

PERSONAL INFORMATION:

Max Willis
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Orcid ID: 0000-0001-9718-4966
Born: Ipswich, UK
Nationality: USA
Resident in: Bilbao, Spain

PROFESSIONAL SUMMARY:

I am an interaction designer and design researcher, and my personal and professional trajectories converge in design activism, prototyping hard and soft discursive artifacts to engage, confront, and disrupt. As a design futurist I explore backcasting to identify concrete steps we can take with Human-Computer Interaction (HCI) towards equitable and sustainable socio-technical and social-ecological futures. From the hard technology aspect of HCI, I have been exploring low-cost, open source environmental monitoring technologies for citizen science, and computational ontologies for knowledge co-production in sustainability research. On the soft social facet, I develop participatory sense-making, game and play methods for transdisciplinary collaboration, and Open Science practices to challenge the status quo of social and technological inequalities. I have a range of experiences and competencies in design research and education, have trained in co-creation for transformational and organizational change, and from my distinct social and technical perspectives have garnered unique insights on technology mediation, sociotechnical and social-ecological systems, integrating social and environmental data, and participatory processes to collaborate, teach and learn with scientists and stakeholders in-the-wild.

KEY SKILLS:

Interaction Design	Research through Design	Critical and Speculative Design
Human-Computer Interaction	Participatory Design	Gender studies
Human-centered Design	Co-creation	Persuasive Design
User Experience Design	Design Futures	Attitude and Behaviour change

EDUCATION:

2015-2019 **PhD Information and Communication Technology**
Dept. of Information Sciences and Engineering, University of Trento, Italy
TIM Semantics & Knowledge Innovation Lab, Italy
Supervisors: Dr. Antonella De Angeli, Dr. Chiara Bassetti, Dr. Massimo Zancanaro
Thesis title: On agonism and design: dialogues between theory and practice

2006-2009 **MFA Masters of Fine Arts in Creative Media, Graduated with Distinction**
City University of Hong Kong, School of Creative Media, Hong Kong, PRC

PUBLICATIONS:

Willis, M. & Adamo, G. (2024). *Low-cost and open: values for technology development and environmental monitoring at the periphery* Prepared for submission to [redacted] journal

Willis, M. & Adamo, G. (2024). *Ontology-based interaction design for social-ecological systems research*. In 2024 International Conference on Research Challenges in Information Science, Springer

Adamo, G., & Willis, M. (2023). *The Omnipresent Role of Technology in Social-Ecological Systems: Ontological Discussion and Updated Integrated Framework*. In Research Challenges in Information Science: Information Science and the Connected World. Springer Nature Switzerland.

Adamo, G., & Willis, M. (2022). *Technologically mediated practices in sustainability transitions: environmental monitoring and the ocean data buoy*. Journal of Technological Forecasting and Social Change.

Adamo, G. & Willis, M. (2022). *Conceptual Integration for Social-Ecological Systems*. In the International Conference on Research Challenges in Information Science (pp. 321-337). Springer, Cham.

Willis, M., Adamo, G., Hanna, J. & Auger, J (2021). *Towards Sustainable Island Futures: Design for Ocean Wave Energy*. Journal of Futures Studies, 4/25.

Willis, M., Hanna, J., Encinas, E. & Auger, J. (2020). *Low Power Web: Legacy Design and the Path to Sustainable Net Futures*. CHI Conference on Human Factors in Computing Systems.

Adamo, G., Mushiva, M. & Willis, M. (2017). *Persuasion and Empathy in Computer Games, An Ontological Perspective*. 11th Philosophy of Computer Games Conference, Krakow PL.

Willis, M., De Angeli, A. & Zancanaro, M. (2017). *Experience Probes: Immersion and Reflection between Reality and Virtuality*. IFIP Conference on Human-Computer Interaction INTERACT2016.

Willis, M. & Christ, M.C. (2016). *Listening to the Walkable City*. 12th International Conference on the Design of Cooperative Systems

PROFESSIONAL EXPERIENCE:

09/2024- **Visiting Scholar** Universitat Polytechnico Valencia (UPV), Valencia, Spain
Collaboration at Department of Computer Systems and Computation

01/2023- **Researcher**, Basque Center for Climate Change BC3, Leioa, Bizkaia, Spain
06/2023 *Role:* coastal pathogens project development, training materials and semantic modeling game design for ARIES, Artificial Intelligence for Environment and Sustainability

2020-2023 **Integrated Researcher**, Interactive Technologies Institute / Laboratory for Robotics and Engineering Systems (ITI/LARSyS), Lisbon, Portugal.
Role: Speculative artifacts, low-cost low-tech environmental monitoring technologies
www.islandfutures.net/databuoy

PROFESSIONAL EXPERIENCE (cont.):

- 2019-2021 **Postdoctoral Researcher**, Interactive Technologies Institute Madeira, Portugal.
Project: Redesigning Madeira: Using Speculative Design to Rethink Energy Policy and Consumer Behaviour.
Role: AGILE Small Project Management, Speculative Design Research
Supervisors: James Auger, Julian Hanna, Nuno Nunes
- 2014-2015 **Senior Research Associate**, Co-Creation Initiative
Hong Kong Polytechnic University, School of Design, Hong Kong, PRC
Role: Participation and collaborative innovation workshops and interaction design
- 2010-2013 **Art Technology Consultant**, Penghao Theatre Beijing, China
Role: Events management, performances, lectures, projections, lighting, stage technology, sound design
- 2010 **Researcher**, Institute of Creative and Cultural Industries
Beijing Normal University, Beijing, PRC
Role: Research and project background development with Prof. Leon Xiao
- 2009-2010 **Senior Research Associate**, City University of Hong Kong
Hong Kong, PRC
Role: GE Curriculum Development, Drawing and Modern Painting
- 2009 **Consultant**, World Wide Fund for Nature (WWF) Hong Kong
Hong Kong, PRC
Role: Development of Mai Po Wetlands and RAMSAR bird sanctuary virtual tour
- 2009 **Senior Research Assistant**, City University of Hong Kong, School of Creative Media
Hong Kong, PRC
Role: Background research on gendered perspectives in Hong Kong Independent Documentary Filmmaking

INVITED PRESENTATIONS / CONTRIBUTIONS / ATTENDANCE:

- 07/2024 **Workshop chair**, 1st Playing with Meanings (PwM) workshop,
Joint Ontology workshops (JOWO) at the conference on Formal Ontology in Information Systems, FOIS2024 Enschede, Netherlands 15-19 July 2024
- 06/11/2024 **Invited talk and workshop**, Making sense of social-ecological systems with ontologies, conceptual modeling, game & play, Department of Computer Systems and Computation, Universitat Politècnica de València, España
- 05/2024 **Workshop chair**, *Exploring ontology-based design interactions for sustainability research*. 18th International Conference on Research Challenges in Information Sciences, RCIS2024 Guimarães, Portugal, 14-17 May, 2024

INVITED PRESENTATIONS / CONTRIBUTIONS / ATTENDANCE (cont.):

- 05/2023 **Seminar and Workshop facilitation**, *The role of ontologies & semantics in integrated modeling for social and environmental sustainability* at Semantics, Cybersecurity & Services (SCS) group, University of Twente, The Netherlands
- 06/2023 **Panel chair and presenter**, MARE People and the Sea Conference XII, *Technological mediation of existential threats from the deep: a postphenomenological account of marine and coastal knowledge production and its potential impacts on ocean policy*. At Center for Maritime Research, University of Amsterdam, The Netherlands
- 04/2023- **Pool of experts member**, EU Mediterranean Marine Spatial Planning Community of Practice (MED-MSP-CoP)
- 2021 **Guest Reviewer**, International Association of Societies of Design Research Conference IASDR 2021
- 2021 **Program Committee**, 14th Italian SIGCHI Chapter CHIItaly2021
- 02/2018 **Program Committee**, 2018 Digital Games Research Association Conference DIGRA18
- 05/2017 **Seminar attendance**, Researching the Transgressive Aspects of Gaming and Play, Media Mutations Conference, University of Bologna, Italy
- 04/2017 **PhD Consortium**, International City-Gaming Conference
Het Nieuwe Instituut, Rotterdam, The Netherlands
- 10/2016 **Presenter**, Charting the Digital: Play, Discourse, Disruption, Design. Venice, Italy, *Urban Location Based Games Education in Hong Kong, PRC*
- 10/2016 **Participant**, Games For Cities COST Training School, Amsterdam University of Applied Sciences, The Netherlands, Lectorate of Play & Civic Media
- 08/2016 **Participant**, Theatre in Design: Improvisational Theatre for Social Design, NORDES PhD Summer School, University of Southern Denmark
- 2013-2014 **Intern**, OpenCog Artificial General Intelligence (AGI) Research
Hong Kong Polytechnic University, School of Design
- 04/2010 **Panel Member**, Creative Asia 2010
Asian City Culture Creative and Design Alliance
Jinning, PRC

TEACHING ACTIVITIES:

- 2023- **Education game development**, for teaching and learning formal ontologies, collaboration with Semantics, Cybersecurity & Services (SCS) group
University of Twente, NL

TEACHING ACTIVITIES (cont.):

- 2022-23 **E-learning development**, Artificial Intelligence for Environment & Sustainability (ARIES), for Plan Complementario España, Basque Center for Climate Change Leioa, ES
- 2014 **Guest Instructor**, City University Hong Kong, School of Creative Media Hong Kong, PRC
General Education
- 04/2014 **Guest Instructor**, Chinese University of Hong Kong Hong Kong, PRC
Postgraduate Program in Visual Cultures
- 2013-2015 **Visiting Lecturer**, Hong Kong Polytechnic University, School of Design Hong Kong, PRC
BA Interactive Media
Digital Aesthetics, Multiplatform Publishing, Design for Interactive Entertainment
MSc Multimedia Entertainment and Technology
Sound Design, Interactive Multimedia Environments
- 2009 **Lecturer**, Hong Kong Polytechnic University, School of Design Hong Kong, PRC
Multimedia Fundamentals, Computing Technology, Design in the Post Digital Age

GRANTS AND AWARDS:

- 2015 **Industrial grant award**, Telecom Italia (TIM) Semantics & Knowledge Innovation Lab, Povo, Italy
Full PhD scholarship and stipend 2015-2019
- 2009 **Graduation with Distinction**, Masters of Fine Arts Degree
City University of Hong Kong, School of Creative Media

LANGUAGES:

English (fluent)
German (advanced)
Spanish (conversational)
Mandarin Chinese (basic)

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS:

HTML5, CSS, JavaScript, wordpress, responsive web design, User Interface (UI) and User Experience (UX) design

Arduino coding and mechatronics prototyping, remote sensor networks, wireless communications, data collection and database organization, tangible interfaces, installations, brain-computer interface, ROS robot operating system

Linux command line, HTTP, SFTP, SSH encryption, basic python for computation, data analysis and simple Natural Language Processing (NLP), Grep

Video documentary and editing, field audio recording, studio voice and music mastering, MaxMsp, video and sensor-based motion tracking, DMX theatre lighting, ambisonics surround sound, open source audiovisual and graphics tools

Excel, AtlasTi, basic Unified Modelling Language UML, Latex and Overleaf, Protege, git

OpenStreetMaps, Garmin, GPS tracking, mapping and geo-located data collection, drone survey, photogrammetry, cartography and meteorology for coastal navigation, Marine Spatial Planning

ADDITIONAL QUALIFICATIONS:

International Certificate of Competence (ICC) coastal power and sail boat operator

Restricted Radio Operator (USCG), Marine radio operator (RYA)

Global Maritime Distress and Safety Systems (GMDSS)

Scientific Diver, Center for Marine Sciences (CCMAR, Faro, PT)

First Aid / CPR / Oxygen Provider, Diver Stress and Rescue, Scuba Schools International (SSI)

DIR Dive Fundamentals, Global Underwater Explorers (GUE)

Enriched Oxygen, Advanced Open Water Diver, Professional Association of Dive Instructors (PADI)

Day Skipper, Royal Yachting Association (RYA)