

Matt Beane

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EDUCATION

MIT Sloan School of Management Cambridge, MA
Ph.D., Management (Anticipated) 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

What can we expect as we introduce increasingly sophisticated robotics into the workplace? How will workers react? How will work practices change? What new possibilities and problems will be unleashed for workers and organizations? I rely primarily upon data derived from direct, longitudinal observation of situated work to address these and related questions.

Broad Interests

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

Dissertation

Operating in the Shadows. Field-based (qualitative and quantitative) research of productive deviance involving Intuitive's da Vinci surgical system.

Committee: Wanda Orlikowski (chair), Kate Kellogg, John Van Maanen

SCHOLARLY PUBLICATIONS

Beane, M. and W. Orlikowski. 2015. What Difference Does a Robot Make? The Material Enactment of Distributed Coordination. *Organization Science* (Forthcoming, One of three best paper nominees, OCIS division, AOM 2014)

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*.

WORK IN PROGRESS

Beane, M. “Shadow Learning: Building Robotic Surgical Skill When Approved Means Fail” [Dissertation, job market paper, submitted to ASQ]

My close ethnographic investigation of both traditional and robotic surgical practice at five hospitals reveals that standard practices for learning are greatly impeded in robotic surgical work, and that current theories of skill acquisition fail to explain the few who manage to learn anyway. A second study across 13 comparable hospitals throughout the US shows that this small minority of surgical residents build notable surgical skill through “shadow learning:” an interconnected set of norm- and policy-challenging practices enacted extensively, opportunistically, and in relative isolation. Shadow learning practices were neither punished nor forbidden by the very community that held them to be problematic, and they contributed to significant and troubling outcomes for the cadre of trainee surgeons and the profession. This work expands our conceptions of learning in communities of practice by detailing how trainees learn new techniques and technologies when approved practices for learning are insufficient.

Beane, M. “Coping With Neglected Technology: Coordination Tension and Compensatory Work in Robotic Surgery” [Dissertation, preparing for journal submission]

This paper explores how skilled professionals strive to effectively coordinate when they are required to use neglected technology, and the implications of this striving - for them, their customers, and the organizations they inhabit. This analysis relies on qualitative and quantitative longitudinal comparisons of intensive robotic surgeries performed on a newer, well-resourced system and comparable surgeries performed on an older, under-resourced system. The activities involved in this striving - which I collectively label “compensatory work” - add to stress and inconvenience, just as they mitigate them, though statistical analysis of outcomes data shows that patients do just as well with the old system. In contrast to current literature that separates materiality, teleology and affect, this paper advances the view that the material setting, goals and moods for work are inseparable - coordination is a product of what we value, how we feel and where we are.

Beane, M. “A Shady History: Expanding Surgical Capacity and Jurisdiction, One Broken Rule at a Time” [Dissertation, data analysis and writing]

Beane, M. “User Acceptance of Mobile Autonomous Robots: Dueling Narratives Across the Uncanny Valley” [Data analysis and writing, drawing on multi-hospital ethnography, to be submitted to Human-Robot Interaction (HRI), top journal on human-robot interaction]

Beane, M. “What are Robots For? An Empirical Investigation of Robots’ Value as Signals, Symbols and Tools” [Data analysis and writing, trans-ethnographic, to be submitted to HRI]

REFEREED CONFERENCES

- 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
- 2013 Accepted Paper, “Structuring Work in and around Organizations”, EGOS: Routes to Fractional Knowing: Evidence from Robotic and Phone-based Night Rounds in a Post-Surgical ICU, **Beane, M.**

INVITED TALKS/SERVICE

- 2017 Panelist, CHI, annual meeting. Robots in Group Context: Rethinking Design, Development and Deployment
- 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
- 2015 Co-organizer, co-facilitator: Boston Field Research Conference (also 2012 – 2014)
- 2014 Invited speaker, Robots: From Imagination to Market (industry conference). Talk title: Robots: from Market to Imagination. <http://youtu.be/HIPfP6WGP7A>
- 2012 Panel Chair, Human-Robot Interaction Pioneers Workshop, HRI (leading annual conference for human-robot interaction)
- Ad Hoc Reviewer, HRI
- 2011 Invitee, Human-Robot Interaction Pioneers Workshop, HRI

TEACHING INTERESTS

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

RECENT TEACHING EXPERIENCE

Teaching:

2014, 2015: The Business of Robotics. MIT Sloan.

Designed, administered and taught this intensive workshop for graduate and undergraduate students from across MIT. Sample panelists: Pete Wurman, CTO, Kiva systems, Charlie Grinnell, COO, Harvest Automation, Elaine Chen, VP Engineering, Rethink Robotics.

2011-2014: Distributed Leadership. MIT Sloan.

Taught a module in this highly-rated workshop-style MBA and Sloan Fellows course with Profs. Orlikowski, Malone and Ancona, redesigning a portion of the curriculum.

Teaching assistantships:

2015: Leading Complex Organizations, Prof. Nelson Repenning, Faculty Director, Executive MBA program. Capstone course involving intensive service projects with local non-profits.

2014, 2015: Leading Organizations, Hal Gregersen, Executive Director, MIT Leadership Center. Once in 2014 (Exec. MBA), twice in 2015 (Sloan Fellows and Exec. MBA). Assisted in course design.

2014: Organizations Lab, Prof. Nelson Repenning. Action-learning Exec. MBA core course focused on improving a process in participants' organizations. Assisted in course design.

2014: Power, Influence and Negotiation, Prof. Jared Curhan. Exec. MBA core course. Simulation and assessment-driven course.

2013: Leading in Uncertain Times, Profs. Ancona and Van Maanen. Exec. MBA elective. Highly interactive, workshop-style course.

2013: Leadership Signature, Prof. Ancona. Sloan Fellows elective. Introspective, values and identity-focused, workshop-style course.

2013: Advanced Communication for Executives, Prof. Hartman. Exec. MBA elective.

2011: Communications for Leaders, Prof. JoAnne Yates. Core Exec. MBA course.

SAMPLE PRACTITIONER PUBLICATIONS

Beane, M. The US Can't Beat China's Robots – But it can win by buiding the machines that make them? 2017. Qz.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. Beyond Safety: Is Robotic Surgery Sustainable? 2015. Robohub.org.

Beane, M. The Avatar Economy. 2012. MIT Technology Review.

RECENT INDUSTRY EXPERIENCE

HUMATICS

Chief Human-Robot Interaction Officer

Cambridge, MA

2016-Present

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, raised seed and series A funds, 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.