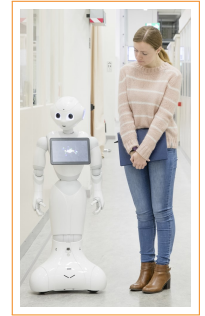# Katie Winkle

Curriculum Vitae

KTH Royal Institute of Technology
School of Electrical Engineering and Computer Science
Lindstedtsvägen 24, 4th floor, SE-10044 Stockholm
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✉ winkle@kth.se

Mission: *Responsible development of autonomous socially assistive robots for the real world.*

Research Interests: Human Robot Interaction; Artificial Intelligence; Robots in Society; Robot Ethics

PhD Degree

Sep 2020 | **PhD in Robotics**, *Bristol Robotics Laboratory*,
FARSCOPE Centre for Doctoral Training
University of Bristol and University of the West of England, Bristol UK
Thesis Title: *Expert-Informed Design and Automation of Persuasive, Socially Assistive Robots*.

Employment

Feb 2022 - | **Assistant Professor in Socially Assistive Robotics**,
Social Robotics Lab
Department of Information Technology
Uppsala University, Uppsala Sweden.

Sep 2020 - | **Digital Futures Postdoctoral Research Fellow**, *Individual Fellowship (100% Research)*,
Social Robotics Group
Division of Robotics, Perception and Learning
KTH Royal Institute of Technology, Stockholm Sweden.
The Digital Futures postdoctoral fellowship scheme represents a competitive *'mobility program for talented early career researchers'* supporting research on the *'development of digital technologies of great social importance'*.

2019-2020 | **Research Associate**, *ROBOTIPS Project*,
Bristol Robotics Laboratory
University Of the West of England, Bristol, UK.
Responsible robotics for the digital economy: working on the 'ethical black box' and accident investigation processes for social robots in close collaboration with partners from the University of Oxford.

Teaching Experience

2020- | **Lecturer**, *KTH Royal Institute of Technology*.
50% Responsible for the *DD2413 Social Robotics* unit. Also deliver *'Introduction to (Practical) AI Ethics'* for the DD2380 Artificial Intelligence course, and have delivered *'(Human Robot) Interaction Design'* on the DH2632 Human-Computer Interaction, Research Seminars course.

2017-2018 | **University Teaching Associate**, *University of Bristol*.
Lecturer, course responsible and examiner for the 20 credit Robotic Systems computer science at undergraduate and postgraduate level. Received positive student feedback:
"Lecturing quality of PHD students was excellent especially considering their relative newness to running the course. Katie was particularly good and is perhaps one of the best lecturers in the university at the moment", "The lecture Katie prepared herself about social robotics was excellent"

2016-2018	**University Teaching Assistant**, *University of Bristol*.
	Ran and assessed the Robotics MSc reading groups, provided lab support, solution preparation and marking across engineering and computer science units including: Introduction to Computer Programming Robotic Systems and Bio-Inspired Artificial Intelligence
2013-2015	**Teaching Assistant**, *Bristol Children's Hospital*, University of Bristol.
	Part of the 'Students in Schools' outreach programme run by the Widening Participation department. Worked predominantly one-to-one with children of all ages teaching maths, science, DT and IT. Also provided mentoring and pastoral support to adolescent patients.

PhD Student Supervision

I am co-supervisor for the following student(s):

from 03/2021 **Gaspar Melsión**, *Explainable AI for Social Justice in Human Robot Interaction*, PhD in Computer Science and Engineering, KTH, *Main Supervisor: Iolanda Leite*.

I have also provided mentoring and supervision to the following student(s):

Sarah Gillet, *Machine Learning in the Development of Autonomous Robots for Groups*, PhD in Computer Science and Engineering, KTH, *Main Supervisor: Iolanda Leite*.

Giulia Belgiovine, PhD in Robotics Brain and Cognitive Sciences, Istituto Italiano di Tecnologia, I supervised Giulia during her visiting period at KTH, *Main Supervisor: Alessandra Sciutti*.

MSc Student Supervision

I am currently supervising the following MSc students:

2020 Alessio Galatolo *'Robot Gender and Persuasiveness in Tackling Gender Stereotypes'*
Research Project in Robotics, Perception and Learning, 15 credits, KTH

2020 Paul Gorgis *'Understanding Gaze Behaviour and Gender in Human Robot Interaction'*
Degree Project in Computer Science and Engineering, 30 credits, KTH

2020 Ravi Bir *'Implementing Machine Learning Techniques to Improve the Performance of Socially Assistive Robots'*
Degree Project in Computer Science and Engineering, 30 credits, KTH

I previously supervised the following MSc students:

2019 Shiming Zhang *'Interactive Machine Learning for Social Robots in Public Spaces'*
MSc Robotics Dissertation, 60 credits (30 ECTS equivalent), Bristol Robotics Laboratory

2019 Ranvir Bhogal *'Defining a Social Robot in a Public Environment'*
MSc Robotics Dissertation, 60 credits (30 ECTS equivalent), Bristol Robotics Laboratory

Invited Talks

Jun 2021	HEART Webinar (Softbank Robotics), *Digital Event*
Apr 2021	Keynote Speaker: Social BRIDGES e-conference, *Digital Event*
Dec 2020	Digital Futures Seminar (KTH Royal Institute of Technology), *Digital Event*
Jun 2020	Heriot-Watt University, *Digital Event*
Jan 2020	Colorado School of Mines, *Colorado, USA*
Oct 2018	South West of England Robotics Network, *Bristol, UK*
Apr 2018	Association of Chartered Physiotherapists Interested in Neurology AGM, *Bristol, UK*
Feb 2018	Science for a Successful Nation Showcase, *London, UK*
Aug 2017	Langbuisson Long Term Care Conference, *Bristol, UK*
May 2017	Associated Retirement Community Operators Conference, *London, UK*
May 2017	Softbank Robotics, *Paris, France*

Distinctions and Awards

2021	Top 3 Finalist: Best UK PhD in Robotics Award Awarded 3rd Place in QMUL National Competition
2020	Best Paper Award International Conference on Robot Ethics and Standards
2020	PhD Awarded Unconditionally and with Nomination for Departmental Award *My PhD examiners Prof. Tony Belpaeme and Associate Prof. Iolanda Leite recommended I be awarded my PhD unconditionally, which is rare in the UK system where the typical outcome is 'minor corrections', and recommended I receive additional distinction from my department.*
2019	HRI Pioneer *Selected to participate in Human-Robot Interaction (HRI) Pioneers, a highly selective workshop to foster creativity, communication and collaboration between young researchers.*
2018	Best Paper Award: Theory and Methods ACM/IEEE International Conference on Human-Robot Interaction, Chicago, USA
2018	M H Joseph Prize for Academic Excellence British Federation of Women Graduates
2016	Undergraduate Visionary Award Institution of Mechanical Engineers

Funding, Grants & Scholarships

2021	KTH Travel Stipend (to fund research visit to Kyoto University) 33,500 SEK
2020	Digital Futures Postdoctoral Fellowship 1M SEK/year
2020	Jean Golding Institute Seed Corn Funding £2000
2019	University of Bristol Alumni Travel Grant £550
2014–2019	PhD Robotics EPSRC Doctoral Studentship
2011-2015	Undergraduate Scholarship *Institution of Mechanical Engineers*
2011-2015	Women in Engineering Scholarship *Jaguar Land Rover*

Academic Service

Organisation of International Academic Events

Aug 2021	Workshop Organiser *'GENDERING ROBOTS (GENR): Ongoing (Re)configurations of Gender in Robotics' to be held jointly with the IEEE International Conference on Robot and Human Interactive Communication (RO-MAN) 2021*
Mar 2021	Panel Co-Chair *'Social Robotics and Trustworthy Human-Robot Interaction for Healthcare' at the WASP-HS AI and Healthcare Community Meeting hosted by Umeå University.*
Nov 2020	Workshop Organiser *'Future Digileaders Career Workshop' hosted by KTH Royal Institute of Techology.*
Nov 2020	Workshop Organiser *'Enriching HRI Research with Qualitative Methods' workshop held jointly with the International Conference on Social Robotics*
Mar 2020	General Chair *HRI Pioneers Workshop held jointly with the International Conference on Human Robot Interaction*
Mar '19, '20	Workshop Organiser *'What Could go Wrong?' workshop held jointly with the International Conference on Human Robot Interaction*

Other Chair Roles in International Conferences

Nov 2020   Workshop Chair
International Conference on Social Robotics

International Program Committee Service

Sep 2021   Senior Program Committee/Area Chair
International Conference on Affective Computing & Intelligent Interaction (ACII)

Reviewer for Journal Articles

International Journal of Child-Computer Interaction 2021

Transactions on Computer-Human Interaction 2021

MDPI Multimodal Technologies and Interaction 2021

International Journal of Social Robotics 2019-2021

Transactions on Human-Robot Interaction 2018-2021

Frontiers in Neurorobotics 2019

Reviewer for Conference Proceedings

ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2018 - 2022

Persuasive Technology Conference 2022

ACM In-Cooperation Conversational User Interfaces (CUI) 2021

ACM Designing Interactive Systems (DIS) 2021

Robotics: Science and Systems (RSS) 2020

IEEE International Conference on Robot Human Interactive Communication (RO-MAN) 2017, 2018, 2021

ACM International Conference on Multimodal Interaction (ICMI) 2018

Selected Media, Exhibition and Public Engagement Highlights

Dec 2021   Women in AI Crash Course, Sweden
Gave a talk on Real World AI for the Women in AI network's Crash Course in AI

May 2021   Careers in Technology Talks
Gave a series of careers talks regarding careers in technology at Internationalla Engelska Skolan, Sweden

Nov 2019   PhD Robot Fitness Coach in International Media
The robot fitness coach I developed as a culmination of my PhD studies was filmed for on the BBC's weekly, national technology show 'BBC Click' and was also featured on televised news (BBC, ITV, Sky News), and in both print and online news (see e.g. $https://www.independent.ie/videos/have-you-seen/ meet-the-robotic-personal-trainer-that-can-coach-runners-38737566.html$).

Jun 2019   Old Library Community Centre, Bristol
Co-ran robotics family activities open day

Apr 2019   Regent Street Cinema, London
Invited panelist for discussion on robots and society following a screening of Blade Runner.

Jul 2018   Spoke on robot attachment at "Telling Stories About Robots" event, *We the Curious Science Museum, Bristol*

Feb 2018   EPSRC Science for a Successful Nation Showcase
The therapy coach Pepper robot demonstrator I developed during my PhD was chosen as exemplar research supporting science for a healthy nation. I exhibited the robot and represented the Bristol Robotics Laboratory at the 1 day event held at the Royal Society, London.
$https://www.youtube.com/watch?v = OcMLa_v02iY$

May 2017   Robot Takeover, London Science Museum
The therapy coach Pepper robot demonstrator I developed during my PhD was exhibited at the London Science Museum as part of a robotics edition of their popular Lates evening series.

April 2017	Designed, organised and led programming day with house in-built robots for outreach, *Abbeywood Community School, Bristol*
Nov 2017	"How I got totally hooked on robotics"
	Profile in The Guardian on behalf of the IMechE, online and in print: `https://www.theguardian.com/careers/2017/nov/28/how-i-got-totally-hooked-on-robotics`

Publications

Doctoral Thesis

K. Winkle, 2020 "Expert-Informed Design and Automation of Persuasive, Socially Assistive Robots" (Doctoral dissertation, University of Bristol). *PhD by monographs: 63,275 words; 272 pages*

International Journal Articles

K. Winkle, E. Senft, S. Lemaignan "LEADOR: A Method for End-To-End Participatory Design of Autonomous Social Robots" Frontiers in Robotics and AI (2021)

K. Winkle, P. Caleb-Solly, A. Turton and P. Bremner, "Mutual Shaping in the Design of Socially Assistive Robots: A Case Study on Social Robots for Therapy." International Journal of Social Robotics (2019)

H.Webb, M. Dumitru, A. van Maris, **K. Winkle**, M. Jirotka, A. Winfield "Role-play as Responsible Robotics: The Virtual Witness Testimony Roleplay Interview for Investigating Hazardous Human-Robot Interactions" Frontiers in Robotics and AI (2021)

Journal Articles Currently In Preparation:

K. Winkle, S. Lemaignan, P. Caleb-Solly, U. Leonards, A. Turton and P. Bremner, "Building a Robot Colleague: A Social Robot Exercise Coach, Trained In-the-Wild for Autonomy and Long-Term Deployment"

K. Winkle, G. Melsión, M. Arnelid, D. McMillan, M. Balaam, K. Harrison, E. Johnson and I. Leite "Feminist Human Robot Interaction: A Practical Guide"

Books and Book Chapters

A. Winfield, **K. Winkle**, H. Webb, U. Lyngs, M. Jirotka, C. Macrae "Robot Accident Investigation: A Case Study in Responsible Robotics" (2021) A. Cavalcanti, B. Dongol, R. Hierons, J. Timmis, J. Woodcock (Eds.) Software Engineering for Robotics, Springer

Contributions to Conferences

Peer Reviewed, Full Paper Contributions to Conferences:

K. Winkle, R. Jackson, G. Melsión, D.Brščić, I. Leite and T. Williams "Norm-Breaking Responses to Sexist Abuse: A Cross-Cultural Human Robot Interaction Study" *accepted for publication in* Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction, Sapporo, Japan ***Acceptance rate: 25%***

K. Winkle, G. Melsión, D. McMillan and I. Leite, "Boosting Robot Credibility and Challenging Gender Norms in Responding to Abusive Behaviour: A Case for Feminist Robots" in Companion Proceedings (alt.HRI) of the 2021 ACM/IEEE International Conference on Human-Robot Interaction, Colorado, USA ***Acceptance rate: 22%***

K. Winkle, P. Caleb-Solly, U. Leonards, A. Turton and P.Bremner, "Assessing and Addressing Ethical Risk from Anthropomorphism and Deception in Socially Assistive Robots" in Proceedings of the 2021 ACM/IEEE International Conference on Human-Robot Interaction, Colorado, US. ***Acceptance rate: 23%***

K. Winkle, S. Lemaignan, P. Caleb-Solly, U. Leonards, A. Turton and P.Bremner, "In-Situ Learning from a Domain Expert for Real World Socially Assistive Robot Deployment" in Proceedings of the 2020 Robotics: Science and Systems Conference ***Acceptance rate: 32%***

K. Winkle, A. van Maris, "Social Influence and Deception in Socially Assistive Robotics" in Proceedings of the 2019 International Conference on Robot Ethics and Standards, London, UK

K. Winkle, S. Lemaignan, P. Caleb-Solly, U. Leonards, A. Turton and P.Bremner, "Effective Persuasion Strategies for Socially Assistive Robots" in Proceedings of the 2019 ACM/IEEE International Conference on Human-Robot Interaction, Daegu, South Korea. ***Acceptance rate: 24%***

K. Winkle, P. Caleb-Solly, A. Turton and P.Bremner, "Social Robots for Engagement in Rehabilitative Therapies: Design Implications from a Study with Therapists" in Proceedings of the 2018 ACM/IEEE International Conference on Human-Robot Interaction, Chicago, USA ***Acceptance rate: 24%; Awarded Best Paper***

K. Winkle and P. Bremner, "Investigating the real world impact of emotion portrayal through robot voice and motion," in 26th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), Lisbon, Portugal 2017

A. Winfield and **K. Winkle**, "RoboTed: a case study in Ethical Risk Assessment" in Proceedings of the 2020 International Conference on Robot Ethics and Standards ***Awarded Best Paper***

H.Webb, M. Jirotka, A. Winfield and **K. Winkle**, "Human-robot relationships and the development of responsible social robots" in Proceedings of the Halfway to the Future Symposium 2019, Nottingham, UK 2019

Peer Reviewed Conference Poster and Workshop Publications:

K. Winkle, G. Melsión, M. Arnelid, D. McMillan, M. Balaam, K. Harrison, E. Johnson and I. Leite "Feminism x Social Robotics" for GENDERING ROBOTS: Ongoing (Re)configurations of Gender in Robotics Workshop at the 2021 IEEE International Conference on Robot and Human Interactive Communication (ROMAN)

K. Winkle, R. Jackson, A. Bejarano, T. Williams, "On the Flexibility of Robot Social Identity Performance: Benefits, Ethical Risks and Open Research Questions for HRI" for the 'Robo-Identity: Artificial identity and Multi-Embodiment' Workshop at the 2021 ACM/IEEE International Conference on Human-Robot Interaction

R. Jackson, **K. Winkle**, A. Bejarano, T. Williams, "Design, Performance, and Perception of Robot Identity" for the 'Robo-Identity: Artificial identity and Multi-Embodiment' Workshop at the 2021 ACM/IEEE International Conference on Human-Robot Interaction

K. Winkle, S. Lemaignan, P. Caleb-Solly, U. Leonards, A. Turton and P.Bremner, "Couch to 5km Robot Coach: An Autonomous, Human-Trained Socially Assistive Robot" in Companion Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction

K. Winkle, M. Jirotka, U. Lyngs, C. Macrae, H. Webb and A. Winfield ""What Could Possibly Go Wrong?" Logging HRI Data for Robot Accident Investigations" in Companion Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction

Y.Sallami, **K. Winkle**, N. Webb, S. Lemaignan and R. Alami "The Unexpected Daily Situations (UDS) Dataset: A New Benchmark for Socially-Aware Assistive Robots" in Companion Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction

K. Winkle "Social Influence in HRI with Application to Social Robots for Rehabilitation" HRI Pioneers Workshop, Daegu, South Korea 2019

K. Winkle, P. Caleb-Solly, A. Turton and P.Bremner, "Patient engagement with rehabilitative therapy programmes: Therapist strategies and affecting influences" Society of Research in Rehabilitation Winter Conference, Bristol 2018

K. Winkle, "Social Robots for Motivation and Engagement in Therapy," Doctoral Consortium at the 19th ACM International Conference on Multimodal Interaction, Glasgow, UK, 2017

Popular Science Publications

K. Winkle, "Can Feminist Robots Challenge Our Biases?", IEEE Spectrum Magazine (2021)