

THOMAS FISCHER PhD, PhD, FDRS, FCyBS

PERSONAL INFORMATION

Born in Germany, 1972

citizenship German, permanent HK resident, China resident

family married, two children

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ACADEMIC EXPERIENCE

SUSTech *2021–ongoing* Southern University of Science and Technology
Professor at, and founding member of, the School of Design.

XJTLU *2011–2021* Xi'an Jiaotong-Liverpool University
Professor at, and founding member of, the Departments of Architecture and Design. Acting Head of Department of Architecture (2011–2013). Associate Professor (2011–2018), Professor (since 2018), ongoing PhD supervisions.

HU *2016–2017* HUMBOLDT UNIVERSITY
Visiting Researcher at the Institute of Musicology and Media Studies.

NCKU *2010–2011* National Cheng Kung University
Visiting Associate Professor at the College of Planning and Design.

HKPolyU *1999–2010* THE HONG KONG POLYTECHNIC UNIVERSITY
Research Associate (1999–2001), Lecturer (2001–2008), Assistant Professor and Industrial and Product Design Discipline Leader (2008–2010), ongoing part-time postgraduate teaching.

EDUCATION

Graduate Cert in Cybersecurity *2019–2021* Harvard University, USA
Harvard Extension School
Professional graduate-level certificate in cybersecurity

PhD in Architecture *2002–2008* RMIT University, Australia
Spatial Information Architecture Laboratory
Thesis: *Designing (tools (for designing (tools (for ...))))*
Advisors: Prof. Mark BURRY, Prof. John FRAZER & Prof. Ranulph GLANVILLE

PhD in Education *1997–2001* University of Kassel, Germany
Department of Education (FB1)
Thesis: *Eine Mustersprache für das Design von Autorensystemen*
Advisors: Prof. Wilhelm SANKE & Prof. Hans DEHLINGER

Master of Education equivalent *1992–1996* University of Kassel, Germany
Department of Education (FB1)
Thesis: *Hypertext: Strukturen und Didaktisches Potenzial*
Advisor: Prof. Wilhelm SANKE

ACADEMIC MEMBERSHIPS

<i>ASC</i>	American Society for Cybernetics – Lifetime Member
<i>IASCYS</i>	International Academy for Systems & Cybernetic Sciences – Certified Talent
<i>DRS</i>	Design Research Society – Fellow
<i>CybSoc</i>	The Cybernetics Society – Fellow
<i>ISSS</i>	International Society for the Systems Sciences – Member
<i>CAADRIA</i>	Computer-Aided Architectural Design Research in Asia – Member

SELECTED RESEARCH AND PROJECT GRANTS

<i>01 Apr 2019 – 31 Mar 2022</i>	XJTLU Research Development Fund / PhD Scholarship, project code RDF-17-02-43 “Toolmaking in Parametric Façade Design”, primary supervisor, RMB 366,000.
<i>01 Jul 2018 – 30 Jun 2021</i>	XJTLU Research Development Fund / PhD Scholarship, project code RDF-17-01-57 “Architectural Devices as Catalysts for Urban Transformation”, primary supervisor, RMB 366,000.
<i>3 May 2005 – 27 Feb 2009</i>	HK PolyU Internal Competitive Research Grant, project code G-YC48 “Applying Haptic Programming in Product Design”, primary investigator, HKD 178,500.
<i>1 Aug 2002 – 31 Jul 2005</i>	HK RGC General Research Fund, project code B-Q628 “Designing and Applying Second Generation Machine-Readable Models”, primary investigator, HKD 433,404.
<i>1 Mar 2000 – 31 Dec 2004</i>	HK PolyU School of Design RGC Internal Competitive Research Grant, project code A-PB84 “Distributed and Autonomous Intelligent Agents in Physical and Virtual Environments”, primary investigator, HKD 180,000.
<i>31 Jan 2000 – 31 Jan 2002</i>	HK PolyU Earmarked Provision for Special Purposes, “DMAN: Digital Media Access Network”, implementation of an on-premise data centre, project leader, HKD 7,000,000 plus annual service and maintenance budgets.

SELECTED BOOKS-LENGTH PUBLICATIONS

<i>Springer</i>	<i>Jan 2018</i> Springer: Design Research Foundations Design Cybernetics. Navigating the New (350 pages). Editors: Thomas FISCHER and Christiane M. HERR, Springer, Cham, ISBN: 978-3-030-18557-2.
<i>DeGruyter</i>	<i>Nov 2018</i> DeGruyter Studium Stefan HÖLTGEN, Thorsten SCHÖLER, Johannes MAIBAUM and Thomas FISCHER (2019). Medientechnisches Wissen Band 2: Informatik, Programmieren, Kybernetik (444 pages), DeGruyter, Oldenburg. ISBN: 978-3-11-049624-6.
<i>CAADRIA</i>	<i>Apr 2012</i> CAADRIA 2012 Proceedings Beyond Codes and Pixels. The Proceedings of the 17th International Conference on Computer Aided Architectural Design Research in Asia, Hindustan University, Chennai, India (712 pages). Editors: Thomas FISCHER, Kaustuv DE BISWAS, Jeremy J. HAM, Ryusuke NAKA and Weixin HUANG. ISBN: 978-988-19026-3-4.
<i>Tractatus Translation</i>	<i>Apr 2012</i> Tractatus Paradoxico-Philosophicus Ricardo B. URIBE (1991). <i>Tractatus Paradoxico-Philosophicus. A Philosophical Approach to Education</i> , Red Edition. From Spanish/English to German.

SELECTED JOURNAL ARTICLES

- Kybernetes* Thomas FISCHER (2020). Narratives of exploration: From “Failure is not an option” to “Try again. Fail again. Fail better”, *Kybernetes*, 49(8), 2091–2108, DOI: 10.1108/K-07-2019-0502.
- Kybernetes* Thomas FISCHER (2019). Transcomputability, (Glanville’s Corollary of) Ashby’s Law of Requisite Variety, and epistemic processes, *Kybernetes*, 48(4), 793–804, DOI: 10.1108/K-11-2017-0457.
- JCDE* Christiane M. HERR and Thomas FISCHER (2018). Building information modelling adoption in the context of the Chinese AEC industries: An extended BIM adoption model, *Journal of Computational Design and Engineering*, 6(2), 173–178, DOI: 10.1016/j.jcde.2018.06.001.
- Kybernetes* Thomas FISCHER (2017). A cybernetic perspective on determinability and design research, *Kybernetes*, 46(9), 1588–1596, DOI: 10.1108/K-10-2016-0269.
- Leonardo* Thomas FISCHER and Laurence D. RICHARDS (2017). From goal-oriented to constraint-oriented design: The cybernetic intersection of design theory and systems theory, *Leonardo Journal*, 50(1), 36–41, DOI: 10.1162/LEON_a_00862.
- IEEE Tech. & Soc.* Thomas FISCHER (2015). Wiener’s prefiguring of a cybernetic design theory, *IEEE Technology and Society Magazine*, 34(3), 52–59, DOI: 10.1109/MTS.2015.2461172.
- Kybernetes* Thomas FISCHER (2015). Blind spots obscuring circular causality in design and elsewhere, *Kybernetes*, 44(8/9), 1233–1239, DOI: 10.1108/K-11-2014-0267.
- Arch. Science Review* Thomas FISCHER (2014). Scientific research into designing, while doing justice to designing, *Architectural Science Review*, 57(4), 240–248, open access, DOI: 10.1080/00038628.2014.958128.
- FoAR* Thomas FISCHER (2014). Circular causality and indeterminism in machines for design, *Frontiers of Architectural Research*, 3(4), 368–375, open access, DOI: 10.1016/j.foar.2014.06.003.
- Kybernetes* Thomas FISCHER (2014). Effects of variety reduction and amplification on recursively re-entering patterns, *Kybernetes*, 43(9/10), 1330–1337, DOI: 10.1108/K-09-2014-0185.
- Kybernetes* Thomas FISCHER (2013). Enigmatic mechanisms in defense of the capability to have new ideas, *Kybernetes*, 42(9/10), 1374–1386, DOI: 10.1108/K-10-2012-0070.
- JMSS* Christiane M. HERR and Thomas FISCHER (2013). Systems for showing and repurposing: A second-order cybernetic reflection on some cellular automata projects, *Journal of Mathematics and System Science*, 3(4), 201–216, open access, DOI: 10.17265/2159-5291/2013.04.007.
- C & HK* Thomas FISCHER (2013). The roles of listening and non-listening in the formation of organizational hierarchies, *Cybernetics and Human Knowing*, 20(1/2), 63–72.

- ArS* Thomas FISCHER (2012). Geometry rationalization for non-standard architecture, *Architecture Science*, 5, 25–47.
- Kybernetes* Thomas FISCHER (2011). When is analog? When is digital? *Kybernetes*, 40(7/8), 1004–1014, DOI: 10.1108/03684921111160232.
- AutCon* Thomas FISCHER (2007). Rationalising bubble trusses for batch production, *Automation in Construction*, 16(1), 45–53, DOI: 10.1016/j.autcon.2005.10.004.
- AutCon* Thomas FISCHER, Christiane M. HERR, Mark BURRY and John FRAZER (2003). Tangible interfaces to explain Gaudí’s use of ruled-surface geometries, *Automation in Construction*, 12(5), 467–471, DOI: 10.1016/S0926-5805(03)00031-1.

SELECTED BOOK CHAPTERS

- Critical Concepts in Architecture* Thomas FISCHER (2020). The interdependence of linear and circular causality in CAAD research: A unified model, in: Mark BURRY (ed.), *Digital Architecture. Critical Concepts in Architecture*, Volume 4, Part 6: Digital Architecture as Transdisciplinary Bridge Builder, Routledge, London.
- Design Cybernetics* Thomas FISCHER and Christiane M. HERR (2019). An introduction to design cybernetics, in: Thomas FISCHER Cybernetics and Christiane M. HERR (eds.), *Design Cybernetics. Navigating the New*, Springer, Cham, 1–23. DOI: 10.1007/978-3-030-18557-2_1.
- Design Cybernetics* Thomas FISCHER (2019). A theory of (and for) enquiry, in: Thomas FISCHER and Christiane M. HERR (eds.), *Design Cybernetics. Navigating the New*, Springer, Cham, 247–262. DOI: 10.1007/978-3-030-18557-2_14.
- Medien-technisches Wissen* Thomas FISCHER (2018). Kybernetik für Medienwissenschaftler, in: Stefan HÖLTGEN, Thorsten SCHÖLER, Johannes MAIBAUM, and Thomas FISCHER (eds.), *Medientechnisches Wissen Band 2: Informatik, Programmieren, Kybernetik*, DeGruyter, Oldenburg, 273–433. ISBN: 978-3-11-049625-3.

SELECTED CONFERENCE PAPERS

- CAADRIA 2020* Thomas FISCHER and Thomas WORTMANN (2020). From geometrically to algebraically described hyperbolic paraboloids: An optimisation-based analysis of the Philips Pavilion, in: Dominik HOLZER, Walaiporn NAKAPAN, Immanuel KOH and Anastasia GLOBALA (eds.): *Proc. 25th CAADRIA Conference*, Vol. 1, Faculty of Architecture, Chulalongkorn University, Bangkok, Thailand, 435–444.
- CAADRIA 2020* Thomas WORTMANN and Thomas FISCHER (2020). Does architectural design optimization require multiple objectives? A critical analysis, in: Dominik HOLZER, Walaiporn NAKAPAN, Immanuel KOH and Anastasia GLOBALA (eds.): *Proc. 25th CAADRIA Conference*, Vol. 1, Chulalongkorn University, Bangkok, Thailand, 365–374.

- CAADRIA 2019 Christiane M. HERR and Thomas FISCHER (2019). Design cybernetics and CAAD Research. Aspects of our shared interests, in: Matthias Hank HAEUSLER, Marc Aurel SCHNABEL and Tomohiro FUKUDA (eds.): *Proc. 24th CAADRIA Conference*, Vol. 2, Victoria University of Wellington, New Zealand, 541–550.
- CAADRIA 2019 Thomas FISCHER, Christiane M. HERR and Michael GRAU (2019). Triangulated shell foam structures based on robotic hot-wire-cutting. A design, geometry rationalisation and fabrication workflow, in: Matthias Hank HAEUSLER, Marc Aurel SCHNABEL and Tomohiro FUKUDA (eds.): *Proc. 24th CAADRIA Conference*, Vol. 2, Victoria University of Wellington, New Zealand, 551–560.
- CAADRIA 2016 Thomas FISCHER and Christiane M. HERR (2016). Parametric customisation of a 3D concrete printed pavilion, in: Sheng-Fen CHIEN, Seungyeon CHOO, Marc Aurel SCHNABEL, Walaiporn NAKAPAN, Mi Jeong KIM and Stanislav ROUDAVSKI (eds.): *Proc. 21st CAADRIA Conference*, The University of Melbourne, Australia, 549–558.
- DADA 2015 Thomas FISCHER and Christiane HERR (2015). Showcasing the new choosing: A parametric jewellery design and fabrication exhibit, in: Weiguo XU and Weixin HUANG (eds.): *Digital Factory: Proceedings of the DADA International Conference on Digital Architecture*, Tongji University, Shanghai, China, 75–83.
- CAADRIA 2015 Thomas FISCHER (2015). Participation, not conservation: A computing approach to traditional craft, in: Yasushi IKEDA, Christiane M. HERR, Dominik HOLZER, Sawako KAJIUMA, Mi Jeong KIM and Marc A. SCHNABEL (eds.): *Proc. 20th CAADRIA Conference*, Kyungpook National University, Daegu, Republic of Korea, 499–508.
- ASA 2013
(keynote) Thomas FISCHER (2013). Design research between different research traditions: A case study, in: Marc Aurel SCHNABEL (ed.), *Cutting Edge in Architectural Science: Proc. 47th International Conference of the Architectural Science Association 2013*, The Architectural Science Association and The Chinese University of Hong Kong, Hong Kong, 19–28.
- CAADRIA 2007 Thomas FISCHER and Christiane M. HERR (2007). The designer as toolbreaker? Probing tool use in applied generative design, in: Yu GANG, Zhou QI and Dong WEI (eds.): *Proc. 12th CAADRIA Conference*, Southeast University Press, Nanjing, China, 367–375.
- ICD 2006 Thomas FISCHER and Wing C. LAU (2006). Marble-track music sequencers for children, in: Aulikki HYRSKYKARI (ed.): *ICD 2006: Proceedings of the 5th International Conference for Interaction and Children*, University of Tampere, Tampere, Finland, 141–144.

OTHER INFORMATION

- Languages* GERMAN • native speaker
ENGLISH • full professional proficiency
- Interests* long-distance running • certified advanced open water diver • mountain biking • electronic sound • computer history

August 27, 2021