

LANCE RAKE

PROFESSOR DESIGN
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BIOGRAPHY

For over 40 years, I have been learning, practicing, and teaching industrial design, often at the same time. Honored as a Fulbright Senior Scholar in 2015 and 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, 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 chose 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, and India.

EDUCATION

1982 Master of Product Design (subsequently renamed Master of Industrial Design), 1982
North Carolina State University, Raleigh, NC

1974 B.F.A. Industrial Design, 1974
University of Kansas, Lawrence, KS

LICENSURES, CERTIFICATIONS, AND PROFESSIONAL TRAINING

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 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.

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

This is a book 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, from 2011 - present

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, from 2011 – present

WEBSITES/BLOGS

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).

"The HEROs of Greensboro, Alabama: How One Nonprofit Is Changing Bike Design and Community Development" *Design Good Design Good* (<http://designgood.com/bike-design/>). internet. (2017)

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.

Bauman, Kat. "Can Braided Bamboo Shift Bike Frame Design?" CORE77 Website CORE 77. internet. (May 30, 2017)

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.

"A BAMBOO ROAD BIKE BORN FROM THE COLLABORATION BETWEEN LANCE RAKE AND HEROBIKE" design diffusion designdiffusion.com. internet. (May 4, 2017)

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.

Harper, Brad. "Bamboo Bikes Spur Economic Development in a Struggling Alabama County" momentummag.com Momentum. internet. (May 2, 2017)

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.

"lance rake's HERObike is fitted with woven bamboo tubes" In L. Zeitoun (Ed.) designboom designboom. internet. (May 2, 2017)

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.

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

Reference to my work research developing designs of bicycles, skateboards, and paddleboards made from bamboo or bamboo composites.

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.

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

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

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

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)

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

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

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

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

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

"Beacon Alley Skateboards" CORE 77. internet. (2014)

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

"Beacon Alley Skateboards" Fancy. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Beacon Alley Skateboards" theawesomer.com. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Beacon Alley Skateboards Kickstarting in Alabama" Impact Design Hub. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Beacon Alley Skateboards' Woven Bamboo Deck" geekalabama.com. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Beacon Alley Skateboards' Woven Bamboo Deck" Original Paperbacks. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Makelab & HERObike – Beacon Alley Skateboards" hellocoton.fr. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Makelab & HERObike – Beacon Alley Skateboards" Whitezine.com. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"makelab + HERObike weave durable bamboo composite skateboards" designboom.com. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

Oldmixon, Rachelle. Aljazeera America. "A fixie made out of oversized grass" TECHKNOW blog. (January/February 2014).
Television segment that featured the Semester bicycle and the process of making bamboo bikes in rural Alabama.

"Woven Bamboo Composite Skateboards" compositestoday.com. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

"Woven Bamboo Skateboard Muscle" Common Marketplace. internet. (2014)
Reference to my work as a result of designing Beacon Alley Skateboard HERObike, Greensboro, AL, from 2013 - 2014

Estes, Cary. "Elegantly Designed Bicycle Business" Business Alabama. internet. (September 2014)
Reference to the Semester Bike design and the development of a craft-based enterprise, HERObike-a result of consulting with HERO, a not-for-profit located in rural Greensboro, AL.

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

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

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

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

"The Semester Bicycle: An Environmentally and Socially Responsible Bike" ambikamelville.com. internet. (2013)
Reference to the Semester Bike design and the development of a craft-based enterprise, HERObike-a result of consulting with HERO, a not-for-profit located in rural Greensboro, AL.

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

"Semester Bike Project" CORE 77. (2013).
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.

INVITED PRESENTATIONS/LECTURES- INTERNATIONAL

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 Mandella 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., 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

Rake, L. *Fulbright-Nehru Academic and Professional Excellence Award*, Fulbright Senior Scholar Program. My research project, “*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. *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

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

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

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

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.

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

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

Sabbatical leave in 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)

Rake, L., & Ewing, D. M. Proposal Development for NASA's University Earth System Science (UnESS) Program. *Mapping Greenland Ice*. Research and Development Fund, 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 leave in 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).

DESIGN WORK IN BAMBOO

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- BICYCLE DESIGN

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

“Keep Moving: Shifting Gears!” Design Museum of Chicago. 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

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

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 -Present).
Representing Wesfield Outdoors v. Haingaertner and Walsh

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

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

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

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

Woodard, Emhardt, Moriarty, McNett & Henry, LLP, Design Expert, Indianapolis, IN (Winter 2016 - Present). Representing Knauf Insulation before USPTO

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

Blakely Law Group, Design Expert, Manhattan Beach, CA (1st Quarter 2016 - 4th Quarter 2016). Representing Deckers/ Uggs Australia in a design patent dispute

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

Orrick, Herrington & Sutcliffe LLP, Design Expert, Menlo Park, CA (Spring 2015 - Summer 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 - 2014). 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

Over the past 30 years, I have 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.

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

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

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.

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.

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

Fischer & Paykel, Auckland, NZ
Control 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.

Graham 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

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.

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.

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.

UNIVERSITY OF KANSAS- RECENT TEACHING

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 2019

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

Member (Elected)

University of Kansas University Senate. (August 2016 - July 2018)

Member (Elected)

University of Kansas Faculty Senate. (August 2016 - July 2018)

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

SERVICE- SCHOOL OF ARCHITECTURE & DESIGN

Member (Appointed) Common Shop. Committee negotiates terms of use and regulations for the workshop shared by the Department of Design and the Department of Visual Arts. (Fall 2016 - Spring 2018)

Ad Hoc Maker Space. (Appointed by the Dean, School of Architecture & Design) (Fall 2014 - Spring 2015)

SERVICE- DEPARTMENT OF DESIGN

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

Member (Appointed) Interaction Design Search Committee. (Fall, 2017-Spring, 2018)

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

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

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

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

Member (Appointed) Faculty Merit Review. Responsible for evaluating peer performance of department faculty (Fall 2013 - Spring 2015)

Chair, Promotion & Tenure. (Fall 2015 - Spring 2016)

Member, Incoming Freshman Portfolio Review Committee. (Fall 2013 - Spring 2015)

HONORS AND AWARDS FOR SCHOLARSHIP

Fulbright 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)

Outstanding Teacher- Department of Design, University of Kansas Center for Teaching Excellence. (2010)

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)