

PROMOTION RECOMMENDATION
The University of Michigan
A. Alfred Taubman College of Architecture and Urban Planning

Sean E. Ahlquist, assistant professor of architecture, A. Alfred Taubman College of Architecture and Urban Planning, is recommended for promotion to associate professor of architecture, with tenure, A. Alfred Taubman College of Architecture and Urban Planning.

Academic Degrees:

M.Arch.	2009	Architectural Association, London, United Kingdom
B.A.	1994	Washington University, St. Louis, Missouri

Professional Record:

2012 – Present	Assistant Professor of Architecture, A. Alfred Taubman College of Architecture and Urban Planning, University of Michigan
2009 – 2012	Adjunct Professor and Research Associate, University of Stuttgart, Germany

Summary of Evaluation:

Teaching: Professor Ahlquist's teaching spans across all levels within the architecture program. His teaching focuses most specifically on areas of the architecture program that engage computational design and digital fabrication. Pairing with the multidisciplinary nature of his research, Professor Ahlquist's courses connect students of architecture with other disciplines and communities. This includes pairing courses with students in other departments, such as Performing Arts Technology in the School of Music, Theatre & Dance, and Computer Science in the College of Engineering, and creating workshops that range from machine knitting techniques to understanding health and well-being in the context of educational environments for children with special needs. Professor Ahlquist's courses and assigned projects manage to provide students with both a high technical level of expertise within one area of digital fabrication while at the same time supporting and demonstrating its possible deployment out in the world. A number of Professor Ahlquist's students have gone on to publish and present their work from his courses at top-tier conferences within the computational design and digital fabrication realm of the discipline.

Research: Professor Ahlquist's research interests bring together two important areas in emerging contemporary design. The first is the revolution in textiles as an architectural material, arising out of synthetic materials and computer-driven fabrication techniques that produce materials with a structural capacity to create enclosures, spatial logics, and sensorial interfaces. The second is the development of lightweight tensile structures that (in conjunction with the textiles) can support forms never before seen in architecture. Through his technical mastery of the fabrication processes, Professor Ahlquist has significantly advanced design thinking and practice in projects that range from innovative building design to the use of textiles in automobiles to designing interactive learning environments for children with autism. To advance this work, he has developed important original techniques. Some of his greatest contributions are in the form of design tools, including new software (springFORM), bringing a CNC-knitting machine directly into the architectural design environment, and specific computational workflows. Professor Ahlquist disseminates his work through the diverse platforms of scholarly writing, interactive exhibitions, and industry partner exhibitions, all of which are tied into his success in receiving extensive research funding.

Recent and Significant Publications, Exhibitions and Awards:

- Ahlquist, S. (2018) Social Sensory Architectures: Sensorially-responsive environments designed to address challenges facing children with autism spectrum disorder. *ARCHITECT Magazine* R&D Awards – Honorable Mention.
- Ahlquist, S. (2017). Sensorial Playscape: Advanced structural, material and responsive capacities of textile hybrid architectures as therapeutic environments for social play. In A. Menges, B. Sheil, R. Glynn, & M. Skavara (eds.), Fabricate: Rethinking Design and Construction, Stuttgart, April 2017, pp. 234- 241.
- Ahlquist, S., McGee, W. & Sharmin, S. (2017). Pneumaknit: Actuated Architectures Through Wale- and Course-Wise Tubular Knit-Constrained Pneumatic Systems. In T. Nagakura & S. Tibbits (eds.), *ACADIA 17: Disciplines & Disruptions* [Proceedings of the 37th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)], Boston, November 2017, pp. 9-51.
- Ahlquist, S. (2016) Social Sensory Architectures. SXSW Eco – Place by Design, Winner in Speculative and Prototyping Category. Austin, Texas.
- Ahlquist, S. and Menges, A. (2016) Materiality & Computational Design: Emerging Material Systems & the Role of Design Computation and Digital Fabrication. In M. Kanaani & D. Kopec (eds.), The Routledge Companion for Architecture Design and Practice: Established and Emerging Trends, (149-168) New York: Routledge.

Service: Professor Ahlquist’s service is notable for its engagement with areas of expertise and communities that are outside of the field of architecture. This ranges from automotive design and manufacturing to autism-related research. For the program Professor Ahlquist has frequently served on the admissions committee for the Masters of Science in digital and material which he has also contributed to the development of the curriculum, and he represents the program on the college’s DEI Advanced Degrees Program initiative. Within the college, Professor Ahlquist has served on numerous faculty search committees. At the university-level, Professor Ahlquist is involved with two multi-disciplinary programs: the Faculty Scholars Program in Integrative Medicine and the UM Sensory Science Initiative. Extending outside of the university, Professor Ahlquist has served on numerous scientific boards for peer-review, conference organization and design workshop. His involvement is notable within organizations that are among the key leaders in the areas of computational design and digital fabrication. This includes the Association for Computer-Aided Design in Architecture, Robotic Fabrication in Architecture, Art, and Design, and TxA Interactive. Extending beyond the field, he has also served on scientific committees for the *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* journal, and the *Computer-Aided Design* journal.

External Reviewers:

Reviewer A: “Professor Ahlquist has for the past decade pioneered the role of computationally derived textiles spaces and now more recently continued this trajectory into a more refined application of sensorial interfacing through the intersection of materiality, geometry, and immersive technologies.”

Reviewer B: “Professor Ahlquist’s field is well defined and he is unquestionably a leader. He has carved out a niche area of research in which I perceive him to be *the* world leader.”

Reviewer C: “Ahlquist’s productivity is impressive. Even as he has been building a substantially new or, at the least, underrepresented areas of research in architecture, he has been prolific in publishing his work in peer-reviewed forums.”

Reviewer D: “The quality, quantity and focus of Sean’s submitted dossier is incredibly impressive. In my 17 years of teaching and reviewing candidates for similar promotions I can honestly say that Sean’s stands out as one of the most remarkable I have reviewed with the field of architecture.”

Reviewer E: “...Sean impresses me with his attention to geometry, material, and interaction. He has an alacrity and focus on material and its behavior that is trained on the discipline of architecture.”

Reviewer F: “...his record of accomplishment concerning extensive peer-reviewed publication and as relates to his peer-reviewed design and pedagogical work is exemplary and exceeds more of his peers who are similarly, actively engaged in a research-driven inquiry. The materials in the dossier show an engagement with interdisciplinary culture, a command of digital design and fabrication protocols, and a commitment to scalar constructions work...”

Reviewer G: “...Prof. Ahlquist has produced a substantial quantity of scholarly work, both peer and non-peer reviewed, for a wide variety of journals and conferences, both domestic and international. Additionally, he has lectured and exhibited widely in the U.S. and abroad, indicating a national as well as international reputation in his area of expertise.”

Summary of Recommendation:

Professor Ahlquist’s research and scholarship has significantly advanced design thinking and practice in projects that range from innovative building design to the use of textiles in automobiles to designing interactive learning environments for children with autism. He is a well-regarded teacher and has also provided important service to the program, college, university and profession. It is with the support of the Taubman College Promotion and Tenure Committee and the Executive Committee that I recommend Sean E. Ahlquist for promotion to associate professor of architecture, with tenure, A. Alfred Taubman College of Architecture and Urban Planning.



Jonathan Massey
Dean and Professor
A. Alfred Taubman College of Architecture and Urban Planning

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