

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

| | | | |
|---|---------------------------------------|---------|------------------|
| NAME Yi-Luen Ellen Do | POSITION TITLE Associate Professor | | |
| eRA COMMONS USER NAME (credential, e.g., agency login) ellendo | | | |
| EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i> | | | |
| INSTITUTION AND LOCATION | DEGREE <i>(if applicable)</i> | YEAR(s) | FIELD OF STUDY |
| Georgia Institute of Technology | PhD | 1998 | Design Computing |
| Harvard University Graduate School of Design | M DeS | 1991 | Design Computing |
| National Cheng Kung University, Taiwan | BS | 1988 | Architecture |

Positions and Employment

- 1990 - 1992 Technical and Applications Assistant, Computer Resources, Harvard Graduate School of Design
- 1992 - 1994 Instructor, College of Architecture, Georgia Institute of Technology
- 1994 - 1999 Professional Research Associate, Instructor, University of Colorado, Boulder
- 1999 - 2004 Assistant and Associate Professor (tenured 2003), Department of Architecture, (Adjunct in Landscape Architecture), Program Director, Master of Science in Design Computing (from March 2002), University of Washington
- 2004 - 2005 Associate Professor, School of Architecture, Carnegie Mellon University
- 2006 - present Associate Professor, PhD Program, College of Architecture and joint appointment at School of Interactive Computing, College of Computing, Georgia Institute of Technology

Other Experience and Professional Memberships

- 1998 Technology, Arts and Media Program Committee, University of Colorado at Boulder
- 1997 - 1999 Steering Committee for Association for Computer Aided Design in Architecture (ACADIA)
- 1999 - 2001 Awards Officer for ACADIA (Association of Computer Aided Design in Architecture)
- 1999 - 2003 Executive Board, Space.City, Seattle's Art and Architecture Forum, a non-profit organization
- 2000 - 2002 Advisory Board, IFIP (International Federation for Information Processing)
- 2002 Advisor, Berkeley Institute of Design (BID), University of California, Berkeley.
- 2003 Seattle Site Chair, The Fifth International Conference on Ubiquitous Computing
- 2002 - 2008 Editorial Board, International Journal of Architectural Computing, IJAC, MultiScience Publishing, UK.
- 2006, 2008 Guest Editor, Journal of Artificial Intelligence for Engineering Design, Analysis and Manufacturing, AIEDAM, Cambridge University Press.
- 2007 - 2008 Advisory Board, Developing Graduate level Interdisciplinary Curriculum for Creating Safe and Effective Health Care Environments, Robert Wood Johnson Foundation grant

Honors

- 1994 Outstanding Teaching Award, College of Architecture, Georgia Institute of Technology
- 2000 Best Paper of the Year, Third Prize, Journal of Computers & Graphics, "Drawing on the back of an envelope" in Computers and Graphics, Vol. 24, No. 6, pp 835-849, New York, Pergamon Press.
- 2001 Jeannette and David McKinley Faculty Award for "Designing the Interface and Communication Control for the Future Home Environments", University of Washington
- 2006 Top 25 Hottest articles, Jan-March 2006 Science Direct in the Subject Area: Computer Science, " Design sketches and sketch design tools," in KBS - Knowledge-Based Systems, Volume 18, Issue 8, 1 December 2005, Pp 383-405

- 2006 Keynote Speaker - "Things that Think, Spaces that Sense and Places that Play" at the Smart Living Space Symposium, June 1-2 at International Conference Center at NCKU - National Cheng-Kung University, Tainan, Taiwan, organized by the Center for Research of E-life Digital Technology
- 2007 Keynote Speaker, "Every Drawing Tells a Story," for "Spatial Cognition in Architectural Design Workshop - Anticipating User Behavior, Layout Legibility, and Route Instructions in the Planning Process," in conjunction with the International Conference on Spatial Information Theory (COSIT'07), Melbourne, Australia, September 19, 2007,
- 2007 Keynote Speaker, "Patient Room of the Future" at 2007 Symposium on Digital Life Technologies: Building a Safe, Secured and Sound (3S) Living Environment, June 7-8, at National Cheng-Kung University, Taiwan

Selected peer-reviewed publications (selected from 92 peer reviewed publications)

Journal Articles

Gross M D, E Y-L Do, R J McCall, W V Citrin, P Hamill, A Warmack, K S Kuczun (1998) "Collaboration and Coordination in Architectural Design: approaches to computer mediated teamwork", In Automation in Construction pp. 465-473.

Do E Y-L, M D Gross, C Zimring, B Neiman (2000) "Intentions and Relations among Design Drawings", in Design Studies Vol. 21 #5 pp. 483-503, Gabriel Goldschmidt and William Porter (eds), Elsevier Publisher

Gross M D, E Y-L Do, (2000) "Drawing on the Back of an Envelope", in Computers and Graphics, Vol. 24, No. 6, pp. 835-849, Calligraphic Interface, Joaquim A Jorge and Ephraim Glinert (eds) New York, Pergamon Press.

Do E Y-L, M D Gross (2001) "Thinking with Diagrams in Architectural Design", In Artificial Intelligence Review, Vol. 15. pp. 135-149, Kluwer Academic Publishers, Dordrecht, The Netherlands

Do E Y-L (2002) "Drawing Marks, Acts and Reacts: toward a computational sketching for architectural design", 16 (3), 149-171, in special issue of human-computer interaction, Journal of AIEDAM - Artificial Intelligence in Engineering Design, Analysis and Manufacturing, Cambridge University Press (eds. Ian Parmee and Ian Smith)

Do E Y-L, M D Gross (2004) "Let There be Light! Knowledge-Based 3-D Sketching Design Tools," IJAC - International Journal of Architectural Computing, W Jabi and C Pinet (eds), vol. 2, # 2, pp. 211-227(17) Multi-Science Publishing Co Ltd

Do E Y-L (2005) "Design Sketches and Sketch Design Tools," Ellen Yi-Luen Do, in KBS - Knowledge Based Systems (18) 383-405, Kumiyo Nakakoji, Mark D Gross, Linda Candy, Ernest Edmonds (eds), Elsevier Publisher

Eng M, K Camarata, E Y-L Do, M D Gross (2006) "FlexM: Designing a Physical Construction Kit for 3D Modeling", in IJAC – International Journal of Architectural Computing, N Cheng and C Pinet (eds), 1 June 2006, vol. 4, issue. 2, pp: 27-47, Multi-Science Publishing Co Ltd

Camarata K, E Y-L Do, M D Gross (2006) "Energy Cube and Energy Magnets", in IJAC - International Journal of Architectural Computing, N Cheng and C Pinet (eds), 1 June 2006, vol. 4, issue. 2, pp: 49-66

Referred Conference Papers

Do E Y-L (2001) "Graphics Interpreter of Design Actions: the GIDA system of diagram sorting and analysis", in Computer Aided Architectural Design Futures (CAAD Futures 2001), Bauke de Vries, Jos P. van Leeuwen, Henri H. Achten (eds), Pp. 271-284. July, 2001, Eindhoven, the Netherlands, Kluwer Academic Publishers.

Do E Y-L (2001) "VR Sketchpad: Creating Instant 3D Worlds by Sketching on a Transparent Window", Ellen Yi-Luen Do, in CAAD Futures 2001, Bauke de Vries, Jos P. van Leeuwen, Henri H. Achten (eds), pp.161-172, July, 2001, Eindhoven, the Netherlands, Kluwer Academic Publishers. Acceptance rate 48-50%. (48 -58 papers, from 67 abstracts, selected from 167 submissions, double review)

Gross M D, E Y-L Do, B R Johnson (2001) "The Design Amanuensis, An Instrument for Multi-modal Design Capture and Playback", CAAD Futures 2001, Bauke de Vries, Jos P. van Leeuwen, Henri H. Achten (eds), pp. 1-13, July 2001, Eindhoven, the Netherlands, Kluwer Academic Publishers.

Camarata K, E Y-L Do, B R Johnson, M D Gross (2002) "Navigating Information Space with Tangible Media", January 13-16, San Francisco, 2002 International Conference on Intelligent User Interfaces (IUI), ACM press, pp. 31-38

Do E Y-L (2002) "Digital Sandbox: integration of design and analysis in digital earth-forming", in Artificial Intelligence in Design, (ed.) J Gero, Kluwer Academic Publisher, July 15-17, Cambridge University, pp. 165-188

Oh Y, E Y-L Do, M D Gross (2004) "Intelligent Critiquing of Design Sketches", in Making Pen-Based Interaction Intelligent and Natural, Randall Davis, James Landay, Tom Stahovich, Rob Miller, and Eric Saund (eds), p.127 - 133, Oct 21-24, 2004, Arlington, Virginia, AAAI Press, Technical Report FS-04-06, ISBN 1-57735-217-3

Gross M G, E Y-L Do (2004) "Three R's of Design Computing", for First International Conference on Design Computing and Cognition (DCC '04), p. 613-632, Kluwer, at MIT, July 19-21, 2004

Do E Y-L, M D Gross (2004) "Between Worlds: Visions and View for the Future of CAD", in Generative CAD Systems, Edited by Omer Akin, Ramesh Krishnamurti, and Khee Poh Lam, pp. 61-78, Carnegie Mellon University

Le Dantec C A, E Y-L Do (2007) "The Mechanisms of Value Transfer in Design Meetings," Christopher A in DTRS 7, Design Meeting Protocols, Design Thinking Research Symposium, Central Saint Martins College of Art and Design, London, UK, (eds) N Cross, P Lloyd, R Luck, J McDonnell, and Fraser Reid, p 57-68

Weller MP, E Y-L Do (2007) "Architectural Robotics: A New Paradigm for the Built Environment," for EuroPIA.11, 11th International Conference on Design Sciences & Technology, Digital Thinking in Architecture, Civil Engineering, Archaeology, Urban Planning and Design: Finding the Ways, (eds) G De Paoli, K Zreik and R Beheshti, September 19-21, 2007, Montreal, Quebec, Canada, pp 353-362. ISBN 978-2-909285-41-3

Do E Y-L, M D Gross (2007) "Environments for Creativity - A Lab for Making Things" in Shneiderman B, Fischer G, Giaccardi E, Eisenberg M (eds) Creativity and Cognition, pp 27-36, (New York, ACM Press)

Weller MP, E Y-L Do, M D Gross (2008) "Posey: Instrumenting a Poseable Hub and Strut Construction Toy," Tangible and Embedded Interaction (TEI'08), Feb 18-20, Bonn, Germany, pp 39-46

Research Support. (during the last three years)

2007 "Pediatric Center of the Future" project sponsored by Perkins + Will
PIs: David Cowan (Health Systems Institute), Craig Zimring (College of Architecture) and Ellen Yi-Luen Do (College of Architecture and College of Computing)

This project integrates Evidence-Based Design research and principles into workshop course curriculum with faculty and students from multiple disciplines.

2007 "Designing Healthcare of the Future, Multi-Disciplinary Approaches to Applying Innovation in the Design of a Pediatric Healthcare Center" sponsored by Georgia Tech Health Systems Institute, PIs: Craig Zimring, Ellen Yi-Luen Do, David Cowan (Health Systems), Gerri Lamb (Emory Nursing) and Julia Jones (VP of Operations, Children's Healthcare of Atlanta at Hughes Spalding)

This project focuses on the development of educational methods and collaboration techniques in healthcare environment design, using pediatric care center as a focus.

2007 "Building High Performance Healthcare: Physical Environment" by Robert Wood Johnson Foundation, PIs: Craig Zimring, Godfried Augenbroe, Ellen Yi-Luen Do, Sheila Bosch, Jennifer DuBose

This project creates knowledge portals, information simulations and progress reports of healthcare environmental design for healthcare administrators.

- 2006 "Developing Graduate level Interdisciplinary Curriculum for Creating Safe and Effective Health Care Environments", Robert Wood Johnson Foundation grant to Emory University School of Nursing and Georgia Tech College of Architecture, National Advisory Board Member
- This project brings in a national advisory group in planning cross-disciplinary curriculum for healthcare design.
- 2006 "Healthcare Design Web" sponsored by Center for Health Design, PIs: Craig Zimring, Ellen Yi-Luen Do
- This project collects data and document best practices of evidence-based design healthcare facilities.
- 2006 "Patient Room of the Future" project sponsored by Steelcase, Inc. PIs: Ellen Yi-Luen Do, Craig Zimring. Collaborators, Gerri Lamb, Emory School of Nursing, June Conner, Emory Healthcare
- This project initiates the series of Healthcare Environment of the Future courses with collaborations from multiple institutes and disciplines, including School of Nursing at Emory University
- 2006 "Ambient Devices for Home Energy Awareness" sponsored by the Creating Energy Options (CEO) Program, Strategic Energy Initiatives, Georgia Institute of Technology, PI: Ellen Yi-Luen Do
- This project investigates and develops innovative ambient devices for awareness of home energy use to facilitate behavior modifications of people's energy usage pattern.
- 2005 "Home 2020, Imagine the Future, Build it Today" sponsored by Carnegie Mellon University, and Carnegie Science Center, PIs: Ellen Yi-Luen Do, Mark D Gross
- This project engages design build, research and development of home of the future with interactive technology, physical and embedded computing.
- 2005 "Thinking with your Hands: Making 3-Dimensional Design and Production More Intuitive" sponsored by Pennsylvania Infrastructure Technology Alliance (PITA), and Institute for Complex Engineered Systems (ICES). PI: Ellen Yi-Luen Do, Co-PI: Susan Finger, Mark D Gross
- This project investigates using freehand sketching as an interface to design 3D objects with rapid prototyping equipments.