

Curriculum Vitae - Harry Giles

General Information

EDUCATION

- MBA Essentials and Entrepreneurship, Ross School of Business, University of Michigan, Ann Arbor, 2009
- Graduate Diploma in Engineering, University of Witwatersrand, Johannesburg, 1981
- Master of Science in Engineering, University of Natal, Durban, 1975
- Bachelor of Science in Engineering, University of Natal, Durban, 1974

PROFESSIONAL MEMBERSHIPS

- Chartered Engineer, UK
- Member of the Institute of Structural Engineers (British), UK
- Member of the Council of Engineers, UK

TEACHING EXPERIENCE

- Professor of Practice, University of Michigan, USA 2001 – present
- Visiting, City College of New York, New York, USA 2006
- Visiting, University of Pennsylvania, Philadelphia, USA 2004
- Visiting, Illinois Institute of Technology, Chicago, USA 2001
- Qualitative Understanding of Structures, Ove Arup, London, UK 1989
- Continuing Professional Development program, SAICE, Johannesburg, SA 1984
- University of Natal, Durban, SA 1976

PROFESSIONAL EXPERIENCE

- solartonic ltd UK, Solar PV Systems Global, 2017 – present (co Founder and Director)
- solartonic llc, Solar PV Systems Manufacturing, 2011 – present (co Founder and Chief Executive Officer)
- SITUMBRA, LLC, Advanced Facade Manufacturing, 2009 – present (Founder and General Manager)
- HGDesign, Design and Engineering Consultant, 2004 – present (Founder and Principal)
- Buro Happold Engineers (New York), 2001 – 2004 (Senior Consultant)
- Buro Happold Engineers (London), 1998 - 2001 (Senior Associate Director)
- Cundall Johnston and Partners, 1996 - 1998 (Partner)
- Arup Associates, 1985 – 1996 (Senior Design Engineer)
- Ove Arup and Partners, 1978 - 1985 (Associate Director)
- Building Design Group Architects 1976 - 1977 (Resident Engineer)

ADVISORY APPOINTMENTS

- Advisor to Consortium - Development of Urban Regeneration Technology for Socially Integrative Community - Yonsei University, Seoul, South Korea, 2007
- Advisor to Marathon Oil Company, Sustainability Consultant, New Laboratory Project, Detroit, USA, 2008

SPECIALIST FIELDS OF TECHNOLOGY and DESIGN

- Composite Materials Structures
- Glass Structures
- Load-bearing Brickwork
- Timber Construction
- Reinforced and Pre-Stressed Concrete Structures
- Structural Metals – Steelwork, Stainless Steel and Aluminum
- Polymer Materials Structures
- Light Weight Fabric Structures

- Building Integrated Solar Photovoltaic Systems
- Advanced Structural Engineering Analysis and Design
- Multi Physics Building Simulation – Mechanical, Heat Flow and Computational Fluid Dynamics
- Integrated CAD/CAM Parametric Modeling and Analysis
- Prefabricated and Industrialized Manufacture of Buildings
- Building Façade Manufacturing Systems
- Sustainable and Applied Low Energy Building Simulation and Design Integration
- Solar lighting and signage systems, design, controls, fabrication.
- IoT controls interfaces, smart city connected devices infrastructure, digital media displays

RESEARCH WORK

Studio based interdisciplinary design methods and design build projects across architecture, art, design, and engineering.

Fabric membrane analysis and design optimization simulation using non-linear FEM analytical procedures and materials properties (considering hyper-elastic and visco-elastic materials applications).

Studies in advanced composite and bio-composite materials applications in load bearing architectural structural elements.

Morphologies of spatial structures and their applications in structural grid domes, floor plates and warped shell typologies related to construction methods in developing countries using bamboo and cardboard as a renewable resource.

Free-form shell structures in advanced and composite materials using innovative layering methods, laminates, woven forms, strip forms, composite materials.

Multi-physics finite element applications in architectural building elements – heat, CFD, structure and solar interactions - in relation to cladding systems, shading devices, structural frames.

Development of transparent and translucent structural lightweight façade, flooring and load-bearing panels for architectural structures, using glass and lightweight polymer composite materials.

Product based design model for architectural design (coupled/transfer technologies and design methodologies oriented towards product design criteria interfaces)

Modular Prefabrication for Affordable High Density Housing using industrially designed steel monocoque systems and integrated low energy passive strategies.

Solar Energy Optimization Strategies for the design of Building Integrated Photovoltaic configurations in global climate zones for various building construction applications based on real time testing and predictive statistical analytics.

Scholarly work

SELECTED PAPERS AND PUBLICATIONS

Niloufar Emami, Harry Giles, Peter Von Buelow - Performative perforations: structural and daylighting performance assessment of Candela's High Life Textile Factory. Proceedings of the IASS Annual Symposium 2018 "Creativity in Structural Design" July 16-20, 2018, MIT, Boston, USA

Giles, H – Issued Patent - System of Solar Modules Configured for Attachment to Vertical Structures, Feb 21, 2017, United States Patent, Number US 9,577,572 B2

Lai, Kun; Wang, Wen; Giles, H – Experimental study on the shading performance of a window integrated with grid shading configuration, 18 September 2017 Journal of Science and Technology for the Built Environment

Niloufar Emami, Harry Giles, Peter Von Buelow - Continuous to discrete: computational performative design and search of shell structures. Proceedings of the IASS Annual Symposium 2017 “Interfaces: architecture . engineering . science” September 25 - 28th, 2017, Hamburg, Germany

Lai, Kun; Wang, Wen; Giles, H – Solar Shading performance of window with constant and dynamic shading function in different climate zones. 17 March, 2017 Solar Energy Journal, Elsevier Publication

Berk, A; Giles,H – Quadrilateral panelization of freeform surface structures. Automation in Construction Journal, Volume 76, April 2017, pages 36-44 Elsevier Publication.

<http://www.sciencedirect.com/science/article/pii/S0926580517300213>

Mendeley

Emami,N; Giles,H - Geometric Patterns, Light and Shade: Quantifying Aperture Ratio and Pattern Resolution in the Performance of Shading Screens. Nexus Network Journal, Architecture and Mathematics, pp 1-26, Birkhauser publication, 2016. <http://link.springer.com/article/10.1007/s00004-015-0279-z>

Sun, C; Giles,H; Lian,Z - Parametric regression model for lighting calibration, Journal of Indoor and Built Environment, 2015 <http://ibe.sagepub.com/content/early/2015/05/13/1420326X15585859.abstract>

Emami,N; Giles,H - Structural assessment of a composite glass panel sandwich based on stress analysis simulation and structural testing. IASS 2015, Proceedings of the International Association for Shell and Spatial Structures Symposium, Amsterdam, The Netherlands, 2015

Sun,C; Giles,H; Lian,Z - Energy efficient Lighting Levels in buildings - a need to set new standards to ensure human comfort conditions. ICEERB 2014 The 6th International Conference on Energy and Environment of Residential Buildings, Zhengzhou, China, 2014

Giles, H – Provisional Patent – System of Solar Modules Configured for Attachment to Vertical Poles, No. 61934164, January 2014

Kun,L; Wang,W; Giles,H – Energy performance analysis of an energy efficient building prototype by using TRNSYS, 3rd International High Performance Buildings Conference, Purdue, West Lafayette, IN, USA 2014.

Sun, C; Giles,H; Lian,Z; The dynamic impact of window characteristics on shading factor and energy consumption, Journal of Solar Energy, 102 (2014) 1–13, The Official Journal of the International Solar Energy Society®

<http://www.journals.elsevier.com/solar-energy>

<http://www.sciencedirect.com/science/article/pii/S0038092X14000267>

Emami,N and Giles,H - Engineering without the engine: An integrated panelized passive shading system for transparent façades, ARCC-EAAE 2014 Conference, New Intersections and Connections, Hawaii, USA 2014

Giles, H and Berk,A - Discretization Solutions for the Construction of Free Form Complex Surface Structures, ICESA2013 Conference on Structures and Architecture, Guimaraes, Portugal 2013

Sun, C; Giles,H; Xu, G; Lian,Z; Investigation on thermal comfort and energy conservation of local ventilation , International Conference on Building Energy and Environment, Boulder, Colorado,USA 2012

Sun, C; Giles,H; Lian,Z; Investigation on window systems for lighting performance and energy efficiency. International Conference on Building Energy and Environment, Boulder, Colorado,USA 2012

Giles, H and Berk,A - Complex Surface Construction using Planar Quadrilateral Meshing, IABSE-IASS Symposium, London, 2011

Giles, H - Provisional Patent - Method and System of Fabricating Façade Panels US 2010/0139835 A1

Giles, H - Design strategies for industrialized prefabrication of buildings, the role of structure as in integrating framework for high density modular housing. ICESA2010 Conference on Structures and Architecture, Guimaraes, Portugal 2010

Giles, H - SITUMBRA, A new concept in energy efficient building façade systems. Clean Technology and Sustainable Industries Conference – Los Angeles, California, USA 2010
<http://www.techconnectworld.com/Cleantech2010/a.html?i=1713>

Giles, H - Energy Efficient Strategies and Modular Systems Integration in Prefabricated High Density Housing, NSF/CMMI research conference, Honolulu, Hawaii, USA 2009

Giles, H – SITUMBRA – Energy Efficient Structurally Integrated Transparent Shaded Façade System - Proceedings Clean Technology and Sustainable Industries Conference – Boston, Massachusetts, USA 2008

Giles, H - Prefabricated Construction using Digitally Integrated Industrial Manufacturing - Proceedings ARCC/EAAE 2008 International Architectural Research Conference, Copenhagen, Denmark, 2008 (awarded conference special mention).

Giles, H - Sustainable Prefabricated High-Density Affordable Housing – Integrating Design and Manufacture through Virtual Prototyping - NSF/CMMI research conference, Knoxville, Tennessee, USA 2008

Giles, H - High-Density Modular Prefabricated Affordable Housing for Sustainable Urban Regeneration - Consortium Meeting on Development of Urban Regeneration Technology for Socially Integrative Community, Seoul, Korea 2008

Giles, H - Report to NSF on research conducted in Technological Innovations in an Industrially Designed and Manufactured Modular Housing Concept for Low Energy, Prefabricated, and Low-Rise Low Income Housing Units – published by NSF 2009

Giles, H - Design Innovations in Low Energy Housing Typologies and Building Façade Systems, Workshop on Energy, Michigan Memorial Phoenix Energy Institute University of Michigan, Ann Arbor, Michigan USA, 2007.

Giles, H - Report to EPA on research conducted in Growing Alternative Sustainable Buildings: bio-composite products from natural fiber, bio-degradable and recyclable polymer materials for load-bearing construction components – published by EPA 2008

Giles, H; Lara, F - Innovations in the development of industrially designed and manufactured modular concepts for low energy, multi story, high density, prefabricated affordable housing." Proceedings and Report - Forum, on "Affordable Design: Convening the Conversation." a component of ACSA's Affordable Housing Design Initiative. Los Angeles, USA, 2006

Giles, H; Kim, KH - Transparent Façade Panel Typologies Based on Hybrid Bio-Composite and Recyclable Polymer Materials - Proceedings ARCC/EAAE 2006 International Architectural Research Conference Philadelphia USA, 2006 (awarded conference best paper)

Giles, H - On Shells and Skins, hyperbolic paraboloid shells, technology transfer and hybrid geometries with composite materials. - Proceedings ACSA Conference on the Art and Science of Architecture, sessions on Tectonics: Media, Material, Structure, Construction - Chicago, USA, 2005.

Giles, H - Derived configurations for light-weight plate and shell structures using warped surface elements. - Proceedings IASS IACM 5th International Conference on Computation of Shell and Spatial Structures – Structural Concepts and Methodologies, Salzburg, Austria 2005.

Giles, H - ACSA Conference on Growth and Form: The Engineering of Nature, Structural Hierarchy and Contemporary Structural Forms—lessons from nature, generative forms and parametric modeling in construction. University of Waterloo, Canada, 2001

Giles, H - ExCel, The design process for the steel frame. - Publication in the American Society of Civil Engineers Journal, USA. December 2000

Giles, H - Design of large scale architecturally expressed structures in steelwork. Paper presented at the ACSA East Central Regional Conference. University of Michigan, USA 2000.

Giles, H - New Conference and Exhibition Centre, ExCeL, London. New Steel Construction, UK. - Publication on Architectural Steelwork. May/June 2000.

Booth, E; Giles, H; Lubkowski, Z - Seismic Analysis and Design of the Istanbul Cultural and Congress Centre. Fifth SECED Conference on European Seismic Design Practice, Chester, 1995.

Giles, H - Developments in the Structural use of 3CR12 Stainless Steel. SA Institute of Civil Engineers, Lecture course, Johannesburg, 1984.

Giles, H - Building for G Vincent Metal Sections Factory. SA Institute of Steel Construction Publication, Johannesburg, 1983. Winner of SAICE award for use of steel in architecture.

Giles, H - Tension Structures. Proceedings of the SA Federation of University Engineering Students, Durban, 1975. 1st prize

Giles, H - Shear Lag in Box Girders. Proceedings of the Quinquennial Convention, Stellenbosch, 1977

PRESENTATIONS

Radio Interview, MiSo house relocation - Lucy Ann Lance show, 1290 AM WLBY, Ann Arbor Michigan 2017

Radio Interview, National Public Radio – The Environment Report – Recession proof construction, Washington DC, 2009

Panel on Affordable Housing at Construction Conference, Lowering the Cost of Construction in New York City – Modular Prefab Solutions, Invited Panel on New York State Association for Affordable Housing Conference, New York City, New York, May 2008

Video interview, EPA for webcast on P3 Phase II award, National Mall, Washington, DC, 2007

Video interview, Korean television documentary program on P3 Phase II award National Mall, Washington, DC 2007

Newspaper Interview, SE Michigan Business Review and Mlive.com – “U-M collaboration could bring energy-saving homes to market” – MiSo research project review, Ann Arbor MI, 2007.

Newspaper Interview, Ann Arbor News - “ Entrepreneurial Bug and Innovation at Michigan, Research invention for SITUMBRA sustainable window systems, Ann Arbor MI, 2007

Newsletter Interview, Great Lakes IT Report – “ Tech Tour Day 10: Hail, Hail to the Research at Michigan” , e Newsletter, Ann Arbor, MI 2007

Green Buildings – SITUMBRA, a materials and energy saving window system – invited presentation, CleanTech local conference, Ann Arbor, MI 2007

SITUMBRA, a new concept in transparent sustainable façade system –invited presentation showcase, CleanTech international conference, Toronto, Canada 2007

(re)forming Technology – new boundaries of the possible – Taubman College of Architecture and Urban Planning Centennial <pause> Conference, Ann Arbor, Michigan, USA. 2007.

Radio Interview, National Academy of Engineering, WTOP Radio, Washington DC – Growing alternative sustainable buildings, 2006

Radio Interview, WWJ Radio, Detroit – Aftermath of 9/11 attack on the World Trade Center, New York, 2001

EXHIBITIONS

Public Spaces Innovation, Exhibition for the design and enhancement of public spaces, National Exhibition Center, Birmingham, UK, 7-8 November 2018.

Dubai Solar Show, WETEX Exhibition, Dubai International Convention and Exhibition Center, Dubai, UAE, 25-25 October 2018.

Big 5 Exhibition, with Energy International Corporation, solartonic LLC , Dubai World Trade Centre, Dubai, UAE 2017

AIA Convention, with Duo Gard Industries – SITUMBRA LLC, Denver, USA 2013

Annual Collaboration for Entrepreneurship, Exhibitor - SITUMBRA LLC, Ann Arbor, USA 2010

MiSo house, continuing public tours in Botanical Gardens – 2009 – 2017 (1,500 visitors per year recorded)

NSF/CMMI research conference – poster exhibition - Energy Efficient Strategies and Modular Systems Integration in Prefabricated High Density Housing – Honolulu, Hawaii, USA 2009

NSF/CMMI research conference – poster exhibition - Sustainable Prefabricated High-Density Affordable Housing – an Integrated Approach in Design and Manufacture – Knoxville, Tennessee, USA 2008

MSHDA Michigan Affordable Housing Conference, Exhibitor – MIDMOD a new concept in mid-rise medium density modular prefabricated affordable housing, Lansing, Michigan, 2007

Celebrating Invention Expo – Invited to present SITumbra, a sustainable transparent shaded façade system, Ann Arbor, Michigan, 2007.

P/A Award exhibition, Cranbook Festival enclosure – New York March, 2006

EPA Phase II Expo for P3 (People, Prosperity, Planet) Winner Exhibition in Washington DC, 2007.

EPA Phase I Expo for P3 (People, Prosperity, Planet) Entrant Exhibition in Washington DC, 2006.

Bandshell, Nicholas Arboretum, Ann Arbor 2003

GRANTS / PRIZES

2017 solartonic LLC, PitchYpsi Prize, \$5000 for ‘innovative and unique solar equipment’
<http://www.washtenawfcu.org/blog/pitchypsi-was-a-great-success/>

2016 solartonic LLC, Michigan Strategic Fund, Michigan Energy Office Grant, \$37,000 manufacturing retooling awarded to improve productivity and contribute towards energy efficiency.

2016 solartonic LLC, Michigan Business Accelerator Grant, \$50,000, awarded to accelerate business growth.

2014 solartonic LLC, Alternative Energy Prize at Accelerate Michigan Competition, \$25,000 for emerging technology

2013 solartonic LLC, Autonomous smart wrap solar lighting, \$27,000, Next Energy Center Grant #20130618A1,

2013 solartonic LLC, Michigan Microloan Fund Program, \$50,000 funding awarded to support commercialization of core products.

2010 Principal Investigator, University of Michigan - Shanghai Jiao Tong University Collaboration on Renewable Energy Science and Technology Research Grant, \$200,000, Large panel integrated light transmitting and solar energy harvesting façade systems for net zero energy efficient buildings.

2009 - Michigan Business Challenge - Clean Energy Prize – \$4300, SITUMBRA, an energy efficient window system, Ross School of Business and DTE Energy, Ann Arbor, MI, 2009

2009 Principal Investigator, College of Engineering and Office of Technology Transfer, Engineering Translational Research Grant \$35,000, Method and system for fabricating façade panels

2009 Co-Principal Investigator, College of Engineering and Office of Technology Transfer, Engineering Translational Research Grant, \$50,000, LED based large panel lighting

2008 Co-Principal Investigator, NSF Collaborative Research Grant, \$10,000, Industry/University Cooperative Research Center on Assembly Research

2008 Principal Investigator, Rackham and Office of Vice President for Research, Spring Summer Research Grant \$4,000, Research on facade systems made from sustainable bio composite materials

2008 Principal Investigator, Research Study grant for Champion Genesis Homes, \$7,500, Comparative Life Cycle Analysis for Modular and Conventional Housing.

2006-2008 Principal Investigator, Environmental Protection Agency (EPA) Phase II People, Prosperity and Planet (P3) grant, \$75,000, The development of load bearing façade elements using bio-composite materials.

2005-2009 Principal Investigator, Partnership for the Advancement in Technology in Housing (PATH) / National Science Foundation (NSF) grant, \$300,000, The redevelopment of a new low energy, modularized housing concept for low income medium density development based on a new automotive manufacturing paradigm

2005 – Principal Investigator , Taubman College of Architecture and Urban Planning, University of Michigan Grant \$2,500, Research development sponsorship towards NSF grant funding preparation in sustainable bio-composite materials and modular housing concepts using automotive manufacturing paradigm.

2005-2006 Principal Investigator, Environmental Protection Agency (EPA) Phase I People, Prosperity and Planet (P3) grant, \$5,000, The development of load bearing façade elements using bio-composite materials.

2004 - Principal Investigator, National Science Foundation sponsored grant to the Rensselaer Polytechnic Institute, competitive sub award \$10,000, Develop a new interdisciplinary studio course, leading a team from the College of Architecture and Civil Engineering at the University of Michigan,

AWARDS

Public Spaces Innovation Exhibition, Innovation Awards Finalist 2018, NEC Birmingham UK

2017 solartonic LLC, PitchYpsi, Winner for ‘innovative and unique solar equipment’

2013 - Next Energy Grant awarded to solartonic LLC, for the Design Manufacture and Installation of demonstration project for smart off-grid solar street lighting systems, Detroit, Michigan, USA 2013

2013 - Ann Arbor Spark, Michigan Microloan Fund Program, awarded to solartonic of Ann Arbor for the commercializing of its line of fully integrated solar products that extend beyond simple “panel on a frame” installations, including its innovative solarap™ systems for outdoor energy efficient lighting applications.

2009 - International award – Honorable mention - Architectural Research Centers Consortium, 2009 from ARCC/EAAE International Architectural Research Conference, Copenhagen, Denmark, 2008 for paper titled “Prefabricated Construction using Digitally Integrated Industrial Manufacturing”, Selected for publication as highlight in conference proceedings.

2009 - Michigan Business Challenge - Clean Energy award finalist, SITUMBRA, an energy efficient window system, Ross School of Business and DTE Energy, Ann Arbor, MI, 2009

2007 - International award - Best paper – Architectural Research Centers Consortium, 2007 from ARCC/EAAE International Architectural Research Conference Philadelphia, USA, 2006 for paper titled “Transparent Façade Panel Typologies Based on Hybrid Bio-Composite and Recyclable Polymer Materials.” Selected for publication as highlight in conference proceedings.

2006 – National award - P/A Progressive Architecture Magazine Award, Cranbrook Festival Project, Michigan, with Peter Lynch Architect, Presented at Center for Architecture, New York, NY

2006 – National award - Environmental Protection Agency, P3 Phase II Award for Sustainable Design Project , Alternative Sustainable Buildings: Bio-composite Products from Natural Fiber, Bio-degradable and Recyclable Polymer Materials for Load-bearing Construction Components. Presented at Science Academy, Washington, DC (EPA press release June 9, 2006)

2005 – National award – Partnership for Advancement of Technology in Housing and National Science Foundation (PATH/NSF) - “Technological Innovations in an Industrially Designed and Manufactured Modular Housing Concept for Low Energy, Prefabricated, Low-Rise Low Income Housing Units” (PATH press release September12, 2005)

CITATIONS / PRESS

Concentrate news, Michigan, 2017 – Pittsfield Township solar lighting company wins Pitch Ypsi \$5000 competition. <http://www.secondwavemedia.com/concentrate/innovationnews/solartonic0432.aspx>

Resilience Today, 2017 – Pittsfield Township solar lighting company wins Pitch Ypsi \$5000 competition.
<http://resiliencetoday.com/pittsfield-township-solar-lighting-company-wins-pitch-ypsi-5000-competition/>

Concentrate news, Michigan, 2014 - Solartonic lands 3 new clients for solar technology
<http://www.concentratemedia.com/innovationnews/solartonicannarbor0281.aspx>

Ann Arbor Spark - Five Companies Receive Michigan Microloan Fund Program Awards.
solartonic of Ann Arbor is commercializing its line of fully integrated solar products that extend beyond simple “panel on a frame” installations, including its innovative solarap™ systems for outdoor energy efficient lighting applications.
<http://www.annarborusa.org/about-us/news/five-companies-receive-michigan-microloan-fund-program-awards-0>

Concentrate news, Michigan, 2013 - Ann Arbor's solartonic leverages microloan to expand sales
<http://www.concentratemedia.com/innovationnews/solartonicannarbor0254.aspx>

NASA Technical Briefs, Engineering Solutions for Design and Manufacturing – November 2011 .
Façade Systems to Harvest and Generate Light.
<http://www.techbriefs.com/component/content/article/lighting-technology/lighting-technology/14276>

University of Michigan: Growing Solar Knowledge, featured in U.S. Department of Energy, Solar Decathlon, 2010
http://www.solardecathlon.gov/past/2005/where_is_michigan_now.html

Transmaterial 3: A Catalog of Materials That Redefine our Physical environment – by Blaine Brownell,
SITumbra, Structurally Integrated Transparent Solar-Façade System, published under section on “Plastic - Intelligent Product”, 2010

Architectural Lighting Magazine - New Luminous Materials and Technologies, SITumbra, development of a bio-composite based solar control system building envelopes ...etc. , 2010
<http://www.archlighting.com/industry-news.asp?sectionID=0&articleID=1365018>

Featured in Bloomberg Businessweek, SITUMBRA, LLC company profile , 2010
<http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=106970546>

Presidents Council, State Universities of Michigan – Featured Stories Around Higher Education, U-M spin-off SITUMBRA looks to build a better window, 2010
<http://www.pcsum.org/currentnews/featuredstoriesaroundhighereducation/cmd436/arch/archdt436/082009/>

Concentrate news, Michigan – U-M’s solar house finds a new home in botanical gardens, 2009

Concentrate news, Michigan – U-M spin-off SITUMBRA looks to build a better window, 2009

PRNewswire, United Business Media – Finalists selected in Clean Energy Prize Competition, 2009.

Concentrate news, Michigan – Ann Arbors MidMod builds prototype of new sustainable home, 2009

MetroMode news, Michigan - U-M designed solar home might become commercially available, 2009

Ann Arbor News – MiSo solar House at Matthaei Botanical Gardens Looks to the Future, 2009

Planetizen, the planning and development network - The University of Michigan’s Solar Home, 2007

Final Report: "Affordable Design: Convening the Conversation" ACSA / Fannie Mae Foundation, 2009
Innovations in the Development of Industrially Designed and Manufactured Modular Concepts for Low-Energy, Multi-Story, High-Density, Prefabricated Affordable Housing - Harry Giles and Fernando Lara
<https://www.acsa-arch.org/files/faculty/Affordable%20Design-Final%20Report12-18-06.pdf>

Michigan Memorial Phoenix Energy Institute. Recent Publications - Sustainable Living and Design
Transparent Facade Panel Typologies Based on Hybrid Bio-Composite and Recyclable Polymer Materials – June 2006. Giles, Harry and Kim, Kyoung-Hee <http://www.energy.umich.edu/res/publications.html>

Report: Challenges, Conditions and Case Studies of Architectural Research in the Digital World - p 21. In News Sheet 83 October/Octobre 2008. From EAAE/ARCC Conference: Changes of Paradigms in the Basic Understanding of Architectural research – Royal Danish Academy of Fine Arts, School of Architecture, Copenhagen, 25-28 June 2008.

Transcripts from Radio Interview, National Public Radio – The Environment Report – Recession proof construction, Washington DC, 2009

Princeton University Library – Engineering Library Blog "Growing buildings", an engineering podcast from NAE, by Louise Deis, January 25, 2008 (with tags to other relevant topics).

National Academy of Engineering, Washington DC – Engineering Innovation Podcast and Radio Series By Topic: Materials– "Growing Buildings" January 20, 2008.

Energy Tidbits - "Harry Giles, a UM architecture professor, is developing a new, environmentally sustainable window system....." , MI, February 2008

Ann Arbor Business Review – 'U-M collaboration could bring energy-saving homes to market' Michigan Solar House Project, Ann Arbor, MI 2007

Ann Arbor News – Inventions at University of Michigan, SITUMBRA composite façade system 2007

Great Lakes IT Report – 'Hail, hail to cool research and tech transfer at Michigan', MI, 2007

Ann Arbor News – Talk about Town - 'Solar house finds a home', Ann Arbor, MI, 2006

Architecture Magazine - P/A Progressive Architecture Award Winners – project details
Cranbrook Festival Project, Michigan, 2006 in collaboration with Peter Lynch

Book: Steel and Beyond: New Strategies for Metals in Architecture by Annette W. LeCuyer – acknowledged as consultant. 2006

Graham Environmental Sustainability Institute – Faculty Focus – GESI website 2006

Michigan Memorial Phoenix Energy Institute – Faculty Fellow – MMPEI website 2007

NSF Announcement - U-M Team Earns National EPA Honor - Bio-Composite Building Products Draw P3 Attention – EPA website 2006 http://es.epa.gov/ncer/p3/press/june_9_2006um.html

PA 53rd Annual Awards, January 26 – March 9, 2006 for Cranbrook Festival Project, Cranbrook Academy of Art, Bloomfield Hills, Michigan, with Peter Lynch Architect, exhibited at Center for Architecture, AIA New York Chapter, New York.

Malama Learning Center Design Competition, Hawaii, USA 2003 - in collaboration with RK Studio, listed amongst 20 international competitors

Grand Egyptian Museum Design Competition, Cairo, Egypt 2002 – in collaboration with RK Studio entry selected for publication in book on selected competition entries.

Ties to Excellence by Harry Giles (Feature Article) – American Society of Civil Engineers Journal, Vol. 71, March 2001, pp. 54-59

Ties to Excellence, 2001 – CSA ProQuest discovery resource for researchers worldwide

Ties to Excellence, 2001 - Centre National de la Recherche Scientifique, INIST Diffusion S.A. Vandoeuvre, France

ExCel, The Conference and Exhibition Center, London, Modern Steel Construction, August 2001.

INVITED LECTURE / PANEL

Invited guest speaker - Annual distinguished speaker series - (re) forming of the envelope, new boundaries of the possible, – Lawrence Technological University, Southfield, Michigan, USA 2011

http://www.ltu.edu/sustain/sos2011_events.asp

Invited panel – The Business Side of Energy Conservation (Energy Technology Forum), Ann Arbor Spark, Ann Arbor, 2010

<http://www.annarborusa.org/events/details?e=10185>

Lowering the Cost of Construction in New York City – Modular Prefab Solutions, Panel on New York State Association for Affordable Housing Conference, New York City, New York, May 2008

Seminar on CleanTech Entrepreneurship, Civil and Environmental College / Ross School of Business – An energy efficient composite façade system, University of Michigan, Ann Arbor 2007

International workshop on Urban Regeneration – High-Density Modular Prefabricated Affordable Housing for Sustainable Urban Regeneration – Younsei University, Seoul, Korea 2007

Design of large scale architecturally expressed structures in steelwork. Illinois Institute of Technology, Chicago, IL, USA, 2001

Joint Energy Research Workshop - Energy Efficient Passive Strategies in Building, Shanghai Jiao Tong University, Shanghai, China, 2009

Professional work

solartronic, llc , Ann Arbor, MI, USA

- Dubai Road Transit Authority, Design, manufacture and supply of demonstration project for smart off grid solar lighting, digital signage, parking sensors, surveillance and wireless communications, Dubai, UAE 2019
- Singapore Changi Airport Group, Design, manufacture and supply of demonstration project for smart off grid solar lighting, surveillance and wireless communications, Singapore, 2018
- Winslow Health Care Centre – Phase 2 extension, Design, manufacture and supply of parking lot off grid solar lighting system, Winslow, Arizona, USA 2018
- Cedar Hill Parks, Design, Manufacture and Supply of new integrated solar panels and LED lighting and controls for monument signage roof enclosures for the City of Cedar Hills, Dallas, USA 2018.

May, 2019

- Parker Village, Highland Park, Design Manufacture and Installation of demonstration project for smart off-grid solar street lighting, signage, wifi hotspot systems, Detroit, USA 2018
- Siflik Park, Gila River District 1 Community, Design manufacture and supply of parking lot, pathway, roadway, bus shelter, canopy, basketball court off grid solar lighting system, Gila River, Arizona, USA 2017
- Winslow Health Care Centre – Phase 1, Design, manufacture and supply of parking lot off grid solar lighting system, Winslow, Arizona, USA 2017
- CLA Urban, design manufacture and supply of demonstration smart off-grid solar lighting system incorporating multifunctional capabilities for wi-fi, CCTV, LCD monitors, motion sensing, street signage, London, UK, 2016
- City of Highland Park, Design Manufacture and Installation of demonstration project for smart off-grid solar street lighting systems, Detroit, USA 2015
- City of Houston, International Management District Landscape Project, Wayfinding Monuments, Houston, Texas, USA 2014
- Next Energy, Design Manufacture and Installation of demonstration project for smart off-grid solar street lighting systems, Detroit, Michigan, USA 2013
- Klyde Warren Park, Design Manufacture and Installation of customized photo voltaic panel system and infrastructure for solar lighting in a new public park on reclaimed land over Woodall Rogers Freeway, Dallas, Texas, USA 2012

SITUMBRA, LLC, Ann Arbor, MI, USA

- House Nagel, Manufacture and Installation of customised glazed roof canopy system in a new house construction, Ann Arbor, Michigan, USA 2016
- House Murdock, Design, Manufacture and Installation of customized facade window system in a new house construction, Nashville, Tennessee, USA 2012
- General Solar Power, China – Product development, building integrated photo voltaic system, Ann Arbor Michigan, USA, 2012
- Fuji Electric, Japan - Product development, building integrated photo voltaic system, Ann Arbor, Michigan, USA 2011 - .

HGDesign, Ann Arbor, MI, USA

- Brazil Housing Development, concepts for 1000 affordable housing units, Rio de Janeiro, Brazil, 2011 -
- Marathon, Oil Company, New Laboratory, Sustainability Advisor Detroit, Michigan, USA 2008-2009
- CTS MAGNA, Fabric Design for Convertible Car Tops, Detroit, Michigan, USA 2006
- Lorch Column, Design of Historical Monument Sculpture, Ann Arbor, Michigan, USA 2006
- Cranbrook Academy, Festival Enclosure, Peter Lynch, Detroit, Michigan, USA 2005
- Huron House, Andrew Zago, Detroit, Michigan, USA 2006
- House Buresh, Abbot St, Ann Arbor, Michigan, USA ,2003- 2004
- Arboretum Bandshell, Hyperbolic Paraboloid Composite Enclosure, Ann Arbor, Michigan, USA 2004
- MiSo, Monocoque Prefabricated Solar House, Ann Arbor, Michigan, USA 2005

Buro Happold, New York, USA

- Flint Institute of Arts, Flint, Michigan, USA , 2002-2003
- Midtown housing development, Detroit, Michigan, USA 2002

Buro Happold, London, UK

- Michael Ashcroft Business School, Chelmsford, UK,2000- 2001
- Museum of London, new extension and refurbishment, London, UK, 2001
- Oxford Science Park, Oxford, UK, 2000-2001
- Bow Bells House office development, London, UK, 2000
- SAGE Music Center, Gateshead, UK, 1999-2002
- Hilton Hotel extension, Heathrow, UK, 1999
- Excel, exhibition center, London, UK, 1998-2000
- New office park, Welwyn, London, UK, 1998-2000

Cundall Johnston, London, UK

- Clarendon Court residential, London, UK, 1996-1997
- Queen Street, speculative commercial development, London, UK, 1996

Arup Associates, London, UK

- 3 The Square industrial park offices - Stockley Park – London, UK, 1995- 1996
- 50 Triton Square corporate head office - Euston Road – London, UK, 1995-1996
- Istanbul Cultural and Congress Centre – Istanbul, Turkey, 1991-1993
- Service Control Center for the underground Jubilee Line Extension – London, UK, 1991-1992
- Wentworth Tennis Club Pavilion, Wentworth, UK, 1990-1991
- 123 Buckingham Palace Road office development – London, UK, 1988-1989
- B5 and B7 industrial park offices - Stockley Park – London, UK, 1998-1999
- Phase 3 Broadgate office development - Liverpool Street – London, UK, 1985-1986
- Phases 2 and 3 Finsbury Avenue office development – London, UK, 1985-1986

Ove Arup and Partners, London, UK

- Ilford Central Area Redevelopment, Ilford, UK, 1985-1986

Ove Arup and Partners, Johannesburg, SA

- B & J Factory, Alberton – Johannesburg, SA, 1984-1985
- 3CR12 International, stainless steel research project, Johannesburg, SA, 1983-1984
- SA Brewery, Springs – Johannesburg, SA, 1983-1984
- Cummins Diesel Factory , Cape Town, SA, 1982-1983
- Fresh-Up fruit juice factory, Roslyn, Pretoria, SA, 1981-1982
- G. Vincent Metal Sections factory, Germiston – Johannesburg, SA, 1980-1981
- Goldfields, new corporate headquarters, Johannesburg, SA, 1979-1980
- Steam Plant Chimney Sasol III, Eastern Transvaal, SA, 1978-1979
- Jan Smuts Airport, Extensions to Freight Complex, Johannesburg, SA, 1978-1979
- St. Barnabas College, Johannesburg, SA, 1977-1978
- 132 Jan Smuts Avenue offices, Parkwood, Johannesburg, SA, 1977-1978

Building Design Group Architects, Maseru, Lesotho

- World Bank Training for Self Reliance, Schools Project - Maseru, Lesotho, 1976-1977

Teaching

Courses taught (University of Michigan)

- Arch 527: Integrated Building Systems Course and Studio, fall 2016, fall 2017, fall 2018
- Arch 524: Surface Structures, winter 2003, winter 2004, winter 2005, winter 2009, winter 2010, winter 2011, winter 2012, winter 2013, winter 2014, winter 2015, winter 2016, winter 2017, winter 2018, winter 2019
- Arch 564: Advanced Materials Structures, fall 2002, fall 2003, fall 2004, fall 2005, fall 2006, fall 2007, fall 2008, fall 2009, fall 2010, fall 2011, fall 2012, fall 2013, fall 2014, fall 2015, fall 2016, fall 2018
- Arch 554: Steel Structures, winter 2002, winter 2003, winter 2004, winter 2005, winter 2006, winter 2007, winter 2008, winter 2009, winter 2010, winter 2011, winter 2012, winter 2013, winter 2014, winter 2015, winter 2016, winter 2017, winter 2018, winter 2019
- Arch 534: Reinforced Concrete Structures, fall 2001, fall 2002, fall 2003, fall 2004, fall 2005, fall 2006, fall 2008, fall 2009, fall 2010, fall 2011, fall 2012, fall 2013, fall 2014, fall 2016, fall 2017
- Arch 562: Architectural Design VI, winter 2006
- Arch 682: Architectural Design, winter 2006

May, 2019

Arch 600: Independent Studies, winter 2004, winter 2006, winter 2009, fall 2009, winter 2014
Arch 839: Research Practicum, Independent Study, winter 2004, winter 2006, winter 2008, winter 2014
Arch 739: Masters Thesis Independent Study, fall 2003, winter 2010
Arch 504: Special Topics in Structures, winter 2007, spring 2008
Arch 819: Supervised Research, Independent Study, winter 2004, fall 2007, winter 2008
Arch 690: Architectural Curricular Practical Experience, Independent Study, winter 2005
Arch 400: Tutorial Studies in Architecture, Independent study, fall 2005, winter 2006, winter 2007

Topic summary for above Independent Studies, Special Topics, Supervised Research, Research Practicum:

Independent Studies in Prefabricated Modular Housing – manufacturing modeling 2014
Studio Collaboration and seminars – Taut, stressed fabric installations, 2011
Research Workshops in Prefabricated Modular Housing Design Build 2008-2009
Independent Studies in Web Presentation for Prefabricated Housing System 2008
Independent Studies in Building Energy Simulation 2008
Research Workshops in Composite Solar Façade Systems 2007
Research Workshops in Modular Prefabricated Housing 2007
Independent Studies in Tensegrity Structural Systems 2006-2007
Independent Studies in Passive Energy Thermal Flue Design 2006
Independent Studies in Life Cycle Analysis of Prefabricated Housing 2006-2007
Interdisciplinary Design Studio in Modular Prefabricated Housing 2006
Studio Collaboration - MiSo Solar House Design Build project, 2005
Studio Collaboration – Arboritum Band Shell Design Build project, 2004
Seminars in Structural Fabric Membranes 2004
Seminars in Structural and Materials Concepts in Architectural Design 2003

Courses taught (Various)

Qualitative understanding of Structures 1989
3CR12 Stainless Steel 1984
Theory of Elasticity 1976

Invited studio critic / juror /instructor

British Columbia Institute of Technology, Vancouver, CA 2007
City College, School of Architecture, New York, NY 2006
Cranbrook Institute for Art, Architectural Department, Bloomfield Hills, MI 2005
University of Pennsylvania, Architecture School, Philadelphia, PA 2005
Illinois Institute of Technology, Architecture School, Chicago, IL 2001,2005
University of Michigan, College of Architecture, Ann Arbor, MI 2001 - 2016

Recognition/citations of student work

Annual Taubman College Student Show, Graduate Honorable Mention award, Arch 534 Reinforced Concrete Structures, group project 2002
EPA P3 Phase I award winner, Biocomposite Façade Systems, Washington DC, 2005
EPA P3 Phase II award winner , Biocomposite Façade Systems, Washington DC, 2006
Letter of congratulations on EPA P3 Phase II award – Jennifer Grandholm, Governor State of Michigan, June 2006
Letter of congratulations on EPA P3 Phase II award – Senator John D Dingell, Member of Congress, House of Representatives, Washington, DC, June 2006

Service

Program Committees

Undergraduate Program Admissions Committee 2002,2003,2004
Graduate Program Admissions Committee 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016,2017,2018,2019
Educational Program Committee 2003, 2004, 2005, 2006, 2007, 2008, (Chair 2009)
Design, Theory and Construction Faculty Search Committee 2005, 2008
Environmental Technology Faculty Search Committee 2008
Professional Practice and Site Planning Faculty Search Committee 2008
College Accreditation Committee 2004
Chair Advisory Committee 2008
College Committee on the Sustainable Built Environment 2011 - present

University Committees

Doctoral Program Supervising Faculty 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017,2018,2019
Doctoral Program Curriculum Committee 2004, 2005, 2006
Doctoral Program Admissions Committee 2004, 2005, 2006
University of Michigan Campus Safety and Security Advisory Committee 2008
Taubman College of Architecture Dean Search Committee 2007
Taubman College of Architecture, New Building Extension Advisory Committee 2007

Doctoral Students Supervised

Kyoung Hee Kim, 2003 – 2008 (graduated 2009)
Aysu Berk, 2005– 2012 (graduated 2013)
Niloufar Emami 2012 – 2018 (graduated 2019)

Academic Service

Journal of Architectural Engineering, Technical Papers Review Board 2017
International Scientific Committee, Conference on Structures and Architecture (ICSA 2019). Lisbon, Portugal
International Scientific Committee, Conference on Structures and Architecture (ICSA 2016). Porto, Portugal
International Scientific Committee, Conference on Energy and Environment of Residential Buildings, (ICEERB 2014) Zhengzhou, China
International Scientific Committee, Conference on Structures and Architecture (ICSA 2013). Porto, Portugal
Sponsor, Undergraduate Research Opportunity Program (UROP) , University of Michigan, 2007
Faculty Fellow, Michigan Memorial Phoenix Energy Institute, 2010 to present
Faculty Fellow, Arboretum and Matthai Botanical Gardens 2010 to present
Faculty Affiliate, Centre for Sustainable Systems, University of Michigan. 2010 to present
Sponsor for University of Michigan, School of Engineering Design Expo 2004, 2005
Consulting for the Lorch Column, Centennial Memorial 2005
Consulting for the Nicholas Arboretum Band Shell Structure 2004, 2005, 2006
Consulting for the Michigan Solar House in the Botanical Gardens, 2006-2016
Competition juror – Student competition for design of timber structures 2004
Invited lecturer for undergraduate program topics in structures 2008,2009,2010,2011