

## **Fehmi Dogan, PhD**

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Izmir Institute of Technology  
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### RESEARCH INTEREST

Design cognition and education  
The role of external representations in the design process  
Cognitive systems and design collaboration  
Shifts in representational systems in architectural history  
Architectural programming and evaluation

### EDUCATION

- 1998 – 2003      Ph.D. in Architecture, Georgia Institute of Technology  
*Major Field: Design Cognition, Minor Field: Cognitive Science*  
  
*Dissertation:* The role of conceptual diagrams in the architectural design process: case studies of the First Unitarian Church by Louis Kahn, the Staatsgalerie by Stirling & Wilford Associates, and the Jewish Museum by Daniel Libeskind  
  
*Dissertation Committee:* Craig M. Zimring, Nancy Nersessian, Chuck Eastman, Thomas Fisher, Hari Narayanan
- 1996 – 1998      Master of Science, Georgia Institute of Technology  
*Thesis:* A comparative analysis on the award-winning mosque projects by the Aga Khan Award for Architecture  
  
*Advisor:* Dr. Ronald Lewcock
- 1989 – 1994      Bachelor of Architecture, Middle East Technical University, Turkey

### ACADEMIC EXPERIENCE

- 2004 – present      Izmir Institute of Technology, Turkey  
College of Architecture  
– Assistant Professor
- 2000 – 2004      Georgia Institute of Technology  
College of Architecture  
– Post-doctoral Fellow  
– Research scientist  
– Graduate Teaching Assistant (ARCH 2111 – Introduction to Architectural History I, ARCH 2112 – Introduction to Architectural History II, CS 3790 – Introduction to Cognitive Science, PSYC 3010 – Introduction to Cognitive Psychology, PSYC 3015 –

Cognitive Psychology Lab)

- 1995 – 1996 Izmir Institute of Technology, Turkey  
College of Architecture  
– Graduate Research Assistant
- 1994 – 1995 Middle East Technical University, Turkey,  
College of Architecture  
– Graduate Teaching Assistant (AR 190 Summer Practice)

ADMINISTRATIVE EXPERIENCE

- 2009 – Izmir Institute of Technology, Turkey  
College of Architecture  
– Vice Dean
- 2007 – 2009 Izmir Institute of Technology, Turkey  
Graduate School of Sciences and Engineering  
– Vice Dean
- 2004 – 2009 Izmir Institute of Technology, Turkey  
Department of Architecture  
– Associate Chair

FUNDED RESEARCH EXPERIENCE

- 2003 – 2004 Facility Performance Evaluation Learning Consortium and Summit  
(Project coordinators: Craig Zimring and Cheryl Fuller)  
– Researcher
- 2003 – 2004 DGS POE Post-occupancy Evaluation Program sponsored by the  
Department of General Services of California (Project coordinators:  
Craig Zimring and Cheryl Fuller)  
– Researcher
- 2002 – 2004 Interactive, multi-media database on U.S. Courthouses and  
Courtrooms (Project coordinators: Craig Zimring and Cheryl Fuller)  
– Researcher

FUNDED RESEARCH/DESIGN EXPERIENCE

- 2010 – 2011 Architectural Project for Gaziemir Municipality Building in Izmir,  
Turkey (approximately 10,000 sqm)  
– Project coordinator  
– Programming
- 2010 – 2011 Architectural Project for Gaziemir City Center and Square  
(approximately 30,000 sqm)  
– Project coordinator  
– Programming

– Design

### VOLUNTEER DESIGN WORK

September 1995 Workshop for a Recreation Facility at Mamak, Ankara  
– May 1996 Run by Chamber of Architects, Ankara, Turkey  
– Project team coordinator  
– Designer

### COMPETITIONS

August 2006 Architectural competition for the Office, Library, and Visitor Center of the National Assembly of Turkey (approximately 40,000 sqm)  
– Participant  
– Project team coordinator  
– Designer

### PUBLICATIONS

Journal Publications Dogan, F. (in press). “Architectural Design Students' Explorations through Conceptual Diagrams,” *Design Journal*.

Dogan, F. & N. Nersessian (in press). “Conceptual Diagrams in Creative Architectural Practice: The case of Daniel Libeskind’s Jewish Museum,” *arq: architecture research quarterly*.

Kasali, A. & Dogan, F. (2010). “Fifth, sixth, and seventh grade students’ use of non-classroom spaces during recess: The case of three private schools from Izmir, Turkey,” *Journal of Environmental Psychology*, 30(4), 518-532.

Dogan, F. & N. Nersessian (2010). “Generic abstraction in design creativity: the case of Staatsgalerie by James Stirling,” *Design Studies*, 31(3), 207-236.

Dogan, F. & N. Nersessian (2005). “How DOORKNOB gets its meaning: meaning: Fodor and Bowker and Star on Concepts and Categories,” *Journal of Learning Sciences*, 14(1), 127–137. [book commentary]

Dogan, F. & C. Zimring (2002). “The interaction of programming and design: the First Unitarian Congregation of Rochester and Louis I. Kahn,” *Journal of Architectural Education*, 56(1), 47-56.

Book Chapters Zimring, C., F. Dogan, et al. (2005). Facility performance evaluation in the public and private sectors. In W. F. E. Preiser and J. C. Vischer (Eds.), *Assessing building performance*. Oxford, UK: Elsevier. pp. 180-187.

Conference  
Proceedings

Erbil, L. & F. Dogan. (accepted as full paper). "Collaboration within student design teams participating in architectural design competitions". In *2012 Design Research Society (DRS) International Conference*, Bangkok, Thailand, July 2-4, 2012.

Taneri, B. & F. Dogan. (accepted as full paper). "How architectural students characterize design". In *2012 Design Research Society (DRS) International Conference*, Bangkok, Thailand, July 2-4, 2012.

Ozkan, O. F. Dogan. (accepted as full paper). "The role of analogical transfer in design: differences between novices and expert designers". In *2012 Design Research Society (DRS) International Conference*, Bangkok, Thailand, July 2-4, 2012.

Kan, D. & F. Dogan. (accepted as full paper). "Non-spatial aspects of spatial knowledge: comparing visually impaired subjects' verbal descriptions to sighted subjects' representations". In *EDRA 2012, 43<sup>rd</sup> Annual Conference of the Environmental Design Research Association*, Seattle, Washington, May 30-June 2, 2012.

Ozkan, O. & Dogan, F. (2011). "Analogical transfer in design: Differences between novice and expert designers". In *2<sup>nd</sup> National Conference Architectural Design Education*, Istanbul, Turkey. October 20-21: (pp.58-68). [in Turkish].

Kasali, A., & Dogan, F. (2009). "A study on non-classroom spaces: three cases from Izmir, Turkey". In *International Congress of Architecture & Children*, Ankara, Turkey. November 18-21: (pp. 199-208).

Dogan, F., & Nersessian, N. J. (2009). "Generic Abstractions in Design Creativity". In N. Taatgen and H. van Rijn (Eds.), *Thirty-first Annual Conference of Cognitive Science Society*, Amsterdam, Netherland. July 29 – August 1: (pp. 614-619).

Dogan, F., & Nersessian, N. J. (2009). "Conceptual Diagrams in Creative Problem Solving". In N. Taatgen and H. van Rijn (Eds.), *Thirty-first Annual Conference of Cognitive Science Society*, Amsterdam, Netherland. July 29– August 1: (p. 2088-2088).

Peponis J., Bafna S., Dogan F., Dahabreh S.M., (2006). "Presentational symbolic systems in architectural thinking". In Trova V, Manolides C, Papaconstantinou G (Eds.), *Representation as a Vehicle for Architectural Thinking*, Athens, School of Architecture of the University of Thessaly, Greece. (pp. 40-53): Futura Editions [in Greek].

Dogan, F., & Nersessian, N. (2005). "Design problem solving with conceptual diagrams". In B. G. Bara, L. Barsalou & M. Bucciarelli (Eds.), *2005 Cognitive Science Society Conference*, Stresa, Italy. July 21-23: (pp. 600-605): Lawrence Erlbaum Associates.

Dogan, F., & Nersessian, N. J. (2003). "Collaboration in design: Evolving conceptual diagrams". In Alterman, R. & Kirsh, D. (Eds.), *2003 Cognitive Science Society Conference*, Boston, MA. July 31 - August 02: (p. 1337-1337): Lawrence Erlbaum Associates.

Dogan, F., & Nersessian, N. (2002). "Conceptual diagrams: representing ideas in design". In M. Hegarty, B. Meyer & N. H. Narayanan (Eds.), *Second International Conference, Diagrams 2002*, Callaway Gardens, GA, USA, April 18-20, (pp. 353-355). Berlin: Springer.

Dogan, F. (2000). "Methods in Design Studies: A Case Study in the Cognitive-Historical Analysis Method". *2<sup>nd</sup> European Association for Architectural Education (EAAE) - Architectural Research Centers Consortium (ARCC) Conference on Architectural Research*, Paris, France, July 4-8: (pp. 147-162).

Dogan, F. (1999). "Award-winning mosque projects by the Aga Kahn Award for Architecture". *The Symposium on Mosque Architecture*, Kind Saud University, Riyadh, Saudi Arabia, Jan 30 – Feb 3: vol. 4, (pp. 77-97).

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|---------------------------|---|
| Editorial                 | Dogan, F. & T. Akis (2010). "Architecture and Perception of Space," <i>Turkish Chamber of Architects Ankara Branch Folder</i> , (17). [in Turkish].   |
| Non-referred publications | Dogan, F. (2010). "Imagining space through conception and perception of sketches," <i>Turkish Chamber of Architects Ankara Branch Folder</i> , (17), 24-31. [in Turkish].   |
| Technical Reports         | Dogan, F. (2001). "Cognitive-Historical analysis in design studies: A case study of Louis I. Kahn's First Unitarian Church," <i>Georgia Institute of Technology Cognitive Science Program Technical Reports</i> , GIT-COGSCI-2001/01. |

#### CONFERENCE PRESENTATIONS

Kan, D. & F. Dogan. "Non-visual aspects of spatial cognition," *Technology for Life, 6th International Conference of Foundation of Disabled People*, Istanbul, Turkey, December 2-3, 2011. [in Turkish].

Dogan, F. & C. Zimring. "Flow of POE results in state and federal agencies," *EDRA 2003, 34<sup>th</sup> Annual Conference of the Environmental Design Research Association*, St. Paul, Minnesota, April 25-27, 2003.

Dogan, F. "Abstraction in design through conceptual diagrams," *2003 Cognitive Science Graduate Student Conference*, Georgia Institute of Technology, Atlanta, Georgia, April 4, 2003.

Dogan, F. "Conceptual diagrams in design," *2002 Cognitive Science Graduate Student Conference*, Georgia Institute of Technology, Atlanta, Georgia, April 8-9, 2003.

Dogan, F. & C. Zimring. "The Making of Architecture: The First Unitarian Church of Rochester," *EDRA 2001, 32<sup>nd</sup> annual conference of the Environmental Design Research Association*, Edinburgh, Scotland, June 3-6, 2001.

Dogan, F. "A Cognitive-historical analysis of Louis I. Kahn's design for the First Unitarian Church," *2000 Cognitive Science Graduate Student Conference*, Georgia Institute of Technology, Atlanta, Georgia, March 24, 2000.

Dogan, F. "Social Relevance of Architecture: Aga Kahn Awards from Indian Subcontinent," *International Convention of Asia Scholars*, Leiden, The Netherlands, June 25-28, 1998.

#### CONFERENCE WORKSHOPS

"Cognitive-Historical Analysis Method in Design Studies," *Research Methods in Design Cognition Workshop, Design Computing and Cognition 2010 Conference*, Stuttgart, Germany, July 11, 2010.

#### CONFERENCE ORGANIZATIONS

*Housing and architecture in Izmir since 1980s*, 29-30 November, 2008, Izmir, Turkey.  
Member of the scientific committee

#### COURSES THOUGHT

##### **Undergraduate**

AR 201 Architectural Design I

- Studio coordinator
- Fall semesters of 2004, 2005, 2006, 2008, 2009, 2010, 2011

AR 202 Architectural Design II

- Studio coordinator
- Spring semesters of 2005, 2006, 2007, 2008, 2009, 2010, 2011

AR 223 Architectural Design Approaches

- Fall semesters of 2004, 2007, 2008, and Spring 2006

AR 444 Programming and Evaluation in Architecture

- Fall 2011, and Spring 2010

##### **Graduate**

AR 701 Research Methods 1: Introduction to Fields of Research in

Architecture  
– Fall 2004

AR 602 Research Methods 2: Qualitative and Quantitative Approaches  
– Spring semesters of 2005 and 2006

AR 545 Cognitive Issues in Design  
– Fall semesters of 2007 and 2010

AR 546 Representational Systems in Design  
– Spring semesters of 2008 and 2011

### COMPLETED SUPERVISED THESIS and DISSERTATIONS

#### **Thesis**

Kasalı, A., “An evaluation of non-classroom spaces of private elementary schools in Izmir: Investigating factors affecting interactions among students”, Izmir Institute of Technology, 2006.

#### **Dissertations**

Uzunoğlu, E., “The Constitution of Power Relations in Spaces of Industrial Production: The Case of Four Sümerbank Campuses in the Aegean Region”, Izmir Institute of Technology, 2008.

Terim, B., “Climatic considerations in Traditional Built Environments: The Effect of Natural Ventilation on Thermal Comfort in Alaçatı, Izmir, Turkey”, Izmir Institute of Technology, 2011.

Döşemeciler, A., “An Application Of Distinct Sums Property for Number Theoretic Construction and Prediction of Two Dimensional Quadratic Residue Diffusers With Boundary Element Method”, Izmir Institute of Technology, 2011.

Özkan, Ö., “Cognitive strategies of analogical transfer in design: differences between expert and novice designers”, Izmir Institute of Technology, 2011.

### CONTINUING SUPERVISED THESIS and DISSERTATIONS

#### **Thesis**

Erbil, L., “Collaboration in Design: the Case of Design Competition Teams”, Izmir Institute of Technology.

Taneri, B., “Learning How to Design”, Izmir Institute of Technology.

#### **Dissertation**

Kan, D., "Way-finding among Visually Impaired People in Complex Physical Environments: The Case of Airports", Izmir Institute of Technology.

#### ARCHITECTURAL COMPETITION JURY MEMBERSHIP

November 2005 – Manisa Municipality Building and Shopping Mall National Architectural Competition

#### HONORS

- The John Templer Award, Georgia Institute of Technology, College of Architecture, 2003
- Outstanding Graduate Teaching Assistant Award, Georgia Institute of Technology, College of Architecture, 2001
- Full scholarship for master and doctoral studies, Turkish Higher Council of Education, 1996

#### LANGUAGES

- English, excellent
- French, intermediary
- Turkish, native