

Chris Hand Curriculum Vitæ

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Summary

Creative technologist, interaction designer and lecturer with a broad multi-disciplinary background and approach, combining deep expertise in both design and technology. Specialist in physical computing, prototyping and teaching creative coding, with extensive experience in the Higher Education context internationally.

Education

- 2013-2014 **Postgraduate Certificate in Higher Education (PGCHE)**, Distinction.
Nottingham Trent University, UK
- 2005-2007 **MA (RCA) Design Interactions**, Royal College of Art, London, UK
- 1984-1987 **BSc (Hons) Computer Engineering**, University of Manchester, UK

Employment

- Feb 2022 **Self-Funded Sabbatical**
-Feb 2023 Taking time out for tinkering, making, learning, travelling, visiting old friends and thinking about what comes next.
- Feb 2020 **Professional Teaching Fellow in Design**
-Feb 2022 **NZUWI, Hangzhou, Zhejiang Province, China**
Full-time design lecturer at this joint venture between Zhejiang University City College and The University of Waikato, New Zealand. Teaching Internet of Things, Interaction Design and Web Design/Development on BDes Interface Design and BDes Media Design programmes.
- Dec 2019 **Freelance Online Teacher and Mentor**
-Feb 2020 Mentoring and teaching Web Design and pre-university English to Chinese students online.
- May 2019 **Education Consultant**
-Dec 2019 **Atlas Education, Beijing, China**
- Apr 2016 **Programme Director**
-Dec 2018 **The Glasgow School of Art, Singapore**
Managing and co-ordinating day-to-day operations of GSA Singapore, leading the delivery of the School of Design's Undergraduate Programmes in Communication Design and Interior Design, and acting as formal point of contact between GSA and local partner Singapore Institute of Technology.
- Feb 2015 **Head of Academic Studies, Graphic and Communication Design**
-Apr 2016 **THINK Education, Sydney, Australia**
- Jan 2013 **Head of Department, Communication Design**
-Dec 2014 **Pearl Academy, New Delhi, India**
- Dec 2010 **Academic Director, BDes Programme Director and Senior Lecturer**
-Dec 2012 **Raffles Millennium International college, Bangalore, India**
- Mar 2008 **Programme Leader, MDes Interaction Design and Lecturer in Design**
-Dec 2010 **School of Arts & Creative Industries, Edinburgh Napier University, UK**

- 2007-2010 **Freelance Interaction Designer**
Specialising in ubiquitous and physical interaction, prototyping experimental and critical designs, building and installing interactive installations, running workshops and hack-labs. Working with Dunne & Raby, Superflux and Intel, among others.
- 2003-2005 **Lecturer, Interactive Media Design**
Duncan of Jordanstone College of Art & Design, University of Dundee, UK
- 2000-2003 **Freelance Digital Media Producer**
Edinburgh, Scotland, UK
- 2000-2003 **Part-time Flying Lecturer (Digital Media)**
FTMS-De Montfort University, Kuala Lumpur, Malaysia
- 1998-2000 **Lecturer, Computer Science (HCI and Digital Media)**
School of Computing, Napier University, Edinburgh, UK
- 1990-1998 **Senior Lecturer, Computer Science (Multimedia, Hypermedia and VR)**
School of Computing Sciences, De Montfort University, Leicester, UK
- 1987-1990 **C/UNIX Software Design Engineer**
ATE Division, Marconi Instruments Ltd, St Albans, UK.

Visiting Positions

- 2022 Lecturer, **FHNW Academy of Art and Design**, Basel, Switzerland
- 2016-2018 Member, Design Advisory Committee, **Nanyang Polytechnic**, Singapore
- 2014 Guest Jury Member, **National Institute of Design**, Ahmedabad, India
- 2009-2010 Associate/Creative Technologist, **Superflux**, London, UK and Ahmedabad, India
- 2005-2010 Tutor, School of Arts, Culture and Environment, **University of Edinburgh**, UK
- 2010 Tutor, School of Architecture, **Edinburgh College of Art**, UK
- 2008 Tutor, Design Interactions, **Royal College of Art**, London, UK
- 2007 Design Researcher, **Copenhagen Institute of Interaction Design (CIID)**, Denmark

Professional Accreditations and Certifications

- 2021 FRAS – Fellow of the Royal Asiatic Society of Great Britain and Ireland
- 2019 Cambridge CELTA – Certificate in Teaching English to Speakers of Other Languages
- 2017 Mental Health First Aid Singapore
- 1996 CEng – Chartered Engineer, Engineering Council, UK

Professional Membership and Activities

- 2017-2018 Committee Member, Scottish Business Group, British Chamber of Commerce Singapore
- 2016-2018 Glasgow School of Art representative, British Chamber of Commerce Singapore
- 2009-2010 This Happened Edinburgh. Co-organiser and co-curator of series of Interaction Design talks and networking events. www.thishappened.org
- 2009-2010 Member, Council – International Think-Tank/Consultancy for The Internet of Things. www.theinternetofthings.eu
- 1993-2000 Co-founder member, UK Virtual Reality Special Interest Group (UK VR-SIG)

Technical and Software Skills

Programming and Web	Current: Processing/P5, Arduino, Python, JavaScript, HTML, CSS, PHP, SQL. Have also worked with Max/MSP, Pure Data, Chuck, C, csh, Java, VRML, JSP, XML, XSL and others.
Electronics and Hardware	Arduino platforms (Atmel, RP2040, ESP32, ESP8266, etc), Raspberry Pi and Pi Pico, Internet of Things generally. Analogue and digital electronics design, sensors, actuators. Networking. Audio engineering, MIDI, OSC. Music Synthesizer DIY. PCB design and layout (KiCad).
Graphics/Video	Photoshop, Illustrator, InDesign, Premiere, After Effects.
Machine Learning	TinyML on Arduino platforms using EdgeImpulse. Dabbled in ml5.js, and in OpenAI's DALL·E and ChatGPT.
Audio/Music	Ableton Live, Audacity, Max/MSP, Pure Data, Chuck.
OS/Admin, Server-side, Desktop	Unix/Linux, MacOS, Apache web server, TCP/IP, Unix shell scripting etc. Raspberry Pi configuration and installation. Web hosting and domain registration/transfer.
Online Learning	As a teacher: Blackboard, Canvas, Moodle. Skype, Zoom, WeChat, DingTalk. As a learner: Coursera, FutureLearn, EdX, Udemy.

Guest Workshops and Invited Talks

Designing Relationships with Connected Products

Guest lecturer leading 3-day invited workshop on Internet of Things design for masters students. **FHNW Academy of Art and Design**, Basel, Switzerland. 3-6 May 2022.

From Ubicomp to the Poopocalypse: Inside the Internet of Things

Invited talk for **FHNW Academy of Art and Design**, Basel, Switzerland. 2 May 2022.

UnBox Festival Labs: Future Cities

Invited mentor for this UK-India collaborative workshop, supporting 35 selected Lab 'fellows' in their people-centred, multi-disciplinary, collaborative exploration of "Future Cities". UnBox LABS 2014 was anchored by the UnBox Festival and Quicksand, in partnership with the British Council, AHRC and the UK Science and Innovation Network with the support of REACT and NID. labs.unboxfestival.com **National Institute of Design (NID)**, Ahmedabad, India. 1-7 March 2014.

UrbanIXD: Designing Human Interactions in the Networked City

Invited atelier leader on one-week summer school for selected early-career researchers and practitioners from over 20 countries, using critical design to examine the idea of Smart Cities. Part of a 2-year coordination action funded by the European Commission under FP7 Future and Emerging Technologies (FET Open). **Arts Academy, University of Split**, Croatia. 24 August - 1 Sep 2013. urbanixd.eu

Disruptive Technology

Guest tutor for 4-week project on reactive environments with M.Arch students, introducing Arduino and Processing. School of Architecture, **Edinburgh College of Art**, UK. November 2010.

Hacking, Sketching, Sensors and Switches

Invited lecture and workshop on sensors and Arduino for postgraduate students. School of Arts, Culture and Environment, **University of Edinburgh**, UK. 27-28 January 2010.

Kits, Fanufacture and ad hoc DIY

Invited talk at **Alcatel-Lucent Bell Labs**, Antwerp, Belgium. 3 December 2009.

Interaction Design, Sketching in Hardware, and Sniffing Glue

Invited talk at **Glasgow School of Art**, UK, 2 October 2009.

Distributed Fanufacture and the Arduinome Experience

Talk at **Sketching in Hardware 2009**, invitation-only international hardware hacking summit. University College London (UCL), UK. 17-19 July 2009.

Interaction Design Workshop

Invited Atelier Leader for 6-day design workshop for multidisciplinary group of students from Rijeka, Split, Zadar and Zagreb. **University of Split**, Croatia. 23-28 March 2009.

Teaching Interaction Design?

Invited talk at Interaction Design Symposium 2009, **University of Split**, Croatia. 19-20 March 2009.

Hacking Sensor Interfaces & Introduction to Arduino

Invited lecture and workshop for postgraduate students. School of Arts, Culture and Environment, **University of Edinburgh**, UK. 24-25 January 2008 and 29-30 January 2009.

Embodiment and the Everyday

Invited presentation for Socio-Digital Systems Group, **Microsoft Research Lab Cambridge**, 19 February 2007.

DIY Hacks for iCubeX and Max

Invited lecture and workshop for postgraduate students. School of Arts, Culture and Environment, **University of Edinburgh**, UK. January 2005.

Exhibitions and Commissions

- 2012 **I Am Seeing Things.** Talbot Rice Gallery, Edinburgh, UK. 25-26 Oct 2012.
With Dunne & Raby and Michael Anastassiades.
- 2009 **The Power of 8.** Watermans gallery, Brentford, UK. 22 Sep - 11 Oct 2009.
With Superflux.
- 2009 **Interiors Birmingham,** National Exhibition Centre, UK. 18-21 Jan 2009.
With DesignersBlock and KithKin.
- 2008 **Wouldn't It Be Nice...** Somerset House, London, 17 Sep - 7 Dec 2008.
With Dunne & Raby and Michael Anastassiades.
- 2008 **SomeRightsReserved** at Pulse, Earl's Court, London, 1-3 June 2008.
- 2008 **KithKin at DesignersBlock,** Piscina Argelati, Salone Internazionale del Mobile (Milan Furniture Fair), Milan, Italy. 16-21 April 2008.
Plus **SomeRightsReserved** (online): download-only design shop.
- 2008 **Design and the Elastic Mind,** MoMA, New York, USA. 24 Feb - 12 May 2008.
With Dunne & Raby and Michael Anastassiades.
- 2008 **Wouldn't It Be Nice... 10 Utopias In Art And Design,** Museum für Gestaltung, Zürich, Switzerland. 8 Feb - 25 May 2008.
With Dunne & Raby and Michael Anastassiades.
- 2007 **TULCA 2007,** Galway, Ireland, 9-25 Nov 2007. With Ceára Conway.
- 2007 **Wouldn't It Be Nice... 10 Utopias In Art And Design,** Centre D'Art Contemporain, Geneva, Switzerland. 25 Oct - 16 Dec 2007.
With Dunne & Raby and Michael Anastassiades.
- 2007 **The Great Exhibition,** Royal College of Art, London, 15-28 Jun 2007.
- 2006 **Generation/Show 2,** Royal College of Art, London, 23 Jun - 2 Jul 2006.
With Robert Philips.
- 2005 **Electro-Acoustic Walkway.** Electronics design, prototyping and programming of MIDI controller device for interactive outdoor sound-art installation. With Rick Bamford (Essential Music for All), Falkirk Council and The Park Gallery.
Performed at *Big in Falkirk* street arts festival, Callendar Park, Falkirk, Scotland, 30 April and 1 May 2005.
- 2003 **Refractions.** Soundtrack composition and sound design for fire and physical theatre show by Edinburgh performing arts group *te pooka*.
Performed at Brighton Festival May 2003 and Glastonbury Festival June 2003.

Publications

Books and Book Chapters

- Jain, A. and Hand, C. (2010) "The Power of 8". in T. Britton (ed), *Hand Made: Portraits of Emergent New Community Culture*. UK: Social Spaces. pp178-185.
- Hand, C (ed). (1996) *Proceedings of the 3rd UK VR-SIG Conference*. De Montfort University, 3rd July 1996. (ISBN 1-857-21216-9)
- Hand, C. (1996) "Terrain Modelling in Virtual Worlds" in Robin Hollands, *The Virtual Reality Homebrewer's Handbook*. John Wiley & Sons. (ISBN 0-471-95871-9)
- Hand, C. (1996) "Other Faces of Virtual Reality". In P. Brusilovsky, P. Kommers and N. Streitz (eds.): *Multimedia, Hypermedia and Virtual Reality: Models, Systems, and Applications*. Lecture Notes in Computer Science Vol. 1077. pp107-116. Berlin: Springer-Verlag, (ISBN 3-540-61282-3)

Journal Papers

- Ray Murray, P. and Hand, C. (2015) "Making Culture: Locating the Digital Humanities in India". *Visible Language*. Special issue on *Critical Making: Design and the Digital Humanities*. 49(3):140-155.
- Hand, C. (2007) "Electronic Devices as Design Exploration". *Keho/Peach FP6 Coordination Action on Presence*. Issue 2, pp12-14.
- Deol, K. K., Steed, A., Hand, C., Istance, H. and Tromp, J. (2000) "Usability Evaluation for Virtual Environments: Methods, Results and Future Directions" (part 2). *Interfaces* No 44, pp4-7.
- Deol, K. K., Steed, A., Hand, C., Istance, H. and Tromp, J. (2000) "Usability Evaluation for Virtual Environments: Methods, Results and Future Directions" (part 1). *Interfaces* No 43, pp4-8.
- Graves, A., Hand, C. and Hugill, A. (1999) "MidiVisualiser: interactive music visualisation using VRML". *Organised Sound* 4(1):15-23.
- Hand, C., Lingard, S. and Skipper, M. (1998) "A Collaborative Environment for Role-Playing in Object Space". *Virtual Reality: Research, Development and Application*, 3(1):49-58.
- Hand, C. (1997) "A Survey of 3D Interaction Techniques". *Computer Graphics Forum*, 16(5):269-281.

Conference Papers

- Hand, C., Jain, A., Britton, T., Burnett, G., Collett, C., Chen, D., Sharma, S., Tims, C. and Young, L. (2010) "The Power of 8: Encouraging Collaborative DIY Futures". In *Negotiating Futures - Design Fiction*, Proceedings of the 6th Swiss Design Network Conference, Basel, Switzerland, 28-30 October. pp194-205. (ISBN: 978-3-9523662-1-9)
- Hand, C., Mitrović, I. and Smyth, M. (2010) "Finding Common Ground: Interdisciplinary Workshops for Interaction Design Education". *Borderline - Cumulus Conference*, Media & Design Academy, Genk, Belgium, 26-29 May.

- Coleman, G. W., Hand, C., Macaulay, C. and Newell, A. F. (2005) "Approaches to Auditory Interface Design - Lessons from Computer Games". *Proceedings of ICAD 05 - Eleventh Meeting of the International Conference on Auditory Display*, Limerick, Ireland, July 6-9.
- Hand, C. and Fox, C. (2005) "Reflections on the Design of ToeTapper, a Foot-Operated System for Musical Performance and Composition". *Proceedings of Include 2005: International Conference on Inclusive Design*, Royal College of Art, London, April 5-8.
(ISBN: 1-905000-10-3)
- Surman, P., Sexton, I. and Hand, C. (2000) "Autostereo 3D-TV with Head Tracking". in *Proceedings of Electronic Information Displays (EID 2000)*, ExCeL, London, November 21-23.
- Graham, M., Kennedy, J. B. and Hand, C. (2000) "A Comparison of Set-Based and Graph-Based Visualisations of Overlapping Classification Hierarchies". *International Working Conference on Advanced Visual Interfaces (AVI 2000)*, Palermo, Italy, May 24-26. pp41-50. ACM Press.
- Graham, M., Kennedy, J. B. and Hand, C. (1999) "The Challenge of Visualising Multiple Overlapping Classification Hierarchies". In *Proceedings of User Interfaces to Data Intensive Systems (UIDIS'99)*, Edinburgh, Scotland, 5-6 September. pp42-51. IEEE Computer Society: Los Alamitos, CA.
- Hand, C. (1999) "Mixed Arcadian Reality: Exploiting Synergies Between the Real and the Virtual". *Workshop on Arcadian Virtuality - Ecological Information Spaces*, at *i3 Spring Days Conference*, Sitges, Spain, 7-10 March.
- Istance, H. and Hand, C. (1998) "Individual Differences in Navigating Virtual Environments: Navigation Aids in Perspective". In *Proceedings of First International Workshop on Usability Evaluation for Virtual Environments (UEVE'98)*, De Montfort University, Leicester, 17th December. pp65-68.
- Kaur, K., Tromp, J., Hand, C., Istance, H. and Steed, A. (1998) "Usability Evaluation for Virtual Environments". In *Proceedings of First International Workshop on Usability Evaluation for Virtual Environments (UEVE'98)*, De Montfort University, Leicester, 17th December. pp1-5.
- Tromp, J., Kaur, K., Hand, C., Istance, H. and Steed, A. (1998) "Usability for VR Interfaces" in *Proceedings of Collaborative Virtual Environments 1998*, 17-19th June, Manchester, UK. p31.
- Graves, A., Hand, C. and Hugill, A. (1997) "Interactive Visualisation of Musical Form Using VRML". in *Proceedings of the Fourth UK VR-SIG Conference*, R Bowden (Ed), 1st Nov, Brunel University, UK, pp98-109.
- Edwards, J. and Hand, C. (1997) "MaPS: Movement and Planning Support for Navigation in an Immersive VRML Browser" *Proceedings of The Second Annual Symposium on the Virtual Reality Modeling Language (VRML'97)*, Monterey, California, USA, February 24-26. ACM: New York. pp65-73.
- Callaghan, M. and Hand, C. (1996) "Presentation and Representation of Implicit Knowledge in the World Wide Web". *Workshop on Knowledge Media for Improving Organizational Expertise - Impacts of new methods and enabling technologies*, at *International Conference on Practical Aspects of Knowledge Management*, Basel, Switzerland, 30-31 October.
- Hand, C. and Skipper, M. (1996) "A Collaborative Environment for Role-Playing in Object Space". *Proceedings of Collaborative Virtual Environments 1996*, University of Nottingham, UK. 19-20th September.

- Hand, C. (1996) "Some User Interface Issues for Hypermedia Virtual Environments". Position paper for *Workshop on Virtual Environments and the WWW, Fifth International World-Wide Web Conference*, Paris, France, 6-10 May.
- Hand, C. (1995) "Creating hypermedia documents by doing: an alternative to authoring". *IEE Colloquium on The Authoring and Application of Hypermedia-Based User Interfaces*, London, 14th November. Digest No: 95/202. pp3/1-3/3.
- Hand, C., Skipper, M. and Dinsdale, A. (1995) "Collaborative Object-Oriented Design using Role-Playing in Shared Virtual Spaces". *Proceedings of the 4D Dynamics Conference*, De Montfort University, Leicester. September 21. pp59-62.
- Skipper, M. and Hand, C. (1995) "TaTTOO'95 On-Line: A Report". In *Proceedings of TaTTOO'95: Teaching and Training in the Technology of Objects*. De Montfort University, Leicester, UK. January 4-6.
- Hand, C. (1994) "Other Faces of Virtual Reality". *Proceedings of the East-West International Conference on Multimedia, Hypermedia and Virtual Reality*. Moscow, Russia. September 14-16, pp69-74.
- Hand, C., Sexton, I. and Mullen, M. (1994) "A Linguistic Approach to the Recognition of Hand Gestures". *Designing Future Interaction conference* (Ergonomics Society/IEE), University of Warwick, 18 April.
- Hand, C. (1994) "From Dreams to Reality". in *Proceedings of the 1st UK VR-SIG Conference*, Nottingham University, 14 March.

Languages Studied

- Oct 2022
-present **Dutch** CEFR: A1
Self-learning from scratch, "just for fun".
- Feb 2017
-Apr 2022 **Mandarin Chinese**, CEFR: B1
One-to-one private tuition via Skype/Zoom.
Passed HSK Level exam 4 in July 2020.
- Oct 2015
-Dec 2015 **Japanese** 101. CEFR: A1
University of Sydney, Australia.
Evening classes, beginners level, plus independent study of Kanji characters on wanikani.com.
- Feb 2013
-Feb 2014 **Hindi**, beginner to intermediate level.
Zabaan Language Institute, New Delhi, India.
Evening classes in Delhi.
- May 2011
-Nov 2012 **Hindi**, beginner's level.
Zabaan Language Institute, New Delhi, India.
One-to-one private tuition via Skype (while living in Bangalore).
Including reading and writing Devanagari script.
- 2008-2009 **Japanese** 1, courses 1-3. CEFR: A1
Institute for Advanced Language Studies, University of Edinburgh, UK.
Evening classes over 3 terms, beginner's level.
- 2001 **German**: GfdS Diplom Deutsch als Fremdsprache, Grundstufe 2. CEFR: B1
(Diploma in German as a Foreign Language). Grade B.
d.i.d deutsch-institut, Berlin, Germany.
Full-time 2-month intermediate course. (Self-taught at beginner's level.)
- 1999-2000 Conversational **Spanish**. CEFR: A2
Institute for Advanced Language Studies, University of Edinburgh.
Evening classes, post-beginner's level. (Self-taught at beginner's level.)
- 1988-1990 GCE A-level **French**. Grade A/A. CEFR: B2-C1
Oaklands College, St Albans, UK.
Evening classes over 2 years.

Personal Interests

I enjoy travel, learning languages, gardening and building electronic music synthesizers.

