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Tectonics in Architecture (TiA)  
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Human Robot Interaction  
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## Forskningsprofil

**Mads Brath Jensen** is a PhD fellow at the Department of Architecture, Design and Media Technology at Aalborg University in Denmark (2017-2020). In his PhD study, he investigates design methods and procedures for establishing a direct relation between creative design processes in the field architecture and interactive robotic fabrication, with emphasis on how the cognitive design processes are influenced by interactive real-time human-material-robot processes. Mads received his MSc.Eng. in Digital Design from Aalborg University in 2008 and has been teaching in the field of computational architecture, parametric design and rapid prototyping technologies on both BSc and MSc level (2008-2017). This research-based teaching has resulted in a series of research pavilions showcasing the interconnection between computational form-finding, material behaviour, thermal- and acoustic simulation, and fabrication techniques.

## Arbejdserfaring

2017-2020	PhD fellow, Department of Architecture, Design and Media Technology, AAU
2017-	Manager of the Architectural Robotics Lab., Department of Architecture, Design and Media Technology, AAU
2014-	Member of the research group for Tectonics in Architecture (TiA), Department of Architecture, Design and Media Technology, AAU
2013-2017	Lab Engineer, Department of Architecture, Design and Media Technology, AAU
2012-	Member and co-founder of the Utzon(x) Research Group, Department of Architecture, Design and Media Technology, AAU
2009-2011	Research Assistant, Department of Architecture, Design and Media Technology, AAU
2008-2009	Teaching Assistant, Department of Architecture, Design and Media Technology, AAU
2005-2008	MSc degree in Digital Design, Department of Architecture, Design and Media Technology, AAU
2002-2005	B.Sc. degree in Industrial Design, Department of Architecture, Design and Media Technology, AAU

## Publikationer

1. Foged, IW, Pasold, A & Jensen, MB 2020, Acoustic Wall: A Collaborative Robot Based Acoustic Wall Assembly. i *Innochain Conference Proceedings*. UCL Press, Innochain Conference, Copenhagen, Danmark, 13/09/2018.
2. Jensen, MB, Foged, IW & Andersen, HJ 2020, 'A Framework for Interactive Human-Robot Design Exploration', *International Journal of Architectural Computing*.
3. Jensen, MB & Das, A 2020, Technologies and Techniques for Collaborative Robotics in Architecture: establishing a framework for human-robotic design exploration. i *Proceedings of the CAADRIA Conference 2020*.
4. Jensen, MB 2019, 'Robotic Fabrication of Acoustic Geometries: an explorative and creative design process within an educational context', *archi-DOCT - The e-journal for the dissemination of doctoral research in architecture*, bind 6, nr. 2, s. 34-45.
5. Foged, IW & Jensen, MB, *Acoustic Tectonics - Collaborative Architectural Robotics Demonstrator*, 2019, 2D/3D (Fysisk produkt).
6. Das, A, Foged, IW, Jensen, MB & Hansson, MN 2019, Collaborative Robotic Masonry and Early Stage Fatigue Prediction. i *Architecture in the Age of the 4th Industrial Revolution: Proceedings of the 37th eCAADe and 23rd SIGraDi Conference*. bind 3, University of Porto, s. 171-178, The eCAADe and SIGraDi Conference 11-13 sep 2019, Faculty of Architecture, University of Porto, Portugal, Porto, Portugal, 11/09/2019.
7. Jensen, MB, Foged, IW, Pasold, A & Hansson, M 2018, 'Creative Robotics in Architecture – Robotic Brick Stacking', Seventh Annual Aalborg U Robotics, Aalborg, Danmark, 03/12/2018 - 03/12/2018 s. 25.

8. Foged, IW & Jensen, MB, *Tectonic Studio Library*, 2018, 2D/3D (Fysisk produkt).
9. Foged, IW & Jensen, MB 2018, Thermal Compositions Through Robot Based Thermal Mass Distribution. i *Proceedings of the 36th International Conference on Education and Research in Computer Aided Architectural Design in Europe, 2018*. bind 1, eCAADe, s. 783-790, Education and Research in Computer Aided Architectural Design in Europe (eCAADe 2018), Lodz, Polen, 19/09/2018.
10. Jensen, MB & Foged, IW, *Thermal Tower 2018*, 2018, Lyd og/eller billed produktion (digital).
11. Andersson, L, Foged, IW, Jensen, MB & Thiis, L, *We love bricks*, 2014, 2D/3D (Fysisk produkt).
12. Jensen, MB & Foged, IW 2014, Cellular Automata as a learning process in Architecture and Urban design. i E Mine Thompson (red.), *Fusion - Proceedings of the 32nd eCAADe Conference*. bind 1, eCAADe, Newcastle upon Tyne, England, UK, s. 297-302, eCAADe 14, Newcastle, Storbritannien, 10/09/2014.
13. Foged, IW, Pasold, A & Jensen, MB 2014, Evolution of an Instrumental Architecture. i *Fusion: Proceedings of the 32nd eCAADe Conference*. bind 2, ecaade2014\_070, eCAADe, s. 365-372, eCAADe 2014 : Fusion - Data Integration at its best, Newcastle upon Tyne, England, Storbritannien, 10/09/2014.
14. Andersson, L, Foged, IW, Kirkegaard, PH, Jensen, MB & Parigi, D, *Utzon(x) 2013 - Tetra Leaf: Unfolding Utzon*, 2013, 2D/3D (Fysisk produkt).
15. Foged, IW & Jensen, MB 2013, Aero Pavilion. i C van Uffelen (red.), *Creating Shade: Design, Construction, Technology*. Braun Publishing AG.
16. Foged, IW, Pasold, A, Jensen, MB & Poulsen, ES 2013, Acoustic Pavilion 2011. i *Shade Architecture*. Van Uffelen .
17. Poulsen, ES, Andersen, HJ, Jensen, OB & Jensen, MB 2012, A Case Study of Mediated Urban Architecture: Red Pavillion 2010. i V Andrade, S Smith & D Bendix Lanng (red), *Musings: An Urban Design Anthology*. 1 udg, Aalborg Universitetsforlag, Aalborg, s. 36-45.
18. Foged, IW, Pasold, A, Jensen, MB & Poulsen, ES 2012, Acoustic Environments: Applying Evolutionary Algorithms for Sound based Morphogenesis. i *ECAADE 2012 - Digital Physicality | Physical Digitality*. 1 udg, eCAADe, s. 347-353, eCAADe 2012 conference, Prague, Tjekkiet, 12/09/2012.
19. Jensen, MB, Kirkegaard, PH & Holst, MK 2010, A Morphogenetic Design Approach with Embedded Structural Analysis. i *Proceedings of International Symposium of the International Association for Shell and Spatial Structures (IASS) : Spatial Structures - temporary and permanent: Shanghai, China, November 8-12 2010*. China Architecture & Building Press, Shanghai, s. 1110-1120, International Symposium of the International Association for Shell and Spatial Structures : IASS 2010, Shanghai, Kina, 08/11/2010.
20. Jensen, MB, Kirkegaard, PH & Holst, MK 2010, A Morphogenetic Design Approach with Embedded Structural Analysis. i *Proceedings of International Symposium of the International Association for Shell and Spatial Structures (IASS) : Spatial Structures - temporary and permanent: Shanghai, China, November 8-12 2010*. China Architecture & Building Press, Shanghai, International Symposium of the International Association for Shell and Spatial Structures : IASS 2010, Shanghai, Kina, 08/11/2010.
21. Foged, IW, Kirkegaard, PH, Christensen, JT, Jensen, MB & Poulsen, ES 2010, Shape Control of Responsive Building Envelopes. i *Proceedings of International Symposium of the International Association for Shell and Spatial Structures (IASS) : Spatial Structures - temporary and permanent: Shanghai, China, November 8-12 2010*. China Architecture & Building Press, Shanghai, s. 2602-2609, International Symposium of the International Association for Shell and Spatial Structures : IASS 2010, Shanghai, Kina, 08/11/2010.
22. Foged, IW, Kirkegaard, PH, Christensen, JT & Jensen, MB 2010, Shape Control of Responsive Building Envelopes. i *Proceedings of International Symposium of the International Association for Shell and Spatial Structures (IASS) : Spatial Structures - temporary and permanent: Shanghai, China, November 8-12 2010*. China Architecture & Building Press, Shanghai, International Symposium of the International Association for Shell and Spatial Structures : IASS 2010, Shanghai, Kina, 08/11/2010.
23. Jensen, MB, Mortensen, HR, Mullins, M & Kirkegaard, PH 2009, Material Systems: a design approach. i G Çağda & B Çolakoğlu (red), *eCAADe2009 : Computation : the new realm of architectural design: 27th eCAADe Conference, september 16-19, 2009, Istanbul, Turkey*. eCAADe, Education and Research in Computer Aided Architectural in Europe, eCAADe, Istanbul, Tyrkiet, 16/09/2009.
24. Jensen, MB, Mortensen, HR, Mullins, M & Kirkegaard, PH 2009, Material Systems: A Design Approach. i *Computation : The New Realm of Architectural Design: 27th eCAADe Conference Proceedings*. eCAADe, Education and Research in Computer Aided Architectural in Europe, eCAADe 2009, Istanbul, Tyrkiet, 16/09/2009.

## Projekter

### AP: Acoustic Pavilion

Worre Foged, I., Pasold, A., Jensen, M. B. & Skouboe, E. B.  
01/02/2011 → 01/09/2011

**Acoustic Pavilion 2012**

Worre Foged, I., Pasold, A. & Jensen, M. B.  
01/03/2012 → 01/11/2012

**Acoustic Tectonics Studio 2015**

Worre Foged, I. & Jensen, M. B.  
03/08/2015 → 24/08/2015

**Acoustic Tectonics Studio 2016**

Worre Foged, I. & Jensen, M. B.  
05/08/2016 → 23/08/2016

**Acoustic Tectonics Studio 2018**

Worre Foged, I. & Jensen, M. B.  
05/02/2018 → 28/02/2018

**Acoustic Tectonics Studio 2019**

Worre Foged, I. & Jensen, M. B.  
04/02/2019 → 26/02/2019

**Aero Architectural Studio 2011**

Worre Foged, I. & Jensen, M. B.  
01/02/2011 → 09/03/2011

**Aero Architectural Studio 2013**

Worre Foged, I. & Jensen, M. B.  
01/03/2013 → 20/03/2013

**Creative Robotics in Architecture**

Worre Foged, I., Jensen, M. B. & Das, A.  
01/10/2018 → 01/05/2021

**Parametric Urbanism Studio 2012**

Worre Foged, I. & Jensen, M. B.  
16/02/2012 → 09/03/2012

**Parametric Urbanism Studio 2014**

Jensen, M. B.  
02/06/2014 → 30/06/2014

**Thermal Tower 2017-18**

Jensen, M. B. & Worre Foged, I.  
01/07/2017 → 31/07/2018

**Utzon(x) Research-by-design**

Andersson, L., Worre Foged, I., Kirkegaard, P. H., Jensen, M. B., Parigi, D., Bosia, D. & Juel Thiis, L.  
Det Obelske Familiefond  
01/01/2013 → ...

**Utzon(x) Research Pavilion 2017-18**

Worre Foged, I. & Jensen, M. B.  
19/08/2017 → ...

**Whispering Wall**

Worre Foged, I., Jensen, M. B. & Pasold, A.

01/05/2018 → 30/11/2018