-Trent, England, Halmstad University in Sweden, the Royal Melbourne Institute of Technology in Australia, Kathmandu University in Nepal, and the Indian Institute of Technology-Bombay in Mumbai, India. My design research has been supported by private and public grants, and findings presented at national and international design conferences and institutions. For several years I have been using my experience as both teacher and practitioner of design to serve as an expert witness in design patent infringement and product liability cases. I was a signatory to the “133 Distinguished Industrial Design Professionals and Professors” Amicus Brief supporting Apple in its case against Samsung before the Supreme Court.

Working alone or in collaboration with other professionals, I have designed numerous commercial products, consumer products, aircraft and boat interiors, graphics, packaging, and exhibits. I was chosen by the editors at ID Magazine as one of the “Design 50”.

Recently, my research efforts have been focused toward using design to create sustainable craft-based enterprises in rural communities in the US, Africa, Nepal, and India.

### **EDUCATION**

**Master of Product Design** (renamed Master of Industrial Design), 1982

**B.F.A. Industrial Design**, 1974

University of Kansas, Lawrence, KS

### **LICENSURES, CERTIFICATIONS, AND PROFESSIONAL TRAINING**

**ICSID (International Congress of Societies of Industrial Design) City Move** Interdesign workshop, Malmberget, Sweden. One of 40 designers, planners, artists, doctors and students invited to conceive of a new town and to develop a process for relocating cities that could be scaled and exported. 2009

**IDSA Continuing Education Certificate**, “How to Serve as an Expert Witness in Design Patent Litigation” Taught by Perry J. Saidman and Cooper C. Woodring, 2008

### **ACADEMIC APPOINTMENTS**

**University of Kansas, Lawrence, KS**

Professor of Design, School of Architecture & Design, 2005 - Present

Associate Professor, School of Fine Arts, 1991 - 2005

Assistant Professor, School of Fine Arts, 1987 – 1990

**The Royal Melbourne Institute of Technology, Melbourne, Australia**

Visiting Professor, Industrial Design, 2019 – Present

**Kathmandu University, Kathmandu, Nepal**

Visiting Professor, Mechanical Engineering Department, 2019 – Present

**The Indian Institute of Technology-Bombay, Mumbai, India**

Honorary Visiting Professor, Bamboo Studio, Industrial Design Center, 2016 – Present

**Högskolan i Halmstad (Halmstad University), Halmstad, Sweden**

Visiting Professor, Industrial Design, 2016 - Present

**The Indian Institute of Technology-Bombay, Mumbai, India**

Visiting Professor, Bamboo Studio, Industrial Design Center, 2012

**Carrington Technical Institute (subsequently renamed UNITEC Institute of Technology),**

Auckland, New Zealand

Tutor & Course Supervisor, Product Design, 1985 – 1986

**Auburn University, Auburn, AL**

Assistant Professor, Industrial Design, 1980 - 1984

**ADMINISTRATIVE ASSIGNMENTS**

**Founder & Acting Director**, Center for Design Research, Department of Design, 1994-2005.

Created the CDR to focus our graduate program to realign research efforts in collaboration with regional and national industry partners. I was solely responsible for the effort, establishing an effective design team, securing funding and research projects from industry partners including Learjet and H-P.

**Associate Chairperson**, Department of Design, 1990-1991

Challenged to improve the Design Department's interaction with industry and to initiate cooperatives, collaboratives, and professional relationships.

UNITEC Institute of Technology, Auckland, New Zealand

**Course Supervisor, Design**, 1985 – 1986

Essentially the chairperson of Product Design, I was responsible for rewriting the curriculum and reorganizing the area. Our graduating students were remarkably successful- starting their own offices in New Zealand, but also working in major studios in the US, UK and Europe.

**HONORS AND AWARDS FOR SCHOLARSHIP**

**2022 Lifetime Achievement Award.** University of Kansas School of Architecture and Design for exceptional contributions to the design profession.

**Fulbright Global Scholar Award.** “Reimagining the Future of Mobility with a Sustainable Bamboo Bicycle”. I will be working with colleagues in Melbourne Australia and Kathmandu Nepal to design and prototype a bicycle for use by smallholder farmers in rural Nepal. (2019-2020)

**Fulbright-Nehru Academic and Professional Excellence Award**, Fulbright Senior Scholar Program. Professor Rake's Fulbright research project, "Using Design Thinking to Create Sustainable Craft-Based Enterprise in India", will investigate strategies that explore how to use design thinking to take traditional craft skills into the future, using innovative design and technology to improve the income of rural craftspeople and help create transformational change. (January 2016 - June 2016)

**ID Magazine "Design 50"**. The editors at ID chose to profile the work of 50 US designers in their January/February 2004 Issue- one from each state. I was honored as the designer chosen to represent Kansas. (2004)

### **PROFESSIONAL EXPERIENCE**

**Infusion Design**, Bonner Springs, KS  
Consultant, 2000 - 2016

**The New Deal Playing Card Company**, Leawood, KS  
Vice President Strategic Product Development, 1995 - 2005

**Leon Paul, Ltd**, London, England  
Design Consultant (sabbatical leave), 2001

**Hans Skillius Design**, Halmstad, Sweden  
Design Consultant (sabbatical leave), 1993

**Interface Design Group**, Milwaukee, WI  
Manager, Industrial Design, 1979 - 1980

**Stan Johnson Design**, Milwaukee, WI  
Design Director, 1978 - 1979

**Anacomp** (div Bell & Howell Co.), Hartford, WI  
Manager, Design Services, 1975 - 1978

**Prism, Inc.**, Racine, WI  
Industrial Designer, 1974 - 1975

### **PUBLICATIONS: BOOKS**

Bielenberg, J., Burn, M., & Galle, G. (n.d.). In E. E. Dickinson, *Think Wrong*. 127, 193-200. ISBN: 9780692693322, 2016 Think Wbook about design innovation, and shares a story about my design process, and how I developed one of my product design ideas.

E. Zijlstra (Ed.), *Booming Bamboo*. Materia (Netherlands).  
Images of my design "Woven Bamboo Bicycle" appear in this compilation of contemporary bamboo design.

Schütz, F. (in press). *Innovative Bambus Materialien*. arundoobiomaterials.  
Images of my design "Woven Bamboo Bicycle" appear in this compilation of contemporary design featuring bamboo use in composites.

### **PUBLICATIONS: CONFERENCE PROCEEDINGS**

Rosen, B. G., Bergman, M., Skillius, H., Eriksson, L., & Rake, L. (2010). *On Linking Customer Requirements to Surfaces*. In Proceedings of the 13th International Conference on Metrology and Properties of Engineering Surfaces, National Physical Laboratory, London, UK.

Rake, L. (1990). *Industrial Design: Learning to Live Without Modernism*. In Proceedings of the Industrial Designers of America Conference on Design Education, Pasadena, California.

Rake, L. (1989). *Design is the Problem*. In Proceedings of the School of Visual Arts' third annual National Conference on Liberal Arts and the Education of Artists, New York.

Rake, L. (1989). *Taking Another Look at Design Education*. In Proceedings of the Industrial Designers of America Conference on Design Education, Minneapolis.

### **PUBLICATIONS: MULTIMEDIA**

Rake, L. G. (1984). *Sketching Techniques for Industrial Designers*. Auburn University: Learning Resource Center.

### **PUBLICATIONS REFERENCING MY RESEARCH/CREATIVE WORK MAGAZINES & VIDEO**

Dickinson, Elizabeth E. "The Pit That Swallowed a City" *Architect*. (October 2010)  
Article written about the ICSID 2009 Interdesign workshop held in Malmberget, Sweden. I was quoted several times about the role designers play when we consider how to move populations as the result of natural or ecological events.

Saenz, Yvonne. "Beacon Alley Boards" Vimeo. video. (2014)  
Reference to my design work in collaboration with HERObike, Greensboro, AL, 2011

Selden, Ben. "Semester Bike" Vimeo. video. (2013)  
Reference to my bicycle design work, and my efforts to leverage design to create social impact in rural Alabama, HERObike, Greensboro, AL, 2011

### **WEBSITES/BLOGS**

Zeitoun, Lea "[Inspired by the Abari bamboo bicycle. Lance Rake designs Barrel Stave bikes](#)" designboom, .February, 2022.

Walia, Nona "[Bamboo-zled!](#)" timesofindia (March 15, 2020)  
*Reference to my work research developing cargo bicycles out of local resources*

Meisenzahl, Mary "[This electric bike was designed in Nepal using local Bamboo to transport tourists and packages- here's how it works](#)" Businessinsider, (June 22, 2020)

Redaksi "[Becak 'Lucu' Kathmandu dari Bambu](#)", majalahcsr (21 Februari, 2020)

Sexty, Jack “[Introducing the Habre Eco Bike: a Nepalese e-cargo machine built from bamboo to beat the climate crisis](#)”, ebiketips (February 23, 2020)

Jewell, Nicole “[Bamboo electric bike is designed for Kathmandu locals and tourists](#)”, inhabitat (February 19, 2020)

Myers, Lynne “[habre eco bike is made from local bamboo and is designed to ease pollution in kathmandu](#)”, designboom (February 12, 2020)

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*Reference to my work research developing Bicycles out of Wine Barrels*

Sousa, Marcia “[Designer Cria Bicicleta com Madeira de Barril Usado](#)” CicloVivo, February, 2022.

Hernandez, Daisy “[This Designer Repurposed Wine Barrels to Create a One-of-a-Kind Ride](#)”, Bicycling (March 21, 2019).

Coxworth, Ben, “[The Classy Cooper Bicycle is made from Old Wine Barrels](#)” New Atlas (March 18, 2019).

Pomranz, Mike. “[This Designer Turned a Wine Barrel into a Bicycle](#)”, Food and Wine (March 22, 2019).

King, Tierney, “[Designing Bikes from Old Wine Barrels](#)”. ECN (March 20, 2019).

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*Reference to my work research developing designs of bicycles, skateboards, and paddleboards made from bamboo or bamboo composites, in collaboration with HERO, a not-for-profit located in rural Greensboro, AL.*

Kristen Moses, “[The HEROs of Greensboro, Alabama: How One Nonprofit Is Changing Bike Design and Community Development](#)” Design Good Design (2017)

Harper, Brad. “[Bamboo Bikes Spur Economic Development in a Struggling Alabama County](#)” momentummag.com Momentum. internet. (May 2, 2017)

Underwood, Allison. "Heroes of the Blackbelt" Good Grit...The Character of the South Good Grit (goodgritmag.com). internet. (December 1, 2016)

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*Reference to my work research developing advanced designs of bicycles using woven bamboo composite tubes. Describes the continued development of a craft-based enterprise, HERObike-a result of a collaboration with HERO, a not-for-profit located in rural Greensboro, AL.*

Bauman, Kat. “[Can Braided Bamboo Shift Bike Frame Design?](#)” CORE77 Website CORE 77. internet. (May 30, 2017)

“A Bamboo Road Bike Born from the Collaboration between Lance Rake and HeroBike.”  
designdiffusion.com. (May 4, 2017)

Lea Zeitoun “[lance rake's HERObike is fitted with woven bamboo tubes](#)” designboom.  
(May 2, 2017)

Turner, Troy. “A Boost of Bamboo” Yanko Design Yanko Design. Internet. (May 2015)  
This article describes the development of a woven bamboo/composite e-bike.

Alabama Public Radio “[Made in Alabama: A Look at Alabama Makers.](#)” (July 2017)

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*Market success of the Semester bike and Beacon Alley Skateboard created demand for skilled  
craftspeople in the region.*

Boram, Brian. “Wanted for Hire: Bamboo Bicycle Builders in Hale County, Alabama” Arcade  
Arcade (arcadenw.org). internet. (Fall 2014)

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*Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro,  
AL, from 2013 - 2014*

“A Skateboard To Bring Back Local Manufacturing In The South Is Made From . . . Bamboo?”  
fastcoexist.com (Fast Company). internet. (2014)

“A Skateboard To Bring Back Local Manufacturing In The South Is Made From . . . Bamboo?”  
fastcoexist.com (Fast Company). internet. (2014)

“Art Pics: Bamboo Skateboards” Fad: Cool Art & Stuff. internet. (2014)

“Beacon Alley Skateboard: eco-friendly bamboo skateboard by makelab and HERObike”  
wowozine (Wow Trend Magazine). internet. (2014)

“Beacon Alley Skateboards” CORE 77. internet. (2014)

“Beacon Alley Skateboards” Fancy. internet. (2014)

“Beacon Alley Skateboards” theawesomer.com. internet. (2014)

“Beacon Alley Skateboards Kickstarting in Alabama” Impact Design Hub. internet. (2014)

“Beacon Alley Skateboards’ Woven Bamboo Deck” geekalabama.com. internet. (2014)

“Beacon Alley Skateboards’ Woven Bamboo Deck” Original Paperbacks. internet. (2014)

“Makelab & HERObike – Beacon Alley Skateboards” hellocoton.fr. internet. (2014)

“Makelab & HERObike – Beacon Alley Skateboards” Whitezine.com. internet. (2014)

“makelab + HERObike weave durable bamboo composite skateboards” designboom.com. internet. (2014)

"Woven Bamboo Composite Skateboards" compositestoday.com. internet. (2014)

"Woven Bamboo Skateboard Muscle" Common Marketplace. internet. (2014)

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*Television segment that featured the Semester bicycle and the process of making bamboo bikes in rural Alabama.*

Oldmixon, Rachelle. Aljazeera America. "A fixie made out of oversized grass" TECHKNOW blog. (January/February 2014).

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*Reference to the Semester Bike design and the development of HERObike-a result of consulting with HERO, a not-for-profit located in rural Greensboro, AL. Details the positive social change that can come from using design thinking to leverage local skills and resources.*

Estes, Cary. “Elegantly Designed Bicycle Business” Business Alabama. internet. (September 2014)

“A Bamboo Bike Designed to Lift People from Poverty” Wired.com. internet. (2013)

“Semester Bicycles- Hextube bamboo composite frames made in the rural South” In J. Thomas (Ed.) Bicycle Design.net. internet. (2013)

“Semester Bike designed to create jobs in Alabama” Fast Company. internet. (2013)

“The Semester Bicycle represents a new take on sustainable design, while supporting the local community of Greensboro in Alabama, USA.” Design Indaba. internet. (2013)

“The Semester Bicycle: An Environmentally and Socially Responsible Bike” ambikamelville.com. internet. (2013)

“Semester Bike built to drive positive change”. Design Boom. (August 2013)

“Semester Bike Project” CORE 77. (2013).

### **INVITED PRESENTATIONS/LECTURES: INTERNATIONAL**

Rake, L. (2023). *Footwear Production- Using Digital Fabrication Tools*. Presentation at Halmstad University, Halmstad, Sweden.

Rake, L. (2020) *The Kathmandu Project*. Fulbright Commission Presentation. Kathmandu, Nepal. (International, Invited)

Rake, L. (2019) *Learning to "Think Wrong"*. Mechathon at Kathmandu University. Dhulikhel, Nepal. (International, Invited)

Rake, L. (2019, 23 August). *Designs in Tall Grass*. Presentation for Design Students at RMIT, Melbourne, Australia.

Rake, L. (2016). *Designing in Bamboo*. Presentation at Halmstad University, Halmstad, Sweden.

Rake, L. (2016, 24 April). *Design Hacks*. Presentation before faculty and student body for The Department of Architecture and Urban Planning, Institute of Engineering, Tribhuvan University, Pulchowk Campus, Kathmandu, Nepal.

Rake, L. (2016). *7 Words You Should Never Use in Design School*. Presentation before faculty and undergraduate student body at The Industrial Design Center, Indian Institute of Technology, Mumbai, India.

Rake, L. (2015, July 10). *Symbiotic Relationship Between Design & Engineering*. Med By SCE - Shamoon College of Engineering, Department of Mechanical Engineering, Beer-Sheva, Israel.

Rake, L. (2015, December 15). *Learning to Make, Making to Learn*. Konstfacksolan, Stockholm, Sweden.

Rake, L. (2012, October). *Think Wrong*. Presentation before faculty and graduate student body at The Industrial Design Center, Indian Institute of Technology, Mumbai, India.

Rake, L. (2012, September). *Why Design Matters*. Presentation before faculty and graduate student body at Orchid International School, Nashik, India.

Rake, L. (2012, April). *What Little I Have Learned*. Presentation, before faculty and design student body at Nelson Mandela Metropolitan University, Port Elizabeth, South Africa.

Rake, L. (2008). *Unapologetically American*. Presentation, SVID Designdagen conference at Halmstad University, Halmstad, Sweden.

Rake, L. (2007). *Industrial Design, Learning to Live Without Modernism*. Paper, for Industrial Design and Innovation Engineering graduate students and faculty at Halmstad University, Halmstad, Sweden.

Rake, L. (2007). *My Life Aboard the Titanic*. Presentation, Konstfacksolan, the national art & design school, Stockholm, Sweden.  
Attended by Industrial Design faculty, undergraduate, and graduate students.

Rake, L. (2007). *Towards Reality in Industrial Design*. Presentation, Institute for Design, Umeå University, Umeå, Sweden.  
Attended by faculty and graduate students Industrial, Transportation, and Interaction Design.



Rake, L. (2005). *The Future of Graduate Design Education*. Presentation for “Designdagen”- Swedish Design Day, SVID, Swedish Society of Industrial Design, Halmstad, Sweden. 2005 has been designated as “Design Year”.

Rake, L. (2004). *Industrial Design Education and Practice in a Multidisciplinary and International Context*. Presentation for administrators, faculty, and students, Halmstad University, Halmstad, Sweden.

Rake, L. (1986). Panelist, National Art and Design Education Symposium, Auckland, New Zealand.

Rake, L. (1985). *Experiential Learning in Industrial Design Education*. Presentation, New Zealand Society of Industrial Designers regional meeting, Auckland, New Zealand.

**INVITED PRESENTATIONS/LECTURES: NATIONAL**

Rake, L. G. (2023, 14 Nov). *Bike Design on a Mission*. Auburn University lecture for Industrial Design in Modern Society class.

Rake, L. G., Durkin, T.-G. G., & Gajewski, D. A. (2022, February22). *Navigating Functionality in Design Patent Prosecution and Litigation*. Strafford Publishing webinar.

Rake, L. G., Durkin, T.-G. G., & Gajewski, D. A. (2015, December 8). *Navigating Functionality in Design Patent Prosecution and Litigation*. Strafford Publishing webinar.

Rake, L. (2003). *Ergonomics: A Commonsense Approach for Industrial Designers*. Presentation, 9th Annual National Ergonomics Conference and Exposition, Las Vegas.

Rake, L. (1994). *The Beauty of Chaos; the Chaos of Beauty*. Presentation, Symposium Design Thinking- Expressive Solutions, Helsinki, Finland.

Rake, L. (1991). *Toward Reality in Industrial Design*. Presentation, Product Semantics and Visual Semiotics in Design Conference, Helsinki, Finland.

Rake, L. (1990). *Industrial Design: Learning to Live Without Modernism*. Presentation, Industrial Designers of America Conference on Design Education, Pasadena, CA. Published in the proceedings.

Rake, L. (1989). *Design is the Problem*. Presentation, School of Visual Arts’ third annual National Conference on Liberal Arts and the Education of Artists, New York. Published in the proceedings.

Rake, L. (1989). *Taking Another Look at Design Education*. Presentation, Industrial Designers of America Conference on Design Education, Minneapolis. Published in the proceedings.

## **GRANTS/AWARDS: EXTERNAL**

**Fulbright IIE Centennial Fellowship**, *Cargo Bikes to Empower Smallholder Farmers in Rural Nepal*, (2021)

**Fulbright IIE Centennial Fellowship**, *Designing an Education and Training Center for the Indigenous Chepang of Nepal*, (2020)

**Fulbright Senior Scholar Program**, Fulbright Global Scholar Award. “*Reimagining the Future of Mobility with a Sustainable Bamboo Bicycle*”, is a project that began with a research and design phase in Melbourne, Australia and moves to a prototype and testing phase in Kathmandu, Nepal. Designed a bamboo cargo bike to improve the congestion and pollution in urban Kathmandu and hopefully leads to new employment opportunities for rural craftspeople in Nepal. (July 2019 – January, 2020)

**Fulbright Senior Scholar Program**, Fulbright-Nehru Academic and Professional Excellence Award. “*Using Design Thinking to Create Sustainable Craft-Based Enterprise in India*”, investigated strategies that explore how to use design thinking to take traditional craft skills into the future, using innovative design and technology to improve the income of rural craftspeople and help create transformational change. (January 2016 - June 2016)

Rake, L. *Adventure Travel Luggage*. Bass Pro Shop, Springfield, MO (2006).

Rake, L. *Exploring Innovations in Fan Design*. Hunter Fans, Memphis, TN (2006).

Rake, L. *New Product Ideas for Family Camping Tents*. Wenzel, St. Louis, MO (2005).

Rake, L. *Milner Aircar*. DAR, Lawrence, KS (2004).

Rake, L. *Short-range Wireless Interconnection of Electric Devices*, Bluetooth, Kansas City, MO (2004).

Rake, L. *Portable Outdoor Exhibition Space*. Big Dog Motorcycles, Wichita, KS (2003).

Rake, L. *New Product Ideas for the Scrapbook Market*. Cardinal Brands, St. Louis, MO (2002).

Rake, L. *Back to School Product Design. Investigation, Analysis, and Design*. Cardinal Brands, St. Louis, MO (2001 - 2002).

Rake, L. *New Product Opportunities in the Recreational Boat Industry*. Investigation, Analysis, and Design. Infusion Design, Bonner Springs, KS (2001 - 2002).

Rake, L. *Recreational Vehicle Design for a New Market Segment. Investigation, Analysis, and Design*. MountainHigh Coachworks, Ontario, CA (1999 - 2000).

Rake, L., & Geil, D. M. *Fencing Shoe Design*. United States Olympic Committee (1998). Consultant with Dr. Geil.

Rake, L. *Design of a Closed System Bearing Oiler*. Trico Manufacturing, Pewaukee, WI (1995 - 1998).

Johnson, J., Rake, L., *Design of Motor Assist Standing Wheelchairs*. Small Business Innovation Research Program Grant. FENA DESIGN, St. Cloud, MN. (1995 - 1998).

Nagengast, D., & Rake, L. *DIY In Field Refrigeration for Small Organic Farms* North Central Region Sustainable Agriculture Research and Education Program. U.S. Department of Agriculture (1995).

Rake, L. *Laptop Computer Design*. Compaq Computers, Houston, TX (1994).

Rake, L. *Interior Concepts, 31-A*. Learjet, Wichita, KS (1994).

Rake, L. *3D Modeling Hardware & Software, Equipment Grant*. Intergraph Corporation, USA, and Intergraph Sverige, AB (1993).

Rake, L. *Using Traditional Materials and New Technologies in an Alternative Design Strategy*. SOR, Inc. Olathe, KS (1988).

#### **GRANTS/AWARDS: INTERNAL**

**Sabbatical.** Rake, L. “*Making Custom Footwear through Global FabLab Network*”(2023) Halmstad, Sweden.

**General Research Fund.** Gore, N. & Rake, L. “*Electrifying the Dotte Mobile Grocer Demonstration Kitchen.*” University of Kansas (2019)

**Faculty Support Grant Fund from the Office of Study Abroad.** Herstowski, A. & Rake, L. *Mapping Study Abroad to the Major*, (2016). Connecting with Study Abroad partners in Finland, Sweden, and Denmark.

**Sabbatical.** Mumbai, India. Conducted research at the Bamboo Studio, Industrial Design Center, Indian Institute of Technology-Bombay. (2012)

**Hallmark Faculty Enhancement Fund.** Rake, L. *A Pilot Project to Develop and Implement the Alodia Afrika Design Office*. University of Kansas (2011). Using Design Thinking to open new product and market possibilities for a woman’s textile co-op in Hamburg, South Africa.

**Transportation Research Institute.** Rake, L. *Driving Without Distraction: We Have an App for That*, The University of Kansas (2010).

Rake, L. *Design of the Next Generation General Aviation Aircraft Interior*. University of Kansas (2004).

**Sabbatical.** Stratford-upon-Avon, England. Conducted research at the Leon Paul office in London, England to design and test fencing equipment including weapons, scoring equipment, and footwear. (2001)

**Research and Development Fund.** Rake, L., & Ewing, D. M. Proposal Development for NASA's University Earth System Science (UnESS) Program. *Mapping Greenland Ice.*, the University of Kansas (2000 - 2001).

Rake, L. *Design of High- Performance Titanium Sabre using 3D Solid Modeling, Testing, and Evaluation Technologies.* University of Kansas (1999).

**Sabbatical.** Halmstad, Sweden. Professional design practice in the office of Hans Skillious, Halmstad, Sweden. (1993)

Rake, L. *The Electronic Mock-up as a Conceptual Tool for Industrial Designers.* University of Kansas (1993)

Rake, L. *Product Development Using an Alternative Design Strategy.* University of Kansas (1989).

Rake, L. G., & Taylor, D. J. B. *The Efficacy of Training on the Development of Creative Thinking Ability.* Research Grant-In-Aid, Auburn University (1984).

### **SELECT RECENT DESIGN WORK**

Rake, L. *Palaver Chair, (December, 2023-Present)*

Since late 2023, I have been working with Farm to Fabric in Port Elizabeth, South Africa on chair designs based on traditional Palaver chairs from West Africa. Graphic surfaces are woven and applied to plywood substrate with resin. Currently being prototyped.

Rake, L. *Electric Travel Guitalele, (December, 2023)*

Using Virtual Reality and Digital Fabrication technologies, I designed and built a headless portable travel guitar. The entire instrument was 4" X 5" X 20". The top was 3D printed, the body machined of ash on a CNC bed router. (December, 2022)

Rake, L. *Footwear Explorations, (January-July, 2023)*

During my sabbatical, I conducted research on the potential of using digital fabrication technologies to locally manufacture functional products in a FabLab makerspace in Halmstad, Sweden. The goal of this research was to explore how digital fabrication technologies can be used to empower individuals and communities to create and produce their own products, regardless of their location or resources. To this end, I designed several shoes, modeled them in Gravity Sketch and Rhino, and 3D printed them using filaments of different durometers. The prototypes were tested and evaluated to determine their functionality, durability, and overall suitability for local production.

Rake, L. *Messenger Bags, (December, 2022-Present)*

Working with Dolpo in Kathmandu, I have designed 2 messenger bags to be made locally by local weavers and leatherworkers.

Rake, L. *Abari Sling Chairs, (December, 2022-Present)*

I have been working with the Abari Foundation in Kathmandu, Nepal on 2 chair designs to be made in bamboo and fabric. These are planned for production in Chitwan, Nepal. The fabric could be simple, inexpensive cotton canvas, or locally woven designs from local artisans.

Rake, L. *Travel Guitalele*, (December, 2022)

Using Virtual Reality and Digital Fabrication technologies, I designed and built a headless portable travel guitar. The entire instrument was 4" X 5" X 18". The body was designed in Gravity Sketch and machined in maple on a CNC bed router. Currently being field tested. (December, 2022)

Rake, L. *Electric Whiskey Barrel Stave Bicycle*, (December, 2021)

Following the success of the Whiskey Barrel Stave Bicycle from 2019, I designed and built a new version with a Bosch mid-drive electric motor, disk brakes, NuVinci CVT, and custom frame bag. It will be shown at the North American Handmade Bicycle Show in Denver, September, 2022.

Rake, L. & Adhikary, N. *Habre Eco Bike*, (May 2016 – September, 2017).

Designed in collaboration with Nripal Adhikari, the habre eco bike is a response to issues of urban congestion and pollution that plague the city of Kathmandu, Nepal. It is made by local artisans using regional bamboo and provides a green alternative to gas-guzzling transport vehicles, reducing air pollutants and therefore improving the health of citizens.

Rake, L. Mass Production Bamboo Bicycle for Bikeshare System, IIT-Bombay Campus, Mumbai, India, (February 2016 – April, 2017). This bike was designed to be easily, quickly, and reliably manufactured in large numbers. It was also designed to be easily repaired and adjusted in the field.

Rake, L. *Whiskey Barrel Stave Bicycle*, (June, 2019)

After executives at Buffalo Trace Distillery in Frankfort, KY saw images of the Wine Barrel Stave Bicycle, they asked me to prototype a bicycle made from whiskey Barrel Staves. It is currently being considered as a fleet bike for tours of their Canadian distillery.

Rake, L. *Wine Barrel Stave Bicycle*, (December, 2018- March, 2019)

Presented at the 2019 North American Handmade Bicycle Show. It is currently being considered as a fleet bike for wine tours in Napa, California.

Rake, L. & Adhikary, N. *Abari Bamboo Bike*, (May 2016 – September, 2017).

Design and development of a new generation bamboo bicycle initially designed and prototyped at the Abari architecture studio in Kathmandu, Nepal in April, 2016 as part of my Fulbright research. Rake, L. Mass Production Bamboo Bicycle for Bikeshare System, IIT-Bombay Campus, Mumbai, India, (February 2016 – April, 2017). This bike was designed to be easily, quickly, and reliably manufactured in large numbers. It was also designed to be easily repaired and adjusted in the field.

Rake, L. *Sidekick*, HERObike, Greensboro, AL. (September, 2015- February, 2016)

I designed the Sidekick Balance Bike for HERO, a not-for-profit located in Greensboro, AL, as a way to create quality craft-based jobs. Most of my design work for HERO explores the use of bamboo- a local resource in rural Alabama. The Sidekick is designed for easy fabrication in the Greensboro workshop. The Sidekick was further developed and prototyped in India at the Industrial Design Center at the Indian Institute of Technology-Bombay in Mumbai in spring, 2016 as part of my Fulbright research.

Rake, L. *Sidekick Senior*, IIT-B, IDC, Mumbai, India (January, 2016- May, 2016)

I designed the Sidekick Senior at the Industrial Design Center at the Indian Institute of Technology-Bombay in Mumbai in spring, 2016 as part of my Fulbright research. I leveraged the simplicity of design of the Sidekick Balance bike to create a pedal-powered version with 20” wheels.

Rake, L. *Inframe Storage System*, IIT-B, IDC, Mumbai, India (January 2016- May, 2016) The Inframe Storage System is a woven bamboo basket designed to ride inside the main triangle structure of a commuter-style bicycle. It was designed at the Industrial Design Center at the Indian Institute of Technology-Bombay in Mumbai in spring, 2016 to create job opportunities for rural and urban bamboo artisans in India as part of my Fulbright research.

Rake, L. *Whalebone Stand Up Paddleboard*, HERObike, Greensboro, AL. (June 2014 - July 2015) I designed the Whalebone Stand Up Paddleboard for HERO, a not-for-profit located in Greensboro, AL, as a way to create quality craft-based jobs. The Whalebone is an innovative skin-on-frame design that uses an inexpensive but strong structure made of bamboo, covered with inexpensive sign vinyl. Whalebone was designed to be made in weekend workshops in the Greensboro workshop.

Rake, L. *Woven Tube Road Bike*, HERObike, Greensboro, Alabama. (August 2012 - February 2013). I designed the Woven Tube Bike for HERO, a not-for-profit located in Greensboro, Alabama, as a way to create quality craft-based jobs. Most of my design work for HERO explores the use of bamboo- a local resource in rural Alabama. The Woven Tube bike is an innovative bamboo/carbon fiber composite that is extremely lightweight. The Woven Tube Road Bike was shown in the North American Handmade Bicycle Show in Louisville, KY in March 2014.

Rake, L. *Bamboost*, HERObike, Greensboro, Alabama. (August 2012 - February 2013). I designed the Bamboost e-Bike for HERO, a not-for-profit located in Greensboro, Alabama, as a way to create quality craft-based jobs. Bamboost is an innovative bamboo/carbon fiber composite bike that utilized the same aviation-inspired sandwich composite technology developed for the Beacon Alley Skateboards. It was shown in the North American Handmade Bicycle Show in Louisville, KY in March 2015.

Rake, L. *Beacon Alley Skateboards*, HERObike, Greensboro, Alabama. (January 2013 - December 2014) I designed the Beacon Alley Skateboard for HERO, a not-for-profit located in Greensboro, Alabama, as a way to create quality craft-based jobs. The skateboard is a bamboo composite design that is a fusion of handcraft and aviation-inspired high tech sandwich composite materials and techniques.

Rake, L. *Flatpack Bicycle*, HERObike, Greensboro, Alabama. (August 2012 - February 2013). I designed the Flatpack Bike for HERO, a not-for-profit located in Greensboro, Alabama, as a way to create quality craft-based jobs. Most of my design work for HERO explores the use of bamboo- a local resource in rural Alabama. The Flatpack is a bamboo composite design that also uses waterjet cut aluminum panels. The entire bicycle arrives in a small box and can be easily assembled with minimal tools. The Flatpack was shown in the North American Handmade Bicycle Show in Charlotte, NC in March 2014.

Rake, L. *Semester Bicycles*, HERObike, Greensboro, Alabama. (January 2012 - February 2014)

I designed the Semester Bike for HERO, a not-for-profit located in Greensboro, Alabama, as a way to create quality craft-based jobs. Most of my design work for HERO explores the use of bamboo- a local resource in rural Alabama. The Semester is a bamboo composite design. The Flatpack was shown in the North American Handmade Bicycle Show in Denver in February, 2013.

### **EXHIBITIONS: DESIGN**

“Sustainable Revolution” Architecture Biennale 2021, Zuecca Project Space, Venice, Italy, September, 2021 (postponed because of Covid-19)

“Wine Barrel Stave Bike” introduced. North American Handmade Bicycle Show, Sacramento, CA, March, 2019.

“Keep Moving: Shifting Gears!” Design Museum of Chicago. Two of my bamboo bikes featured in this show. November 2018- March, 2019.

*Dharavi* bikeshare bicycle design introduced. North American Handmade Bicycle Show in Hartford, CT. in March 2018.

Semester bicycle design featured in *Engaged: Campus and Community Scholars Working Together for the Public Good*—an exhibit to recognize and celebrate community engagement and engaged scholarship at the University of Kansas. 2017

*Bamboost* e-bike design introduced. North American Handmade Bicycle Show in Louisville, KY in March 2015.

*Woven Tube* bicycle design introduced. North American Handmade Bicycle Show. Charlotte, NC in March 2014.

*Semester & Flatpack* bicycle designs introduced. North American Handmade Bicycle Show in Denver, CO in February 2013.

### **PERMANENT COLLECTIONS**

Rake, L. *New Deal Playing Cards*, Stuart and Marilyn R. Kaplan Playing Card Collection, the most comprehensive collection in the United States (1998) Designed in 1995.

Rake, L. *New Deal Playing Cards*, Deutches Spielkarten-Museum, permanent collection, Leinfelden-Echterdingen, Germany (1998) Designed in 1995.

### **PATENTS**

*Professor Rake has been awarded 10 patents, 8 of which are still active.*

Rake, L., Patent. "Process for Making Braided Bamboo Laminated Composite Tubing US Provisional Patent" (abandoned)

Rake, L., Patent. "Process for Making Structural Tubing with Bamboo and Reinforcing Fiber Material US Provisional Patent" (abandoned)

Rake, L., Patent. "Power System", US Utility Patent US20090152944. (Approved: 2009).

Rake, L., Patent. "Extension for a Golf Club Shaft and Method of Installing the Same", US 20080081708. (Approved: 2008).

Rake, L., Patent. "Fishing Bobber", US Utility Patent Pending. (Approved: 2007).

Rake, L., Patent. "Footstool/Ladder", US Utility Patent Pending. (Approved: 2007).

Rake, L., Patent. "Temperature Gauge/ Barometer", US Design Patent D 538694. (application: 2005, Approved: 2006).

Rake, L., Paul, B., Patent. "Protective Fencing Mask", US 20030070202; US 20020157167; US 6,701,536 B2; US 6,820,286 B2. (Approved: 2003).

Rake, L., Patent. "Playing Cards with Gripping Surface", US 5,490,676. (Approved: 1998).

Rake, L., Patent. "Guitar Case", D 265146. (Approved: 1982).

#### **EXPERT WITNESS: DESIGN**

*Professor Rake has served as an expert witness on numerous patent infringement/validity cases. Case length varies from months to years. The responsibilities include researching, writing reports, rebutting reports, depositions and when needed court testimony.*

McGeary Cukor LLP, Design Expert, Bernardsville, NJ (2023)  
Dynamite v. WowLine, Inc.

Carstens, Allen & Gourley LLP, Design Expert, Plano, TX (2022-Present)  
Torvent v. Techtronic, Ltd.

Arnold Porter, Design Expert, San Francisco, CA (2021-Present)  
Valentino v. Mario Valentino

Thompson Coburn LLP, Design Expert, St. Louis, MO (2021-Present)  
JPT Group, LLC v. Tapestry, Inc.

Winston & Strawn LLP, Design Expert, Los Angeles, CA (2021-Present)  
Cambria Company LLC v. Hirsch Glass Corp.

Glacier Law, LLP, Design Expert, New York, NY (2021-2022)  
Hangzhaou Chic Intelligent Technology Co.

Dorsey & Whitney, LLP, Design Expert, Minneapolis, MN (2021-Present).  
Chanel, Inc. v. Molo Design, LTD

Carsten & Calhoon, LLP, Design Expert, Dallas, TX (2021-Present).  
Torvent LLC v. WalMart; Home Depot; Homelite Consumer Products; et al



Arnold & Porter, Design Expert, Los Angeles, CA (2021-Present).  
Valentino S.p.A. v. Mario Valentino S.p.A.

Woodard, Emhardt, Moriarity, McNett & Henry, LLP, Design Expert, Indianapolis, IN (2020-Present). Representing Knauf Insulation v. Johns Manville

Godfrey & Kahn, S.C., Design Expert, Madison, WI (2021).  
Expedite International v. Edmonds Outdoors, LLC

Whitaker Chalk Swindle & Schwartz PLLC, Design Expert, Representing Delta T v. Dan's Fan City (2021)

Marchant & Gould, Design Expert (2021)  
Liaigre v. California Furniture Collection

Lewis Roca Rothgerber Christie, LLP, Design Expert, Glendale, CA (2021-Present).  
Caravan Canopy v. WalMart

Fish & Richardson P.C., Design Expert, Austin, TX (2018-2019).  
Representing Kingston v. PAVO

Sterne, Kessler, Goldstein & Fox, Expert Witness, Washington, DC (2018-2019).  
Representing Juul in an ITC matter.

Morgan Lewis, Design Expert, Palo Alto, CA (2018-2019)  
Representing Gavrieli v. Soto Massini

Ice Miller, LLP, Design Expert, Philadelphia, PA. (2018).  
Representing Regalo International v. Summer Infant

Fish & Richardson P.C., Design Expert, Dallas, TX. (2018).  
Representing Amazon v. JumpSport, Inc,

Thompson Coburn, Design Expert, St. Louis, MO. (2017).  
Representing Wesfield Outdoors v. Haingaertner and Walsh

Kirkland & Ellis, Design Expert, Chicago, IL (2018).  
Representing The Chamberland Group v. Techtronic Industries

Lewis Roca Rothgerber Christie, LLP, Design Expert, Glendale, CA (2018).  
Representing Blumenthal Distributing v. Herman Miller

Thompson Coburn, Design Expert, St. Louis, MO. (2017).  
Representing Post v. General Mills

Perkins Coie, Design Expert, Seattle, WA (Sept 2016).  
Representing Amazon v. Daimler AG

Woodard, Emhardt, Moriarity, McNett & Henry, LLP, Design Expert, Indianapolis, IN (Winter 2016 - Present). Representing Knauf Insulation v Johns Manville

Banner & Witcoff, Design Expert, Chicago and Portland, OR (Winter 2015).  
Representing Nike v. Sketchers

Blakely Law Group, Design Expert, Manhattan Beach, CA (2016).  
Representing Deckers/ Uggs Australia in a design patent dispute

Sterne, Kessler, Goldstein & Fox, Expert Witness Testimony, New York, NY (2015). Design  
Expert for Reexamination of Apple iPhone Design Patents

Orrick, Herrington & Sutcliffe LLP, Design Expert, Menlo Park, CA (2016). Represented Belkin  
in a patent infringement case versus Acrox

Alston & Bird, LLP, Expert Witness Testimony, Palo Alto, CA (2014). Expert witness for light  
reflectors design patent case before the ITC

Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Expert Witness Testimony, Washington  
DC (2014). Design Declaration before the Appeal Board, USPTO (housewares)  
Kelly IP, LLP, Expert Witness Testimony, Washington DC (2013 - 2014). Design Declaration  
before the Appeal Board, USPTO (electronic cables)

Winston & Strawn, LLP, Expert Witness Testimony, Los Angeles, CA (2013 - 2015). Design  
Analysis for utility patent infringement case (laptop and tablet accessories)

Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Expert Witness Testimony, Washington  
DC (2013). Design Analysis for design patent infringement case (cameras).

Oblon, Spivak, McClelland, Maier & Neustadt, L.L.P., Expert Witness Testimony, Alexandria,  
VA (2013). Design Analysis for design patent infringement case (bedroom slippers).

Amster Rothstein & Ebenstein LLP, Expert Witness Testimony, New York, NY (2012). Design  
Analysis for design patent infringement case (bedroom slippers).

Miller Canfield, Expert Witness Testimony, Chicago, IL (2011 - 2012). Design Analysis, Report  
for a design patent infringement case (bedroom slippers).

White & case, LLP., Expert Witness Testimony, New York, NY (2011 - 2012). Design Analysis,  
Report, and Deposition Testimony for USB Drive design patent case before the ITC.

Baker Botts L.L.P., Expert Witness Testimony, Houston, TX (2010 - 2011). Design Analysis,  
Report, for a design patent infringement case (juice bottle caps).

Polsinelli Shughart, P.C., Expert Witness Testimony, St. Louis, MO (2010 - 2011). Design  
Analysis, Report, for a design patent infringement case (refrigerated floral cases).

Husch Blackwell Sanders LLP, Expert Witness Testimony, St. Louis, MO (2009). Color Analysis, for a trade dress case.

Wooten, Honeywell, Kimbrough, Gibson, Doherty and Normand, P.A., Expert Witness Testimony, Orlando, FL (2007 - 2009) Design Analysis, Testing, for a product liability case (consumer seating).

Allen & Vellone, P.C., Expert Witness Testimony, Denver, CO (2008). Design Analysis, for a design patent infringement case (footwear).

Allen, Dyer, Doppelt, Mibrath & Gilchrist, P.A., Expert Witness Testimony, Orlando, FL (2008). Design Analysis, for a design patent infringement case (apparel).

Holbrook Law Office, Expert Witness Testimony, Orlando, FL (2000 - 2001). Design Analysis, Testing, for a product liability case (contract seating).

Rausch Hendicks German May, Expert Witness Testimony, Kansas City, MO (1999 - 2000). Defense expert for design patent infringement case.

Skepnek & Maddox, Expert Witness Testimony, Lawrence, KS (1998). Center for Design Research, The University of Kansas. Created forensic computer animation for a medical malpractice case.

Purdy & Flynn, Expert Witness Testimony, Fort Lauderdale, FL (1994 - 1996). Design Investigation, Analysis, Modeling for a product liability case.

Holbrook & Hardy, Expert Witness Testimony, Orlando, FL (1992 - 1994). Design Investigation, Analysis, Modeling for a product liability case.

### **PROFESSIONAL DESIGN PROJECTS/CLIENT LIST**

For nearly 50 years, Professor Rake has worked as a professional designer; working in corporate design studios, consulting offices, or as a freelance designer on a very broad range of projects. This includes the design of motorcycles, air circulators, aircraft interiors, micrographic readers, orthopedic traction systems, knives, space heaters, furniture, power tools, retail fixtures, electronic controls, playing cards, games, work environments, cranes, lawn and garden tractor, trade show exhibits, string trimmers, snowmobiles, VHS cassettes, medical products, audio amplifiers, industrial electrical control housings, bags, back to school products, electrical substation enclosures, excavator cabs, bird houses and feeders, fence posts, tool cabinets, boat interiors, motor coach interiors, and plumbing fixtures.

**Abari**, Kathmandu, Nepal  
Bicycle, e-Cargo Bike Design, Furniture

**Armani/ Embraer**, São José dos Campos, São Paulo, Brazil  
Aircraft Interior Design.

**ADS**, Huntsville, AL

Branding, Research and Design.

**Adams Aircraft**, Mojave, CA  
Aircraft Interior Design.

**Aerion**, Dallas, TX  
Supersonic Business Jet interior design

**Aeroflex**, Wichita, KS  
Product Design

**Aero Nimbus**, Malaysia  
Asian Airshow Exhibition Design.

**Aladdin Industries**, Nashville, TN  
Camping Products.

**Alberta Aerospace**, Alberta, Canada  
Design Proposal, Aircraft Interior Design.

**Alfa-Laval, AB**, Stockholm, Sweden  
Agricultural Product Design.

**Auburn University School of Pharmacy**, Auburn, AL  
Pharmacy Patient Consultation Booth.

**Auckland University School of Medicine**, Auckland, NZ  
Asthma Inhaler.

**Baker Electronics**, Miami, FL  
Aircraft IFE Switches.

**Beauty Brands**, Kansas City, MO  
Interior/ Fixture Design.

**Bell Helicopter**, Dallas, TX  
Helicopter Shuttle Interior

**Bell & Howell**, Lincolnwood, IL  
Communications and Office Product Design.

**Bergström**, Halmstad, Sweden  
Promotional Products Design.

**Birkenstock, USA**, Novato, CA  
Store Fixture Design.

**Bolens**, Port Washington, WI  
Lawn Tractor Design, Product Graphics.

**Bombardier**, Montreal, Canada  
Business Jet Interior Design.

**Bose Research**, Boston, MA  
Store Fixture Design.

**Brian Russell Designs**, Auckland, NZ  
Highchair Design.

**Briggs & Stratton**, Milwaukee, WI  
Exhibit Design.

**Bruning International**, Itasca, IL  
Office Product Design, Product Graphic Design.

**Bucyrus-Erie**, Milwaukee, WI  
Heavy Equipment Design, Product Graphic Design.

**Bushnell**, Lenexa, KS  
Night Vision Monocular Design.

**Cardinal Brands**, St. Louis, MO  
Office Products, Softgoods Design, Water Bottle Design

**Caterpillar**, Peoria, IL  
Footwear Display System.

**Chicagofest**, Chicago, IL  
Festival Graphic Design.

**Collins Communications Technologies**, Milwaukee, WI  
Branding, Graphic Design.

**Coleman**, Wichita, KS  
Product Design/ Furniture

**Crabtree Music**, Milwaukee, WI  
Graphic Design.

**Cramer, Inc.**, Kansas City, MO  
Office Furniture Design.

**Cubcrafters**, Yakima, WA  
Aircraft Interior Design.

**Cutler-Hammer**, Milwaukee, WI  
Exhibit Design.

**Dolpo**, Kathmandu, Nepal  
Softgoods Design

**Drott Manufacturing**, Wausau, WI  
Heavy Equipment Design, Product Graphic Design.

**Eagle Creek**, San Diego, CA  
Store Fixture Design.

**Embraer**, São Jose, Brazil  
Aircraft Interior Design.

**Fairchild-Dornier**, Oberpfaffenhofen, Germany  
Paint schemes, Product Graphic Design.

**Faultless**, Kansas City, MO.  
Garden Tool Design.

**Filer & Stowell**, Milwaukee, WI  
Heavy Equipment Design, Product Graphic Design.

**Fischer & Paykel**, Auckland, NZ  
Control Design.

**Furminator**, Blacksburg, VA  
Product Design

**Företagsutvecklarna**, Växjö, Sweden  
Gas Candle Design.

**Galaxy Aerospace**, Dallas, TX  
Aircraft Interior Design.

**Gametime, Inc.**, Fort Payne, AL  
Outdoor Furniture Design.

**Global Express**, Montreal, Canada  
Regional Jet Interior Design.

**Grahm Transmissions**, Milwaukee, WI  
Product Graphic Design.

**Harley-Davidson**, Milwaukee, WI  
Motorcycle Design, Model Building.

**Hawker/Beechcraft**, Wichita, KS  
Aircraft Interior Design.

**Helio**, Bristol, TN  
Aircraft Interior Design Proposal

**HERO**, Greensboro, AL  
Bicycle Design, Furniture Design, Footwear Design

**Hustler/ Excel**, Hesston, KS  
Commercial Lawnmower Design, Side-by-Side Vehicle Design

**Huhtamaki**, Desoto, KS  
Commercial Product Design.

**ICOR, AB**, Stockholm, Sweden  
Medical Product Design.

**IKEA**, Stockholm, Sweden  
Clothes Hanger Design, Recycling Bin Design.

**Interface Design Group/ Fiberesin**, Milwaukee, WI  
Modular Furniture/ Storage

**J.I. Case Company**, Racine, WI  
Heavy Equipment Design, Product Graphics.

**Jockey International**, Kenosha, WI  
Exhibit Design, Store Fixture Design.

**Kohler**, Kohler, WI  
Exhibit Design.

**Larson/Glastron**, Little Falls, MN  
Leisure Boat Design.

**Learjet div of Bombardier**, Wichita, KS  
Corporate Aviation Interior Design.

**Leon Paul**, London, England  
Fencing Mask, Footwear, Scoring Box Design.

**Marathon Electric**, Wausau, WI  
Store Fixture Design.

**Martin Industries**, Florence, AL  
Electric Space Heater Design.

**Matthews Heater Co.**, Albertville, AL  
Electric Space Heater Design.

**Micro Design**, Hartford, WI  
Product Design, Corporate Identity, Strategic Planning.

**Micron Corporation**, Iron Ridge, WI  
Product Design, Corporate Identity, Strategic Planning.

**Minder Systems**, Auckland, NZ  
Electronic Control Design.

**Nauter's Swan**, Pietarsaari, Finland  
Yacht Design.

**New Deal Playing Cards**, Leawood, KS  
Product Design, Corporate Identity, Strategic Planning.

**Newell Motorcoach**, Miami, OK  
Motorcoach Design, Product Planning.

**Pantone**, New York, NY  
Bag, CD Case, Softgoods, Notebook Design

**Perceptive Software**, Kansas City, KS  
Trade Show Design.

**Perm-a-Store**, Wichita, KS  
Product Design.

**Pivot, International**, Kansas City, Mo.  
Voting Booth Design.

**Polaris**, Roseau, MN  
Snowmobile Design, Product Graphic Design.

**Poulan**, Shreveport, LA  
String Trimmer Design, Lawnmower Design.

**Raaco**, Copenhagen, Denmark  
Plastic Toolbox Design.

**Raetheon**, Wichita, KS  
Aircraft Interior Design.

**Ranger Boats**, Flippin, AR  
Boat Design



**Rayovac**, Madison, WI  
Product Design.

**Rubbermaid**, Huntersville, NC  
Product Design.

**Schroeder & Tremayne**, St. Louis, MO  
Product Design- Brushes, Cleaning Products

**S.O.R. Inc.**, Olathe, KS  
Pressure Switch Design, Workstation Design Planning.

**Singapore Airlines**, Singapore  
Corporate Aircraft Interior Design.

**Snorkel**, Kansas City, MO  
Paintscheme, Product Graphic Design.

**Spectrum**, San Diego, CA  
Aircraft Interior Design

**Sutherland Engineering**, Lawrence, KS  
Audio Amplifier Design.

**The North Face**, Oakland, CA  
Store Fixture Design.

**Trek Bicycles**, Baraboo, WI  
Product Graphic Design.

**Wal-Mart**, Bentonville, AR  
Point-of-Sale Design, Interior Design.

**Walker Manufacturing**, Racine, WI  
Exhibit Design.

**Weed Eater**, Houston, TX  
String Trimmer Design, Lawnmower Design.

**Western Publishing**, Racine, WI  
Exhibit Design.

**Xerolet**, Carson, CA  
Product Design.

**Xikar**, Kansas City, MO  
Product Design, Strategic Product Design.

## **TEACHING AWARDS**

### **Educator Award, Industrial Design Society of America (IDSA).**

“The IDSA Education Award is presented in recognition of significant, distinguished, and long-term contributions of career or tenured faculty to the field of industrial design academia. Further, these individuals have earned the respect and admiration of colleagues and students for their method and practice of teaching industrial design. Individuals are nominated by a peer or student for this distinction and a nomination must be accompanied by letters of recommendation on behalf of the candidate. All candidates who qualify are rigorously evaluated by IDSA's Awards Committee and subsequently approved by IDSA's Board of Directors before being bestowed with this great honor.” From the IDSA website (2019)

**CTE Teaching Award, The University of Kansas.** Selected by students for effective teaching, communication of expectations and efforts to help students meet these expectations, evaluation of students' work, use of interactive activities to enhance the classroom experience and the role of the teacher in one-on-one or small group interaction. (2010)

## **STUDENT EXPERIENTIAL LEARNING**

**spring 2023. Designing Footwear in VR.** This new design course is a unique opportunity for students at KU to collaborate with their peers at Halmstad University in Sweden and industry partners Bogs Boots, Columbia, and New Balance. The course focusses on using AI image programs during the ideation phase of the design process and will utilize VR sketching and modeling with the help of equipment donations from Gravity Sketch.

One of the key components of the course is the use of AI image programs to generate ideas and inspiration for the students' designs. These programs analyze existing designs and trends to help the students identify potential opportunities for innovation. Additionally, the students are able to use these programs to create mood boards and concept sketches for their designs. With the help of equipment donations from Gravity Sketch, the students are able to create detailed 3D models of their designs, allowing them to visualize and refine their ideas in a more immersive way. Finally, the course provides an opportunity for the students to work with industry partners such as Bogs Boots, Columbia, and New Balance.

**spring, 2022, fall 2021, spring 2020, fall 2018, fall 2017.** Designing Footwear. Cross-Disciplinary course for Architecture and Design students. This course familiarizes students with the basic knowledge and teaches the fundamental skillset needed to succeed as a footwear designer. Working with professional designers at major footwear companies such as Timberland, Adidas, and New Balance, KU students solve complex problems that occur when merging fashion and performance in an ever-changing marketplace. Graduates have gone on to find professional positions at Wolverine, Timberland, Vans, Bogs, and others.

**fall 2021, spring 2018, spring 2017, fall 2015.** Electric Guitar Design and Theory. Cross-Disciplinary course for Architecture and Design students. Primarily a digital fabrication class, our students work with luthiers and management at Mass Street Music in Lawrence to design, prototype, and test their electric guitars. Final presentation is before and audience at Mass Street Music and validates the aesthetics, function, and playability of their designs.

**november 18-19 2019.** Mechathon at Kathmandu University. National competition open to any University Design/ Engineering student in Nepal. I was invited as a judge and keynote speaker for the event. Student teams worked for 48 hours to respond to the theme of “Innovation for Impact”

**winter 2019.** Short Course. Cross-Disciplinary course held in East Palo Alto, CA. 10 Architecture and Design students spent 14 days in East Palo Alto, CA working with the non-profit Live in Peace. The recently gutted warehouse space was transformed into a working community bike shop call 2524 Raven Riders. The students spent first days building benches, painting the space, designing and organizing the bike shop. Next they learned how to take apart a bike, fix it, paint it, put it back together, and teach someone else how to do it.

**Fall, 2017.** Global Studio-Haiti. I was a faculty member (ARCH600) on a design/build graduate architecture team that is worked to make a new community center in Haiti. I went with the team to Haiti in January 2018 to complete on a demonstration construction.

**spring 2017.** 48-hour Repack Competition. National competition open to any University/Collage student around the country. Students received the prompt Friday at 6pm. Students created a solution, prototype it, brand it, create a video, edit and upload to it to youtube by the Sunday 6pm deadline.

**winter 2017.** Short Course. Cross-Disciplinary course held in Greensboro, Alabama. 12 Design students spent 14 days in Greenboro proto-typing, testing and building push bikes for toddlers and stand up paddle boards. Co-directed the class with Visual Communication professor Andrea Herstowski. Hale Empowerment and Revitalization Organization (HERO) works as a catalyst for community development to end rural poverty in the Alabama Black Belt (Hale County).

**february 14-15, 2016.** Hackathon at Indian Institute of Technology-Bombay in Mumbai, India. Make in India Hackathon is organized as part of the Make In India week. IIT-Bombay invited proposals from students across the country and chose 30 projects(10 in each theme) in three core areas of Urban Development: Water (To save water and to save from water), Transportation (User Friendly road Intersection), Energy (Smart Approaches to Sustainable Energy). I was invited as a judge to help students with their projects, but also to evaluate results. There were about 95 students working in teams to build prototypes, models and simulations of their respective ideas.

**may 2016.** Blitz/Workshop. 2-Week Short Course. Several Graphic Design students who had seen a school-wide presentation of my work at the Indian Institute of Design’s Industrial Design Centre, wanted me to conduct a short summer course where they could design and build their own bamboo bicycles. The students had very limited mechanical skill, but deep enthusiasm for building their own bikes. The process was very interesting as we had to improvise needed tools and facilities, and the process involved multiple trips to the Dharavi slum to buy bamboo and needed components. At the end of the workshop, we all rode around the IIT-B campus on our bamboo bicycles.

**fall 2016.** Blitz/Workshop. 48-Hour Blitz/Spring. Cross-disciplinary group of students work together over the weekend to Think Wrong about how to solve the problem “The Average American owns 19 pairs of shoes. How do we reduce this obvious over-consumption and waste?” 20+ students from the University of Kansas and the Kansas City Art Institute followed the Blitz process of Thinking Wrong lead by professional advisors John Bielenberg (Future Partners), Jamie Koval (VSA partners) and Read Worth (Oregon Design Lab) and KU Professors Andrea

Herstowski and Lance Rake. (A Blitz is set in an intensive, chaotic, energizing, workshop environment for prototyping, researching, doing, designing, and exploring that, while thinking wrong, produces a project or service that uses design thinking for the greater good.)

**spring 2016.** Blitz/Workshop. 48-Hour Blitz. Cross-Disciplinary group of over 20 University of Kansas students in Architecture and Design participated in a 48 Hour Blitz with John Bielenberg. The students worked together, gave up part of their first weekend back to school, sleep and egos. They were encouraged to get out in the community, talk to people, “Think Wrong” addressing the subject of “What is the movie theater experience in a a multi-device world? Co-directed with John Bielenberg and professors Jeremy Shellhorn and Andrea Herstowski.

**spring 2016.** 48-hour Repack Competition. National competition open to any University/Collage student around the country.

**spring 2015.** Wayfinding Workshop. Cross-Disciplinary wayfinding workshop with Dietmar Gatzelmann.

**july, 2015.** DeadSea15. 5- day Design/Engineering blitz at Shamoan College of Engineering in Beer Sheva, Israel. I was invited to keynote the conference in the era of “Creative Product Design”, and to present also some of our KU students’ work. I was invited to be member of their international jury of “ME Excellence” and “DeadSea15” competitions; and to run “CreaTeam” workshop with professors from Spain, India, and Israel for the SCE department students. The final competition was judged in the Dead Sea.

**winter 2015.** Short Course. Cross-Disciplinary course held in Greensboro, Alabama. Cross-disciplinary group of 12 University of Kansas Students spent two weeks in Greensboro, AL weaving, prototyping, and testing skateboards woven out bamboo. The work continued throughout the spring where the final two designs were refined and a successful Kickstarter campaign was launched. Proceeds went to HERO. Co-taught the class with Visual Communication professor Andrea Herstowski. Hale Empowerment and Revitalization Organization.

**fall 2013.** Blitz/Workshop. 48-Hour Blitz. Cross-disciplinary group of over 35 University of Kansas students in Architecture and Design participated in a 48 Hour Blitz with John Bielenberg. They were encouraged to get out in the community, talk to people, “Think Wrong” and come up with ideas that address the subject of “Water”.

**summer 2013.** Short Course. Cross-Disciplinary course held in Greensboro, Alabama. Cross-disciplinary group of students spent 3 weeks living and working together on the development of a bicycle using existing bikes and bamboo. Co-directed the class with Visual Communication professor Andrea Herstowski. Hale Empowerment and Revitalization Organization.

**spring 2012.** Blitz/Workshop. 48-Hour Blitz. Cross-disciplinary group of over 35 University of Kansas students in Architecture and Design participated in a 48 Hour Blitz with John Bielenberg. The students worked together and were encouraged to get out in the community, talk to people, “Think Wrong” and come up with ideas that address the subject of “Food Waste”.

**spring 2011.** Blitz/Workshop. 48-Hour Blitz. The students worked together in cross-disciplinary groups were encouraged to get out in the community, talk to people, “Think Wrong”. The students had less than 2 days to produce a 48 second video.

## **TEACHING & PROFESSIONAL DEVELOPMENT**

Ongoing interest in the impact of creation tools on the industrial design process - from the use of the analog tools of drawing and sketch modeling in temporary materials through 3D modeling, digital fabrication and VR.

### **Fall, 2023- Present**

**Vizcom AI, a sketching/ visualization tool** that that utilizes AI to generate alternative designs from my analog sketches. Learning the tool and working with students to design products, particularly footwear, using a workflow that incorporates Vizcom, Gravity Sketch, and 3D printing. Worked with Vizcom to acquire Pro-level licences for KU students and faculty.

### **Fall, 2021- Present**

**Gravity Sketch, a VR sketching/ modeling tool** that that initiates in a digital 3D environment and remains 3D throughout the process all the way through to final delivery. Learning the tool and working with students to design products in Gravity Sketch. Worked with Gravity Sketch to acquire Pro-level licences for KU students and faculty.

### **Summer, 2021**

**Shoe Surgeon.** Took an online course to learn to make footwear. I am combining this skillset with Gravity Sketch and digital fabrication tools such as 3D printing, laser cutting, and CNC machining to develop a program to teach students to make their own custom footwear using design and fabrication tools found commonly in FabLabs or Makerspaces in communities all over the world.

### **Spring 2019**

I worked with with senior Industrial Design and Graphic Design faculty at RMIT in Melbourne, Australia to set up project based student and faculty design/build opportunities. This program would likely be in place already except for COVID-19 stutdowns.

### **Spring 2019**

I worked with with faculty members in Mechanical Engineering at Kathmandu University in Nepal and a prominent architect in Kathmandu to develop industrial design and architecture design/build projects for study abroad opportunities for our students in Nepal. This program would likely be in place already except for COVID-19 stutdowns.

## **UNIVERSITY OF KANSAS: RECENT TEACHING**

### **Fall 2023**

INDD 284	Basic Industrial Design Studio
ADS 560	Digital Fabrication- Guitar Workshop

### **Fall 2022**

INDD 284	Basic Industrial Design Studio
ADS 560	Gravity Sketch

**Spring 2022**

INDD 378 Special Problems in Design, Footwear Design  
INDD 302 Intermediate Industrial Design Studio

**Fall 2021**

INDD 284 Basic Industrial Design Studio  
INDD 312 Drawing for Industrial Design  
INDD378 Special Problems in Design- Guitar Workshop

**Spring 2021**

INDD 378 Special Problems in Design, Footwear Design  
INDD 302 Intermediate Industrial Design Studio  
INDD212 Basic Industrial Design Drawing

**Fall 2020**

INDD 284 Basic Industrial Design Studio  
INDD 312 Drawing for Industrial Design

**Spring 2020**

INDD 302 Intermediate Industrial Design Studio  
INDD 378 Problems in Industrial Design:Footwear Design

**Spring 2019**

INDD 378 Special Problems in Design, Bicycle Design  
INDD 302 Intermediate Industrial Design Studio

**Winter, 2019**

INDD 378 Problems in Industrial Design: East Palo Alto Multidisciplinary Workshop

**Fall 2018**

INDD 284 Basic Industrial Design Studio  
INDD 378 Footwear Design

**Spring 2018**

ADS 531 Internship  
ARCH600 Special Topics- Haiti  
ARCH600 Special Topics- Utility Bicycle Design  
INDD 302 Intermediate Industrial Design Studio (2 sections)  
INDD 378 Problems in Industrial Design: Electric Guitar Design & Theory

**Fall 2017**

ADS 531 Internship  
INDD 284 Basic Industrial Design Studio (2 sections)  
INDD 378 Problems in Industrial Design: Designing Footwear  
INDD 715 Industrial Design- Graduate Studio

**Spring 2017**

ADS 560 Topics in Design: Push Bikes and Paddleboards (Alabama)  
ADS 560 Topics in Design: Electric Guitar Design & Theory  
ADS 580 Special Problems in Design  
INDD 302 Intermediate Industrial Design Studio

**Fall 2016**

INDD 284 Basic Industrial Design Studio  
INDD 378 Problems in Industrial Design: Photoshop ID Product Design  
INDD 446 Advanced Industrial Design Studio  
INDD 580 Senior Industrial Design Studio

**Spring 2016**

ADS 560 Topics in Design: Push Bikes and Paddleboards (Alabama)  
INDD 378 Problems in Industrial Design: Push Bikes and Paddleboards

**Fall 2015**

INDD 284 Basic Industrial Design Studio  
INDD 378 Problems in Industrial Design: Guitar Design and Theory  
INDD 446 Advanced Industrial Design Studio

**Spring 2015**

INDD 302 Intermediate Industrial Design Studio  
INDD 555 Portfolio

**Fall 2014**

ADS 560 Topics in Design: Drawing for Industrial Design II  
INDD 284 Basic Industrial Design Studio  
INDD 378 Problems in Industrial Design: Guitar Design and Theory  
INDD 446 Advanced Industrial Design Studio

**Summer 2014**

ADS 560 Topics in Design: Bamboo, Alabama  
INDD 378 Problems in Industrial Design: Bamboo, Alabama

**Spring 2014**

ADS 560 Topics in Design:  
ADS 580 Special Problems in Design  
INDD 302 Intermediate Industrial Design Studio  
INDD 378 Problems in Industrial Design: Bamboo Skateboard Workshop  
INDD 555 Portfolio

**Fall 2013**

ADS 560 Topics in Design: Basic Transportation Design  
ADS 580 Special Problems in Design  
INDD 378 Problems in Industrial Design: Basic Transportation Design  
INDD 446 Advanced Industrial Design Studio

**SERVICE: UNIVERSITY**

**University of Kansas University Senate.**

Member (Elected)

(August 2016 - July 2019)

**University of Kansas Faculty Senate.**

Member (Elected)

(August 2016 - July 2019)

**Ad Hoc Committee on Post-Tenure Review.**

Member (Appointed by KU Faculty Senate President) Reviewed Procedures for KU Post Tenure Review Process (Fall 2015 - Spring 2016)

**SERVICE: SCHOOL OF ARCHITECTURE & DESIGN**

**School Council.**

Chair (Appointed)

The School Council advises the Dean on strategic and administrative issues and serves as a sounding board for the Dean regarding any planned initiatives and University directives that affect the School. (February 2021 -2022)

**Faculty Affairs Committee.** (August 2020 – 2024)

**Common Shop.** (Fall 2016 - Spring 2018)

**Ad-Hoc Committee Post-Tenure Review.** Analysis and review of KU post-tenure review procedures. (Spring 2015)

**Ad Hoc Maker Space.** (Fall 2014 - Spring 2015)

**SERVICE: DEPARTMENT OF DESIGN**

**Design Chair Faculty Affairs Committee.** (August 2023 - present)

**Design Chair Review Committee.** (August 2020 - June 2021)

**Faculty Evaluation Committee.** (August 2020 - June 2021)

**Industrial Design Search Committee.** Chair (Appointed). (Fall, 2017-Spring, 2018)

**Industrial Design Area Coordinator.** Representative (Appointed).(Fall 2017 - Spring 2019)

**Promotion & Tenure.** Member (Appointed) (Fall 2017 - Spring 2019)

**Undergraduate Studies.** Member (Appointed) (Fall 2016 - Spring 2019)

**Departmental Bylaws.** Member (Appointed). (Fall 2016 - Spring 2018)



**SERVICE: TO THE PROFESSION**

**Industrial Designers Society of America.** Vice Chair of the Design Protection Section  
(2019 - 2024)

**Fulbright US Scholar Program**

Design National Screening Committee (2021-2023)

I was on a committee of 3 to review all of the design-related proposals from US senior (faculty & professional) applicants- reviewing over 30 applications

**Fulbright US Student Program**

Art & Design National Screening Committee (2021-2022)

I was on a committee of 3 to review all of the art and design-related proposals from US student applicants- reviewing over 40 applications

**Fulbright Egyptian Scholar Program**

Art & Design Technical Review (2021-2023)

**Binational Fulbright Commission in Egypt**

Design Technical review, Fulbright Student Program (2021)