

# Tanya Goldhaber, PhD

## Curriculum Vitae

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## Summary

A creative and highly driven problem-solver with a proven track record in synthesising complex information and engaging with stakeholders to deliver innovative and successful solutions in a variety of business areas. Background and experience encompass data analysis, qualitative and quantitative research, user experience design, and digital marketing. Looking for a strategy-focused role requiring creativity, innovation, and high-level problem solving.

## Education

### Department of Engineering, University of Cambridge

2010 - 2013 **PhD in Engineering Design**, *Engineering Design Centre*.

PhD work investigated the application of intrinsic motivation theory to the design of more inclusive and motivating ICT user interfaces for the ageing population with the goal of driving technology adoption by designing more enjoyable and engaging learning experiences. Initial research involved a detailed literature review of theories of intrinsic motivation and an experiment testing methods from the intrinsic motivation literature with the ageing population. Analysis of experiment data uncovered gender differences in participant reaction to tasks of various difficulties, leading to an additional literature review on gender differences and design of a second experiment to investigate how initial experience and gender play a role in user motivation.

### Massachusetts Institute of Technology

2006 - 2010 **S.B. in Mechanical Engineering**,  
*Massachusetts Institute of Technology*, Cambridge, MA, United States,  
*GPA: 4.8/5.0.*

- Majored in Mechanical Engineering with a specialisation in controls. Coursework included mechanics and materials, dynamics and controls, thermal fluids engineering, design and manufacturing, measurement and instrumentation, product engineering, feedback and control, neural control of movement, differential equations, and linear algebra.
- Minored in Cognitive Science. Coursework included classes in psychology, neuroscience, and cognition along with two years of undergraduate research in the Brain and Cognitive Science department.
- Minored in Music. Coursework included classes in music theory and music history and a series of solo, chamber, and orchestral performances with MIT ensembles.

2009 - 2010 **Undergraduate Thesis**, *Adelson Lab*.

Helped Professor Frey (thesis supervisor) form a collaboration with the Brain and Cognitive Sciences Department by carrying out thesis research with Ruth Rosenholtz in the Adelson Lab in the Brain and Cognitive Science department at MIT. Investigated how cognitive science principles (in this case, knowledge of visual cognition) can help designers to improve visual aspects of design.

2008 - 2010 **Undergraduate Research in Cognitive Science, Kanwisher Lab.**  
Using background in Mechanical Engineering, assisted in the set-up of MIT's first Transcranial Magnetic Stimulation (TMS) lab. Other projects in the lab included helping to design and run an fMRI experiment investigating the neural basis of conceptual representations and a TMS experiment investigating timing in the ventral visual stream.

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## Experience

### British Telecommunications (BT)

2015 - pres **E-commerce Manager, London, United Kingdom.**

Currently leads the build, management, and optimisation of online customer experiences in the retention space. Role involves bringing together the work of multiple business areas, including commercial, marketing, analytics, design, and technical teams to ensure that solutions are commercially viable, user-friendly, and fully supported by BT's back-end systems. Recent project led to unprecedented online retention volume.

2013 - 2015 **Empirical Insight Methodology Specialist, London, United Kingdom.**

Responsible for both the quantitative and qualitative data acquisition and analysis underpinning the design and implementation of key projects in BT Group. The role involved driving the transformation of leadership, learning, and culture within the organisation through the communication of insights from detailed data analysis and psychology research to senior stakeholders throughout the business.

### Cambridge University Centre for Science and Policy (CSaP)

2013 **Research Project Coordinator, Cambridge, United Kingdom.**

Created a guide for early-career researcher involvement with policy. Work included compiling material from previous events and reports, conducting interviews with members of the CSaP network, including senior policy makers and academics, and writing the report material.

### Cambridge University Engineering Design Centre/British Telecommunications

2010 - 2011 **Research Lead, Cambridge, United Kingdom.**

Lead researcher on an international 8-month project (in close collaboration with BT Retail) looking at the impact of modern communication technology on individuals, families, and society. Responsibilities included interviewing leading academics in related fields, planning qualitative and quantitative data collection, analysing resulting data, and then bringing together insights into a set of reports detailing the conclusions and recommendations, and liaising with the media after results were released. Presented results at TEDx Oxbridge 2012.

### British Telecommunications (BT)

Summer 2009 **Summer Intern, Ipswich, United Kingdom.**

Two-month placement and one of the largest European telecommunications providers.

- Formulated and tested design concepts for a modified Electronic Programme Guide (EPG) and Social TV interface for the next generation of BT Vision.
- Based on Social TV research, formulated a product concept for touchscreen/second screen menu systems and successfully pitched product concept to senior management.
- Gave a series presentations to BT Partners and other BT-affiliated groups on the use of technology by Generation Y.

## Medtronic, Inc.

Summer 2008 **Summer Associate**, *Minneapolis, MN, United States.*

Three-month internship at one of the leading US implantable medical device manufacturers:

- Worked as part of the manufacturing group for Spinal Cord Stimulation (SCS) in the Neuromodulation department.
- Implemented, tested, and assessed the manufacturability of conductors in new lead designs. Designed procedures for the manufacture of adhesive samples for biological testing.
- Supported documentation and implementation efforts for Corrective and Preventative Actions (CAPA).
- Assisted other engineers when necessary with projects such as Gauge R&R analysis and bond strength characterisation.

## BioServe Space Technologies (University of Colorado at Boulder)

Summer 2007 **Research Assistant**, *Boulder, CO, United States.*

Three-month internship at a designer and distributor of micro-gravity biological testing devices, including many flown on space shuttle and International Space Station missions:

- Worked as part of the payload operations team helping to manage payloads aboard the International Space Station. Communicated with NASA about payload status, did preliminary troubleshooting when problems occurred, and recorded data from in-flight experiments.
- Designed, fixed, and tested flight and ground testing hardware.

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## Honours and Awards

### Academic Awards and Scholarships

2010 **Marshall Scholarship.**

The Marshall Scholarship is a UK government-funded scholarship that is among the most prestigious awards available to undergraduates and recent university graduates in the United States. It funds two years of postgraduate study at any UK institution of higher education.

2014 **Fellowship of the RSA**, *Royal Society for the encouragement of Arts, Manufactures and Commerce.*

Fellowship awarded in recognition of research into services for the ageing population.

2010 **Cambridge International Scholarship (CISS).**

The Cambridge International Scholarship is awarded by the Cambridge Trusts to entering graduates on the basis of nominations by their departments. The award covers the full cost of tuition, fees, and maintenance for the course of study.

2012 **Pembroke College Postgraduate Seminar: 1st Place.**

Award presented for giving the best talk on ongoing PhD research at Pembroke College's annual postgraduate seminar.

2010 **Kawamura Fellowship.**

Awarded to two students from MIT and two from Harvard per year. The fellowship takes students to Japan and Thailand for five weeks over the summer as part of a cultural exchange meant to strengthen ties between Japan and the US.

### MIT Music Department

2006 - 2010 **Emerson Music Scholarship**, *(violin).*

2010 **MIT Concerto Competition Winner.**

Performed Ravel's Tzigane with the MIT Symphony.

- 2009 **Ragnar and Margaret Naess Award for excellence as an Emerson String Scholar.**
- 2008, 2009 **Philip Loew Memorial Award for Creative Accomplishment in Music.**
- [Honour Societies](#)
- Tau Beta Pi.**  
Engineering honour society. Membership awarded to top 20% of engineering student finalists.
- Pi Tau Sigma.**  
Mechanical Engineering honour society. Membership awarded to the top 35% of each university class annually.
- Sigma Xi.**  
Scientific research society. Associate membership awarded on the basis of nominations by full members.

## Leadership

### University of Cambridge

- 2013 **Cambridge University Science and Policy Exchange, *Committee Member.***  
CUSPE is a student society dedicated to creating contacts between early-career researchers and policy makers. Committee members are responsible for planning talks and events and coordinating outreach.
- 2012 - 2013 **Cambridge Dancers Club, *Publicity Officer.***  
The Cambridge Dancers Club is one of the largest student societies in Cambridge, dedicated to teaching and facilitating partnered dance. The publicity officers are in charge of recruiting new members at the beginning of each term and publicising the club and events throughout the year. In the 2012-2013 academic year, the club increased its membership by over 150 members from the previous year.
- 2010 - 2012 **Pembroke College, *Graduate Parlour Committee Events Officer.***  
The Graduate Parlour Committee is responsible for organising events for postgraduate students as well as representing the community of postgraduates within Pembroke. The events officer is responsible for organizing social events such as bops, outings, garden parties, and special dinners.
- 2011 - 2012 **Cambridge University String Ensemble, *Publicity Officer and Webmaster.***  
CUSE is a student-run music ensemble dedicated to performing high-quality music in a fun, relaxed atmosphere. The Publicity Officer is responsible for all concert and ensemble publicity, and the Webmaster is responsible for website design and maintenance.
- 2011 **Cambridge University Engineering Department Division C Transferrable Skills Conference, *Organising Committee Member.***  
The Transferrable Skills Conference is now an annual event allowing members of Cambridge University Engineering Department's Division C to present their work and receive feedback and training. This was the first conference, held in spring 2011, the format for which has been used for all subsequent conferences.

## Massachusetts Institute of Technology

### 2008 - 2010 **Gordon-MIT Engineering Leadership (GEL) Program.**

Member of the pilot GEL class that helped shape the programme for future years. GEL is a two-year program that emphasises leadership skills in the context of real-world engineering problems. Students take relevant classes already present in the MIT curriculum as well as a once-weekly Engineering Leadership Lab that focuses on simulations and reflection. Students participate in an industry placement, sponsored by a mentor at their company, where they are given additional leadership responsibilities. Students must complete two independent projects as part of the Engineering Practice Requirement. Second year students in the program plan and run the Engineering Leadership Labs for the first year students.

### 2007 - 2008 **Undergraduate Practice Opportunities Program (UPOP).**

Participated in yearlong professional development course that emphasized skills in communication, teamwork, leadership, data analysis, process design, and decision-making.

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## Publications

**T. S. Goldhaber**, P. M. Langdon, and P. J. Clarkson (2013). Designing Intrinsically Motivating User Interfaces for the Ageing Population. In *Universal Access in Human-Computer Interaction, HCII, 2013*, Las Vegas, NV, United States.

P. K. A. Wollner, **T. Goldhaber**, K. Ruggeri, I. M. Hosking, P. M. Lakson (2012). Inclusively Designing Effective Healthcare ICT for Dementia Screening. In *Proceedings of the International Conference for Universal Design, 2012*, Fukuoka, Japan.

P. K. A. Wollner, **T. Goldhaber**, A. Mieczakowski, P. M. Langdon, I. M. Hosking, and P. J. Clarkson (2012). Evaluation of Setup Procedures on Mobile Devices based on Users' Initial Experience. In *Proceedings of NordDesign 2012*, Aalborg, Denmark.

D. Pitcher, **T. Goldhaber**, B. Duchaine, V. Walsh, and N. Kanwisher (2012). Two Critical and Functionally Distinct Stages of Face and Body Perception. *Journal of Neuroscience*, 32(45):15877–15885.

C. J. Huang and **T. S. Goldhaber** (2012). Malicious meddling or transparent tracking? Telecare as a logical extension of modern communications technology. *American Journal of Bioethics*, 12(9):45–47.

**T. S. Goldhaber** (2012). Using theories of intrinsic motivation to support ICT learning for the ageing population. In *2012 International Conference on Intelligent User Interfaces (Doctoral Consortium)*, Lisbon, Portugal.

**T. S. Goldhaber**, P. M. Langdon, and P. J. Clarkson (2012). Intrinsic Motivation and Design of ICT for the Ageing Population. In P. M. Langdon, P. J. Clarkson, P. Robinson, J. Lazar, and A. Heylighen, editors, *Designing Inclusive Systems*, London. Springer.

**T. S. Goldhaber** (2011). A framework for the design of intrinsically motivating interfaces for older users. First Year Report, University of Cambridge.

A. Mieczakowski, **T. Goldhaber**, and J. Clarkson, editors (2011). *Culture, communication and change: Reflections on the use and impact of modern media and*

*technology in our lives*. Public Report. Engineering Design Centre. ISBN 978-0-9545243-7-1.

A. Mieczakowski, **T. Goldhaber**, and J. Clarkson (2011). *Culture, communication and change: Report on an investigation of the use and impact of modern media and technology in our lives*, Public Report (long). Engineering Design Centre. ISBN 978-0-9545243-7-1

## Invited Talks

P. K. A. Wollner and **T. S. Goldhaber**. The Role of Initial Experience in the Design of Inclusive User Interfaces. University of Cambridge Computer Laboratory Systems Research Group Seminar, Cambridge, United Kingdom, 2013.

**T. S. Goldhaber**. Human Communication: Why the internet isn't ruining everything. Stokes Society, Pembroke College, Cambridge, United Kingdom, 2012.

**T. S. Goldhaber**. Unconventional Communication: Why the internet isn't ruining everything. TEDx Oxbridge, Cambridge, United Kingdom, 2012.

**T. S. Goldhaber**. Using principles of intrinsic motivation in inclusive design of ICT for the ageing population. Cambridge University Engineering Department Micromechanics Seminar, Cambridge, United Kingdom, 2011.

**T. S. Goldhaber**. Trends in modern communication technology. Ministry of Justice/BT Innovation Forum, London, United Kingdom, 2011.

A. K. Mieczakowski and **T. S. Goldhaber**. Project Darwin: A Collaboration between BT and the University of Cambridge. 2011 BT Innovate & Design Deep Dive, Ipswich, United Kingdom, 2011.

**T. S. Goldhaber**. Motivating Learning and Adoption of ICT for the Elderly. MIT-Wales Cyber-Physical Supply Chain Summit, Cardiff, United Kingdom, 2011.

## Teaching

Department of Engineering, University of Cambridge

2012 - 2013 **Part 1A Drawing and CAD**, *Laboratory Demonstrator*.

Helped run laboratory sessions.

2012 **Part 1B Computing (Octave)**, *Laboratory Demonstrator*.

Helped run laboratory sessions.

2011 **Part 1B Materials Characterisation**, *Laboratory Demonstrator*.

Ran laboratory sessions and presentation sessions. Marked student lab reports.

## References

Available on request.