

# Curriculum Vitae

Dr. Timur Dogan  
Assistant Professor  
Cornell AAP

## Personal Data

Name Timur Dogan, Dipl.-Ing., MDes, PhD  
Birthday/Place 02/25/1985, Freiburg i. Br.  
Nationality: German

## Education

- 2012 - 2015 P.h.D. in Building Technology at MIT  
Title: Procedures for automated building energy model production for urban and early design.  
<http://hdl.handle.net/1721.1/101500>
- 2010 - 2012 Master in Design Studies at Harvard Graduate School of Design  
Research area: Accelerated large scale daylight simulations for urban and early design
- 2010 Diploma in architecture with distinction for remarkable program achievements at TU Darmstadt (Dipl.-Ing., Ø 1.0)  
Area of concentration: Sustainable residential architecture, building in historic context, light surface-active structures
- 2004 Abitur (Ø 1.9), Georg Büchner Schule, Darmstadt

## Professional and academic work

- Since 2015 Assistant Professor at Cornell AAP  
Teaching building technology related classes and head of the Environmental Systems Lab
- Since 2015 Interdisciplinary laboratory for TC Erciyes University, Kayseri, Turkey. (12,000m<sup>2</sup>)  
Commissioned architect and sustainability consultant
- Since 2014 Member of the DIVA for Rhino developer team. [www.diva4rhino.com](http://www.diva4rhino.com)
- Since 2012 Member of the “umi” developer team (urban environmental modeling software), [www.urbanmodeling.net](http://www.urbanmodeling.net)
- Since 2012 Lead developer of “Archsim Energy Modeling” software for Grasshopper, [www.solemma.net](http://www.solemma.net)
- 2011-2014 Transsolar Energietechnik GmbH, München (Summer)  
2010 Wandel Hoefer Lorch Architekten GmbH
- 2008-2009 Prosa Architektur & Grafik, Darmstadt  
2009 Architekten NKBAK, Frankfurt  
2007 KSP Engel Zimmermann in Frankfurt

## Professional memberships

- Since 2016 Member of the Chartered Institution of Building Services Engineers (CIBSE). Membership number: 050579
- Since 2015 Member of the International Building Performance Simulation Association (IBPSA). Membership number: 29842964
- Since 2010 Chamber of Architects, Section UIA in Turkey. Registration Number: 49295

## Courses at Cornell University

- Fall Environmental Systems I: Site and Sustainability
- Spring Environmental Systems II: Building Dynamics
- Spring Option studio: Building Better Cities
- Fall/Spring Special Investigations in Environmental Systems and Conservation

## Funding

- 2015 ACSF RRF: Towards Urban Building Energy Modeling of US Cities. \$20,000
- 2016 ACSF AVF: New Generation of Urban Building Simulation Software. \$113,000
- 2016 NVIDIA Hardware Grant. \$4,000 eq.
- 2017 Konika Minolta Hardware Grant. \$2,100 eq.
- 2017 ACSF RRF: Mobility aware Integrated Urban Design. \$20,000
- 2017 CTECH NRIF Mobility aware Integrated Urban Design with Kohn Pedersen Fox Associates

## Publications

- 2017 Proceedings of the Symposium on Simulation for Architecture and Urban Design. Edited by Michela Turrin, Brady Peters, William O'Brien, Rudi Stouffs and Timur Dogan
- 2008 T Dogan et al., "Concerning Istanbul", Entwerfen und Hochbaukonstruktion, TU Darmstadt, ISBN: 978 3 88536 107 7
- 2008 T Dogan, K Kral, "anSICHTEN, Katalog zur Jahresausstellung 2008 des Fachbereichs Architektur der TU Darmstadt", Wasmuth, Tübingen 2008, ISBN: 978 3 8030 0701 8

## Journal articles

- 2017 T Dogan, YC Park, A critical review of daylighting metrics and their use in residential architecture. Submitted to Lighting Research & Technology
- 2017 T Dogan, CF Reinhart, Shoeboxer: An algorithm for automated "typical room" model generation for urban and schematic building energy modelling. DOI information: 10.1016/j.enbuild.2017.01.030
- 2016 Dogan, T., & Stec, P. (2016). Prototyping a façade-mounted, dynamic, dual-axis daylight redirection system. Lighting Research & Technology, 1477153516675392.
- 2016 E Saratsis, T Dogan, CF Reinhart, Simulation-based daylighting analysis procedure for developing urban zoning rules, BUILDING RESEARCH & INFORMATION 2016. doi:10.1080/09613218.2016.1159850
- 2015 T Dogan, C F Reinhart, P Michalatos, "Autozoner: An algorithm for automatic thermal zoning of buildings with unknown interior space definitions", Journal of Building Performance Simulation, 2015. doi:10.1080/19401493.2015.1006527

- 2011 C F Reinhart, T Dogan, D Ibarra and H W Samuelson, "Learning by doing - Teaching energy simulation as a game", Journal of Building Performance Simulation, 2011. doi:10.1080/19401493.2011.619668

## Peer reviewed conference proceedings

- 2017 T Dogan, YC Park. Towards a Novel Framework for Residential Daylight Evaluation. To be published in the Proceedings of Building Simulation 2017, San Francisco, USA, August 2017
- 2017 J Hoover, T Dogan. Fast and Robust External Solar Shading Calculations using the Pixel Counting Algorithm. To be published in the Proceedings of Building Simulation 2017, San Francisco, USA, August 2017
- 2017 T Suesser, T Dogan. Campus Energy Model: Using Semi-Automated Workflows to Build Spatially Resolved Campus Building Energy Models for Climate Change and Net-Zero Scenario Evaluation. To be published in the Proceedings of Building Simulation 2017, San Francisco, USA, August 2017
- 2015 T Dogan, E Saratsis, C F Reinhart. Towards an Energy Simulation-Informed Design Process: A 3-Phase Approach for a Performative Interdisciplinary Laboratory Building. Proceedings of Building Simulation 2015, Hyderabad, India, December 2015
- 2015 T Dogan, E Saratsis, C F Reinhart. The Optimization Potential of Floor-Plan Typologies in Early Design Energy Modeling. Proceedings of Building Simulation 2015, Hyderabad, India, December 2015
- 2015 CM Rose, E Saratsis, S Aldawood, T Dogan, C F Reinhart. A tangible interface for collaborative urban design for energy efficiency, daylighting, and walkability. Proceedings of Building Simulation 2015, Hyderabad, India, December 2015
- 2014 C Cerezo, T Dogan, C Reinhart, "Towards standardized building properties template files for early design energy model generation", Proceedings of 2014 ASHRAE/IBPSA-USA Building Simulation Conference, Atlanta, USA
- 2014 T Dogan, C F Reinhart, P Michalatos, "Automated multi-zone building energy model generation for schematic design and urban massing studies", Proceedings of eSIM 2014, Ottawa, Canada
- 2013 C F Reinhart T Dogan, J A Jakubiec, T Rakha, and A Sang, "UMI. An urban simulation environment for building energy use, daylighting and walkability", Proceedings of Building Simulation 2013, Chambéry, France, August 2013
- 2013 T Dogan and C F Reinhart, "Automated conversion of architectural massing models into thermal "shoebox" models", Proceedings of Building Simulation 2013, Chambéry, France, August 2013
- 2013 T Dogan, CF Reinhart, "Atmospheres: Proof of concept for web-based 3D Energy Modeling for designers with WebGL/HTML5 and modern event-driven, asynchronous server systems.", Proceedings of Building Simulation 2013, Chambéry, France, August 2013
- 2012 T Dogan, C F Reinhart and P Michelatos, "Urban daylight simulation: Calculating the daylit area of urban designs", Proceedings of SimBuild 2012, Madison, Wisconsin, USA
- 2012 B Wang, T Dogan, D Pal and C F Reinhart, "Simulating naturally ventilated buildings with detailed CFD-based wind pressure database", Proceedings of SimBuild 2012, Madison, Wisconsin, USA

## **Awards and patents**

- 2013 Patent for Dynamic Light Control System and Methods for Producing the Same. Appl. No(s): PCT/US13/70622 at the Harvard Wyss Institute.
- 2013 First price, design competition, "Bürgerbrunnen für Wilhelmsplatz, Offenbach"
- 2012 MIT Presidential Fellow
- 2012 Fellowship Transsolar Energietechnik GmbH. Partial funding of my PhD position.
- 2011 DAAD Fellowship for graduate studies
- 2010 Distinction for remarkable program achievements of TU Darmstadt
- 2007 Scholarship Studienstiftung des Deutschen Volkes e.V.

## **Press, interviews**

- 2017 Interview in Computing the Environment book by Terri and Brady Peters, to be published by John Wiley & Sons Ltd.
- 2016 Cornell Chronicle: Atkinson Center gives record number of seed research grants.  
<http://news.cornell.edu/stories/2016/06/atkinson-center-gives-record-number-seed-research-grants>
- 2015 AAP News: Dogan, Expert in Sustainable Design, Joins Architecture Faculty  
<https://aap.cornell.edu/news-events/dogan-expert-sustainable-design-joins-architecture-faculty>
- 2015 Form Follows Performance: Urban Modeling "umi" for Rhino Released  
<http://www.formfollowsperformance.com/2015/01/urbanmodeling-v2-0-for-rhino-released/>
- 2013 Rhino News: Archsim Energy Modeling for Grasshopper  
<http://blog.rhino3d.com/2013/09/archsim-energy-modeling-for-grasshopper.html>

## **Lectures, workshops and presentations**

- 2017 Workshop Licht. Three-day workshop at TU Darmstadt on daylight simulations and digital design workflows. [https://www.architektur.tu-darmstadt.de/fachbereich\\_architektur/aktuelles\\_fachbereich/newsdetails\\_76416.de.jsp](https://www.architektur.tu-darmstadt.de/fachbereich_architektur/aktuelles_fachbereich/newsdetails_76416.de.jsp)
- 2017 EMPOWER ARCHITECTS! Tools to design livable and sustainable urban habitats. Invited talk at Institute for Sustainable Urbanism - ISU, Technische Universität Braunschweig. <http://sustainableurbanism.de>
- 2017 Scientific chair and panel member of SIMAUD 2017 conference, Toronto Canada  
<http://www.simaud.org/2017/>
- 2017 Invited talk and workshop at Kohn Pedersen Fox Associates PC, New York City.

- 2017 Invited lecture for the Ezra Round Table at Cornell Systems Engineering  
<https://cornell.mediasite.com/Mediasite/Play/4b053b6c475d443284618460d7bce9e31d>
- 2016 Summit on Science and Technology Enablement for the Sustainable Development Goals | The New York Academy of Sciences (November 29, 2016).  
Invite only event to discuss urbanization (<http://www.nyas.org/Events/Detail.aspx?cid=27c7f9cb-251f-46ee-9ac7-25282effd9c4>)
- 2016 Invited keynote speaker at Harvard Project for Asian and International Relations, Cambridge, MA, USA
- 2015 Energy performance evaluation of buildings with Archsim, DIVA Day, Architecture Association, London, UK
- 2014 Guest lecture on “Architecture and the environment” at the Department of Architecture at TC Erciyes University, Kayseri, Turkey
- 2014 Invited presentation on “Building technology and simulation methodologies” at TC Erciyes University, Kayseri, Turkey
- 2013 Invited lecturer and course instructor at the “active buildings – active cities” summer school at TU-Darmstadt
- 2013 Invited guest lecturer in “Energy Simulation in Design” at Harvard Graduate School of Design

## **Service**

- 2017 Scientific Chair, SimAUD, Toronto.
- Since 2016 Faculty Fellow at the Atkinson Center for Sustainable Future
- Since 2016 Reviewer for Atkinson Center for Sustainable Future Academic Venture Fund and Post-Doctoral fellowship proposals
- Since 2016 Graduate Field Member Civil Engineering
- Since 2016 Graduate Field Member Systems Engineering
- Since 2016 Member of the Built Environment Planning Group Committee: John Albertson, David Albonesi, Kavita Bala, Mark Cruvellier, Timur Dogan, Jennifer Minner, David Schneider, Max Zhang
- Since 2017 Journal reviewer for Energy and Buildings
- Since 2016 Journal reviewer for Building Research & Information
- Since 2016 Journal reviewer for LEUKOS
- Since 2015 Journal reviewer for Building and Environment