Stanford



Barbara A. Karanian Ph.D. School of Engineering, previously Visiting Professor

Lecturer, d.school

Bio

BIO

Barbara A. Karanian, Ph.D. Lecturer and previously Visiting Professor in Mechanical Engineering Design. Barbara's research focuses on four areas within the psychology of work: 1) grounding a blend of theories from social-cognitive psychology, engineering design, and art to show how cognition affects workplace decisions; 2) changing the way people understand how emotions and motivation influence their work; 3) shifting norms of leaders involved in entrepreneurial minded action; 4) developing teaching methods with a storytelling focus in engineering education.

Barbara teaches and studies how a person's behavior at work is framed around a blend of applied theoretical perspectives from cognitive and social psychology; engineering design thinking and art. Her storytelling methods provides a form to explore and discover the practices of inquiry and apply them to how individuals behave within organizations, and the ways organizations face challenges. Active storytelling and self-reflective observation helps student and industry leaders to iterate and progress from the early, inspirational phases of projects to reality. Founder of the Design Entrepreneuring Studio (http://web.stanford.edu/~karanian/), Barbara shows how storytelling fuels design and innovation.

With her students, she co-authored, "The Power of First Moments in Entrepreneurial Storytelling." Findings show that vulnerability amplifies engagement. For ME 236- Tales to Design Cars By- the opportunity to investigate a person's relationship with cars through the application of research and a generative storytelling focus-students find the inspiration for designing a new automotive experience. For ME 243 Designing Emotion (for Reactive Car Interfaces) students learn to "know" emotion by operationally defining emotions in self and other: to decipher the impact of emotion in the future of driving or mobility experience.

Barbara received her B.A. in the double major of Experimental Psychology and Fine Arts from the College of the Holy Cross, her M.A. in Art Therapy from Lesley University, and her Ph.D. in Educational Studies in Organizational Behavior from Lesley University. She was a Teaching Fellow in Power and Leadership at Harvard University's GSE.

Awards:

2019 "Provoked Emotion in Student Stories Reveal Gendered Perceptions of What it Means to Be Innovative in Engineering," Karanian, B., Parlier, A., Taajamaa, V., Eskandari, M. 1st Place Research Paper - distinction, ASEE Entrepreneurship and Innovation Division

2013 Best Teaching Strategies Paper award, ASEE Entrepreneurship and Innovation Division

CURRENT ROLE AT STANFORD

Lecturer in Mechanical Engineering Design

HONORS AND AWARDS

- 1st Place Research Paper: "Provoked Emotion in Stories of Motivation Reveal...of Innovation", Entrepreneurship and Innovation Division for The American Society of Engineering Education (ASEE) (June, 2019)
- Best Teaching Strategies Paper Award for- "Open Process for Entrepreneuring Team Collaboration...", The American Society of Engineering Education (ASEE), Entrepreneurship and Innovation Division (June, 2012)

LINKS

- DESIGN ENTREPRENEURING STUDIO: web.stanford.edu/~karanian/
- https://web.stanford.edu/~karanian/: https://web.stanford.edu/~karanian/

Publications

PUBLICATIONS

- **Seven Steps to Strategic SDG Sensemaking for Cities** *ADMINISTRATIVE SCIENCES*
  Taajamaa, V., Joensuu, M., Karanian, B., Bettencourt, L.
  2022; 12 (1)
- **"Provoked Emotion in Student Stories Reveal Gendered Perceptions about What it Means to Be Innovative in Engineering." B.A. Karanian, A. Parlier, V. Taajamaa, M. Eskandari,1st place paper, ASEE, June, Tampa, Fla** *American Society for Engineering Education, Entrepreneurship and Innovation Division*
  Karanian, B. A.
  2019
- **O-CDIO: Emphasizing Design Thinking in CDIO Engineering Cycle** *INTERNATIONAL JOURNAL OF ENGINEERING EDUCATION*
  Taajamaa, V., Eskandari, M., Karanian, B., Airola, A., Pahikkala, T., Salakoski, T.
  2016; 32 (3): 1530-1539
- **Analyzing Engineering Design Stories - Predicting Engagement in Inventive Action** *40th Annual Frontiers in Education Conference*
  Karanian, B., Cox, J., Green, D., Ike, D., Kress, G., Nass, C.
  IEEE.2010
- **Tell/Make/Engage: Actions for Innovation** *40th Annual Frontiers in Education Conference*
  Karanian, B. A., Kress, G. L.
  IEEE.2010
- **Connecting People and Ideas: Making Sense of a Research Lab through Creating a Shared Frame** *INTERNATIONAL JOURNAL OF ENGINEERING EDUCATION*
  Sheppard, S. D., Bjorklund, T., Chen, H. L., Gilmartin, S. K., Atwood, S., Brubaker, E., Chew, K. J., Christov, P., Cuan, C., Danner, P., Karanian, B., Kusimo, A., Luehmann, et al
  2020; 36 (2): 796–813
- **Motivators over Modes Diverse Student Team Drives Leading Automotive Company's Evolution to Mobility Platform**
  Greenwald, G., Upender, A., Chan, D., Patterson, C., Karanian, B., IEEE
  IEEE.2018
- **Engineering Emotion: Students tell Stories about the Costs of Being Innovative**
  Karanian, B. A., Taajamaa, V., Parlier, A., Monaghan, G., IEEE
  IEEE.2018
- **The Power of First Moments in Entrepreneurial Storytelling**
  Karanian, B. A., Eskandari, M., Liao, J., Ahmed, Z., ASEE
  AMER SOC ENGINEERING EDUCATION.2013
- **Open Process for Entrepreneuring Team Collaboration: Story Parallels from an Academic Design Team to the Studied Start-Up**
  Karanian, B. A., Eskandari, M., Aggarwal, A., Pincheira, F., Krauthamer, R., Kress, G., Forouhar, P., Dua, J., Peng, C., ASEE
  AMER SOC ENGINEERING EDUCATION.2012

- **Designing for Social Participation in the Virtual Universe**
  Karanian, B. A., Kress, G., ASEE
  AMER SOC ENGINEERING EDUCATION.2011
- **TELLING DESIGN STORIES: THE RESULT OR THE ENTREPRENEURING INVESTIGATION** *17th International Conference on Engineering Design*
  Karanian, B., Kress, G., Sadler, J.
  DESIGN SOCIETY.2009: 325–336
- **Work in Progress - Behavioral Aspects of Student Engineering Design Experiences** *IEEE Frontiers in Education Conference 2008*
  Karanian, B. A., Chedid, L. G., Lande, M., Monaghan, G.
  IEEE.2008: 1399–1400