

# CURRICULUM VITA

(updated 08-10-2023)

**ULRIKE PASSE Dipl.-Ing. Architekt**

**Professor of Architecture**

**Director of the Center for Building Energy Research**

Department of Architecture

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<http://www.design.iastate.edu/FACULTY/upasse.php>

## I. PERSONAL INFORMATION

### EDUCATION and LICENSURE

- 1993            **Registered Architekt Berlin Architektenkammer (# 06879)**
- 1990            **Diplom-Ingenieur in Architecture** (equivalent of M. Arch.)  
**Technical University Berlin, Berlin, Germany**  
Terminal degree with distinction (1.0).  
Master's Design Thesis: 'A New Stock Exchange for Berlin,' Diploma Prize 1990.)
- 1988 - 1989    **The Bartlett School of Architecture and Planning, University College London.**  
Non-degree student in GBE Post-Graduate Architecture Design Course and Theory Dissertation  
"The Power of Space"
- 1987            **Summer Academy Berlin.** "Großstadtarchitektur (Metropolis-Architecture)"  
Studio instructor: Jose' Luis Matteo, Spain

### ACADEMIC POSITIONS

- 2022 fall        **Faculty Professional Development Assignment (FPDA):** Urban-Rural-Systems Network
- 2021 - present **Iowa State University, Professor of Architecture** with tenure
- 2008 - present **Iowa State University, Director,** Center for Building Energy Research, Institute for Physical  
Research and Technology (till 2011, then part of the College of Design)
- 2013 - 2021    **Iowa State University, Associate Professor of Architecture** with tenure
- 2013 fall        **Faculty Professional Development Assignment (FPDA):** Book Completion: Designing  
Spaces for Natural Ventilation, an architect's guide'
- 2007 – 2013    **Iowa State University, Assistant Professor of Architecture.** Department of Architecture,  
College of Design.
- 2006 - 2007    **Iowa State University, Lecturer.** Department of Architecture, College of Design.
- 2004 - 2005    **University of Applied Sciences, Potsdam, Germany. Researcher.** Project- management for  
externally funded educational research grant to establish a Master of Science by Research

program, established international relations and conducted interviews with 25 European Universities on research in architecture and building science.

- Fall 2004 **University of Kentucky, USA. Instructor in the Berlin-Urban Studio, Berlin.** "Re-Centering Berlin," and "Contemporary German Architecture and Technology" "Spatial - Climatic redevelopment," 4 month study abroad program.
- Fall 2002 **University of Kentucky; USA. Instructor in the Berlin-Urban Studio, Berlin.** "Urban Development in post- Cold-War Berlin" and "Contemporary German Architecture and Technology," 4 month study abroad programm
- 1998 - 1999 **Technical University Berlin, Berlin, Germany. Research Faculty.** Research into steel systems funded by Mannesmann Steel Corporation. Course director of a post- graduate design and research studio: "Steel-Prototypes and deep spaces."
- 1993 - 1998 **Technical University Berlin, Berlin, Germany. Research and Teaching Faculty.** Department of Architecture in the faculty group of Prof. Matthias Sauerbruch and Prof. Wilhelm von Wolff. Tasks: undergraduate design and building technology teaching and research, establishment of a publication-series (ISA - books), editor and curator of publications, fundraising, preparation and leadership of an industry-financed research-project, preparation and curating of symposia, workshops and lecture series, exhibitions, podium discussions, thematic fieldtrips to London, Prague, Porto, Lisbon, Krakow, Wroclaw, Muenster and other German location.
- 1994 **Technical University Liberec, Liberec, Czech Republic. International Summer School Studio Instructor.** Director: Prof. Jiri Suchomel, with Katerina Rüedi, Duncan McCorquodale; London, Petr Pelcak and Jan Jehlik, Czech Republic. (Exhibition / Publication in English).

## **ARCHITECTURAL PRACTICE**

- 1995 - 2010 **Passe. Kälber Architekten, Founding Partner.**  
Architectural practice partnership with Thomas Kälber. The firm focused on buildable concepts for housing, interiors, public buildings, urban projects, competitions, feasibility studies.
- 2003 **Stankovic Architekten BDA, Free-Lance Project Partner.**
- 2002 - 2003 **Dörschner Architekten BDA Berlin, Site Architect.** Urban renewal / refurbishment / steel constructions / interior / site architect, specification writer and site supervision architect.
- 1993 **Registration and licensing as an architect at the Berliner Architektenkammer**
- 1991-1993 **Marina Stankovic Berlin, Project Architect.** Prize-winning competitions; built projects: Housing, children's daycare centers; conversions of historical buildings: mainly of the "Preußischer Landtag" into the Berliner Abgeordnetenhaus (City-State Parliament Building).
- 1991 **Stefan Schroth Architekt Berlin.** Competitions and Working Drawings.
- 1989 - 1990 **Stirling und Wilford Associates London / Berlin.** Working drawings for the production plant B. Braun in Melsungen.

## LEADERSHIP POSITIONS

- 2020 - today    **PLEA** (Passive Low-Energy Architecture) **Elected Member, Board of Directors**
- 2019-2021    **SBSE** (Society of Building Science Educators) **Past - President**
- 2017-2019    **SBSE** (Society of Building Science Educators) **President**
- 2015-2015    **SBSE** (Society of Building Science Educators) **President-Elect**

## II. SCHOLARSHIP

### BOOKS

- 2015            Ulrike Passe and Francine Battaglia, **Designing Spaces for Natural Ventilation: An Architect's Guide**, London, New York: Routledge 2015. Peer-reviewed.  
<http://www.tandf.net/books/details/9780415817776/>
- 1999            Passe, Ulrike, Schincker, Nils. "**Systematic Building With Steel - Design and Climate Concepts**," research documentation. Berlin, Technical University Berlin Press, 1999. (Self-publication of research report to Vallorec & Mannesmann.)

### EDITED VOLUMES

- 2020            Passe, Ulrike, Janette Thompson, and Kimberly Zarecor, eds. 2020. **SUS-RURI: Proceedings of a workshop on developing a convergence sustainable urban systems agenda for redesigning the urban-rural interface along the Mississippi River watershed**, held in Ames, Iowa, August 12–13, 2019. Ames, Iowa: Iowa State University Digital Press.  
<https://doi.org/10.31274/isudp.35>.
- 1997            Passe, Ulrike, H. Kleine (Ed.): "Nach dem Bauhaus / After the Bauhaus - 13 positions on undergraduate design teaching", ISA, TU Berlin Press, Book 1, 1997.

### BOOK CHAPTERS

- 2023            Shenk, L., Krejci, C., Passe, U., (2023) **Agents of change—together: Using agent-based models to inspire social capital building for resilient communities**, in: More than Bouncing Back: Examining Community Resilience Theory and Practice; Edited By Anne Cafer John J. Green, Gary Goreham, Routledge <https://doi.org/10.4324/9781003240297>
- 2019            Stonewall, J., Dorneich, M., Shenk, L., Krejci, C., Passe, U., (2019) **Inclusive Decision-Making: Applying Human Factors Methods to Capture the Needs and Voices of Marginalized Populations** invited book chapter in: Advancing Diversity, Inclusion, and Social Justice through Human Systems Engineering, ed.: Rod D. Roscoe, Erin K. Chiou, Abigail R. Wooldridge, CRC Press, Taylor and Francis Group.
- 2016            Passe, U., Timothy Lentz (2016) **Designing Passive Solar Heated Spaces**, in: Low energy low carbon architecture: recent advances and future directions, edited by Khaled Al Sallal, CRC Press, Taylor and Francis. ISBN 9781138027480

- 2016 Shenk, L., Anderson, N., Passe, U., & Krejci, C. (2016). **Engaged science and working with youth for sustainable cities: A partnership between “East High Cares” and an Iowa State University research team.** In Jean Goodwin (Ed.), *Confronting the Challenges of Public Participation: Issues in Environmental, Planning and Health Decision-Making.* (189-199). Charleston, SC: CreateSpace.
- 2016 Battaglia, Francine, Passe, Ulrike **Natural ventilation for buildings**, DOI: <https://doi.org/10.1036/1097-8542.YB150704>
- 2015 Passe, U., **Capturing the Nordic Light in Italy?** In: Aalto beyond Finland (Silvia Micheli and Esa Laaksonen eds) the second Alvar Aalto research seminar, February 16-18, 2015, Rovaniemi Townhall, Alvar Aalto Museum and Academy, Helsinki, Finland 2015.

### ***Tenure and promotion to associate professor in May 2013***

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- 2008 Passe, Ulrike: **Haus Marxen / Germany / 2001** in: Invitation to ArchiPhen, Some approaches and interpretations of Phenomenology in Architecture, edited by Neuman, E & Aravot, I. The Center for Architectural Research and Development, Technion IIT Haifa, Israel 2008.
- 1997 Passe, Ulrike, Holger Kleine, "**Introduction**," in: *After the Bauhaus- 13 positions on undergraduate design teaching*," Ed: Ulrike Passe and Holger Kleine; ISA - Book vol. 1, TU Berlin Press.
- 1994 Passe, Ulrike, "**City-Development and Housing in East-Berlin since 1945**," in: *Prefabricated housing and living culture*, ed: Dörhöfer, K., 33-53; (title translated) Publication of the results of the international symposiums at der HdK Berlin.

## **RESEARCH JOURNAL PAPERS (PEER REVIEWED) (20)**

+ MS student; # PhD student, \* Undergraduate Student

- 2022 Malekpour Koupaei, D., KS Cetin, U Passe (2022) **Stochastic residential occupancy schedules based on the American Time-Use Survey**; *Science and Technology for the Built Environment* 28 (6), 776-790
- 2021 Thompson, J., Ganapathysubramanian, B., Chen, W., Dorneich, M., Gassman, P., Krejci, C., Liebman, M., Nair, A., Passe, U., Rosentrater, K., Schwab, N., Stone, T., Wang, Y., and Zhou, Y. (2021). **Iowa UrbanFEWS: Integrating social and biophysical models for exploration of urban food, energy and water systems.** *Frontiers in Big Data (Climate Change)* 4:662186.
- 2021 Xu, F., Xu, S., Passe, U., and Ganapathysubramanian, B. (2021). **Computational study of natural ventilation in a sustainable building with complex geometry**, *Sustainable Energy Technologies and Assessments* 45:101153. <https://doi.org/10.1016/j.seta.2021.101153>
- 2021 Fagbule, O., Patel, R., Passe, U., and Thompson, J. (2021). **Utilizing a novel mobile diagnostics lab to validate the impact of vegetative wall coverings in building cooling load reduction.** *Proceedings of the 8th International Building Physics Conference*, August 25-27, Copenhagen, Denmark. *Journal of Physics Conference Series: O Fagbule et al 2021 J. Phys.: Conf. Ser.* 2069 012126. Virtual presentation.
- 2020 Passe, U. (2020). **A design workflow for integrating performance into architectural education.** *Buildings and Cities*, 1(1), 565–578. DOI: <http://doi.org/10.5334/bc.48> Special

issue: Education and Training: Mainstreaming Zero Carbon; Guest editors: Alison Kwok (University of Oregon) and Fionn Stevenson (University of Sheffield)

- 2020 Passe, U., Dorneich, M., Krejci, C., Koupaei, D. M.#, Marmur, B.#, Shenk, L., Stonewall, J.#, Thompson, J., Zhou, Y. (2020). **An urban modelling framework for climate resilience in low-resource neighbourhoods**. *Buildings and Cities*, 1(1), 453–474. DOI: <http://doi.org/10.5334/bc.17>
- 2020 Kunwar, N.#, Cetin, K.S., Passe, U., Zhou, X. Li, H. (2020) **Energy Savings and Daylighting Evaluation of Dynamic Venetian Blinds and Lighting through Full-Scale Experimental Testing** *Energy* DOI: 10.1016/j.energy.2020.117190
- 2019 Kunwar, N.#, Cetin, K.S., Passe, U., Zhou, X. Li, H. (2019). **Full-Scale Testing of Dynamically-Operated Roller Shades in Perimeter Office Spaces**. *Solar Energy*, 186, 17-28.
- 2019 Yong X. Tao, Yimin Zhu, **Ulrike Passe**, Modeling and data infrastructure for human-centric design and operation of sustainable, healthy buildings through a case study, *Building and Environment*, Volume 170, March 2020, <https://doi.org/10.1016/j.buildenv.2019.106518>
- 2019 Shenk, L., Krejci, C., & Passe, U. (2019). **Agents of change - together: Using agent-based models to inspire social capital building for resilient communities**. *Community Development*, 50(2), 256–72. <https://doi.org/10.1080/15575330.2019.1574849>
- 2018 Kunwar, N.#, Cetin, K.S., & Passe, U., (2018). *Dynamic Shading in Buildings: a Review of Testing Methods and Recent Research Findings*, *Current Sustainable Renewable Energy Report*, Springer Publishing, 5(1), 93-100, DOI 10.1007/s40518-018-0103-y
- 2018 Huang, W.+ , Krejci, C.C., Passe, U., Dorneich, M.C., Shenk, L., & Stonewall, J.# (2018) **Analyzing Residential Weatherization Decisions using Hybrid Simulation Modeling**. *Energy Policy*, *Building Simulation: An International Journal*, Springer Publishing. DOI: 10.1007/s12273-019-0518-4
- 2017 Poplin, A., Shenk, L., Passe, U. (2017) **Engaging youth with pervasive technologies for resilient communities: Using the storytelling capabilities of maps and online GIS for coalition-building and action**. *Interaction Design & Architecture(s) Journal*, 35, 182–204.
- 2017 Poplin, A., Shenk, L., Krejci, C. and U. Passe. 2017. **Engaging youth through spatial socio-technical storytelling, participatory GIS, agent-based modelling, online geogames and action projects**, *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, IV-4/W3, p. 55-62, <https://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/IV-4-W3/55/2017/>.
- 2017 Poplin, A., Shenk, L. and U. Passe. (2017). **Transforming Pervasive into Collaborative: Engaging Youth as Leaders with GIS through a Framework that Integrates Technologies, Storytelling, and Action**, *Journal of Interaction Design & Architecture*, Special issue on Pervasive Participation – New Horizons for Citizen Involvement and User Experience, Volume 35, p. 182-204.
- 2014 Kalvelage, Kelly#, Ulrike Passe, Shannon Rabideau+, and Eugene S. Takle. **"Changing Climate: The Effects on Energy Demand and Human Comfort."** *Energy and Buildings* 76, no. 0 (2014): 373-80.

*Tenure and promotion to associate professor in May 2013*

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- 2013 Passe, U. and Nelson, R. (2013). **"Constructing Energy Efficiency: Rethinking and Redesigning the Architectural Detail."** J. Archit. Eng. 19, SPECIAL ISSUE: Emerging Trends of Sustainable Engineering, Design, and Construction, 193–203, American Society of Civil Engineers.
- 2012 Rabideau, Shannon+, Ulrike Passe, Eugene Takle. **"Exploring Alternative to the 'Typical Meteorological Year' for Incorporating Climate Change into Building Design,"** ASHRAE paper CH12-CO49; in: *ASHRAE Transactions Volume 118 Part I (2012)*: 384.
- 2011 Stoakes, Preston#, Ulrike Passe, Francine Battaglia. **"Predicting Natural Ventilation Flows in Whole Buildings Part 1: The Viipuri Library."** *Building Simulation: An International Journal*, BUILD SIMUL, Vol 4, No 3 (2011): 263-276. Journal published jointly by Tsinghua University Press and Springer Publishing, Heidelberg Germany.
- 2011 Stoakes, Preston#, Ulrike Passe, Francine Battaglia. **"Predicting Natural Ventilation Flows in Whole Buildings Part 2: The Esherick House."** *Building Simulation: An International Journal* Vol. 4, No. 4 (2011): 365-377. Journal published jointly by Tsinghua University Press and Springer Publishing, Heidelberg Germany.
- 2010 Brncich, Aaron+, Jennifer S. Shane, Kelly Strong, Ulrike Passe. **"Using Integrated Student Teams to Advance Education in Sustainable Design and Construction."** *International Journal of Construction Education and Research*, 7: 1 (2010): 22-40.
- 2009 Passe, Ulrike. **"Designing Sensual Spaces: Integration of Spatial Flows Beyond The Visual."** *Design Principles and Practices; An International Journal* Vol. 3, Issue 5. Common Grounds Publisher, Melbourne (2009): 31-46.
- 2008 Passe, Ulrike. **"Atmospheres of Space. The development of Alvar Aalto's free flow section as a climate device."** *Architectural Research Quarterly (ARQ), Linking practice and research*, volume 12, Number ¾. Cambridge University Press, Cambridge, UK (2008): 295-311.
- 2007 Passe, Ulrike. **"Sustainable Building Typology: Free flow open space as climate technology."** *The International Journal of Environmental, Social, Cultural and Economic Sustainability*, Vol. III, Issue 4. Common Ground Publisher, Melbourne (2007): 15-28

### **FUNDED RESEARCH PROJECTS (external (E) and internal (I) competitive**

- 2023 (E) NSF SCC-IRG Track 2: **A data-driven approach to designing a community-focused indoor heat emergency alert system for vulnerable residents (CommHEAT)** (\$1,200,000)
- 2022 (E) Iowa Economic Development Authority (IEDA) **Iowa School Ventilation and Energy Efficiency Retrofit Assessment** (\$199,878)
- 2022 (E) US NSF DISES-RCN: **Developing new strategies for urban-rural systems to overcome interconnected social, environmental, and technological challenges (URSUS)**, Dynamics in Social and Environmental Systems Research Network Program at the National Science Foundation (\$500,000).
- 2021 (E) **"Enhancing Building Engineering Education for Advanced Energy Efficient Technology Adaptation."** Project advisory Board member to the newly funded Department of Energy project to Slipstream and Texas A&M.

- 2020 (E) Thompson, J., (PI), Ganapathysubramanian, B., Zhou, Y., Liebman, M., Schwab, N., Passe, U. (Senior Personnel), Krejci, C, Gassmann, P., (\$2.5M), **NSF INFEWS / T1: Social and biophysical models to integrate local food systems, climate dynamics, built forms, and environmental impacts in the urban FEWS nexus.** Four years interdisciplinary research grant awarded with start date Jan 01. 2020. U. Passe will act as project and communications coordinator and lead all building and urban energy modeling aspects of the project. <https://www.news.iastate.edu/news/2020/01/22/sustainablecitiesnsf>
- 2019 (E) Ulrike Passe (PI), Janette Thompson, Kimberly Zarecor (\$50,000), **SUS\_RURI: Developing a Convergence Sustainable Urban Systems Agenda for Redesigning the Urban-Rural Interface along the Mississippi River Watershed,** NSF workshop grant 07/01/2019 - 12/31/2019.
- 2019 (E) Passe, U, (PI), Gutowski, W., Shenk, L., Zhou, y., (\$29,999) **Extreme Heat Adaptation Strategies for Buildings and Neighborhoods in the Upper Midwest Using Novel Urban Energy Modeling Techniques,** University of Iowa Center for Global and Regional Environmental Research (CGRER), Duration: 07-01-2019 – 11-30-2020.
- 2019 (E) Kimber, Anne, Kristen Cetin, Cristina Poleacovschi and Ulrike Passe, Iowa Energy Center Grant (\$287,354) **Toolkit for Identification, Characterization and Energy Evaluation of Low-Efficiency Rural Housing,** 3 year grant .
- 2019v(E) Kimber, Anne (PI), Passe, U. (co-PI) (2019-2020) (\$158,396): **Energy Storage for Resiliency** funded by the Iowa Economic Development Authority (IEDA)2019
- 2019 (I) Passe, Ulrike, Engler, M., (\$10,000) ISU IDRO Research Grant (submitted to BNIM Design Challenge) (Jan – Dec. 2019) **Integrating microclimate considerations into urban landscape typologies for energy and water regeneration and sustainability 2019**
- 2016 - 2018 (E) ASHRAE research contract 1710-TRP (\$158,369) **“Effect of Dynamic Shading Devices on Daylighting and Energy Performance of Perimeter Zones”** Sept 2016 to December 2018, co-PI with Dr. Kristen Cetin as PI.
- 2016 – 2019 (I) Passe, Ulrike, Anderson, N., De Brabanter, K., Dorneich, M., Goodwin, J., Krejci, C., Poplin, A., Shenk, L., Anderson, C., & Graham, L.(\$375,000 ). **Big data for sustainable city decision-making. Iowa State University, Presidential Initiative for Interdisciplinary Research in Data Driven Science.** September 1st 2016 – June 30th, 2019. <http://www.news.iastate.edu/news/2016/01/28/presidentialresearch>
- 2015 – 2016 (I) Passe, U., Anderson, N., De Brabanter, K., Dorneich, M., Goodwin, J., Krejci, C., Poplin, A., Shenk, L., Anderson, C., & Graham, L. (\$55,000) (2015). **Big data for sustainable city decision-making. Iowa State University, Presidential Initiative for Interdisciplinary Research in Data Driven Science** <http://www.news.iastate.edu/news/2016/01/28/presidentialresearch>
- 2015 (E) Passe, Ulrike, Iowa Energy Center (IEC) (\$ 31,186). **Building Envelope Commissioning (BECx)Train the trainer program development**
- 2014 (E) Iowa Energy Center (IEC) Opportunity Award (\$20,000): **Preliminary research effort for development of low-cost Vacuum Insulation Panels (VIP) for building applications,** with Mufit Akinc and Ganesh Balasubramanian, <http://www.news.iastate.edu/news/2014/11/25/nanoinsulation>
- 2014 (I) IPRT seed funding award for Spring 2014 (\$19,547): **Towards future urban microclimate models.** The award paid for one course release in spring 2014

- 2014 (E) Iowa Energy Center (IEC) Opportunity Award (\$79,591): **Pursuit funding for a NSF CyberSEES proposal on green buildings: Preliminary work on validating a large scale modeling framework**, with Baskar Ganapathysubramanian (<http://www.news.iastate.edu/news/2014/12/11/baskar>).
- 2013 (E) NSF EFRI EAGER Award #1345381 (\$50,000) 2013: **Multi-scale material and dynamic thermo-fluid computational models and controls for sustainable buildings using efficient energy harvesting materials** till August 31st, 2015 ([http://nsf.gov/awardsearch/showAward?AWD\\_ID=1345381&HistoricalAwards=false](http://nsf.gov/awardsearch/showAward?AWD_ID=1345381&HistoricalAwards=false))
- 2013 (I) Iowa State University Department of Architecture Vernon Stone Grant (\$1,400) **Image Production for Designing spaces for natural ventilation: an architect's guide**

*Tenure and promotion to associate professor in May 2013*

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- 2011 – 2016 (E) IOWA NSF-EPSCOR "**Harnessing Energy Flows in the Biosphere to Build Sustainable Energy Systems**" PI: Robert Brown, ISU and others) Passe selected as junior faculty and building science plank leader Energy Utilization Platform in Iowa wide \$20,000,000 project
- 2009 – 2010 (I) "**Improving Energy Efficiency in Schenker Logistics Warehouses in Iowa City**" (PI: Passe, Co-PI: Nelson) Funded by IPRT Company Assistance Program and DBSchenker Logistics (Total project cost: \$53,619 of which: Company: \$25,000/IPRT: \$16,811/ ISU IDC subsidy: \$11,808)
- 2009 (I) "**Cost Benefit Analysis for Energy Efficiency in a Small Retrofit Building**" PI (\$7,500) Small Demonstration Grant funded by the Iowa Energy Center.
- 2008 -2009 (E) **US Department of Energy's Solar Decathlon 2009** Principal Investigator, Faculty Adviser to design and build a solely solar powered 800sft house (\$100,000 award / \$805,000 total budget), Co-funded by Iowa State University, Department of Energy's Ames Laboratory, ISU IPRT, Iowa Energy Center and others Co-PI's: Bruski, Cardinal-Pett, Dalal, Grewell, Geske, Honeycutt, Horwitz, Jarboe, Martin, Muecke, Nelson, Pate, Shane, Strong, Townsend, Zarecor
- 2007 (E) "**The fluid dynamics of air flow in free flow open spaces: An architectural approach to energy efficient buildings**", (Co-PI: Dr. F. Battaglia) Research Award, Boston Society of Architects (\$20,000)
- 2004/5 (E) "**Master of Science by Research**" (PI: Prof. Dr.-Ing. Johannes Vielhaber) leading researcher University of Applied Science Potsdam, funded by State of Brandenburg and German Federal Education and Research Agency (~ \$150,000)
- 1998 (E) "**Systematic building with steel**" (PI: Prof. Matthias Sauerbruch) TU Berlin, TU Darmstadt, Vallorec & Mannesmann Steel GmbH on the relationship of industrial prefabrication, climate control and architectural design (~ \$40,000)

**CONFERENCE PAPERS (PEER-REVIEWED PROCEEDINGS)(36 post tenure/17 before)**

- 2022 Collin, S., and U. Passe, (2022). **Building a workflow to model a green façade in a graphical user interface for EnergyPlus**. Resilient City: Physical, Social and Economic Perspectives. Proceedings of the Architectural Research Centers Consortium and European Association for Architectural Education International Joint Conference.
- 2022 Ghiasi, S., U. Passe, Y. Zhou, (2022). **An interactive GIS-based method to map feasible roof areas for PV panels**. Resilient City: Physical, Social and Economic Perspectives. Proceedings



of the Architectural Research Centers Consortium and European Association for Architectural Education International Joint Conference.

- 2022 Ghiasi, S., Zhou, Y., Passe, U. (2022) **Effect of neighbourhood density on energy consumption: a comparative study of two inner-urban neighbourhoods in Des Moines**, Paper accepted to present at Passive Low Energy Architecture (PLEA) 2022 in Santiago de Chile, November 2022
- 2022 Passe, Ulrike: **Holistic strategies for natural ventilation in a warming urban climate** invited technical seminar series to present April 14, 2022, Indoor Air Quality, Ventilation and Energy Conservation (IAQVEC) 2021-2022
- 2022 Berg, B., Malekpour Koupaei, D., Cetin, K., Passe, U., **Impact of the COVID-19 Pandemic on Single Family Homes' Electricity Consumption in the Rural Iowa** at Conference: 6th Residential Building Design & Construction Conference (RBDCC) May 2023
- 2022 Malekpour Koupaei, D., Cetin, K., Passe, U., **Characterizing Residential Energy Consumption Patterns in the Rural Midwest** presented at the Construction Research Conference (CRC) March 9-12, 2022 in Washington, DC. (publication in progress)
- 2022 Ballesteros, L., Poleacovschi, C., Cetin, K., Kimber, A., Malekpour Koupaei, D., Sharma, T., Douglass, F., **Homeowners' motivations to invest in energy-efficient technologies in residential buildings of rural Midwest America**, presented at the Construction Research Conference (CRC) March 9-12, 2022 in Washington, DC (publication in progress)
- 2021 Ghiasi, S., Marmur, B., Thompson, J., Zhou, Y., Passe., (2021), **A sensitivity analysis to investigate urban heat island impact on building energy consumption** Proceedings of International Building Performance Simulation Association (IBPSA) international conference in Bruegge, Sept 1-3, 2021. Virtual presentation.
- 2021 Malekpour Koupei, D., Passe, U., and Thompson, J. (2021). **A framework for integrating high-resolution trees in urban energy use models**. Proceedings of the International Building Performance Simulation Association (IBPSA) Building Simulation Conference, September 1-3, Bruges, Belgium. Virtual presentation.
- 2021 Sabouni, H., Passe, U., Shanashir: **A Novel, Efficient Mashrabiya Re-design**, virtual conference presentation and paper published in Simulation in Architecture and Urban Design (SimAUD) 2021 proceedings.
- 2020 Passe, U., Entezari, H.+, Goetz, V.+, Engler, M., **Integrating landscape tactics into building energy performance evaluation based on urban morphometry** (2020), full paper to be presented and published in proceedings Passive Low Energy (PLEA) Conference in A Coruna Spain (virtual), Sept 1-3, 2020
- 2020 Malekpour Koupaei, D.#, Geraudin, M.+, and Passe, U., (2020) **Lifetime Energy Performance of Residential Buildings: a Sensitivity Analysis of Energy Modeling Parameters**, Proceedings of Symposium on Simulation in Architecture and Urban Design (SimAUD) May 25-27 Vienna, Austria (Virtual).
- 2019 Passe, U., Malekpour, D.+, Hashemi, F.+, Tabard, V.\*., (2019) **Modelling Framework for Refined Urban Residential Occupancy Schedules**, Building Simulation 2019 International Building Performance Simulation Association (IBPSA) in Rome, September 2019.

- 2019 Hashemi, F.+, Passe, U., (2019) **Climate and Occupancy Based Investigation of Air Pollutants in Office Spaces**, IAQVEC 2019: Healthy nearly Zero Energy Buildings, Bari, September 2019. IOP Conference Series: Materials Science and Engineering, Volume 609, Issue 4
- 2019 Passe, U., Thompson, J., Ganapathysubramanian, B., Gao, B.#, Marmur, B.# (2019). **The impact of trees on passive survivability during extreme heat events in warm and humid regions**. Comfort at the Extremes (CATE) Conference Proceedings, April 2019, Dubai, UAE.
- 2019 Passe, U., Malekpour, D.+, Hashemi, F.+, Tabard, V.\* (2019). **A Technique for Developing High-Resolution Residential Occupancy Schedules for Urban Energy Models** (SimAUD 2019, Atlanta, GA).
- 2019 Kunwar, N.#, Cetin, K.S., Passe, U. (2019). **Daylighting and Visual Comfort Performance Of Integrated Dynamic Roller Shades And Lighting Controls**. Architectural Engineering Institute Conference 2019. Tysons, VA. April 3-6, 2019.
- 2019 Kunwar, N.#,, Cetin, K.S., Passe, U. (2019). **Best Practices for Full-Scale Testing and Energy Savings, Daylighting and Visual Comfort Evaluation of Dynamic Shading**. ASHRAE Annual Conference. Kansas City, MO, June 22-26, 2019.
- 2018 Stonewall, J.#, Huang, W.+, Dorneich, M., Shenk, L., Krejci, C., & Passe, U. (2018). **Energy Use and Weatherization Practices: Applications for Agent-Based Modeling to Support Vulnerable Populations**. Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting.
- 2018 Hashemi, F.+, Marmur, B.#, Thompson, J., Passe, U. (2018). **Developing a Workflow to Integrate Tree Inventory Data into Urban Energy Models**, in: Proceedings of the 2018 Simulation in Architecture and Urban Design Conference, (SimAUD 2018), June 05-07 at TU Delft, the Netherlands, edited by: T. Rakha, M. Turrin, D. Macumber, F.Meggers, and S. Rockcastle.
- 2018 Kunwar, N.#, Cetin, K.S., Passe, U., Gorostiaga, Y\*. (2018). **Energy Performance of Automated Dynamic Interior Venetian Blinds in Commercial Buildings**. ASHRAE Annual Conference, Houston, TX, June 23-27, 2018.
- 2018 Kunwar, N.#, Cetin, K.S., Passe, U. (2018) **Effect of Automated Dynamic Control of Interior Roller Shades on Daylighting and Energy Performance of South Facing Office Spaces**, Fifth BEST Conference: Building Enclosure Science & Technology, Philadelphia, PA. April 15-18, 2018.
- 2018 Wu, L#., Chinde, V.#, Sharma, H.#, Passe, U., Sarkar, S (2018). **A Data-driven Approach towards Integration of Microclimate Conditions for Predicting Building Energy Performance**, 5th International High Performance Buildings Conference at Purdue, July 9-12, 2018
- 2018 Kunwar, N.#, Cetin, K.S., Passe, U. (2018). **Energy Performance of Automated Dynamic Interior Roller Shades using Calibrated Simulation**. 2018 Building Performance Analysis Conference and SimBuild. Chicago, IL, Sept 26-28, 2018
- 2017 Ulrike Passe, Kaylinn Taggart\*, Shan He, **Observation and analysis of passive solar home control strategies for active users**, in: PLEA 2017, Edinburgh.

- 2017 Wanyu Huang+, Caroline Krejci, Michael Dorneich and Ulrike Passe: **Weatherization Adoption in A Multilayer Social Network: An Agent-based Approach**, 2017 Computational Social Sciences Conference in Santa Fe, NM, October 19-22, 2017, short-listed for best paper award.
- 2017 Jacklin Stonewall#, Katherine Fjelstad\*, Michael Dorneich, Linda Shenk, Caroline Krejci, and Ulrike Passe, Iowa State University, **Best Practices for Engaging Underserved Populations**, Proceedings of Annual Conference of Human Factors and Ergonomics Society 2017, October.
- 2017 Charvi Jagani+, Ulrike Passe, **Simulation-based Sensitivity Analysis of Future Climate Scenario Impact on Residential Weatherization Initiatives in the US Midwest**, Proceedings of SimAUD 2017, Toronto, CA, edited by: Michela Turrin, Brady Peters, William O'Brien, Rudi Stouffs, Timur Dogan.
- 2017 Passe, Ulrike, **Performance, data and the expanding field of sustainable design**, at the 6th International Alvar Aalto Meeting on Contemporary Architecture \_ TECHNOLOGY & HUMANISM; 14 -15 September 2017, Seinäjoki, Finland  
[https://www.alvaraalto.fi/content/uploads/2017/08/passe\\_ulrike-1.pdf](https://www.alvaraalto.fi/content/uploads/2017/08/passe_ulrike-1.pdf)
- 2017 Shenk, L., Krejci, C., Dorneich, M.C., Passe, U., & Stonewall, J.#, (2017). **When the humanities partner with engineering and design for community capacity-building: Co-designing a community's story of weatherization using agent-based modeling**. Community Development Society Conference. Big Sky, Montana, June 11-14, 2017.
- 2016 Vansice, K.+, Passe, U., **Method to Evaluate and Develop Next Generation Vacuum Insulation Panels for Implementation in the Retrofit of Existing Building Envelopes**, Proceedings of Building XIII conference, organized by DOE Oakridge National Laboratory, Dec 2016, Clearwater Florida.
- 2016 Ghosal, S.#, Liu, C.#, Passe, U., He, S., and Sarkar, S. (2016) **“Data-driven persistent monitoring of indoor air systems,”** in ASHRAE IAQ 2016 Conference, 2016.
- 2016 Kelly Kalvelage#, Michael C. Dorneich, Ulrike Passe and Caroline Krejci **Task-Based Approach to Define Occupant Behaviour in Agent-Based Modelling** In Nicol, F., Roaf, S., Brotas, L., Humphreys, R., (Eds.), Making Comfort Relevant. Windsor Conference 2016 - Making Comfort Relevant – Proceedings, April 7-10, 2016, Network for Comfort and Energy Use in Buildings, <http://nceub.org.uk>
- 2016 Jeanblanc, E. \*, He, S., Passe, U. (2016). **Occupant-Centered Building Operation Strategies for Balancing Thermal Comfort and Energy Efficiency in Warm and Humid Climates**. In Nicol, F., Roaf, S., Brotas, L., Humphreys, R., (Eds.), Making Comfort Relevant. Paper presented at the Network for Comfort and Energy Use in Buildings (NCEUB) 2016 Windsor Conference, Windsor, United Kingdom. April 7-10. Network for Comfort and Energy Use in Buildings, <http://nceub.org.uk>
- 2016 Krejci, C. C., Passe, U., Dorneich, M. C., & Peters, N\*. (2016), **“A Hybrid Simulation Model for Urban Weatherization Programs”**, Proceedings of the 2016 Winter Simulation Conference, Arlington, VA, December 11–14.
- 2016 Passe, U., Anderson, N., De Brabanter, K., Dorneich, M., Krejci, C., Poplin, A., & Shenk, L., (2016). **Methodologies to Study Human- Microclimate Interaction for Resilient, Smart**

- City Decision-making.** Proceedings of International Conference on Passive Low Energy Architecture, San Francisco, CA
- 2016 Passe, U., Deza, M., Ganapathysubramanian, B., He, S., Vansice, K., Xu, S.# (2016). **Typological studies for passive design strategies based on coupled measured and modelled data.** Proceedings of the 2016 Simulation for Architecture and Urban Design (SimAUD) conference, May 16-18, 2016, London.
- 2015 Deza, M., He, S., Passe, U., Ganapathysubramanian, B. (2015). **High Fidelity CFD Modeling of Natural Ventilation in a Solar House,** ASME 2015 Conference Proceedings International Mechanical Engineering Congress and Exposition, Houston TX.
- 2015 He, S, Passe, U., (2015) **Architectural student's attitude towards building energy modeling: A pilot study to improve integrated design education** Proceedings of the 14th International Conference of the International Building Performance Simulation Association, Hyderabad, India.
- 2015 Kalvelage, K.#, Dorneich, M., & Passe, U. (2015, 7-9 Dec). **Simulating the future microclimate to identify vulnerable building interior conditions.** Proceedings of the 14th International Conference of the International Building Performance Simulation Association, Hyderabad, India.
- 2015 Kalvelage, K., Passe, U., Krejci, C., & Dorneich, M. (2015, 5-7 Oct). **Incorporation of future building operating conditions into the modeling of building-microclimate interaction: A feasibility approach.** In K. P. Lam (Co-chair), The First International Symposium on Sustainable Human-Building Ecosystems (ISSHBE). Symposium conducted at the meeting of A. A. AEI, Carnegie Mellon University, Pittsburgh, PA.
- 2015 Fleenor, K.\*, Passe, U., He, S. (2015). **The Interlock House: Communicating Sustainable Practices through Architecture.** In: Architecture in (R)evolution. Paper presented at the PLEA 2015- Architecture in Revolution, Bologna, Italy, September 9-11.
- 2014 Passe, U., Ganapathysubramanian, B., & Yesilata, B. (2014). **The Harran Houses as a case study for solar assisted passive ventilation and cooling.** In B. Yesilata, K. Bayraktar & G. Kocar Eds.), Proceedings of the Turkish Solar Energy conference SolarTR, Izmir.
- 2014 Nelson, Kris, Ulrike Passe, **Hand to Mouse: Integrated Technology Laboratory in Undergraduate Architectural Education,** ARCC EAAE International Conference proceedings: Intersections at the University of Hawaii in Honolulu, Hawaii, February 12-15, 2014.
- 2014 He, Shan, Ulrike Passe, **The Potential Energy Efficiency of a Hybrid Designed House: A Post-occupancy Case Study on the Heating and Cooling System,** ASHRAE Annual meeting Seattle in June 2014, published in proceedings.
- 2014 Leysens, Isabelle\* and Ulrike Passe, **Towards a Dynamic Daylight Understanding.** NCEUB Windsor conference, April 10-13, 2014, proceedings:  
[http://nceub.org.uk/W2014/webpage/pdfs/workshop5/W14098\\_Leysens.pdf](http://nceub.org.uk/W2014/webpage/pdfs/workshop5/W14098_Leysens.pdf),

*Tenure and promotion to associate professor in May 2013* \_\_\_\_\_

- 2012 He, Shan, U. Passe, ZJ Wang (2012): **“Integrating thermo-fluid computational models into understanding sustainable building design”**, Association of Collegiate Schools of Architecture International Proceedings. International ACSA Conference on Change, Barcelona, Spain, June, 20-22.
- 2012 Passe, Ulrike: **Changing the relationship of form and performance: The conceptual integration of quantitative performance evaluations into design pedagogy.** International ACSA Conference on Change, Barcelona, Spain, June, 20-22,
- 2012 Passe, Ulrike, **“Evaluating passive and active solar design and performance interaction: First measured results,”** in Proceedings of The Second International Conference on Building Energy and Environment (COBEE), August 1-4, 2012, Boulder, Colorado, edited by Dr. Zhiqiang Zhai, Dr. Xiangli Li and Haidong Wang, 2012: 265.
- 2012 Passe, Ulrike **"Alvar Aalto's open plan architecture as an environmental technology device."** International Alvar Aalto Now: New research initiatives conference, founding of the Alvar Aalto Researcher Network organized by the Alvar Aalto Foundation and Alvar Aalto Museum, Seinajoki, Finland, March 12-14, 2012. (Committee reviewed, online journal available online at <http://www.alvaraaltoresearch.fi/>)
- 2012 Passe, Ulrike, Robert Demel. **"Performance and Form: new pedagogical approaches to designing the building envelope as an adaptive interface."** in Proceedings of the EAAE ARCC International Conference on Architectural Research: Cities in Transformation Research and Design, Polytechnic in Milano, June 7-10, 2012.
- 2012 Mann, Bryan+, Ulrike Passe, Shannon Rabideau+, Eugene S. Takle, **"Future context for thermal comfort: Impact of a changing climate on energy demand and human thermal comfort,"** in Proceedings of the 7th Windsor Conference: The changing context of comfort in an unpredictable world, Cumberland Lodge, Windsor, UK, 12-15 April 2012. London: Network for Comfort and Energy Use in Buildings, online available at <http://nceub.org.uk>.
- 2012 Passe, Ulrike, Kerry Dixon-Fox, **"Integrating Research into Student Learning by Integrating Student Learning into Research,"** in Proceedings of the IXth Greening the Campus Conference proceedings: “Building Pedagogy” Ball State University, Muncie IN, March 18-20, 2012.
- 2012 Fernandez-Gonzalez, Alfredo, Ulrike Passe, Rod Kruse, Jörg Rügemer: **"Simplicity and Integration: Passive Solar Design and Passive House in Integrated Practice and Education,"** in Proceedings of the World Renewable Energy Forum and the American Solar Energy Society in Denver, Co, May 2012. <http://ases.org/conference/proceedings-2012/>.
- 2012 Rabideau, Shannon+, Ulrike Passe, Eugene Takle. **"Exploring Alternative to the 'Typical Meteorological Year' for Incorporating Climate Change into Building Design,"** ASHRAE paper CH12-CO49; in: ASHRAE Transactions Volume 118 Part I (2012): 384.
- 2011 Passe, Ulrike, **"Constructing Energy Efficiency: Rethinking and Redesigning the Architectural Detail,"** in: ICSDC (International Conference for Sustainable Design and Construction) 2011 Integrating Sustainability Practices in the Construction industry, ed. W. K. O. Chong and Chr. Hermreck, ASCE (American Society for Civil Engineers, Virginia 2012, 467-473.

- 2011 Pässe, Ulrike, "**Traveling Michel Serres' Passage du NordOuest: what happens, once the ice breaks? A reflection on architectural research conducted between the humanities and engineering,**" in Proceedings of the ARCC Architectural Research Center Consortium) 2011 Spring Research Conference in Detroit April 23rd, 2011. Lawrence Tech University and ARCC, 2011, 209-224.
- 2011 Pässe, Ulrike, Stoakes, P., Battaglia, F.; "**Interdisciplinary Research into the Fluid Dynamics of Natural Ventilation Flows**" In Healthy Buildings 2009: Proceedings of the 9th International Healthy Buildings Conference and Exhibition. Eds.: Santanam, S., Bogucz, E.A., Peters, C., and Benson, T., Healthy Buildings 2009, Syracuse, NY, USA. Paper No: 226. Official publication of the Syracuse Center of Excellence in Environmental and Energy Systems for the 9th International Conference of ISIAQ in Syracuse, USA.
- 2010 Pässe, Ulrike, "**Innovation in the Academy,**" in: Proceedings of the 6th International Conference on Innovation in Architecture, Engineering & Construction at Penn State University, (2010), 497-506. (2 stage peer-review)
- 2008 Pässe, Ulrike, Stoakes+, P. Battaglia, F.: "**Simulation of Natural Ventilation Flows: Possibilities for the Restoration of the Viipuri Library,**" in: The Challenge of Change, Dealing with the Legacy of the Modern Movement, Proceedings of the 10th International Docomomo Conference, edited by Heuvel, D, Mesman, M., Quist, W., Lemmens, B. IOS Press Delft, 2008.
- 2007 Pässe, Ulrike: "**Space is Technology'**" in: Proceedings 'Architecture & Phenomenology', edited by Eran Neumann and Iris Aravot., Technion, Haifa, Israel, 2007.
- 2007 Pässe, Ulrike: "**Free-flow Open Space, Climate and Sustainability'**", in: Emerging Research and Design, EAAE Transactions on Architectural Education number 32 edited by Wingert-Playdon, Neuckermans, H.; Proceedings of the International ARCC/EAAE Conference, Philadelphia, , 2007
- 2006 Pässe, Ulrike: "**Free-flow Open Space, Climate and Sustainability'**", in: Proceedings of Healthy Buildings 2006, Vol III p.27, Ed: E. de Oliveira Fernandes, M. Gameiro da Silva, J. Rosado Pinto, Lisbon 2006.

#### **CONFERENCE PRESENTATION WITHOUT PUBLICATION (SELECTION 14 post t. /7)**

- 2021 Pässe, U., "**Assessing a Community-Engaged Decision Framework for Increased Urban Neighborhoods Resilience in a Warming Climate**" presentation at the ACSA / AIA Intersections Conference on Communities Sept 29-Oct 1, 2021, Paper submitted for publication, under review
- 2021 Pässe, U., "**Advances in Urban Neighborhood Energy Modeling for low resource communities,**" invited presentation at the Social Inequality in Energy, Environment, and Technology Seminar at the CURRENT center, University of Tennessee, Knoxville TN. Online presentation
- 2021 Ghiasi, S., Pässe, U., "**Finding the best placement of PV panels using a GIS based model,**" workshop presented at the AIA Iowa Annual Conference, Sept 2021 in Des Moines.

- 2021 Passe, U., **NAAB 2021 SP5 and SP6: How do they support Sustainable Design?** Presentation at the 2021 SBSE retreat August 2021 in Detroit, MI.
- 2019 Ulrike Passe: **Integrating human behavior and thermal-physical systems modelling into neighborhood energy evaluation to prepare for extreme heat events**, Invited panel, International Conference on Energy Research and Social Science, Arizona State University, May 28-31, 2019
- 2018 Kunwar, N., Cetin, K.S., Passe, U. (2018). **Energy Performance of Automated Dynamic Interior Roller Shades using Calibrated Simulation**. 2018 Building Performance Analysis Conference and SimBuild. Chicago, IL, Sept 26-28, 2018
- 2019 Shenk, L., Dorneich, M., Stonewall, J., Passe, U., 2019, **Comparative analysis for empirical data collection methods from engaged community action projects and traditional mail surveys for urban energy model integration** Community Development Society, MO, 16-Jul-19
- 2019 Passe, U., Thompson, J. Ganapathysubramanian, B., Gao, B., Marmur, B., Homagni, S., Sharma, H. 2019. **The impact of trees on building energy use**. Iowa State University Research Day, Ames, IA.
- 2019 Ulrike Passe, Breanna Marmur, and Yuyu Zhou, **The impact of urban trees on energy use and passive survivability**, Workshop at the AIA Convention Workshop 2019 in September 2019.
- 2018 Passe, Ulrike, AIA Iowa workshop 22: **Building Energy Research with the 2009 Iowa State University's Solar Decathlon Home: Lessons Learned for Sustainable Design in Iowa** presentation, presented Sept 29, 2018 at the AIA Iowa Annual Convention in Des Moines.
- 2018 Passe, U., **Human behaviors, buildings, and near building climates: decision support tools to increase resilience of urban neighborhoods**, presentation at the NSF RCN-SEES-SHBE: Predictive Modeling Network for Sustainable Human-Building Ecosystems – Workshop 8 \_ Integration Pittsburgh, PA; May 17-18, 2018
- 2018 Passe, Ulrike, National Institute of Health, **Health in Buildings Roundtable Scholar**, Meeting at the NIH, July 2018
- 2018 Janette Thompson, Ulrike Passe, **Human Behaviors Buildings, and Near Building Climates: Decision Support Tools to Increase Resilience of Urban Neighborhoods**, research poster presented at the Science, Business, and Education of Sustainable Infrastructure Conference by the National Council for Science and the Environment, Jan, 22-24, 2018
- 2018 Stonewall, J., Passe, U., Dorneich, M.C., Shenk, L., Thompson, J., & Sarkar, S. (2018) **An Approach to Incorporating Human Behaviors, Building Occupancy Characteristics, and Near-Building Climates in Decision Making to Increase Resilience of Urban Neighborhoods**. Social Justice and Equity in the Engineering of Smart and Connected Cities Workshop. RCN-MOHERE. Seattle, WA. December 10-11.
- 2017 Benner, Jacob\*, Laura Michelson\*, Shan He, Ulrike Passe, **Research and Development of a Residential Liquid Desiccant Dehumidification System"** 2017 ASHRAE Winter Conference, January 28, 2017 - February 1, 2017 in Las Vegas, NV.

- 2015 Everly, R.\*, Murillo, E.\*, Passe, U. (2015). **Energy Efficient Dehumidification by Solar Driven Liquid Desiccant Systems for Residential Application**. In ASHRAE Papers CD. Paper presented at the ASHRAE 2015 Annual Conference, Atlanta, GA, June 27- July 1. American Society of Heating, Refrigerating, and Air-Conditioning Engineers.
- 2015 Passe, U. (2015, April 6-9). **Typological Studies for passive design strategies based on modelled and measured data**. Presentation at the ARCC (Architecture Research Center Consortium): The future of architectural research, Chicago.
- 2014 **ISU faculty panel on –cross-disciplinary research** on November 7<sup>th</sup> organized by the Graduate College.

***Tenure and promotion to associate professor in May 2013*** \_\_\_\_\_

- 2013 Leysens, Isabelle\*, Ulrike Passe, "Evaluating daylight performance in a passive solar home: a study based on design simulation and post-occupancy monitoring results, In: Proceedings of the annual conference of the American Solar Energy Society (ASES), Baltimore April 2013.
- 2012 Presentation of **ISU USGBC Greenbuild Scholarship for Research to Practice** program outcome to professional audience at the USGBC GreenBuild in San Francisco (Nov. 2012)
- 2010 Cardinal-Pett, C, Horwitz, J, Passe, U.: **Learning from the Solar Decathlon: Making a place for multidisciplinary applied research in architectural education**; paper accepted to the ARCC/EAAE International Conference "The place of research / the research of place" at the Catholic University in Washington DC, 2010
- 2010 Passe, Ulrike: **Space, Time, Energy: Learning From Interlocking A House With The Sun** Invited Participant at the NSF funded US-Israel workshop on Sustainable Buildings Materials and Energy at the Technion in Haifa, Israel, July 2010
- 2010 Passe, Ulrike: **Energy Efficiency and Preservation of Small-Scale Commercial Building Heritage**; presentation at The Cultural Role of Architecture –International Conference at the University of Lincoln, UK, June 2010
- 2010 Passe, Ulrike: **Building a solar house for interdisciplinary learning of sustainability**; Paper presentation at the 2010 AASHE (American Association for Sustainability in Higher Education) Conference in Denver, CO.
- 2010 Passe, Ulrike: **Balancing Memory, Nostalgia and Sustainability: Energy Efficiency and Preservation of SmallScale Midwestern Main Street Commercial Heritage** at the The Association for Preservation Technology International, 2010 Annual Conference: Layers Across Time – Preserving a Diverse Western Heritage.

**INVITED LECTURES**

- 2023 Sept 24-25, 2023: The 8th International ICARB Conference 2023, Invited keynote: Free Cooling from Air Movement - a key to Net Zero Buildings
- 2023 April 14, 2023 Ulrike Passe lecture in ISU College of Design research seminar: Traveling the Mississippi River to form an Urban-Rural-Systems Research (URSYS) Network.



- 2022 November 6, 2023: Louisiana State University School of Architecture: Sustainable Design Lecture at Soo Jeong's Seminar.
- 2022 Sept 26 2023 Ulrike Passe public lecture on URSYS in Forest Resources Seminar #302 Kaufert Hall, Upper Buford Circle, St Paul MN.
- 2022 Sept 27 2023 Ulrike Passe gives public lecture on URSYS in the College of Design Lunch Talk series hosted by Tom Fisher, Professor of Architecture and Director of the Minnesota Design Center.
- October 18, 2022 Ulrike Passe presented MRB network at Dubuque Sustainability Conference (with Kimberly Zarecor) in the interactive workshop session Water, Agriculture and our Very Way of Life - The Contamination and Protection of Water Sources from the Midwest to the Gulf of Mexico with Mary Beth Stevenson, Watersheds & Source Water Coordinator of the City of Cedar Rapids Iowa.
- 2022 November 1, 2022 Ulrike Passe visits University of Memphis Charles Santo and Andy Kitsinger and community partners Ryan Hall, Wolf River Conservancy in Memphis, TN, gives public seminar on URSYS
- 2022 Passe, U., **Development of a Modelling Framework for Refined Residential Occupancy Schedules**, Invited presentation at the expert meeting of the "Rapid Decarbonization Impacts on the Electric Grid" Center for Advanced Power Engineering Research (CAPER) spring expert meeting: presentation and panel discussion.
- 2022 Passe, U., **Improving ventilation on the macro and micro scale**, Invited Keynote at RESILIENT COMFORT: Climate Change, COVID and Ventilation 5th-6th September 2022, Edinburgh organized by the international Comfort at the Extreme (CATE) Network.
- 2019 Passe, Ulrike: **Phenomena, parametric, poetics and performance**: Research into ventilating spaces naturally, Invited Public Lecture / University of Sheffield, Sheffield, UK, 26-Feb-19
- 2019 Passe, Ulrike: **Phenomena, parametric, poetics and performance**: Research into ventilating spaces naturally, Invited Public Lecture and graduate student seminar / Penn State University, State College, PA, March 21 2019
- 2019 Passe, Ulrike: **Phenomena, parametric, poetics and performance**: Research into ventilating spaces naturally, Invited Public Lecture / Czech Technical University, Prague, Cz, 6-Jun-19
- 2019 Passe, Ulrike: **Phenomena, parametric, poetics and performance**: Research into ventilating spaces naturally, Detmold School of Architecture, Detmold, DE, 4-Jun-19
- 2019 Passe, Ulrike: **RESILIENCE = Sustainable Design + Passive survivability, Invited Panel contribution**; RDG Residency: Life on the Edge: Beyond Urban Redevelopment: The Transformation of a Living Community through Understanding and Design  
<https://rdgusa.com/designresidency/resources.html>
- 2018 Passe, Ulrike: **RESILIENCE = Sustainable Design + Passive survivability, Invited Panel contribution**; RDG Residency: Design Atlas for Climate Resilience  
(<https://rdgusa.com/designresidency/>)

- 2018 Passe, Ulrike, **Indo-Swiss Building Energy Efficiency Project (BEEP)**: keynote lecture at the 2018 BEEP Camp for Building Science Educators, December 22-23, 2018 at the CEPT University in Ahmedabad, India. Also participated in a two day workshop with Indian Architecture students
- 2018 Passe, U., Invited seminar on “**Phenomena, parametric, poetics and performance**: Research into ventilating spaces naturally” at the Hong Kong Polytechnic University’s Civil and Environmental Engineering Department on December 13th, 2018.
- 2018 Review invitation by William W. Braham: Master of Environmental Building Design, University of Pennsylvania, Center for Environmental Building and Design, May 2018
- 2017 Passe, U. Invited panel presentation ‘**Building Socio-Technical Collaborations within Academia**’ at the NSF SCC workshop on NSF-Sponsored Workshop on Effective Community-University-Industry Collaboration Models for Smart and Connected Communities Research, December 2017 in Washington DC.
- 2017 Invited for a two week guest professorship at the German University of Technology (GUTECH) in Muscat Oman, May 2017 to teach an energy modeling workshop, also gave a public lecture. Passe, U. **Designing Spaces for Natural Ventilation** invited public lecture at the Architecture Department of the German University of Technology (GUTECH), Muscat Oman
- 2016 Passe, U. **Designing Spaces for Natural Ventilation** invited public lecture at the Architecture Department of the Israel Institute of Technology (The Technion, Haifa, Israel).
- 2016 Passe, U. **Designing Spaces for Natural Ventilation** invited public lecture at the Interior Architecture Department of the Rhein-Main University in Wiesbaden, Germany
- 2016 Wells Fargo Green Team invited talk  
NSF RCN NSF RCN SEES: Predictive Modeling Network for Sustainable Human-Building Ecosystems (SHBE) presentation at University of Knoxville, Tennessee  
Invited to Citizen Science Panel, at ISU School of Education  
Invited for Final Review at Washington University in St. Louis, Dec 15, 2016.
- 2019 Ulrike Passe, Invited Panelist for the ‘**Return on Investment (ROI) of Green Buildings**, Panel at the Iowa Ideas Conference Cedar Rapids, October 2019, presented Solar Decathlon data.
- 2018 Passe, U., **Analyses of near-building microclimate effects on thermal comfort in low-resource neighbor-hood homes**, National Institute of Health Health in Buildings Roundtable Washington, DC July 19-20, 2018
- 2017 Passe, U. Invited panel presentation ‘**Building Socio-Technical Collaborations within Academia**’ at the NSF SCC workshop on NSF-Sponsored Workshop on Effective Community-University-Industry Collaboration Models for Smart and Connected Communities Research, December 2017 in Washington DC.
- 2015 Passe, Ulrike Panel Invitation: **Five years on....building science research with a Solar Decathlon home**, <https://solar2015.ases.org/session/five-years-on-building-science-research-with-a-solar-decathlon-home/>
- 2014 Passe, U., **Designing Spaces for Natural Ventilation from XXXL to XS**, invited guest lecture at Columbia University's Sustainable Management MSC program on October 9,

2014        **The future of Solar (is) Architecture**” invited keynote lecture at SOLARTR (Turkish Solar Energy Society) Annual Conference in Izmir, Turkey SOLAR TR on November 21, 2014. (<http://www.solartr.org.tr/eng/?p=solar4>).

**Tenure and promotion to associate professor in May 2013** \_\_\_\_\_

2013        **“NEW FRONTIERS in DESIGN MODELING & SIMULATION TOOLS”** invited lecture ‘Future research for Sustainable Buildings’ panel at Green Summit of Turkish Green Building Council (CEDBIK) in Istanbul, February 18-19,

2012        **"Learning from Interlocking a House with the Sun,"** Public Lecture at CVUT Technical University Prague on the ISU Solar Decathlon project, May 24, 2012.

2012        **"How to organize a Solar Decathlon,"** Design workshop with Team Prague on Solar Architecture at CVUT, May 25, 2012.

2012        **"Natural Ventilation: from XXL to XS,"** Invited public lecture, Sustainability in the Urban Environment Spring 2012 Lecture Series: Rebalancing Flows in the Post-Industrial City at the The Bernard & Anne Spitzer School of Architecture of the City College New York (CCNY), March 21, 2012.

2012        **"Homecoming of a solar home: solar home design and energy efficient retrofit,"** at weekly program for seniors by Grinnell Regional Medical Center at Drake Community Library in downtown Grinnell, IA 50112, April 2nd, 2012.

2011        **"Homecoming of a solar home: first performance results,"** public lecture to the Nebraska Solar Energy Society (NSES), Omaha, Nebraska, March 6, 2012.

2012        **"Integrated Design for a sustainable world,"** Invited Key Note Speech at AEI / ASHRAE Omaha Nebraska, first joint regional AEI/ ASHRAE professional conference in Omaha, Nebraska. March 7,

2012        **"Building Science and the Interlock House,"** Web-Seminar for Pat Higby's UNI SCI ED 5133/TECH 5133 Learning & Teaching about Energy for the Next Generation of Iowa’s Leaders with Pat Higby, Energy Educator, UNI Center for Energy & Environmental Education for 18 teachers at UNI. (IA NSF EPSCoR) June, 27, 2012

2011        **"Space, Time. Energy: Learning from Interlocking a house with the sun,"** public lecture at the University of Nevada Las Vegas (UNLV) Sept. 2, 2011.

2011        **"Space, Time. Energy: Learning from Interlocking a house with the sun,"** invited lecture about the *Interlock House* at Honey Creek State Park for the Nebraska Solar Energy Society, Omaha Nebraska; May 14, 2011.

2011        **"Space, Time, Energy: Learning from interlocking a house with the sun,"** Invited Lecture at *The Third Degree*, an outreach and public education program organized by ISU Extension Conference Planning & Management at Reiman Gardens, Ames Iowa, Jan 25, 2011.

2011        **"Social Club Brandenburg,"** guest critic: at studio review at Dept. of Architecture, Technical University Berlin Prof. Susanne Hoffman; July 1, 2011.

- 2010 **"On the relationship of Architecture and Engineering,"** invited participation at the NSF Workshop at the University of Pennsylvania, but could not attend because of a schedule conflict. Nov. 5, 2010.
- 2010 **"A net zero energy home using energy modeling and simulation for design optimization,"** invited Presentation at the Iowa Energy Center 20th year anniversary symposium: Nov. 5, 2010.
- 2010 **"Space, Time, Energy - .Learning from interlocking a house with the sun!"** Invited Lecture, ISU Horticulture Department Seminar Series, Oct, 4th, 2010.
- 2010 **"Atmospheres of Space: The development of Alvar Aalto's free flow section as climate device, Interdisciplinary Research into the Fluid Dynamics of Natural Ventilation Flows,"** Public Lecture at the annual reception of the Center for Excellence in the Arts and Humanities (CEAH) at ISU, Sept. 27, 2010.
- 2010 **"Space, Time, Energy: Learning From Interlocking A House With The Sun,"** Invited presentation at the NSF funded US-Israel workshop on Sustainable Buildings Materials and Energy at the Technion in Haifa, Israel, July 11-13, 2010.
- 2010 **"Transformation - the morphology of the Berlin Block,"** public lecture at the 5th Berlin SummerAcademy Symposium: *Concepts for low carbonenvironments*, June 1st, 2010.
- 2010 **"Space is Technology,"** public lecture at the 5th Berlin Summer Academy Symposium II: *Morphologies of Adaptive Use*, June 7th, 2010.
- 2009 **"Light, Sun, Air....A Modern Vision Come True: The Solar Decathlon Experience"** Nov, 16th, 2009: Public evening lecture by invitation of the AIAS, Department of Architecture at Bowling Green State University, Bowling Green, Ohio, USA.
- 2009 **"Designing Sensual Spaces"** Invited lecture to ARTH 4400/5400 'History of Modern Architecture' on air flow in buildings, with a specific focus on the work of Alvar Aalto the Bowling Green State University, Bowling Green, Ohio, USA.
- 2009 Invited lecture in observance of World Usability Day 2009 "Designing for a Sustainable World" **"The Interlock House as an Interface: Sustainability and Occupant Interaction"** at the Usability Professionals Association, Iowa Chapter in West Des Moines.
- 2009 **"Simulation of natural ventilation flows possibilities for the restoration of the Viipuri library ventilation system"** Invited presentation of research findings to committee members of The Finnish Committee for the Restoration of Viipuri Library / Alvar Aalto Foundation at post-symposium tour to Vyborg / Viipuri Alvar Aalto Symposium Edge- Paracentric Architecture, Jyväskylä, Finland, August.
- 2009 **"Implementing energy evaluation and simulation tools into the design studio"** Presentation at the Society for Building Science Educators (SBSE) Retreat: The leap to zero carbon in Quebec
- 2009 **"Integrating the Solar Decathlon into coursework at Iowa State University: A case study into interdisciplinary design education necessary to achieve net zero energy buildings,"** at the Society for Building Science Educators (SBSE) Retreat: *The leap to zero carbon* in Quebec June 26, 2009.

- 2009 Sustainability Consortium of the City of Rock Island Rock Island, Illinois; Presentation of the **Solar Decathlon Project** to the Advanced Technology and, lead by the Major, March 24,
- 2009 **"The ISU Solar Decathlon Project,"** presentation with the ISU Solar Decathlon Team: Rock Island, Illinois, Augustana College, Presentation of the ISU Solar Decathlon project to the Physics Club, March 24, 2009.
- 2009 **"Energy and Buildings: Doing more with less....and the sun."** Invited keynote speaker at the National Smart Living Conference at Duke University as participant of the Duke Conversations program, April 3-5, 2009, Duke University, Durham N.C.
- 2008 **"On Sustainability,"** Invited presentation at the monthly meetings of the ISU chapter of the AIAS (American Institute of Architects Students Chapter).
- 2008 **"About the ISU Solar Decathlon Interlock House and Green Design,"** Extension Conference, Iowa State University; Presentation with the Solar Decathlon team, October 2008.
- 2008 **'Sustainable conservation practices'** International panel discussion at DOCOMOMO (Invited participant) panel chaired by Kyle Normandin of WJE Engineers, Architects and Material Scientists, USA, Other panelists: Susan MacDonald (Architect, Getty Conservation Institute, Los Angeles, USA), Tom Haartsen (Climatic Design Consult, Delft, The Netherlands), Uta Pottgiesser (Hochschule Ostwestfalen-Lippe, University of Applied Sciences, Hannover, Germany), Norman R. Weiss (Integrated Conservation Resources Inc.,USA) at the X. International DOCOMOMO Conference in Rotterdam NL.
- "Sustaining the Earth: Public Scholarship in the Arts and Humanities,"** scholarly effort of the Center for Excellence in the Arts and Humanities (CEAH) at ISU.
- 2005 **"Passe Kaelber Architects - Works,"** Lecture at the University of Applied Sciences at Dortmund, Germany.
- Invited Guest Critic to the "Baupiloten,"** a Service Learning, DesignBuild project Technical University Berlin.
- 2004 **"Tag des offenen Denkmals,"** Lecture on space and detail concepts for the reuse of listed buildings in Oberschöneweide - Berlin.
- "Renault Traffic Award in Halle-Neustadt,"** Invited Guest Critic for Prof. Luise King: Technical University Berlin.
- 2003 **"Cocoon,"** Workshop and Lecture at the Polytechnic Lippe Höxter in Detmold, Germany.
- 2000-2004 Various lectures throughout German and Swiss Universities: Wismar/D; Kaiserslautern/D; Frankfurt/D; Gießen/D; Bern/Burgdorf/CH.
- 2000 **Shanghai und Hangzhou, PR China,** Presentation of student work from the Technical University Berlin Zhejiang University in Hangzhou.
- "ORT<=>ZIMMER" / "SITE<=>ROOM,"** Lecture at the Polytechnic of Koblenz.

- 1997        **"revisionism revisited"**, ACSA - International Conference in Berlin; Building as a Political Act; moderation of the section.
- 1995        **"Modern Housing,"** workshop in cooperation mit Prof. David Dunster, Sherry Bates and Clyde Malby (Quantity Surveyor) South Bank University, London.
- 1994        **"On city- developments of new Berlin suburbs in the Nineties,"** moderated podium discussion with local stakeholders and city representatives at der TU Berlin.
- 1993        **Invitation as guest critic in London,** at the Kingston University, the Bartlett School of Architecture and Planning and the Polytechnic of Central London.

### **INVITED PROCEEDINGS**

- 2012        Passe U (2012) **The Next Challenges Ahead: Design Integration and Robustness.** J Archit Eng Tech 1: e105. Doi: 10.4172/2168-9717.1000e105
- 2010        Passe, Ulrike, **"Space, Time, Energy: Learning from Interlocking a House with the Sun,"** Proceedings of the US Israel Workshop on Sustainable Buildings: Material and Energy, edited by Rachel Becker, 12/13. July 2010 Technion, Haifa, Israel, 73-74

### **CONFERENCE POSTERS (A Selection as of 2021)**

- 2021        Fagbule, O., Patel, R., Thompson, J., and Passe, U. (2021). **Validating the impact of vegetative wall coverings on building cooling loads using heat-flux sensors and infrared images** (poster). National Conference on Undergraduate Research (NCUR), April 12-14 (virtual).
- 2021        Thompson, J., Ganapathysubramanian, B., Chen, W., Dorneich, M., Gassman, P., Ghiasi, S., Krejci, C., Liebman, M., Nair, A., Passe, U., Rosentrater, K., Schwab, N., Sharma, T., Stone, T., Wang, Y., and Zhou, Y. (2021). **Iowa UrbanFEWS: Integrating social and biophysical models for urban food, energy and water systems.** Iowa State University Research Days (poster, virtual) March 23-25, Ames, IA
- 2020        Entezari, H., Goetz, V., Passe, U., Engler, M., (2020), **Thermal Delight, Impact of Landscape Design on Building Energy Performance Using Computer Simulation Tools**, virtual poster presentation at EDRA 51, Tempe Arizona, <https://edra.confex.com/edra/EDRA51/meetingapp.cgi/Paper/9122>
- 2019        Passe, U., Thompson, J. Ganapathysubramanian, B., Gao, B., Marmur, B., Homagni, S., Sharma, H. 2019. **The impact of trees on building energy use.** Iowa State University Research Day, Ames, IA.
- 2018        Passe, U., National Institute of Health, Health in Buildings Roundtable Scholar, **Human Behaviors Buildings, and Near Building Climates: Decision Support Tools to Increase Resilience of Urban Neighborhoods**, Poster Presentation. Meeting at the NIH, July 2018
- 2018        Janette Thompson, Ulrike Passe, **Human Behaviors Buildings, and Near Building Climates: Decision Support Tools to Increase Resilience of Urban Neighborhoods**, research poster

presented at the Science, Business, and Education of Sustainable Infrastructure Conference by the National Council for Science and the Environment, Jan, 22-24, 2018

- 2018 Shenk, L., Gutowski, W., Passe, U. (2018). **Communicating climate information that engages a community's knowledge and values.** Poster. American Geophysical Union. Washington, DC.
- 2018 Stonewall, J., Dorneich, M.C., Passe, U., & Shenk, L. **Methods for Engaging Underserved Populations,** Midwest Big Data Hub All-hands Meeting Omaha, NE, 3-Oct-18
- 2018 Huang, W., Krejci, C.C., Dorneich, M.C., & Passe, U. **Development of a Hybrid Model for Weatherization Adoption in a Multilayer Social Network** Midwest Big Data Hub All-hands Meeting Omaha, NE, 3-Oct-18
- 2016 Murillo, E., He, S., Passe, U., (2016, February). **Mobile Data Acquisition System (MiDAS) Designed to be Versatile.** Poster session presented at the Iowa Illinois Nebraska STEM Partnership for Innovation in Research & Education Louis Stokes Alliance for Minority Participation (IINSPIRE-LSAMP) 2015-2016 annual conference, Des Moines, IA.
- 2015 Jeanblanc, E., Ytzen, A., Passe, U., Colby, C., (2015, May). **Actively Retrofitting Lakeside Laboratory.** Poster Session presented at EDRA46 Conference, Los Angeles, CA.
- 2015 He, S., Passe, U., (2015, April). **Integrating Computational Fluid Dynamics with Preliminary Architectural Design for Natural Ventilation.** Poster Session presented at SpringSim 2015 Conference, Alexandria, VA.
- 2015 He, S., Passe, U., (2015, July). **Improving Whole Building Energy Modeling for Baseline Energy Consumption.** Poster session presented at the Iowa EPSCoR Annual All-Hands Meeting 2015, Cedar Rapids, IA.
- 2015 Jeanblanc, E., Passe, U., He, S. (2015, July). **Interlock Occupancy and Building Interaction.** Poster session presented at the Iowa EPSCoR Annual All-Hands Meeting 2015, Cedar Rapids, IA.
- 2015 Abbineni, K., He, S., Passe, U. (2015, July). **Correlation between different sensors and its role in Anomaly Detection and Categorization.** Poster session presented at the Iowa EPSCoR Annual All-Hands Meeting 2015, Cedar Rapids, IA.
- 2015 Deza, M., He, S., Passe, U., Ganapathysubramanian, B. (2015, July). **High Fidelity CFD Modeling of Natural Ventilation in a Solar House.** Poster session presented at the Iowa EPSCoR Annual All-Hands Meeting 2015, Cedar Rapids, IA.
- 2015 Hernandez, J., He, S., Passe, U. (2015, July). **Mobile Weather Station and Data Acquisition System.** Poster session presented at the Iowa EPSCoR Annual All-Hands Meeting 2015, Cedar Rapids, IA.
- 2015 He, S., Passe, U., **Integrating CFD with Preliminary Architectural Design for Natural Ventilation** (NSF acknowledged, full EPSCoR support), poster presented at 2015 Spring Simulation Multi-conference in Alexandria, VA, April 12~15, 2015.
- 2015 He, S, Passe, U., (2015) **Architectural student's attitude towards building energy modeling: A pilot study to improve integrated design education** Proceedings of the 14th International Conference of the International Building Performance Simulation Association, Hyderabad, India.

### *Tenure and promotion to associate professor in May 2013*

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- 2012 He, Shan, Ulrike Passe, "**Integrating thermo-fluid computational models into understanding sustainable building design,**" IBSPA-USA SimBuild 2012 (International Building Performance and Simulation Association) Madison, Wi, 1-3, 2012, earned second prize in poster competition.
- 2012 Takle, Eugene, Shannon Rabideau, Ulrike Passe, "**Use of NARCCAP Data to Develop a 'Typical Meteorological Year' to Incorporate Climate Change into Building Design,**" NARCCAP Users Meeting, Boulder, Colorado, April 10-11, 2012.
- 2011 Passe, Ulrike, "**Market strategies for solar houses,**" The Energy Forum at Bressanone, Italy, Dec. 8, 2011. (Abstract accepted, not presented due to schedule conflict during review week).
- 2011 Takle, Eugene, Shannon Rabideau, Ulrike Passe, "**Use of NARCCAP Data to Develop a 'Typical Meteorological Year' to Incorporate Climate Change into Building Design,**" American Geophysical Union (AGU) Conference, Session: GC21A. Regional Climate Impacts 1: Studies Based on Simulations From the North American Regional Climate Change Assessment Program I Posters, San Francisco, Dec. 5-9, 2011.
- 2011 "**Cedar Rapids New Bohemia Initiative,**" poster presented with Clare Cardinal-Pett and Mira Engler, ISU Sustainability Symposium, February 21, 2011.
- 2011 "**Green&Main Project Analysis,**" poster presented with Jamie Morin, graduate student, ISU Sustainability Symposium February 21, 2011.
- 2011 "**Energy Efficiency in Large Scale Warehouses,**" poster presented with Chris Taylor, graduate student, ISU Sustainability Symposium February 21, 2011
- 2010 "**A Net Zero Energy Home Using Energy Modeling and Simulation for Design Optimization,**" Iowa Energy Center 20th year anniversary symposium, November 5, 2010.
- 2010 "**Green & Main Project Analysis,**" Iowa Energy Center 20th year anniversary, November 5, 2010.
- 2010 **A net zero energy home using energy modeling and simulation for design optimization,**" co-authored with Tim Lentz, Clare Cardinal-Pett, Ron Nelson IBSPA-USA SimBuild 2010 (International Building Performance and Simulation Association) at NYU in New York City, Manhattan, August 11-13, 2010.

### **CONFERENCE LEADERSHIP**

- 2023** April 21 – 23, 2023: URSYS Workshop in Minneapolis, Organization
- 2019** Moderated and chaired the **Sustainable Urban Systems Redesigning the Urban-Rural Interface** (SUS RURI) NSF funded workshop on August 12-13 in Ames, Iowa.
- 2019** Passe, U., (2019). **Natural Ventilation Session** lead at the Extremes (CATE) Conference, April 2019, Dubai, UAE. Cook Scholarship award (\$1,500) to attend CATE 2019 in Dubai, UAE in April 2019



- 2019** Member to the Organization Committee of the Reynolds Symposium ‘**Education by Design**’, invited participant in Portland, Oregon, October 2019.
- 2018** SBSE Retreat in Moravia, Iowa: **Cycles**, held at Honey Creek Resort State Park, July 15-18, 2018, served as main retreat organizer and chair. <https://www.sbse.org/retreats/sbse-retreat-2018>
- 2018** **Adaptive Facades Symposium** Co-Convener with Deborah Hauptmann and Shelby Doyle, one day symposium with five international experts organized at Iowa State University funded by Tremco Inc. (<https://www.design.iastate.edu/event-listings/2018/02/adaptive-facades-symposium/>) April 19, 2018  
 Building facades, like the human skin, have to mediate a large variety of external parameters and conditions, such as sun, heat, wind, water. Facades’ which can change according to these conditions based on their material, mechanical or kinetic properties have been an architect’s dream for many decades. See for example the polyvalent wall of Mike Davies in the early 1980s. Like the lens of the camera or eye these façade should be able to adapt to changing external or internal conditions. Material development, digital manufacturing and computational advances in respect to parametric environmental building performance modeling have advanced thus far, that adaptive facades are the current and future innovations constructed to mediate, sun, light and heat to provide more energy efficiency, more comfort, more conceptual freedom and more opportunities for occupants to adjust their environment to their individual requirements.
- 2014** **Turkish Solar Energy Society** Annual Conference in Izmir, Turkey SOLAR TR on November 2014, workshop on energy modeling, presented the NSF EAGER funded research on the Harran House and chaired two panels.

## **MEDIA MENTIONS & MEDIA ENGAGEMENT (a selection)**

- 2023 Fred Love: Innovation at Work: New approaches to housing could lead to more efficient homes
- 2023 NSF Funded Smart & Connected Community (SCC) project CommHEAT funded with a \$1.2million grant to develop localized extreme heat warning system (CommHEAT) for Des Moines adaptable to other communities:  
<https://www.news.iastate.edu/news/2023/01/17/2023heatwave>  
 Passe, U., and Thompson, J. (2021). **Iowa UrbanFEWS in the News**. Project Newsletter, Vol. 1, Issue 1, June 10.  
 Passe, U., and Thompson, J. (2021). **Iowa UrbanFEWS in the News**. Project Newsletter, Vol. 1, Issue 2,  
 Passe, U., and Thompson, J. (2022). **Iowa UrbanFEWS in the News**. Project Newsletter, Vol. 2, Issue 1, Jan.22  
**Iowa Urban FEWS Project**. Retrieved March 27, 2022 from <https://iowa-urbanfews.cber.iastate.edu/>
- 2020 Interview and discussion on Ben Kieffer’s River to River on June 16, 2020, topic: **as-new-global-crises-emerge-climate-change-continues** Iowa Public Radio  
<https://www.iowapublicradio.org/show/river-to-river/2020-06-16/as-new-global-crises-emerge-climate-change-continues>

- 2020 <https://www.arcc-arch.org/sustainable-cities-research-team-at-iowa-state-awarded-2-5-million-grant/>
- 2020 <https://bustler.net/news/7832/sustainable-student-design-projects-distinguished-with-aia-acsa-cote-top-ten-for-students>
- 2020 [https://www.architectmagazine.com/awards/aia-cote-top-ten-green-projects/aia-and-acsa-announce-the-winners-of-the-2019-2020-cote-top-ten-for-students-awards\\_o](https://www.architectmagazine.com/awards/aia-cote-top-ten-green-projects/aia-and-acsa-announce-the-winners-of-the-2019-2020-cote-top-ten-for-students-awards_o)
- 2020 Major NSF-sponsored grant will help researchers discover ways to improve urban sustainability <https://www.news.iastate.edu/news/2020/01/22/sustainablecitiesnsf>  
[https://www.eurekalert.org/pub\\_releases/2020-01/isu-mng012220.php](https://www.eurekalert.org/pub_releases/2020-01/isu-mng012220.php)
- 2020 <https://www.design.iastate.edu/news/2020/01/sus-ruri-workshop-proceedings/>
- 2019 ISU Research Day Lightning Talk: "Adaptive Design Strategies for a Warming Climate", <https://www.youtube.com/watch?v=Ct4njMCiqZE>
- 2018 Indo-Swiss Building Energy Efficiency Project (BEEP)  
Space and design have an important relationship when it comes to energy efficient building design. Prof. Passe shares the BEEP Camp perspective. Spatial Design for Energy Efficient Building Performance <https://www.youtube.com/watch?v=lqY7IKJ-Aa8>
- 2018 *KCRG-TV9 News Staff*: Scientists: Iowa will be warmer and wetter in the future  
<https://www.kcrg.com/content/news/Scientists-Iowa-will-be-warmer-and-wetter-in-the-future-496977091.html>
- 2018 The Gazette, Cedar Rapids: "Adapt buildings to climate change, Iowa analysts urge", on the 2018 Iowa Climate Statement, <https://www.thegazette.com/subject/news/government/iowa-report-smarter-building-practices-could-respond-to-mitigate-sobering-climate-change-trends-20181011>
- 2018 SimAUD Interview: <https://arch.gatech.edu/research-community-celebrates-simulation-architecture-georgia-tech>
- 2017 ISU architecture professor Ulrike Passe honored with AIA Iowa Educator Award  
<https://www.design.iastate.edu/news/2017/12/ulrike-passe-aia-iowa-educator-award/>
- 2016 [https://www.architectmagazine.com/project-gallery/the-living-link\\_o](https://www.architectmagazine.com/project-gallery/the-living-link_o)
- 2016 <https://www.news.iastate.edu/news/2016/05/11/arch-students>
- 2016 Workshop trains Building Professionals <http://www.iowaepscor.org/category/features/>
- 2016 Iowa State University and city of Des Moines partner on big data research project. (2016). <http://www.news.iastate.edu/news/2016/10/26/bigdata-passe>. Last accessed: February 9, 2017.
- 2015 [https://www.architectmagazine.com/awards/aia-announces-winners-of-2015-aia-cote-top-ten-for-students\\_o](https://www.architectmagazine.com/awards/aia-announces-winners-of-2015-aia-cote-top-ten-for-students_o)
- 2015 Ed Ritchie, Building Envelope Efficiency: <https://www.distributedenergy.com/building-automation/article/13026972/building-envelope-efficiency-understanding-fenestration>
- 2015 <https://www.news.iastate.edu/news/2015/05/27/aiacote-wins>

***Tenure and promotion to associate professor in May 2013***

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- 2013 Interlocking A House with the Sun Interview with Ulrike Passe <https://vimeo.com/60823727>
- 2012 ISU researchers study energy and buildings:  
<https://www.news.iastate.edu/video/view/id/w40IEf5qqL8>

- 2012 "Let's Talk Solar," Radio interview My Iowa Info: <http://www.myiowainfo.com/> in preparation for the public lecture on April 2nd in Grinnell. <http://myiowainfo.com/pages/7908030.php>, March 30th, 2012.
- 2011 "Renew Iowa: Interlock House Television feature," on WHO TV Channel 13; <http://www.whotv.com/videobeta/470cfa02-a21d-4d2b-81d9-9fdb611cb077/News/Renew-Iowa-Interlock-House>, August 26, 2011.
- 2009 "ISU Solar Decathlon," Channel 5, Des Moines, February 25th, 2009.
- "ISU Solar Decathlon," KCCI Channel 8, Des Moines, February 18th, 2009.
- "ISU Students compete in Solar Decathlon," Ames Tribune, Kathy Hanson, February 13th, 2009.
- "Construction of the Solar Decathlon," Video Feature, ISU College of Engineering, February 11th, 2009.
- "Solar Decathlon Team showcases Design for Innovative Home," Iowa State Daily, February 1st, 2009.
- "Going Green and Going to Washington," Mike Malloy for Ames365.com, January 31st, 2009.
- "Students begin building Iowa State's solar house for Solar Decathlon competition," Iowa State University News Service, January 31st, 2009.
- "Iowa State Team Competing in Solar Decathlon," WHO TV, Des Moines Iowa, January 30th, 2009.
- "Interlock House Newsletter," January 17th, 2009.
- 2008 "Prototyping the New American Dream," Dennis Smith, Innovate, Journal of the Iowa State University College of Engineering. November, 21st, 2008.
- "German Architect brings a touch of green to Iowa State University," Iowa State New Service, July 31st, 2008.
- "Green proponent glad to be in higher education," Iowa State News Service, July 31st, 2008.
- "On Iowa State Solar Decathlon," AIA Main News on September 4th, 2008. <http://www.aiaiowa.org/displaycommon.cfm?an=1&subarticlenbr=159>
- "ISU Solar Decathlon 2009," Various updates and progress reports about the project in in the magazines of Ames Lab and IPRT.

## HONORS AND AWARDS

- 2022 **Cook Scholarship** award (\$3,000) to attend Comfort at the Extremes Conference (CATE) 2022 in Edinburgh UK in September 2022
- 2019 Iowa Women in Architecture **Member of the Month** November 2019 <https://iawomenarch.org/news-archived/november-member-of-the-mont>

- 2019 **Cook Scholarship** award (\$1,500) to attend Comfort at the Extremes Conference (CATE) 2019 in Dubai, UAE in April 2019
- 2016 **Shive-Hattery Architecture Studio**  
Shive-Hattery Architecture and Engineering is a client-intimate consulting firm that goes beyond traditional design. The established a funding agreement with Iowa State University to support architecture students through the establishment of the Shive-Hattery Architecture Studio, which has been identified as the second-year graduate architecture studio ARCH 601, that focuses on integration advanced systems technology and sustainable design. The Shive-Hattery funds enabled studio instructor Ulrike Passe to invite four experts to support the technical discussion and creative development of the projects in fall 2018 and 2019.
- 2018 Passe, U., National Institute of Health, **Health in Buildings Roundtable Scholar**,
- 2017 **AIA Iowa Educator Award**  
<https://www.design.iastate.edu/news/2017/12/ulrike-passe-aia-iowa-educator-award/>  
The award recognizes significant contributions to architectural education in Iowa. In his nomination letter, Morrill Professor Thomas Leslie, the Pickard Chilton Professor in Architecture at Iowa State and winner of last year's AIA Iowa Educator Award, observed that Passe has, "through her skillful teaching, insightful research and passionate advocacy, advanced issues of environmental and energy-efficient design within our curriculum and throughout our profession. More than this, she has coached hundreds of students through the difficult task of integrating these issues into thoughtful and accomplished designs."
- 2016 Iowa State University College of **Design Research Award**  
As director of the ISU Center for Building Energy Research, Ulrike collaborates with researchers across campus to develop strategies to reduce energy consumption in buildings. She leads the building energy plank on the Iowa NSF EPSCoR project and the ISU Presidential Initiative for Interdisciplinary Research in Big Data for Sustainable City Decision Making. She recently published the first book intended to help architects without an engineering background develop successful natural ventilation strategies. Ulrike has organized two college research networking socials to encourage interdisciplinary collaboration. She is an outstanding mentor whose students regularly present their research and win awards at conferences and competitions.
- 2014 NSF Iowa EPSCoR Broader Impacts **Mentoring and Outreach Award**  
<http://iowaepscor.org/news/annual/2014/Passeaward>
- 2013 fall **Faculty Professional Development Assignment (FPDA): Book Completion: Designing Spaces for Natural Ventilation, an architect's guide'**

***Tenure and promotion to associate professor in May 2013***

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- 2013 Iowa State University **Excellence in Sustainability** Award to ISU USGBC Research to Practice Team
- 2012 United States Green Building Council (USGBC) Research to Practice **R2P2 Scholarship** to present student research at the 2012 GreenBuild Conference and Expo in San Francisco
- 2010 Award: **Iowa State University Alumni Association IMPACT Award 2010** granted to recognize individuals, businesses, organizations, or units whose programs or accomplishments brought broad recognition to the university and increased the involvement of ISU constituents in the life of the university during the year prior to being nominated.  
The award reads, "Iowa State University gained substantial visibility in October 2009 with its presence on Washington, D.C.'s National Mall: The university's solar decathlon team was one of only 20 in the world to participate in the final round of the U.S. Department of Energy's Solar Decathlon, an event showcasing sustainable residential innovation on college and university campuses. Those who were involved in the extensive project agree: Iowa State's celebrated Interlock House would not have been possible without the tremendous leadership of Ulrike Passe."

- 2010 Award: **Iowa State Live Green! Excellence in Sustainability Award to the Solar Decathlon team** to recognize an impact on the campus' sustainability efforts by generating awareness and interest through initiatives that focus on teaching, research, outreach and/or operations."
- 2009 Award: **College of Design Faculty Award for Extraordinary performance**  
*"Ulrike Passe has assumed a key role in the architecture technology curriculum, increasing the emphasis on sustainable design principles and integrating her extensive "green" practice experience in Germany into design studio. She is committed to interdisciplinary efforts... As the principal investigator for ISU's Solar Decathlon project, Ulrike has engaged with students and faculty across campus and throughout our College in the design and construction of a solar- powered house. ... Ulrike handles this ambitious range of projects with flexibility and humor."*
- 1998 Award: **Hans - Schaefer's Young Architects Award BDA** (Bund Deutscher Architekten) together with Thomas Kaelber (DM 2,000 = approx. \$1066)  
 Awarded for emerging young practices in Berlin by the leading professional institution.

## **REPOSITORY DATA & CITATIONS (as of Aug 2023)**

### **Iowa State Digital Repository ( as of August 2023, since Jan. 2014):**

<https://readership.works.bepress.com/?authdash=1&userid=1902947&.authP=authdash%2Cuserid%2C.authTX&.authTX=1604019843&.authT=V3O6Oj7z4583eJsBs61nsS8mNRuSe0#/>

**Total downloads of 42 works = 23,653 Downloads** (as of August 10,2023)

Works downloaded by people at 1764 institutions in 162 countries.

#### **Top 4 downloaded works:**

Designing Sensual Spaces: Integration of Spatial Flows Beyond the Visual 4806

Alvar Aalto's open plan architecture as an environmental technology device 3231

Sustainable Building Typologies: Free Flow Open Space as a Climate Technology 3149

Atmospheres of space: the development of Alvar Aalto's free-flow section as a climate device 2633

### **Google Scholar: (as of August 2023)**

<https://scholar.google.com/citations?user=QLmdzAYAAAAJ&hl=en>

Citations **751 (overall) 592 (since 2018)**

h-index: 14 / 12 since 2018

i-10 index: 27 / 20 (works with more than 10 citations)

#### **Top 2 cited works:**

Changing climate: The effects on energy demand and human comfort (80)

Designing spaces for natural ventilation: an architect's guide (95)

### **ResearchGate (RG) (as of August 2023)**

Research Interest Score: 362.2 (higher than 83% of RG members) | Reads 15,365 | 438 Citations | h-index: 10

## Book Sales (end of 2019 data)

Hardback		I/15	II/15	I/16	II/16	I/17	II/17	I/18	II/18	I/19	II/19	Total
	USA	19	-2	2				1		-1		19
	rest of the world	12	8	3	6		4			1		33
<b>Paperback</b>												
	USA	41	36	6	18		5	6	9	1	4	126
	USA direct	2	3	10	1		2				1	19
	Canada		1	3								4
	rest of the world	71	106	49	44		16	10	20	8	9	333
<b>e-book</b>												
	USA	3	8	6	3		2	2	2		2	28
	rest of the world	5	28	9	8		7	2	4	2	3	68

## INVITED PUBLICATIONS (co-author)

- 2019 **Iowa Climate Statement 2019: Dangerous Heat Events to Become More Frequent and Severe.** Contributing author with Gene Takle, Peter S. Thorne, Brett Ramirez, David Courard-Hauri, Jerry Schnoor, David M. Cwiertny,
- 2018 **Iowa Climate Statement 2018: Designing Buildings and Communities for Iowa's Future Climate.** Co-author with Jerry Schnoor, Eugene Takle, 201 science faculty and researchers from 37 Iowa colleges and universities. (<https://iowaenvironmentalfocus.org/iowa-climate-statement/>)
- Since 2011, researchers and educators at nearly every college and university in Iowa have produced annual statements to communicate in plain language the state of climate science and the impacts of climate change on Iowans. This process has been open to all of our state's academic climate experts to ensure that our statements are factual.

## PUBLICATIONS ABOUT CREATIVE AND BUILT WORK

- 2009 **"Passe, Kaelber Architekten: Haus Marxen's interior"** in: Ro Spankie: Basics Interior Architecture: drawing out the interior, AVA Academia Lausanne, 2009.
- 2006 **"Passe, Kaelber Architekten: Haus Marxen,"** in: 1000 x European Architecture, ed.: Chris van Uffelen, Braun Verlag Berlin, 2006, p. 577.
- "'Casa a Marxen' di Passe, Kaelber Architekten,"** in 'l' architettura naturale', international review on sustainable architecture; anno IX no 30, Marzo 2006, Edicom Edizione, Milano, p. 62 - 65.
- 2004 **"Passe, Kaelber Architekten: 'Haus Marxen'"** in: Architektur in und aus Berlin 04, ed: Architektenkammer Berlin. p. 84.

- "Passe, Kaelber Architekten: Haus Marxen,"** in: 'Practical Experience - A Students Guide to Internship and the Year Out,' (Ed: Rüedi-Ray, K., Marjanovic', I, Tankard, J), London Elsevier Press.
- 2003-2004 **"Passe, Kaelber Architekten,"** in: [www.germanarchitects.com](http://www.germanarchitects.com); internet publication by PSA Publisher, Zürich/CH.
- 1999 Passe, Ulrike, **"Emanzipatorische Wohnformen"** Biesdorf-Süd, Berlin Mahrzahn; Competition results; in: *Wettbewerbe Aktuell*, Vol. 08/1999, Freiburg.
- 1998 Passe, Ulrike, **"Landesvertretungen Brandenburg & Mecklenburg-Vorpommern in Berlin,"** Competition results; in: *Wettbewerbe Aktuell*, Vol. 07/1997, Freiburg.
- 1994 Naegeli, Walter, Renzo Vallebuona, **"Eine Fabrik in Melsungen,"** Wasmuth Verlag Berlin 1994; Ulrike Passe listed as project contributor.
- 1991 Stirling, Wilford, Naegeli, **"Werksanlage Pfeiffewiesen,"** AEDDES Exhibition catalogue, Berlin 1991; Ulrike Passe listed as project contributor.
- 1990 Passe, Ulrike, **"A new Stock Exchange for Berlin,"** Exhibition of selected Diploma-thesis in: *Großstadtarchitektur*, AEDDES, Berlin; exhibition catalog.
- 1989 Passe, Ulrike, **"Studio in London,"** *Bartlett Review*, publication of 4th year project.
- 1987 Kollhoff, Hans, Fritz Neumeyer, **"Großstadtarchitektur, Sommerakademie fuer Architektur Berlin 1987"** Gebr. Mann Verlag, Berlin 1989, publication of design project for the summerschool, Berlin 1987

## EXHIBITS

### Public Exhibitions of Research, Creative and Built Work

- 2012 **"The Green & Main energy efficiency in historic community project,"** Center for Building Energy Research involvement highlighted at the Iowa State *Design in Action* exhibit at the Smithsonian FolkLife Washington DC, June 27 - July 1 and Aug. 4-8, 2012.  
[http://www.festival.si.edu/2012/campus\\_and\\_communitytransforming\\_communities/iowa\\_state\\_univ.aspx](http://www.festival.si.edu/2012/campus_and_communitytransforming_communities/iowa_state_univ.aspx) (Competitive Committee Selection)
- 2011 **"Sustainable Net Zero Energy Studio,"** at display at ACSA NEH Affordable Housing Symposium organized by Nadia Anderson at ISU, April 21-22, 2011 (Invited).
- 2009 **"2009 SOLAR DECATHLON: The Interlock House,"** US Department of Energy's 2009 Solar Decathlon competition and public exhibition of an 800 sft solely solar powered house designed by ISU students under leadership of faculty adviser and principal investigator Ulrike Passe, Washington DC, Sept 30 - Oct 18, 2009. (Competitive international highly public event).
- 2008 Passe, Ulrike, Francine Battaglia, **"The fluid dynamics of air flow in free flow open spaces: An architectural approach to energy efficient buildings,"** Exhibition of BSA funded

research projects at the 2008 AIA Annual National Convention in Boston, May 15-17, 2008.  
(Invited)

- 2006 **"Model Housing for the Future,"** Bund Deutscher Architekten (BDA) Gallery: Exhibition of 'Haus Marxen'. (Peer-reviewed)
- 2006 **"New Members,"** Exhibition at the Bund Deutscher Architekten (BDA) Gallery. (Invited, membership invitation peer-review and by invitation)
- 2004 **"Haus Marxen,"** DA! 2004 Annual exhibition of the Berlin Architektenkammer Architect's Professional Board. (Peer-reviewed)
- 2004 **"Haus Marxen,"** NDR (Northern German Broadcasting Company, part of ARD, Main German Broadcasting) Television feature for „*Hallo Niedersachsen*“ the regional TV news channel on. (Invited)
- 2004 **"Tag der Architektur / Open day of Architecture,"** selected buildings throughout Germany, selected by the German Professional architects institute (Architektenkammer); several press comments in local newspapers. (Peer-reviewed)
- 1991 **"Concept for Potsdamer Platz, Berlin,"** AIV (Architecture and Engineering Society Berlin, see: <http://www.aiv-berlin.de/>) Exhibition Berlin. (Competition)
- 1990 **"Diploma Prize 1990,"** Exhibition in Gallery AEADES, Berlin, *Grossstadtarchitektur*, Opening December 1990. [http://www.aedes-arc.de/sixcms/detail.php?template=aedes\\_ueber\\_aedes&menu\\_id=3](http://www.aedes-arc.de/sixcms/detail.php?template=aedes_ueber_aedes&menu_id=3) (Invited, competitive selection)
- The Architecture Forum Aedes has become one of the most successful institutions internationally for communicating architectural culture, urban design and similar topics. Aedes is associated world-wide with the great names of the architectural avant-garde and offers an excellent platform for new generations of architects in a global context. With its continuous work, Aedes has evolved into a unique cultural brand, which enjoys an outstanding reputation*

## Curated Exhibitions

- 2013-2020 **Annual Berlin Exhibition at the College of Design**
- 2012 **"Adaptive Interface BERLIN II,"** Exhibition of student work from the Berlin 2012 Summer Academy at the Bundesbauministerium, Germany, collaboration with ars Berlin, Beuth Hochschule Berlin, June 28-30, 2012.
- 2012 **"Adaptive Interface AMES I,"** Exhibition of student work from the Berlin Summer academy in the COD Lightfoot forum in Jan. 17- Feb. 3, 2012.
- 2011 **"Adaptive Interface BERLIN I,"** Exhibition of student work from the Berlin 2011 Summer Academy at the European Energy Forum in Berlin, Germany, collaboration with ars Berlin, Beuth Hochschule Berlin, Bauhaus University 2011Weimar and Dessau Institute of Architecture (DIA), Dessau, June 30, 2011.



- 2012      **"Future Waterfronts,"** Exhibition of 2010 Berlin Summer Academy on low carbon lifestyle and waterfront urbanization at edition Suhrkamp Laden Berlin, with Ars Berlin, Beuth Hochschule and Pratt University, June 30, 2012.
- 2010      **"Sustainable Cities Week,"** College of Design, Ames, Iowa showcasing the student work from 2010 Berlin Summer Academy on low carbon lifestyle and waterfront urbanization. Collaboration with ars Berlin, Beuth Hochschule and Pratt University, Oct 25- Nov 5, 2010.
- 2010      **"Rome Show: Fire, Water, Air, Earth,"** College of Design, Ames, Iowa, Student Design work from spring 2010 Architecture studio and Drawing class, Sept 7-28, 2010.
- 2007      **"Rome Show: The Tiber,"** at the College of Design, Ames, Iowa, Student Design work from the Summer 2007 Interdisciplinary Urban Design Studio, Oct 2007.
- 2006      **"Rome Show: TRA,"** at the College of Design, Ames, Iowa, Student Design work from the Spring 2006 Architectural Design Studio, Sept. 2006.
- 2005      **"Zwangsarbeiterlager in Berlin Oberschöneweide - Prisoner Camps in Berlin - a forgotten urban trace in Berlin's new economy,"** Trafo e.V. Gallery, Technologiecenter Rathenau, Berlin - Oberschöneweide.
- 1997      **The Border - Die Grenze,"** Student work from a Polish - German Design Studio, Architecture Gallery Technical University Berlin.
- 1996      **"Querschnitt/ Section,"** Symposium at the Technical University on the future of architectural education, organization committee; Keynote Speakers: Kees Christiaanse, Kevin Rowbotham, Matthias Sauerbruch.
- 1994      **"International Summer School,"** Technical University of Liberec; public exhibition in Liberec (Czech Republic), Gallery Hulka.
- "First steps in Design,"** Organization of a symposium on methods for 1st year design studio with participants from nine German universities, with exhibition
- 1992      **"Poisoned Earth,"** Exhibition curator for design works from London architecture schools on Berlin urban renewal after the fall of the Berlin wall. Exhibition took place in the Mies van der Rohe - House in Berlin; with Thomas Kälber; Berlin and Katerina Rüedi; Jonathan Hill and Kevin Rhowbotham of Kingston Polytechnic; Bartlett School of Architecture and Polytechnic of Central

### **Exhibition Catalogs Curated**

- 1997      **"After the Bauhaus,"** 13 positions on undergraduate design teaching; Ed: Ulrike Pässe and Holger Kleine; ISA - Book vol. 1, TU Berlin publications.
- 1998      **"The Border,"** Exhibition of design studio works at the TU Berlin“ - (Ed: Sauerbruch, M) ISA - Book vol. 3, TU Berlin publications.
- 1992      **"1:1 Seduction,"** Hill, Jonathan, et al. Introduction with Thomas Kaelber.  
**"Floating Signifiers,"** Rüedi, Katerina. et al. Introduction with Thomas Kaelber.



### **III. AREAS OF POSITION RESPONSIBILITY STATEMENT**

#### **TEACHING (as of August 2020)**

My usual teaching load is 15-18 credits per year according to my PRS. Funded by the the Institute for Physical Research and Technology (IPRT) and the internal Presidential Interdisciplinary Research Initiative (PIRI) I funded five course buyouts in Spring 2014, 2016, 2017, 2018 and 2019. In Fall of 2013 I a was awarded a Faculty Professional Development Assignment (FPDA)

#### **Iowa State courses since spring 2013**

##### **ARCH 245: Building Science and Technology I / 3 credits (lecture and lab)**

F 14: 82 students

F 15: 79 students

F 16: 89 students

##### **ARCH 341: Building Science and Technology II / 5 credits**

Spr 13: 80 students

Spr 14: 82 students

Spr 15: 78 students

Spr 16: 80 students

Spr 17: 87 students

##### **ARCH 342: Building Science and Technology III / 5 credits**

F 14: 82 students

F 15: 77 students

F 16: 74 students

##### **ARCH 343: Building Science and Technology IV / 5 credits**

Spr 13: 80 students

Spr 14: 79 students

Spr 15: 78 students

Spr 16: 75 students

Spr 17: 75 students

##### **ARCH 445: Building Science and Technology V / 3 credits**

F 14: 74 students

F 15: 75 students

F 16: 77 students

From Fall 2017 the building technology courses were split into Lecture and Lab and the lecture portion co-listed between undergrad and grad, while I was not assigned to lead the lab sections in agreement with the instructor, I am still co-authoring the undergraduate lab content, while the graduate labs are taught independently.

##### **ARCH 345/345L/545 M1, 3 Building Science and Technology I 3**

F 17: 84

F 18: 90

**ARCH 346/346L, 546 M2, Building Science and Technology II, 5**

Spr 18: 89

Spr 19: 91

Spr 20: 91

**ARCH 347/347L/545 Building Science and Technology III, M3, 5**

F 17: 88 students

F 18: 88

F 19: 92

**ARCH 348, M3, Building Science and Technology IV, 5 (91) 5**

Spr 18: 91

Spr 19: 88

Spr 20: 92

**Building Science and Technology V ARCH 445/445L, M2, 3**

F 17: 73

F 18: 87

F 19: 80

**ARCH 351, Whole Building Energy Performance Modeling (Elective) / 3 credits**

Spr 15: 15 students

Spr 20: 8 students

**DSN S 546 / ARCH 404 Option Studio Timber in the City Comp. Red Hook Brooklyn New York**

Spr 13: 6 Credits, 7 students

**ARCH 576 DE: Berlin Summer Academy: Architecture for a low carbon life (summer study abroad in addition to PRS)**

S 13: 4 Credits, 11 students

S 14: 4 Credits, 13 students

S 15: 4 Credits, 10 students

S 16: 4 Credits, 8 students

S 17: 4 Credits, 9 students

S 18: 4 Credits, 4 students

S 19: 4 Credits, 8 students

**ARCH 601: Sustainable Design Graduate Net Zero Energy Studio**

F 14: 6 Credits, 26 students, co-taught with Kris Nelson / 3 ACSA/AIA Top1-COTE winning teams

F 15: 6 Credits, 14 students / one ACSA/AIA Top1-COTE winning teams

F 16: 6 Credits, 17 students / one ACSA/AIA Top1-COTE winning teams

F 17: 6 Credits, 16 students

F 18: 6 Credits, 15 students

F 19: 6 Credits, 15 students / one ACSA/AIA Top1-COTE winning teams

### **ARCH 490B: Independent Study (Design)**

F19: 4 students independent study ARCH 490 2 credits Berlin (Berlin Exhibition organized)  
F18: 3 students independent study ARCH 490 2 credits Berlin (Berlin Exhibition organized)  
F17: 6 students independent study ARCH 490 2 credits Berlin (Berlin Exhibition organized)  
F16: 7 students independent study ARCH 490 2 credits Berlin (Berlin Exhibition organized)  
F15: 5 students independent study ARCH 490 2 credits Berlin (Berlin Exhibition organized)  
F14: 9 students independent study ARCH 490B: credits Berlin (Berlin Exhibition organized)  
Spr 14: 2 students ARCH 490B: Independent Design 6 credits, Lakeside Laboratory, Iowa

### **ARCH 590B: Independent Study (Design)**

Spr 20 1 independent study ARCH 590 graduate student in March (Eli paper)  
Spr. 20 1 independent study ARCH 590 graduate student in MS  
F 18 1 independent study ARCH 590 graduate student in MLA (Envimet Farshid)  
Spr 18 1 independent study ARCH 590 graduate student in SUSE (daylighting Diba)  
Spr 18 1 independent study ARCH 590 graduate student in MS in Architecture (collaboration with DLR Group)  
F 17: 2 independent study ARCH 590 graduate students Glenn Cellulose / Charvi Jagani Envimet

## **RESEARCH (as of August 2020)**

### **Research Proposals Written, but not funded (a selection)**

2019	Ulrike Passe, Yuyu Zhou, Brett Ramirez (US\$ 1.5M) <b>Sloan Foundation SENSOR</b> program pre-proposal
2019	PI: Ulrike Passe, Mary Losch, Caroline Krejci, Baskar Ganapathysubramanian, Michael Dorneich; NSF S&CC (US \$1.5M); NSF SCC – IRG Track 2: <b>MC-HEAT: Development of a MicroClimate-based Heat Emergency Alert Through Human Behavior and Physics-Aware Modeling</b>
2019	Sri Sritharan (PI), Jeramy C Ashlock, Ulrike Passe, Soumik Sarkar, Hongwei Zhang (co-PIs) <b>OIA - Mid-scale RI - Track 1: (M1:IP): Smart Civil Infrastructure Test Yard for Convergence Research (SmartCITY)</b> (US\$ 19,974,740)
2018	Soumik Sarkar (PI), Balsar Ganapathysubramanian (co-PI), Ulrike Passe (co-PI), Anthony Florita, NREL (US\$ 2M) Department of Energy - Building Technology Office - BENEFIT FOA <b>A hybrid data-physics framework to model-monitor-adapt building-microclimate interactions</b>
2018	Passe, Shenk, Krejci, Ganapathysubramanian, Zhou et al.: (US \$2.3M) NSF SCC 2018: SCC: <b>A hybrid data-physics framework to integrate human behavior and microclimate dynamics for community adaptations to extreme heat events</b>
2017	PI: Ulrike Passe, co-PIs: Michael Dorneich; Soumik Sarkar; Caroline Krejci; Alenka Poplin, Senior Personnel: Baskar Ganapathysubramanian, Soumik Sarkar, Michael Dorneich, Alenka Poplin, Linda Shenk, Kristen Cetin, (US \$1M), NSF Smart and Connected Communities: SCC-

**IRG Track 2: Smart Neighborhood Energy Decision Framework for Community-Energy-Microclimate Interaction,**

- 2017 PI: Ulrike Passe, co-PIs: Katherine Bruna, Matthew Liebman, Eugene Takle, Janette Thompson, Senior Personnel: Michael Dorneich; Soumik Sarkar; Youngme Seo; Kristin Cetin; Linda Shenk; Baskar Ganapathysubramanian; Caroline Krejci; Mary Losch (Evaluator); (US \$2.99M) NSF\_NRT-INFEWS: **Urban interdisciplinary sciences (URBIS) research training through design for innovations in food-energy-water systems**
- 2017 PI: Ulrike Passe, co-Pis: Christoph Reinhart (MIT), Caroline Krejci, Matthew Liebman, Janette Thompson; Senior Personnel: Baskar Ganapathysubramanian, Soumik Sarkar, Michael Dorneich, Alenka Poplin, Linda Shenk, Kristen Cetin: (US \$2.5M) NSF: INFEWS/T1/: **Urban food-energy-water systems: Empirical studies and integrative modeling to enhance urban agriculture**
- 2016 PI: Ulrike Passe, co-Pis: Christoph Reinhart (MIT) Christoph Reinhart,( MIT), Baskar Ganapathysburamanian (ISU), Caroline Krejci (ISU), Matt Liebman (ISU) (US \$3M INFEWS/T1/Category 1: Integrative Modeling of Human-Food-Energy-Water-Systems (FEWS) **Interactions to Design Efficient, Equitable Urban Landscapes** in collaboration with MIT Sustainable Design Lab lead by Christoph Reinhart, not funded.
- 2016 Passe, Krejci, Dorneich (US\$ 299,335) NSF Environmental Sustainability Program: **Design of an occupant-building-microclimate modeling system to enable task-driven control of occupant workspaces**
- 2016 Ulrike Passe, Kristen Cetin, Yu Wang, Zheng O'Neill (University of Alabama) Commercial **Building Energy Code Field Study for Climate Zone 2A, 3A, 5A, 6A** US\$ 1,011,000 Department of Energy Building Technology Office Commercial Code Compliance Study
- 2015 Baskar Ganapathysubramanian, Umesh Vaidya; Ulrike Passe, (US \$927,921) NSF CyberSEES: Type 2: Energy Efficient Buildings: Integrating fully automated simulations and adaptive controls with sustainable architecture
- 2015 Jack Yates, Ulrike Passe, Junyong Ahn, Lazarus Adua US \$375,000 DOE ARPA\_E Scaling up community-wide behavior/education competitions for residential energy efficiency & reduction
- 2015 Ulrike Passe, Ted Heindel, (US \$200,000) **Next Generation Solar Driven Packed Bed Liquid Desiccant Dehumidification For Residential Building Application And Retrofit** Department of Energy Building University Innovators and Leaders Development ((BUILD -2015) FOA # DE-FOA-0001167 CFDA # 81.086
- 2014 Ulrike Passe, Michael Dorneich, Caroline Krejci, (US \$299,255) NSF CNH-S: **Development of a task-based, user-centered building control paradigm to improve the human experience in context of the built environment.**

***Tenure and promotion to associate professor in May 2013***

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- 2012 **"Development and testing of a methodology for future typical meteorological year data files based on period 2040-2070 climate projections produced by eight global/regional climate models,"** Unsolicited Research Proposal to ASHRAE. Under review by Technical Committee 4.2. Climate information (\$146,015; PI/Co-PI: Eugene Takle)

- 2012 **"Self Sufficient 'Granny Pod' Powered by Renewable Energy,"** Energy Research Grants - Cycle 7 Nebraska Center for Energy Science Research PI: Dr. Bing Chen, Professor and Chair UNL Computer & Electronics Engineering, Co-PIs: Dr. Hamid Sharif, UNL Computer & Electronics Engineering, Dr. Song Ci, UNL Computer & Electronics Engineering, Dr. Josephine Lau, UNL Architectural Engineering/Durham School, Consultants: Ulrike Passe, Iowa State University, Keith E. Pedersen, UNL Construction Systems/Durham School, Bob Peterson, Cornhusker State Industries, James Devaney, Creighton University, Ziqi Shen, Graduate Student, UNL Architectural Engineering, Ed Hancock, National Renewable Energy Laboratory (NREL)
- 2012 **"Advanced indoor air quality enhancement for livestock housing, residential, and workplace environments,"** ISU Bailey Research Award Proposal. PI: Jacek Koziel (Associate Professor, CALS- ABE), Co-PI's: James Alleman (Professor, COE-CCEE), Tim Frana (Associate Professor, CVM-VDPAM), Steve Hoff (Professor, CALS-ABE), William Jenks (Professor and Chair, LAS-Chemistry), Ulrike Passe (Assistant Professor, COD-ARCH, director of CBER), Kimberly Zarecor (Associate Professor, COD-ARCH), Industrial Partner: PURETi, Inc – Glen Finkel, President (\$150,000).
- 2011 **"Midwestern Case Studies for Green Building Design: Water Quality and Utility Management,"** Water Resource Foundation Considerations program 4383. (PI: Mehmet Egemen Ozbek, Colorado State University Department for Construction Management) (\$15,000 subcontract value).
- 2011 **"Efficiency of the liquid desiccant system custom designed for the Iowa State Solar Decathlon Interlock House,"** Iowa Energy Center Demonstration project proposal: (\$25,000, PI).
- 2011 **"Prediction for changing building energy consumption due to anticipated climate change in Iowa and other Midwestern locations,"** ISU Electric Power Research Center (EPRC)(\$ 32,168, PI, CO-PI: Gene Takle Professor of Atmospheric Science).
- 2010 **"Anticipatory Control Strategy for Passive Solar Architecture Driven by Weather Forecast,"** Proposal to the Boston Society of Architects (BSA) (\$33,208, PI, Co-PI: Eugene Takle).
- 2010 **"Anticipatory Control Strategy for Passive Solar Architecture Driven by Weather Forecast,"** Iowa Energy Center Pre-proposal, (\$56, 769, PI, Co-PI: Eugene Takle).
- 2010 **"Solar Decathlon Performance Tracking Project,"** invited research proposal to the National Renewable Energy Research (NREL). Proposal was considered competitive, but not funded due DNR's reconstruction delay of the house at Honey Creek Resort, (\$83,649, PI, Co-PI: Eugene Takle)
- 2010 **NSF-IGERT "Harnessing Energy Flows in the Biosphere to Build Sustainable Energy Systems,"** PI: Steve W. Martin, Multi-Institutional Multi-National Prop., Iowa State Univ., Lead, with Univ. of Iowa and Univ. of Northern Iowa, as Partner Universities, Zhejiang University, China, Osaka Prefecture University, Japan, Gyeongsang National Univ., South Korea as Collaborating Universities white paper to ISU VP for Research / one of 20 faculty participants.

- 2010 **"A National Network for Animal Models and Research Resources: Meeting the Need for High Health, Large Animal Models for Biomedical Research,"** (Consultant with ISU to Vet Med faculty) (\$5,000,000).
- 2010 NSF EFRI-SEED\* invited to submit full proposal: **"Multi-scale material and thermo-fluid computational models of sustainable buildings using efficient energy harvesting materials,"** (\$2,000,000 over 4 years, PI / Co-PIs: K.Rajan. Zhi J. Wang. J, Shane / Senior personnel: Strong, Carriquiry, Fox \*Science in Energy and Environmental Design: Engineering Sustainable Buildings
- 2009 NSF EFRI-SEED preliminary proposal: **"Multi-scale material and thermo-fluid computational models of sustainable buildings using efficient energy harvesting materials."** (\$2,000,000 over 4 years, PI/Co-PI: K.Rajan. Zhi J. Wang. J, Shane/ Senior personnel: Strong, Carriquiry, Fox.
- 2009 D.O.E. Data Center Efficiency **"Ambient Air Cooling for Increasing Small Data Center Efficiency,"** (PI /w:Institute for Physical Research and Technology / Center for Physical and Computational Mathematics/ Co-PI: Harmon, Ajarapu, Perkins; Industry partners: Freese-Notis, Silicon Graphics International.) (Total budget: \$1,376,618).
- 2009 **"Whole building energy performance evaluation - Monitoring the ISU Solar Decathlon Interlock House,"** Iowa Energy Center Pre-proposal (PI/Co-PI: Nelson, \$119,200).
- 2009 **"Quantifying Air-leakage Rates in Swine Housing by Construction Type,"** Iowa Energy Center Pre-proposal: (Co-PI/PI: Steve Hoff, Professor in Agriculture and Biosystems Engineering, \$151,043).
- 2009 **"The Midwestern Building Systems and Materials Applications Research TestBed (MB SMART),"** Expanded D.O.E. Programmatic Research through the Ames Laboratory, (Co-PI/Lead-PI: Alex King, Director of The Ames Laboratory/ 2. Co-PI: Kevin Nordmeyer, Director Iowa Energy Center, Budget: \$17,750,000).
- 2009 **"Efficiency of the liquid desiccant system custom designed for the Iowa State Solar Decathlon Interlock House,"** Ames Laboratory Seed Funding proposal: (PI/ Budget: \$55,000).
- 2008 **"Integrated computational whole building energy performance analysis,"** Ames Laboratory Seed Funding proposal, (PI / Co-PI: Benjegerdes AL, \$50,000).
- 2008 **"Detailing the building envelope with high efficient windows,"** Iowa Energy Center Full Research Proposal, (PI / Co-PI: Nelson, \$97,264).
- 2008 **"Whole building energy performance evaluation - Monitoring the ISU Solar Decathlon Interlock House,"** Iowa Energy Center Pre-proposal, (PI/Co-PI: Nelson, \$166,715).
- 2008 **"Evaluation of the Interlock House Solar Powered Heating and Cooling,"** Iowa Energy Center Pre-proposal (Co-PI / PI: Nelson, \$104,264).
- 2007 **"The PORCH: a transient space for cooling comfort in Iowa,"** ISU CEAH Interdisciplinary Collaborative Research Grant Proposal, (PI/Co-PI: Dr. Mike Pate, Professor of Mechanical Engineering, \$10,000).



- 20007      **"Projected Effects of Thermal Stratification on Energy Consumption and Building Energy Computer Code Predictions,"** Iowa Energy Center Pre-proposal, (Co-PI/ PI: Dr. Mike Pate, \$147,800).
- 2007      **Solar Decathlon 2009 Preparation,"** Iowa State Faculty Enhancement Fund half month summer salary, not funded.
- 2006      **"The fluid dynamics of airflow in free flow open spaces: A joint architectural and engineering approach to energy efficient buildings,"** ISU CEAH Interdisciplinary Collaborative Research Grant Proposal, (Collaborator: Dr. Francine Battaglia, Professor of Mechanical Engineering, \$10,000).
- 2006      **"Synergistic use of CFD and Architecture for Energy Efficient Building Designs,"** Iowa Energy Center Pre-proposal, (Co-PI/PI: Dr. Battaglia, \$108,873).

### **Graduate and Undergraduate Student Research Advising and Mentorship**

#### *MS in Architecture Thesis Supervision*

- |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                   |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 2020 | Ghiassi, S. 2021. An Interactive GIS-Based Method to Determine Feasible Roof Areas for Photovoltaic Panels. MS in Architecture Thesis available at:<br><a href="https://www.proquest.com/dissertations-theses/interactive-gis-based-method-determine-feasible/docview/2625274252/se-2?accountid=10906">https://www.proquest.com/dissertations-theses/interactive-gis-based-method-determine-feasible/docview/2625274252/se-2?accountid=10906</a> | PhD student at Iowa State University, Geology                                                     |
| 2019 | Veigas, Melvin Glenn, <b>"Design and development of cellulose based composites for the built environment"</b> (2019). Graduate Theses and Dissertations. 17112.<br><a href="https://lib.dr.iastate.edu/etd/17112">https://lib.dr.iastate.edu/etd/17112</a><br>He also collaborated on the MDL construction and used it for his thesis                                                                                                            | Designer in Vancouver, Canada                                                                     |
| 2018 | Hashemi, Farzad, <b>"Adapting vernacular strategies for the design of an energy efficient residential building in a hot and arid climate: City of Yazd, Iran"</b> (2018). Graduate Theses and Dissertations. 16771.<br><a href="https://lib.dr.iastate.edu/etd/16771">https://lib.dr.iastate.edu/etd/16771</a><br>He also collaborated on the umi model and integrated the tree inventory                                                        | PhD Candidate in Architecture at Penn State University / Graduate Teaching and Research Assistant |
| 2017 | Jeanblanc, Evan Michael, <b>"Exploring the complex development of a mobile research lab for the design of built environments"</b> (2017). Graduate Theses and Dissertations. 16150. DOI: <a href="https://doi.org/10.31274/etd-180810-5779">https://doi.org/10.31274/etd-180810-5779</a> ;<br><a href="https://lib.dr.iastate.edu/etd/16150">https://lib.dr.iastate.edu/etd/16150</a>                                                            | Sustainable Design Specialist with HOK, Kansas City, MO                                           |

***Tenure and promotion to associate professor in May 2013*** \_\_\_\_\_

- 2011 Tuladhar, Gaurav Kumar, "**Developing strategies for sustainable residential building design: Kathmandu Metropolitan City, Nepal**" (2011). Graduate Theses and Dissertations. 11985. DOI: <https://doi.org/10.31274/etd-180810-1008>; <https://lib.dr.iastate.edu/etd/11985>
- 2011 Walker, Brian Burnell, "**The reduction of waste and promotion of user autonomy in architecture through the design and application of adaptable systems**" (2011). Graduate Theses and Dissertations. 10396. DOI: <https://doi.org/10.31274/etd-180810-2377>; <https://lib.dr.iastate.edu/etd/10396>

*Ph.D. Committee member at ISU*

- 2020 Kunwar, Niraj, "**Experimental and Simulation-based Performance Analysis of Integrated Dynamic Shading and Lighting Controls in Office Spaces**" defense May 11, 2020
- 2018 Do, Huyen Thanh, "**Data-driven modeling for improved residential building electricity consumption prediction and HVAC efficiency evaluation**" (2018). Graduate Theses and Dissertations. 16805. <https://lib.dr.iastate.edu/etd/16805>
- 2017 Jadhav, Harishchandra Tulshiram, "**Swine finishing room air infiltration quantification-modelling and use in ventilation system design**" (2017). Graduate Theses and Dissertations. 16281. <https://lib.dr.iastate.edu/etd/16281>, <https://doi.org/10.31274/etd-180810-5912>
- 2016 Shalabi, Firas Adnan Al, "**BIM Framework for Energy and Maintenance Performance Assessment for Facility Management**" (2016). Graduate Theses and Dissertations. 15809. <https://lib.dr.iastate.edu/etd/15809>; <https://doi.org/10.31274/etd-180810-5437>

*MS in Engineering Committee Member*

- 2020 Celso Santos, Master of Science in CCEE, Thesis Committee Member: **Energy-Efficient Technology Retrofit Investment Behaviors of Households in Lower and Higher Income Regions**, Major Advisor: Kristen Cetin, Defense July 6, 2020
- 2018 Wanyu Huang, Master of Science Industrial and Manufacturing Systems Engineering, Thesis Committee Member: **Exploring households' weatherization adoptions: An agent-based approach**, Huang, Wanyu, "Exploring households' weatherization adoptions: An agent-based approach" (2018). Graduate Theses and Dissertations. 16924. <https://lib.dr.iastate.edu/etd/16924>

2014 Lucas Mutti, M.Sc. Mechanical Engineering, Thesis Committee member for, "**Numerical simulation of a comprehensive 1-D building energy model and conjugate heat transfer analysis on the internal flow field at the Harran houses in southern Turkey for a brick corbelled internal surface**" (2014). Graduate Theses and Dissertations. Paper 14049.

*Tenure and promotion to associate professor in May 2013*

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2013	Patton, Shannon, " <b>Development of a future typical meteorological year with application to building energy use</b> " (2013). Graduate Theses and Dissertations. 13635. <a href="https://lib.dr.iastate.edu/etd/13635">https://lib.dr.iastate.edu/etd/13635</a> , <a href="https://doi.org/10.31274/etd-180810-3435">https://doi.org/10.31274/etd-180810-3435</a>	Project Manager, Wisconsin Center for Education Research, University of Wisconsin, Madison
2012	Surel, Ali, " <b>Energy Performance Analysis of Pelotint Dynamic Sun Responsive Thermochromic (SRT) Windows</b> " (2012). Graduate Theses and Dissertations. 12981. <a href="https://lib.dr.iastate.edu/etd/12981">https://lib.dr.iastate.edu/etd/12981</a> , <a href="https://doi.org/10.31274/etd-180810-3443">https://doi.org/10.31274/etd-180810-3443</a>	
2010	Lentz, Timothy Robert, " <b>Analysis of the passive design and solar collection techniques of the houses in the 2009 U.S. Department of Energy's Solar Decathlon competition</b> " (2010). Graduate Theses and Dissertations. 11361. <a href="https://doi.org/10.31274/etd-180810-1149">https://doi.org/10.31274/etd-180810-1149</a> , <a href="https://lib.dr.iastate.edu/etd/11361">https://lib.dr.iastate.edu/etd/11361</a> ; M.Sc in Mechanical Engineering, Thesis Committee member Main professor: Prof. Ron Nelson, other member Gregory Maxwell.	Mechanical Project Engineer at Design Engineers, PC, Cedar Rapids, Iowa

*Current Ph.D. Thesis Committee Membership at ISU*

Chen, Yating, Geology and Atmospheric Science, Major Advisor: Yuyu Zhou

Tan, Sin Yang, Mechanical Engineering, Major Advisor: Soumik Sarkar

Malekpour, Diba; CCEE, Major Advisor: Kristen Cetin

Gao, Boshun, Mechanical Engineering, Major Professor: Baskar Ganapathysubramanian

Kelly Kalvelage Task-based paradigm for the design of office occupant-building interactions, Human Computer Interaction, Major Professor: Michael Dorneich IMSE

*Current MS in Engineering at ISU*

2020 Summer Malekpour, Diba; CCEE, Major Advisor: Kristen Cetin

*External Ph.D. Committee Membership at other institutions*

2019 prelim	Homeira Mirhosseini, <b>Integrating Climate Dependent Controllable Natural Ventilation in Retrofit Multifamily Residential Passive House Buildings to Reduce Energy Use, Maintain Indoor Air Quality, and Thermal Comfort</b> , Major Professor Ute Poerschke	Still in progress
2017	Motamedi, Sara, <b>Qualitative and Quantitative Optimization of Skylights: a Comprehensive and Inclusive Analysis of Skylight Sizes for an Office While Providing Enough Daylight, Avoiding Glare and Saving Energy</b> , <a href="http://hdl.handle.net/2152/61765">http://hdl.handle.net/2152/61765</a> , UT Austin	Senior Building Performance Analyst, Interface Engineering, San Francisco Bay Area

*External Examiner for International Ph.D. cases*

2019	PHD IIT Kharagpur: Mohanta, Ashprava, <b>Decision Support System for Parametric Design of Green Building Envelope Considering Maintainability and Site Microclimate</b> . Major Professor: Sutapa Das (publication in progress)	
2017	PHD University of Sydney, Sadeghi, Mahsan, <b>Thermal Comfort Performance of Wind Towers in the Australian Residential Context</b> , Major Professor: Richard de Dear <a href="http://hdl.handle.net/2123/17121">http://hdl.handle.net/2123/17121</a>	postdoctoral research fellow, University of Sydney, Department of Architecture, Design and Planning

*Master of Architecture / Master of Landscape Architecture Graduate Research Assistants*

2019-2020	Lane Pralle	Solar Powered Emergency Crate
2019	Hossein Entezari	Development of design guidelines for integrating vegetation into urban energy models
2019	Victoria Goetz	Development of design guidelines for integrating vegetation into urban energy models
2018-2019	Diba Malekpour Koupaei	Refinement of probabilistic Markov Chain occupancy model and umi experiments integrating schedules, FTMYS and trees
2017-2018	Charvi Jagani	Urban Modeling Interface (umi) Model development and FTMYS sensitivity analysis for weatherization strategies
2015-2016	Kyle Vansice	Computational Fluid Dynamics (CFD) Grasshopper Code for Open FOAM CFD Software and Vacuum Insulated Panel Parametric Design Evaluation
2013-2014	Kelly Kalvelage	Future Typical Meteorological Year Data Analysis and Urban Microclimate Literature Review

*Undergraduate Research Assistants (since 2012)*

2019-2020	Carolan Hoffmann	Rhino-umi model inputs
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2018-2019	Brian Welch	Mobile Diagnostics Lab (MDL) datalogger and sensor wiring
	Rodcely Muro-Garrido	Rhino-umi model inputs
	Tanya Sharma	IEC Toolkit and Urban FEWS website
	McAlister	GIS data input for IEC Toolkit
	Evan Harrison	Energy use survey data input
	Carolann Hoffmann	Rhino-umi model inputs
2017-2018	Brian Welch	Mobile Diagnostics Lab (MDL) datalogger and sensor wiring
	Kaelyn Swetala	Mobile Diagnostics Lab (MDL) datalogger and sensor wiring
	Rodcely Muro-Garrido	Tableau database for Interlock House
	Tanya Sharma	IEC Toolkit and Urban FEWS website
	Laura Michaelson	Mobile Diagnostics Lab (MDL) design and construction
	Evan Harrison	3D drawing for game based application
2016-2017	Zach Thielen	Mobile Diagnostics Lab (MDL) design and construction
	Kaylinn Taggart	Interlock House data analysis
	Laura Michaelson	Mobile Diagnostics Lab (MDL) design and construction
	Evan Harrison	3D drawing for game based application
	Zach Thielen	Mobile Diagnostics Lab (MDL) design and construction
	Kaylinn Taggart	Mobile Diagnostics Lab (MDL) design and construction
2015-2016	Esdras Murillo	Mobile Diagnostics Lab (MDL) design and construction
	Jacob Bener	Mobile Diagnostics Lab (MDL) design and construction
	Karthik Abbineni MSc. MIS	Tableau database for Interlock House
	Esdras Murillo	MIDAS experiments to validate CFD code / Mobile weather station
	Jesus Hernandez	MIDAS experiments to validate CFD code / Mobile weather station
	Evan Jeanblanc	MIDAS experiments to validate CFD code
	Kelsey Fleenor	MIDAS experiments to validate CFD code
	Kelsie Stopak	Tableau database for Interlock House
	Laura Michaelson	MIDAS experiments to validate CFD code
	Jacob Benner	Desiccant system data analysis
2014-2015	Nathan Peters	Rhino –umi model building
	Kelsey Fleenor	Data analysis visitor survey Interlock House
	Evan Jeanblanc	Data analysis natural ventilation Interlock House
	Shuaibu Kenchi	MIDAS experiments to validate CFD code
	Jesus Hernandez	MIDAS experiments to validate CFD code / Mobile weather station
	Kelsie Stopak	Tableau database for Interlock House
	Laura Michaelson	MIDAS experiments to validate CFD code / Mobile weather station
	Ryan Everly	Desiccant system data analysis
2013-2014	Suncica Jasarovic	'Designing Spaces for Natural Ventilation' Graphic support
	Isabelle Leysens	Daylight data analysis at the Interlock House

	Esdras Murillo	Data logger and sensor wiring at the Interlock House, MIDAS (mobile datalogger development)
	Ryan Everly	Desiccant system data analysis
	Bobbi Jo Reiff	Graphics
	Andrea Ytzen	Lakeside Lab community lab retrofit development
	Kevin Gallagher	Lakeside Lab community lab retrofit development
2012-2013	Suncica Jasarovic	'Designing Spaces for Natural Ventilation' Graphic support
	Isabelle Leysens	Daylight data analysis at the Interlock House
2011-2012	Jessica Bruck	Data logger and sensor wiring at the Interlock House
	Nick Hulstrom	Data logger and sensor wiring at the Interlock House

### ***INSA Lyon Research Interns***

2021	Sydney Collin	MDL Design Builder model validation and experiment set up for MDL to investigate cooling potential for vegetative coverings
2019-2020	Manon Geraudin	MDL Design Builder model validation and experiment set up for MDL to investigate cooling potential for vegetative coverings
2018	Vinciane Tabard-Fortecoëf	Started probabilistic occupancy model for umi and collaborated on ASHRAE dynamic shading project w
2016	Yoann Gorostiaga	Rhino- umi model inputs, collaborated also on installing dynamic shading devices for ASHRAE project and on the MDL
2011	Noellie Daviau	Data logger and sensor wiring at the Interlock House and manual

### **Invited research collaborations (a selection)**

2017-2019	Collaboration with DLR Group (an integrated design firm): <b>Evaluation of office data for healthy spaces;</b> In 2018, DLR approached Iowa State for assistance in analyzing this indoor environmental data gathered from its offices over several years. Farzad Hashemi conducted the analysis as an independent study, leading to the <b>Climate and Occupancy Based Investigation of Air Pollutants in Office Spaces for the</b> Indoor Air Quality, Ventilation and Energy Conservation Buildings (IAQVEC) 2019 paper.
2017	NSF Research Education for Undergraduates (REU) proposal <b>Critical, Resilient, Intelligent, Sustainable Infrastructure Systems (CRISIS)</b> led by Pete Savolainen, Civil, Construction and Environmental Engineering, ISU
2015-2016	<b>A STEM Neighborhood:</b> Testing the Impact of Exploratory, Cross-Disciplinary Service Learning on the Engagement of Large Numbers of STEM Students, proposal submitted to the NSF Undergraduate Research Education program by Cinzia Cervato Morrill Professor of Geological & Atmospheric Sciences. ISU
2011/2012	<b>“LORAX Project”</b> led by Christoph Reinhart at MIT to validate novel climate-based metrics, in particular daylight autonomy leading to “Predicting the Daylit Area—A Comparison of Students Assessments and Simulations at Eleven Schools of Architecture”

## **INSTITUTIONAL SERVICE**

My engagement in building energy and sustainability has gained respect in the university community. Thus I have been invited as architecture department faculty representative to multiple university and college wide committees. I also serve on important department committees and served two elected term as technology substantive area chair. In this capacity I led the transition and coordination into the new required architecture technology sequence. With new department leadership starting 2013, a research committee was establish to which I was appointed in 2014 and which I now chair since 2016. In that capacity I serve on the College REO Council, which I chair since.

### **University level**

- 2020 Graduate College Graduate Student **Professional Development** Committee
- 2019-pres Faculty Senate **Research Policy and Processes (RPP)** Committee
- 2014-pres *Faculty Senate Development* committee member representing College
- 2014-2018 University wide **Data Driven Science** faculty Steering committee
- 2012 - 2013 President's **Committee on Enhancing Institutional Excellence** Subcommittee on Citations, Publications and Related Indicators (university wide, appointed)
- 2012 "**Ad hoc committee in the VPRED office for Research,**" Develop an ISU description for Sustainability in Research (University wide, appointed).
- 2011-2012 "**Live Green Loan Fund Committee,**" (University wide, appointed).
- 2010-2011 "**ISU President's Committee for the organization of the Third Annual Sustainability Symposium,**" Chair of the poster session organization subcommittee (February 21, 2011) (Appointed Member)
- 2009 "**Center for Excellence in Arts and Humanities (CEAH) Grant Structure Committee,**" Development of a new grant structure based on new strategic plan (Appointed Member).
- 2009-2010 "**ISU President's Committee for the organization of the Second Annual Sustainability Symposium,**" (February 2010) (Appointed Member).
- 2009 - 2013 "**Council of Sustainability Steering Committee Member,**" (1st Elected Term 08/16/2009 - 08/15/2011, second elected term 08/16/2011 - 08/15/2013).
- 2008 "**CEAH Faculty Advisory Committee on Imagining Iowa and Public Scholarship,**" (Appointed Member).

### **College level**

- 2014 – pres. College of Design **Research Extension and Outreach Council (REO),** Chair (since 2016)
- 2010 "**ISU College of Design Ad hoc committee to develop a Master's degree in Interdisciplinary Sustainable Design,**" (Appointed Member).
- 2009 "**College of Design Sustainability Consortium,**" (Appointed Member).
- since 2006 "**Green Design Research Collaborative (GDRC),**" ISU, College of Design (Founding Steering Committee Member).

## Department level

2019 fall	<b>DLR Group Jury</b> for 4 <sup>th</sup> year studio 401
2014 – pres	Department of <b>Architecture Research Committee</b> , Chair since 2016
2016 – pres.	Member <b>Department Cabinet</b>
2019	<b>Promotion &amp; Tenure Committee</b> since Spring 2019 (Elected)
2019-2020	<b>Search Committee</b> for Design, Computation, Performance, Chair spring 2020
2017-2018	<b>Search Committee</b> for Building Technology and Material Science, Chair
2006 – pres.	<b>Graduate Committee</b> Architecture Department (Appointed Member).
2012 - 2013	<b>Search committee</b> for Design and Technology Chair (Appointed).
2011-12	<b>Member of Faculty search committee for History and Structure</b> (Appointed).
2009-10	<b>Member of Faculty search committee for Design and Technology</b> (Appointed).
Fall 2007 - 2014	<b>Chair of Technology Substantive Area Committee</b> (Elected Term / re-elected). Member since then
2007-2014	<b>Member of the Department of Architecture Curriculum Committee.</b>
since 2006	<b>Member of Design, Technology, SAC and Practice Substantive Area Committee</b> (by choice and interest). Since 2014 only active in Technology

## SERVICE TO PROFESSION AND ACADEMIA

### Conferences and Journal Peer-reviews

2019	ARCC/EAAE 2020 reviewer Energy and Buildings Journal peer reviewer Building Simulation International journal peer reviewer Sustainable Cities and Society paper reviewer TAD Technology-Architecture-Design paper reviewer Architectural Engineering Journal (JAENG) Paper review IBPSA Building Simulation Conference Abstract review PLEA Extended Abstract Reviews Book proposal review for Taylor and Francis Reynolds Symposium Reviews ASHRAE Annual Meeting 2020 Reviews
2018	ARCC 2019 reviewer Energy and Buildings Journal peer reviewer Building Simulation International journal peer reviewer Sustainable Cities and Society paper reviewer TAD Technology-Architecture-Design paper reviewer International Building Physics Conference (IBPC) scientific committee and abstract review Architectural Engineering Journal (JAENG) Paper review IBPSA Building Simulation Conference Abstract review



- BPACS 2018 reviews  
 IPBC conference Syracuse  
 PLEA 2018 Conference Paper Reviews
- 2017 ARCC-EAAE 2018 reviewer  
 Energy and Buildings Journal peer reviewer  
 Building Simulation International journal peer reviewer  
 Sustainable Cities and Society paper reviewer  
 TAD Technology-Architecture-Design paper reviewer  
 International Building Physics Conference (IBPC) scientific committee and abstract review  
 Architectural Engineering Journal (JAENG) Paper review  
 IBPSA Building Simulation Conference Abstract review
- 2016 Society for Building Science Educators (SBSE) Elected President Elect and thus Board member for the next five years. Will start actual presidency on October 2017  
 BTES 2017 peer reviewer  
 PLEA 2017 peer reviewer  
 SimAUD2017 peer reviewer  
 Energy and Buildings Journal peer reviewer  
 Building Simulation International journal
- 2015 Society for Building Science Educators (SBSE) Elected President Elect and thus Board member for the next six years.  
 ARCC/EAAE 2016 peer reviewer  
 PLEA 2016 peer reviewer  
 SimAUD2016 peer reviewer
- 2013 ASME Paper review  
 ARCC conference reviews  
 Building Simulation paper review

### Service to Research Funding Agencies

- 2020 **National Academies of Sciences, Engineering, and Medicine** / U.S. Agency for International Development (USAID) Partnerships for Enhanced Engagement in Research (PEER) Program / Peer Reviewer for research proposal
- 2019 **National Research Foundation of Korea** (NRF, <http://www.nrf.re.kr/eng/main>), counterpart of the NSF, included in the database of the distinguished international scholars (Ecology)
- 2019 Fund for Scientific Research-FNRS (**F.R.S.-FNRS**), a funding agency located in Brussels in **Belgium request**
- 2019 **Strategy for Responsible Development for the period up to 2020** review request: Polish Minister of Science and Higher Education in 2019
- 2017 AAAS Invitation to Review Modular Wall Proposal for **Maine Technology Asset Fund**
- 2017 UNCC **Faculty Research Grant Program**: Peer Reviewer
- 2017 Israel Ministry of Science Technology and Space : **Call for Proposals: Applied and Engineering Researches 2017**: research proposals review

- 2015 / 2016 / 2018 **U. S. Department of Energy's EERE** (Energy Efficiency and Renewable Energy) DOE EERE Building Technology Office (BTO) peer-reviewer for the research projects in 2016, 2017 and 2018
- 2014 **AAAS KACST Saudi Arabia Proposal Review on Green Buildings Research**
- 2013 **National Science Foundation CAREER Awards Review**
- 2012 **U. S. Department of Energy's EERE** (Energy Efficiency and Renewable Energy) Strategic Programs SBIR/STTR Phase I, Release 3 Review(Small Business Innovation Research and Technology Transfer Program): Proposal review.

## **MEMBERSHIPS**

- 2020 to 2025 Passive Low Energy Architecture (PLEA) Board Member
- 2009 to pres. Society for Building Science Educators (SBSE) Board Member and Past President
- 2016 to pres. Founding member of the Iowa Chapter of the Building Enclosure Council (BEC).  
Iowa Women in Architecture
- 2012 to pres. ASHRAE Technical Committee TC 4.2 (Climate Information) and TC 4.10 (indoor environmental modeling).
- 2007 to pres. International Associate to the American Institute of Architects (AIA)
- 2005 to 2010 Bund Deutscher Architekten (BDA)
- 1993 to pres. registered architect in Germany (since 1993; # 06879)