

Matt Beane

Technology Management Program
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ACADEMIC POSITIONS

University of California, Santa Barbara, Assistant Professor, Technology Management Program

Massachusetts Institute of Technology, Digital Fellow, Institute for the Digital Economy

EDUCATION

MIT Sloan School of Management **Cambridge, MA**
Ph.D., Management July, 2017
Information Technology major, Organization Studies minor

MIT Sloan School of Management **Cambridge, MA**
Master of Science, Management Research 2014

Bowdoin College **Brunswick, ME**
Bachelor of Arts in Philosophy 1997

RESEARCH FOCUS

I study how organizations and workers adapt to intelligent machines. I focus on robotics.

Broad Interests

Learning; Deviance; Technology and Organizing; Human-Robot Interaction; Sociology of Work; Practice Theory; Organizational Ethnography

Dissertation

Operating in the Shadows: The Productive Deviance Needed to Make Robotic Surgical Work.
Committee: Wanda Orlikowski (chair), Kate Kellogg, John Van Maanen

JOURNAL AND CONFERENCE PUBLICATIONS

Beane, M. 2020. In Storage, Yet on Display: An Empirical Investigation of Robots' Value as Social Signals. *Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction, HRI '20*: 83–91.

Beane, M. 2019. Shadow Learning: Building Robotic Surgical Skill When Approved Means Fail. *Administrative Science Quarterly*, 64(1), 87–123.

Beane, M. 2019. Learning to Work with Intelligent Machines. *Harvard Business Review*, 97(5), 140–149.

- Johnson, M., **Beane, M.**, Mindell, D., & Ryan, J. 2019. Knowledge Management for Rapidly Extensible Collaborative Robots. *International Conference on Human-Computer Interaction*, (pp. 503–523).
- Jung, M. F., **Beane, M.**, Forlizzi, J., Murphy, R., & Vertesi, J. (2017). Robots in Group Context: Rethinking Design, Development and Deployment. *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*, 1283–1288.
- Beane, M.** and W. Orlikowski. 2015. What Difference Does a Robot Make? The Material Enactment of Distributed Coordination. *Organization Science* 26 (6), 1553-1573
- Bettinelli, M., Y. Lei, **M. Beane**, C. Mackey, T. N. Liesching. 2015. Does Robotic Telerounding Enhance Nurse–Physician Collaboration Satisfaction About Care Decisions? *Telemedicine and e-Health*
- Shen, S., Admoni, H., Harriott, C., Kim, Y., Marge, M., Vázquez, M., **Beane, M.**, ... Vozar, S. (2013). HRI Pioneers Workshop 2013. *2013 8th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 439–440.

LATEST WORK

- Beane, M.** “Deviant Reliability: How Habituating Top Talent to Inappropriate Work Practices Ensured Robotic Surgical Outcomes at Fairtown Hospital” [Under Review]
- Beane, M.** “A Nationwide, Longitudinal Investigation of Organizational and Front-Line Worker Adaptation to AI-Enabled Robotics in Repetitive Manual Work” [Writing, multi-method, to be submitted to Nature or Science in July 2020]

REFEREED CONFERENCES

- 2019 Shadow Learning: Building Robotic Surgical Skill when Approved Means Fail. **Beane, M.** Symposium, OCIS, OMT division, Academy of Management, *Producing technological futures: Reflecting on workplace automation, inequality, and ethics*
- 2018 Making a Grey Hole: What it Took to Reduce the Risk of the Deviant Practices Required to Get Results from a Degraded Surgical Robot. Org Science Winter Conference. **Beane, M.**
- 2015 The Material Enactment of Coordination in Robotic and Traditional Surgery. **Beane, M.** Showcase symposium, OCIS, OMT and HCM divisions, Academy of Management, *The Role of Information Technology and Work Practices in Relational Coordination*
- 2014 What Difference Does a Robot Make? Managing Ambiguity in Distributed Knowledge Work. **Beane, M.** and W. Orlikowski. One of three Best Paper nominees, OCIS division, Academy of Management

PATENTS

2019 Mindell, D. A., G. L. Charvat, M. Hirsch, J. C. Kinsey, and **M. I. Beane**. "High precision time of flight measurement system for industrial automation." US Patent No. 10422870

INVITED TALKS/SERVICE

- 2018 "Learning to Work with AI", *TED Talk*, Ted Headquarters, NY, NY
- 2018 "Making a Grey Hole: What it Took to Reduce the Risk of the Deviant Practices Required to Get Results from a Degraded Surgical Robot", *Organization Science Winter Conference*
- 2017 Panelist, CHI, annual meeting. "Robots in Group Context: Rethinking Design, Development and Deployment"
- 2017 Co-organizer, co-facilitator: *Boston Field Research Conference* (since 2012)
- 2016 We, Robot (law and AI conference): Discussant, Privacy and Healthcare Robots Panel
- 2016 New England Section of the American Urological Association annual meeting. "[The Unintended Consequences of Robotic Surgical Practice for Resident Surgical Capacity](#)".
- 2015 Human-Computer Interaction Institute Seminar Series, Carnegie Mellon University. Talk title: "When New Technology is Old: Organizing Surgery in the Face of Legacy Robotic Surgical Systems"
- 2012 Panel Chair, Human-Robot Interaction Pioneers Workshop, HRI (leading annual conference for human-robot interaction); Ad Hoc Reviewer, HRI (to present)
- 2011 Invitee, Human-Robot Interaction Pioneers Workshop, HRI

TEACHING FOCUS

Organizational Behavior, Technology and Organizing, Technology and Work, Technological Change, Deviance, The Business of Robotics, Teaming and Collaboration, Leadership, Organization Development, Research Methods

SAMPLE PRACTITIONER PUBLICATIONS

Beane, M. In Automation, the 'Last Motion' Will Come Before the Last Mile. 2019. [Wired.com](#)

Beane, M. Robots Might Not Take Your Job—But They Will Probably Make It Boring. [Wired.com](#)

Beane, M. Young Doctors Struggle to Learn Robotic Surgery, So They Are Practicing in the Shadows. 2018. [TheConversation.com](#)

Beane, M. Robots add real value when working with humans, not replacing them. 2016. [Techcrunch.com](#)

Beane, M. Robo-sabotage is surprisingly common. 2015. [MIT Tech Review](#)

Beane, M. The avatar economy. 2012. [MIT Technology Review](#).

RECENT INDUSTRY EXPERIENCE

HUMATICS

Chief Human-Robot Interaction Officer

**Cambridge, MA
2015-June 2017**

Founding executive for an MIT-connected startup building a new class of IoT sensor that provides hyper-precise, ultra-low-cost position data. Shaped strategy, co-raised 3m seed and 18m series A, led customer discovery for product-market fit, led business development, led a one-year DARPA project to develop the knowledge capture system for an airframe-agnostic robotic copilot.

iROBOT

Strategy Consultant, Field Research Team Lead

**Bedford, MA
2014 - 2015**

Led a team of five researchers on a six-month project to assess a potential new market for a semi-autonomous robotic telepresence system via situated, longitudinal study of human-robot interaction in an elder care facility. Delivered findings to CEO and his direct reports.

INTOUCH HEALTH

Design Consultant, Field Researcher

**Santa Barbara, CA
2014**

Provided research report on likely work implications/worker reactions to mobile, semi-autonomous robotic systems that include surveillance capability, including assessment of situated pilot testing in three west-coast hospitals.

ROGER SCHWARZ & ASSOCIATES

Principal Associate / Head of Sales and Marketing

**Chapel Hill, NC
2002 - 2010**

Revitalized a shrinking firm providing training, facilitation, coaching and consultation to globally-dispersed clients focused on fundamental, positive, sustained changes to organizational cultures. Crafted intellectual property core to the firm. Determined market direction and sales strategies. Led various intensive, long-term interventions to study and optimize group norms and culture.