

**Undergraduate Research Award
Faculty of Architecture – Available Research Supervisors – Summer 2024**

Mark Meagher
Mercedes Garcia-Holguera
Mimi Locher
Ralph Stern

Neil Minuk
Terri Fuglem
Dr. Shauna Mallory-Hill
Jason Shields

Yuhau Lu
Frits Van Loon

ENVIRONMENTAL DESIGN PROGRAM

Dr. Mark Meagher

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Bio: <https://umanitoba.ca/architecture/mark-meagher>

Mark Meagher is an Assistant Professor in the Environmental Design Program. He has worked as a researcher and teacher at the University of Sheffield School of Architecture in the UK, the Media + Design Lab at EPFL in Switzerland, and the Center for Design Informatics at Harvard University. Mark's research focuses on applications of digital methods to support the design of sustainable communities, with a focus on the use of artificial intelligence in the design disciplines. Projects include the development of resources to support community engagement in building AI models that embed local knowledge; and using AI to extract information relevant to design from large image datasets.

DEPARTMENT OF ARCHITECTURE

Dr. Mercedes Garcia-Holguera

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Bio: <https://umanitoba.ca/architecture/mercedes-garcia-holguera>

Dr. Garcia Holguera is a registered architect (Spain) and LEED AP BD+C with professional experience in Europe, North and South America. She received her PhD from McGill University on the subject of biomimetic design for resource use optimization. Her research bridges across disciplines from science and technology, architecture and environmental design, with a focus on energy efficiency and sustainability. She is currently working on developing mycelium and bacterial cellulose based materials to optimize buildings' hygrothermal performance, and her work also encompasses quantitative assessment of architectural solutions with a focus on BIM and energy simulation tools.

Prof. Mimi Locher

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Bio: <https://umanitoba.ca/architecture/mira-locher>

Mimi Locher is the Dean of the Faculty of Architecture and a registered architect in Manitoba and the U.S. Her research spans the disciplines of interior design, architecture, and landscape architecture with a common theme: connecting contemporary design practices to traditional culture through a deep understanding of nature and place. Her areas of study include Japanese architecture, gardens, and design; design practices and processes; and community engagement through design and planning. Community engagement will be the topic for summer 2024 research. Students employed with the undergraduate research award will collaboratively investigate frameworks and methods for engaging underserved Manitoba communities through design and planning processes.

Prof. Ralph Stern

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Areas of research:

1. Urban history and representation with a focus on Berlin
2. Sites of German-Jewish history (religious structures, cemeteries, department stores, KZs, memorials)
3. Urban history and representation in cinema
4. Transnational Indigenous history and representation with a focus on the Americas (American Southwest, Mexico, Guatemala)

If student researchers are interested in visiting Berlin, they should plan to do so in May or June.

Professor Stern has published widely in his areas of research. Prior to serving as Dean of the Faculty of Architecture, Professor Stern has taught Design and/or History and Theory at, among other institutions, the Technical University Berlin, the University of the Arts Berlin, the Cities Program at the London School of Economics, Columbia University and the Massachusetts Institute of Technology (MIT). A Visiting Scholar at Cambridge University and the Bauhaus University Weimar, he has lectured on History and Theory at, among others, the University of Edinburgh, University of Chicago, Charles University (Prague), Yale University and Harvard University.

Prof. Terri Fuglem

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Bio: <https://umanitoba.ca/architecture/terri-fuglem>

Terri Fuglem is Acting Head and Associate Professor in the Department of Architecture, as well as Design Thesis Coordinator & Chair. She teaches graduate and undergraduate courses in the history and theory of architecture as well as Foundation Year studios in architecture. Current activities include the study of hundreds of student drawings dating back to 1915 discovered in the Russell Building tunnels, and their relationship to architectural pedagogy at the University of Manitoba. Research also includes the study of mid-century modern religious buildings in Winnipeg.

Prof. Neil Minuk

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Bio: <https://umanitoba.ca/architecture/neil-minuk>

Neil Minuk is an assistant Professor in the Department of Architecture where he teaches graduate studios, thesis students, undergraduate courses in technology and an interdisciplinary course with Engineering. He is a practicing Architect and founder of DIN Architecture Inc. His belief is that architecture should be ENACTED. This belief guides all research and work. His desire is to build a process for making felt, immersive architecture that needs to be experienced first-hand; an architecture that recognizes the uncertainty and multiplicity of reception and is predicated on a non-linear unfolding of meaning set out from both a real and subjectively constructed site and narrative. His research involves the study of diverse cultural productions including film, music, art and architecture that embody these beliefs. His research also explores the methodology to create immersive work including active representation, simultaneous drawings, films and others means to enact architecture.

DEPARTMENT OF INTERIOR DESIGN

Dr. Shauna Mallory-Hill

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Bio: <https://umanitoba.ca/architecture/shauna-mallory-hill>

Dr. Mallory-Hill is an Associate Professor in the Department of Interior Design, Faculty of Architecture and LEED AP BD+C. Her research explores the impact of building design on occupant health, wellness and productivity. Her research is strongly person-centered with a concern for inclusion and stakeholder participation in design. Students employed under the undergraduate research award will have the opportunity to work alongside other graduate research assistants in working with Indigenous communities and scholars seeking to address the current housing crisis through skills-building, sustainable, affordable, and culturally-appropriate design.

Prof. Jason Shields

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Jason's ongoing research delves into the impact of Virtual Reality (VR) and 3D scanning, as well as emphasizing the significance of archivism in modern digital architectural processes. Undergraduate researchers in this field will explore pedagogical and communicative frameworks, using terrestrial scanners such as the recently acquired BLK 360 G2 to produce 3D scans of interior environments. They will leverage this data with a newly acquired suite of 3D scanning software, analyzing capabilities, and subsequently translating the work into VR applications while simultaneously ensuring data longevity through proper archiving methods. The research utilizes hardware and software available in the FABLAB and the Architecture/Engineering VR LAB; candidates are preferred to have a preliminary understanding of architectural software and general technical proficiency.

DEPARTMENT OF LANDSCAPE ARCHITECTURE

Dr. Yuhau Lu

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Bio: <https://umanitoba.ca/architecture/yuhao-lu>

Dr. Yuhao Lu (him/his) is a newly appointed Assistant Professor with the Department of Landscape Architecture. Prior to joining the University of Manitoba, Yuhao worked at the Future Cities Laboratory (ETH Zürich) and elementslab (UBC), engaging with projects from neighborhood (e.g. Vancouver, Prince George) to regional (e.g. West Java), and global (e.g. pan-pacific) scale.

His research and teaching activities involve geospatial analytics, earth observation, and cartographic design. Yuhao's work explores the calculative and propositional power of maps and map-making, particularly in settlement design and planning, urban forestry, and scenario generation and assessment. (For more detailed information on his research interests and recent publications, visit <https://umanitoba.ca/architecture/yuhao-lu>) Successful awardee will have the opportunity to work directly with Yuhao and other members of his team on topics including (but not limited to) geographic information systems, urban digital twin, neighborhood design + simulation, and the physicalization of information.

Prof. Frits Van Loon

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Frits van Loon is an Assistant Professor at the Department of Landscape Architecture. He is a professional landscape architect in the Netherlands and worked in several design offices before becoming co-owner of HOSPER, an office for landscape architecture and urban design. He is still well-connected to many in the field and at the TUDelft, where he was a full-time teacher for eight years. His focus in Landscape Architecture is both Urban Ecology and Nature-based solutions. His designs and research aim to create urban ecologies with a high level of circularity. Every new (urban) development should not consume the qualities of the landscape and the earth but strengthen and add to it. To be able to do that, there is a necessity for much research into natural and human processes and flows. Projects include research on water systems, agriculture, mobility, energy, and raw materials and should always end up with spatial and experiential landscape architecture designs.

Dr. Marcella Eaton

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Marcella completed her PhD – *Philosophy and Design in Landscape Architecture*, in 1997 focusing on philosophy, ethics and aesthetics in the education of students of landscape architecture. This work is ongoing with questions of how and what we teach in design studio remains current. Marcella continues extensive site visits and research work on seminal landscape projects globally. She has worked with academic colleagues across Canada to form Land|Terre Design Research Network, sharing ideas and research with academicians and professionals. As Principal Investigator for an SSHRC Connection Grant (2018), Marcella organized a National Colloquium in Winnipeg. She created the website landterre.com to publish digitally Canadian landscape architecture research and work.