

SARA HEITLINGER

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Postdoctoral Research Associate in
Participatory Design • Open Lab •
School of Computer Science • Newcastle
University • Newcastle

RESEARCH INTERESTS

Human-Computer Interaction, Smart Cities, Internet of Things, Sustainability,
Social Innovation, Digital Innovation, Participatory Design, Interaction Design

EDUCATION

Ph.D. in Human Computer Interaction 2009 - 2016¹

*Queen Mary University of London, School of Electronic Engineering and
Computer Science, London, UK*

Title: *Talking Plants and a Bug Hotel: Participatory Design of Ludic Encounters
with an Urban Farming Community*

Advised by Dr. Nick Bryan-Kinns & Prof. Janis Jefferies

Examined by Prof. Pete Wright & Prof. William Gaver

M.A. in Creative Writing 2001 - 2002

*University of East Anglia, School of Literature, Drama and Creative Writing,
Norwich, UK*

B.Sc. In Computer Science 1995 - 1999

*Hebrew University of Jerusalem, School of Computer Science and Engineering,
Jerusalem, Israel*

Minors in Cognitive Science & Mathematics

RESEARCH EXPERIENCE

Postdoctoral Research Associate

Since April 2017

Newcastle University, Newcastle, UK

Interdisciplinary and Participatory Design research in Digital Civics. Joint
appointment in Open Lab, School of Computer Science, and Global Urban
Research Unit, School of Architecture, Planning and Landscape. Developing new
digital services for increasing citizen participation in democratic processes.

¹ Please note: I took periods of maternity leave in 2010 and in 2014

Researcher Co-Investigator

2015-2017

Queen Mary University of London, London, UK

Lead participatory design research focusing on digital innovation for sustainable urban food systems, using Internet of Things

- Co-developed and co-wrote the proposal
- Conducted workshops and engagement with food growing communities (1 year)
- Co-designed interactive seed library (6 months)
- Edited project book (2 months)
- Produced exhibition at Rich Mix Cultural Foundation, London
- Won a Community Collaboration Award for Research, for public engagement, from QMUL
- Initiated and co-organised international workshop on community-based sustainable smart cities and IoT

Graduate Researcher

2009-2016

Queen Mary University of London, London, UK

Developed a research vision for community-based sustainable HCI through a novel Ludic Participatory Design methodology

- Authored 1 journal paper, 1 full conference paper
- Initiated and co-authored a successful follow-on grant proposal (£320,454)
- Exhibited research artefacts in public museums and cultural venues (e.g. V&A, Somerset House)
- Produced three interactive digital/physical artefacts exhibited in the public domain

Visiting Researcher

2014

Georgia Tech, Atlanta, USA

Researcher in the Public Design Group, Digital Media. Participatory design research into food security, HCI and underprivileged urban communities

- Lead TA on Service Design MFA course
- Developed international networks including members for steering committee for successful EPSRC grant

OTHER PROFESSIONAL DESIGN EXPERIENCE

I have over ten years' professional experience as an award-winning designer working on social and digital innovation, often with stakeholders who are marginalised from technology design, and utilising novel methods from art and design.

- Patrin** 2010-2011
Designed and delivered year-long multimedia heritage project including participatory design and public exhibition, with Romany Gypsy communities in the East Midlands, exploring identity, culture and technology, UK
- Privileged Tactics II** 2007-2010
Used action research with rubbish recyclers in Cairo to explore Internet of Things for cross-cultural environmental sustainability. PTII won a UNESCO Digital Art Award and has been exhibited extensively internationally. Research supported by UNESCO and the Santa Fe Art Institute. Egypt and USA
- Ways of Seeing** 2007
Designed and delivered participatory design workshops and produced exhibition with visually impaired people to imagine an inclusive future of public transport. Commissioned by Inter-Action MK and funded by the Arts Council England. Milton Keynes, UK
- Privileged Tactics I** 2006
Used action research and digital technology to explore the phenomena of street children after the collapse of the USSR. Funded through the Slovenia Ministry of Culture. Ukraine
- Tallis Soundscapes** 2005
Designed and delivered participatory design workshops and produced exhibition with teenagers from under-privileged backgrounds to explore their past and future environment. Commissioned by Independent Photography and funded by Arts Council England. London, UK

PUBLICATIONS²

REVIEWED JOURNAL PAPERS

Heitlinger, S. & Bryan-Kinns, N. [Understanding performative behavior within content-rich Digital Live Art](#). *Digital Creativity*. Taylor and Francis, 24(2), 111-118. 2013.

REVIEWED CONFERENCE PAPERS

Heitlinger, S., Bryan-Kinns, N., & Jefferies, J. [Sustainable HCI for Grassroots Urban Food-Growing Communities](#). In *Proceedings of the 25th Australian Computer-Human Interaction Conference*, 255–264. ACM. 2013.

BOOKS EDITED

Heitlinger, S. [Connected Seeds](#). Queen Mary University of London. 2017.

² Please note: I took periods of maternity leave in 2010 and in 2014

REVIEWED CONFERENCE PRESENTATIONS

Heitlinger, S., & Weir, M. *Connected Seeds: Co-Design of Internet of Things for Sustainable Urban Agriculture Co-Creating Cities and Communities Summer Forum*, Bristol, UK, 2017.

REVIEWED CONFERENCE WORKSHOPS ORGANISED

Clarke, R., Briggs, J., Light, A., Heitlinger, S., & Crivellaro, C. *Socially-Engaged Arts Practice in HCI*. In *CHI'14 Extended Abstracts on Human Factors in Computing Systems*, 69–74. 2014.

REVIEWED CONFERENCE DEMOS

Heitlinger, S., Bryan-Kinns, N., & Jefferies, J. *The Talking Plants: An Interactive System for Grassroots Urban Food-Growing Communities*. In *CHI'14 Extended Abstracts on Human Factors in Computing Systems*, 459-462. 2014.

Heitlinger, S., Bryan-Kinns, N., Stockman, T., O'Flanagan, O., & Couzyn, T. *The Talking Quilt: Augmenting Domestic Objects for Communal Meaning-Making*. In *Designing Interactive Systems*. 2012.

Heitlinger, S., Bryan-Kinns, N., Stockman, T., O'Flanagan, O., & Couzyn, T. *The Talking Quilt: Augmenting Domestic Objects for Communal Meaning-Making*. In *Proceedings of Electronic Visualisation and the Arts*. BCS. 2012.

Heitlinger, S. *Nothing to Worry About*. In *Digital Resources in the Humanities and Arts*. 2010.

REVIEWED CONFERENCE WORKSHOP PAPERS

Heitlinger, S. *Sharing and Caring within Community-based Sustainable Design*. In workshop of Collaborative Economies: from Sharing to Caring. In *Communities & Technology* conference, 2017.

Heitlinger, S., Bryan-Kinns, N., & Jefferies, J. *UbiComp for Grassroots Urban Food-Growing Communities*. In *Proceedings of the 2013 ACM conference on Pervasive and ubiquitous computing adjunct publication*, 589–594. ACM, 2013.

Heitlinger, S., Bryan-Kinns, N., & Jefferies, J. *Moving Beyond the Individual Consumer in Sustainable HCI*. In workshop proceedings of *Post-Sustainability. SIGCHI Conference on Human Factors in Computing Systems*, 2013.

Heitlinger, S. *Stories of Repair*. In workshop proceedings of *Reclaiming Repair. SIGCHI Conference on Human Factors in Computing Systems*, 2013.

Heitlinger, S. *Slow Technology to Re-Appropriate Our Lives*. In workshop proceedings of *Slow Technology*. In *Designing Interactive Systems*, 2012.

Heitlinger, S. In workshop proceedings of *Perspectives on Participation*. In *Designing Interactive Systems*, 2012.

REVIEWED DOCTORAL CONSORTIUM

Heitlinger, S. Sustainable HCI for Grassroots Urban Food-Growing Communities. In *25th Australian Computer-Human Interaction Conference*, 2013.

MANUSCRIPTS IN REVIEW

Heitlinger, S., Bryan-Kinns, N., & Comber, R. Ludic Participatory Design (for CHI 2018). In review.

Heitlinger, S., & Comber, R. Design for the Right to the Smart City in More-than-Human Worlds (for CHI 2018). In review.

Heitlinger, S., Foth, M., Clarke, R., DiSalvo, C., Smith, N., & Forlano, L. New Perspectives on Designing Sustainable Smart Cities and Internet of Things through a "More-than-Human" Lens. Workshop proposal for CHI 2018. In review.

MANUSCRIPTS IN PREPARATION

Heitlinger, S., & Foth, M., (Editors). *The Nonanthropocentric Smart City* (for MIT Press). In development.

Heitlinger, S., Bryan-Kinns, N., & Comber, R. *A Framework for Identifying Value in Co-Design Research* (CoDesign journal). Abstract accepted, in development

FUNDING

Connected Seeds and Sensors - EPSRC (£320,454) Primary author of the proposal (Internet of Things – Research in the Wild)	2015
Patrin - Heritage Lottery Fund (£65,000) Co-authored proposal for digital media and participatory heritage project	2011
PhD in Media and Arts Technology – EPSRC (fees waived+60,000) Queen Mary University Doctoral Training Centre	2009
Utopian Vision – Arts Council England (£4,700) Sole author of proposal for participatory digital arts project	2007
Travelling Lives – Arts Council England (£5,000) Co-authored proposal for participatory digital arts project	2007
Tallis Soundscapes – Independent Photography (£5,000) Co-authored proposal for participatory digital arts project	2006

AWARDS

Community Collaboration Award for Research, Queen Mary University of London	2017
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For Connected Seeds and Sensors

UNESCO Digital Art Award

2007

For Privileged Tactics II, on sustainable cities and IoT

INVITED TALKS

City University, London, UK

2018

More-than-Human Sustainable Smart Cities and IoT

Open University, Milton Keynes, UK

2017

More-than-Human Sustainable Smart Cities and IoT

**Whose Right to the Smart City Conference, Plymouth University,
Plymouth, UK**

2017

Connected Seeds and Sensors: Co-Designing Digital and Networked
Technologies with Urban Agricultural Communities

Queensland University of Technology, Brisbane, Australia

2017

Connected Seeds and Sensors: Co-Designing Digital and Networked
Technologies with Urban Agricultural Communities

Melbourne University, Melbourne, Australia

2017

Connected Seeds: Co-Design of Internet of Things for Sustainable Urban
Agriculture

Royal College of Art, London, UK

2017

Connected Seeds: Co-Design of Internet of Things for Sustainable Urban
Agriculture

Intersections Symposium, Mile End Art Pavilion, London, UK

2016

Technology and Empowerment

Centre for Intelligent Sensing, London, UK

2016

Connected Seeds and Sensors

International Women's Day, Spitalfields City Farm, London, UK

2016

Inclusive Technology Design for Sustainability

Georgia Tech, Atlanta, USA

2014

Ludic Encounters through Community-Based PD for Sustainable HCI

Melbourne University, Melbourne, Australia

2013

Interactive Technology, Connected Communities and Environmental Sustainability

Centre for Creative Collaboration, London, UK

2012

Designing for Slow Technology to Support the Values of Grassroots Communities

Centre for Creative Collaboration, London, UK	2012
Panel Convenor Geographies of Craft, Spaces of Creativity and Connected Communities	
Newcastle University, Newcastle, UK	2012
Art, Technology and Community	

TEACHING EXPERIENCE

Instructor, Ravensbourne University, London, UK	2017
Interaction design and physical computing course for first year undergraduate students on the Design and Coding degree	
Guest Tutor, Royal College of Art, London, UK	2017
Group tutorials to students on the MA in Product Design and Service Design	
Teaching Assistant and Module Assessor, Queen Mary University of London, London, UK	2017
Helped shape the curriculum for a group project module and deliver teaching and assessment on Ludic Design and the Internet of Things for undergraduate students in Media & Arts Technology, and Product Design	
Teaching Assistant, Georgia Tech, Atlanta, USA	2014
Lead Teaching Assistant in Service Design project studio for MA and PhD Digital Media students	
Teaching Assistant, Queen Mary University of London, London, UK	2012
Assisted a group of ten first year undergraduate students in Computer Science and Electronic Engineering, in mandatory Professional and Research Themes module	
Workshop Instructor, various, UK	2006-2013
Designed and delivered workshops in various venues to diverse groups including teenagers and the elderly. Subjects include: Arduino, Processing, physical computing, soft circuit design, RFID, electronics, digital sound design and editing. Venues and organisations included: MzTEK, Victoria and Albert Museum, [SPACE] Media Arts, Hackney Community College, Inter-Action MK, Thomas Tallis School	

ADVISING AND MENTORING EXPERIENCE

Sebastian Prost (PhD Student)	2017
Food democracy and digital civics	
Nanda Khaorapapong (Postdoctoral Researcher)	2016
Development of networked environmental sensors for community-based urban agriculture	

ACADEMIC SERVICE

WORKSHOPS ORGANISED

Community-based Sustainable Smart Cities and IoT
EPSRC-funded workshop, Rich Mix Cultural Foundation 2017

CONFERENCE REVIEWER

CHI 2016, 2017

Participatory Design Conference 2014

GRANT REVIEWER

EPSRC Communities and Culture Network+ 2012

MEMBERSHIP

Association for Computing Machinery (ACM) 2012 - 2017

HCI and Sustainability Community (SIGCHI) 2013 - 2017

Spitalfields City Farm 2017

Board member of urban agricultural and educational charity

EPSRC Communities and Culture Network+ 2012-2015

Core member

MZTEK 2010-2013

Board member of non-profit to address the imbalance of women artists working with new media and technology

EXHIBITIONS OF RESEARCH OUTPUTS

Connected Seeds, Women's Environmental Network Autumn Gathering, 2017
Bow Community Centre, London, UK

Connected Seeds, City Harvest Festival, Capel Manor, London, UK 2017

Connected Seeds, Rich Mix Cultural Foundation, London, UK 2017

Bug Hotel, permanent installation, Spitalfields City Farm, London, UK 2015

The Talking Plants, CHI2014, Metro Toronto Convention Centre, 2014
Toronto, Canada

The Talking Quilt, Digital Futures, Victoria and Albert Museum, London, 2013
UK

The Talking Quilt , <i>AHRC Connected Communities Showcase</i> , Congress House, London, UK	2013
The Talking Quilt , <i>Inside Out Festival</i> , Somerset House, London, UK	2012
The Talking Quilt , <i>Designing Interactive Systems</i> , University of Newcastle, Newcastle, UK	2012
The Talking Quilt , <i>Electronic Visualisation and the Arts</i> , British Computer Society, London, UK	2012

OTHER SELECTED EXHIBITIONS

Privileged Tactics I , <i>Crises and New Beginnings</i> , Museum of Contemporary Art, MSUM, Ljubljana, Slovenia	2015
Privileged Tactics I , <i>Grammar of Freedom/5 Lessons, Works from the ArtEast 2000+ Collection</i> , Garage Museum of Contemporary Art, Moscow, Russia	2015
Privileged Tactics I , <i>The 29th Biennial of Graphic Arts</i> , International Centre of Graphic Arts, Ljubljana, Slovenia	2011
Patrin , <i>Patrin</i> , New Arts Exchange, Nottingham, UK	2011
Nothing to Worry About , <i>NetAudio London</i> , The Roundhouse, London, UK	2011
Nothing to Worry About , <i>Fresh Air</i> , Queen Mary University of London, London, UK	2011
Nothing to Worry About , <i>Digital Resources in the Humanities and Arts 2010</i> , Brunel University, London, UK	2011
Privileged Tactics II , <i>Consume</i> , Exit Art, New York, UK	2011
Nothing to Worry About , <i>Bodies of Sound</i> , Binaural Sound Art Concert, University of Central Lancashire, Preston, UK	2009
Privileged Tactics II & III , <i>Privileged Tactics II & III</i> , P74 Center and Gallery, Ljubljana, Slovenia	2008
Privileged Tactics II , <i>Researchers/Forscher</i> , Schute [Maknete], Hamburg, Germany	2008
Privileged Tactics I , <i>Young Identities – Global Youth</i> , European Media Arts Festival, Kunsthalle Dominikanerkirche, Osnabrueck, Germany	2008
What is it that Moves Us? , <i>Sound Proof</i> , E:vent Gallery, London, UK	2008
Privileged Tactics I , <i>Young Identities – Global Youth</i> , European Media Arts Festival, Kunsthalle Dominikanerkirche, Osnabrueck, Germany	2008

Travelling Lives , <i>Pastures New</i> , Galleries of Justice, Nottingham, UK	2007
Utopian Vision , <i>Ways of Seeing</i> , Midsummer Place, Milton Keynes, UK	2007
Privileged Tactics II , <i>Ideen Studio</i> , Kunstidee, Kuenstlerdorf Schoeppingen Foundation, online	2007
Privileged Tactics I , <i>U3</i> , 5 th Triennial of Contemporary Slovenian Art, Museum of Modern Art, Ljubljana, Slovenia	2007
Market Story , <i>Dislocate</i> , Koiwa Project Space, Tokyo, Japan	2006
Board member of non-profit to address the imbalance of women artists working with new media and technology	

REFERENCES

Robert Comber, Senior Lecturer in Computer Mediated Communication, Department of Computing Science, Newcastle University

William Gaver, Professor of Design, Department of Design, Goldsmiths, University of London

Ann Light, Professor of Design and Creative Technology, Department of Engineering and Design, University of Sussex

Nick Bryan-Kinns, Reader in Interaction Design, Department of Computer Science and Electronic Engineering, Queen Mary University of London