Curriculum Vitae

Dr Thomas James Mitchell

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Associate Professor - Creative Technology

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Department of Computer Science and Creative Technologies

University of the West of England, Bristol

Education

University of The West of England   Bristol, UK

PhD, Computer Music   *2004 - 2010*

PGCertHE (with Distinction)   *2007 - 2008*

BSc (Hons) Music Systems Engineering (1st Class)   *1997 - 2001*

Publications

PhD

- Mitchell, T. (2010) *An Exploration of Evolutionary Computation Applied to Frequency Modulation Audio Synthesis Parameter Optimisation.* PhD, University of the West of England.

Journal

- Mitchell, T., Tew, P., Hyde, J., and Glowacki, D. R. (in preparation) Sonifying Classical and Quantum Dynamics: Strategies and Algorithms for Resolving Transient Compositional Structure Amidst Chaos.

- Brown, D., Nash, C. and Mitchell, T. (2018) Simple mappings, expressive movement: A qualitative investigation into the end-user mapping design of experienced mid-air musicians. *Digital Creativity*, 29 (2-3). pp. 129-148. DOI 10.1080/14626268.2018.1510841

- Mitchell, T., Hyde, J., Tew, P., and Glowacki, D. R. (2016) danceroom Spectroscopy: at the frontiers of physics, performance, interactive art, and technology, *Leonardo*, DOI 10.1162/LEON_a_00924.

- Glowacki, D. R., O'Connor, M., Calabró, G., Price, J., Tew, P., Mitchell, T. J., Hyde, J., Tew, D. P., Coughtrie, D. J. and McIntosh-Smith, S. (2014) An immersive and interactive audiovisual framework for classical and quantum molecular dynamics, *Faraday Discussion* 169, DOI: 10.1039/C4FD00008K.

- Mitchell, T. (2012) Automated Evolutionary Synthesis Matching. *Soft Computing.* 16 (12), DOI 10.1007/s00500-012-0873-x.

Book Chapter

- van den Berg, C., Heap, I., Stark, A. and Mitchell, T. (2017) Expressive gestural personality, *Push Turn Move: Interface Design in Electronic Music*, BJOOKS, ed. Bjorn, K.

- Glowacki, D. R., Tew, P., Mitchell, T., Kriefman, L. Hyde, J., Malcolm, L. J., Price, J. and McIntosh-Smith, S. (2013) Sculpting Molecular Dynamics in Real-Time Using Human Energy Fields, *Molecular Aesthetics*, MIT press, ed. Prof. Dr. Peter Weibel.

Conference

- Gaster, B. R., Renney, N. and Mitchell, T. (2018) Outside the block syndicate: Translating Faust's algebra of blocks to the arrows framework. *In: Proceedings of the 1 st International Faust Conference (IFC18).* .

- Arbon, R. E., Jones, A. J., Bratholm, L. A., Mitchell, T. and Glowacki, D. R. (2018) Sonifying stochastic walks on biomolecular energy landscapes.. *In: Proceedings of the International Conference On Auditory Display (ICAD2018).* .

- Hunt, S., Mitchell, T. and Nash, C. (2018) A cognitive dimensions approach for the design of an interactive generative score editor.. *In: Fourth International Conference on Technologies for Music Notation and Representation (TENNOR18).* .

- Renney, N., Gaster, B. and Mitchell, T. (2018) Return to temperament (In digital systems). *In: Audio Mostly.* .

- Hunt, S, Mitchell, T. and Nash, C. (2017) Initial Thoughts on Interactive Generative Music Composition. *In: Proceedings of the 2nd Conference on Computer Simulation of Musical Creativity..* .

- Brown, D., Nash, C. and Mitchell, T. (2017) A user experience review of music interaction evaluations. *In: Proceedings of the International Conference on New Interfaces for Musical Expression.* .

- Hunt, S., Mitchell, T. and Nash, C. (2017) How can music visualisation techniques reveal different perspectives on musical structure?. *In: Third International Conference on Technologies for Music Notation and Representation.* .

- Brown, D., Nash, C. and Mitchell, T. (2016) GestureChords: Transparency in gesturally controlled digital musical instruments through iconicity and conceptual metaphor. *In: Proceedings of SMC 2016. pp. 85-92. ISSN 2518-3672.* .

- Mitchell T., Bennett, P., Madgwick, S.O.H., and Tew, P. (2016) TIEC: Tangible Interactive Evolutionary Computation. *In: Extended Abstracts of the ACM SIGCHI Conference on Human factors in computing systems 2016.* San Jose, 2016.

- Brown, D., Renney, N., Stark, A., Nash, C. and Mitchell, T. (2016) Leimu: Gloveless music interaction using a wrist mounted leap motion. *In: Proceedings of the International Conference On New Interfaces for Musical Expression NIME2016, Brisbane, Australia, 11 - 15 July 2016.* .

- Davies, E., Mitchell T. (2016) Evolving Atomic and Molecular Aesthetics. *5th International Conference on Evolutionary and Biologically Inspired Music, Sound, Art and Design.* Portugal, 2016.

- Madgwick, S.O.H., Mitchell T., Barreto, C. and Freed A. (2015) Simple Synchronisation for Open Sound Control. *Proceedings of the 41st International Computer Music Conference 2015.* Texas, US, September 25th to October 1st, 2015. (Shortlisted for best paper) Hyde, J., Mitchell T., and Glowacki D.R. (2014) Molecular Music: repurposing a mixed quantum-classical model as an audiovisual instrument. *Proceedings of the 17th International Generative Art Conference.* Roma, Italia.

- Rutter, E. and Mitchell, T. (2014) Turnector: Tangible Control Widgets For iOS Devices. *Proceedings of the International Computer Music Conference (40th ICMC) and the Sound and Music Computing conference (11th SMC).* Athens.

- Mitchell, T., Madgwick, S., Rankine, S., Hilton, G., Freed, A., and Nix, A. (2014) Making the Most of Wi-Fi: Optimisations for Robust Wireless Live Music Performance. *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME2014).* London. (Long Paper).

- Place, A., Lacey, L. and Mitchell, T., (2014) AlphaSphere: from Prototype to Product. *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME2014).* London.

- Serafin, S., Trento, S., Grani, F., Perner-Wilson, H., Madgwick, S., Mitchell, T. (2014) Controlling Physically Based Virtual Musical Instruments Using The Gloves. *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME2014).* London.

- Mitchell, T. and Madgwick, S. O. H (2013) x-OSC: A Flexible Wireless Hardware Interface for Creative Programmers. *Sound and Music Computing Conference 2013.* Stockholm.

- Place, A., Lacey, L. and Mitchell, T. (2013) AlphaSphere. *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME 2013).* Daejeon + Seoul.

- Glowacki, D. R., Tew, P., Mitchell, T., Price, J. and McIntosh-Smith, S. (2012) danceroom Spectroscopy: Interactive Quantum Molecular Dynamics Accelerated on GPU Architectures Using OpenCL. *UK Many Core Development Conference 2012 (UKMAC 2012).* Bristol.

- Mitchell, T., Madgwick, S. and Heap, I (2012) Musical Interaction with Hand Posture and Orientation: A Toolbox of Gestural Control Mechanisms. *Proceedings of the International Conference on New Interfaces for Musical Expression.* Ann Arbor.

- Mitchell, T. and Heap, I. (2011) SoundGrasp: A Gestural Interface for the Performance of Live Music. *Proceedings of the International Conference on New Interfaces for Musical Expression.* Oslo.

- Mitchell, T. and Creasey, D. (2007) Evolutionary Sound Matching: A Test Methodology and Comparative Study. *Proceedings of the Sixth International Conference on Machine Learning and Applications.* Cincinnati.

- Mitchell, T. and Pipe, A.G. (2006) A Comparison of Evolution Strategy-Based Methods for Frequency Modulated Musical Tone Timbre Matching. *Proceedings of the 7th International Conference on Adaptive Computing in Design and Manufacture.* Bristol.

- Mitchell, T. and Sullivan, J. C. W. (2005) Frequency Modulation Tone Matching Using a Fuzzy Clustering Evolution Strategy. *Proceedings of the 118th Convention of the Audio Engineering Society.* Barcelona.

- Mitchell, T. and Pipe, A. G. (2005) Convergence Synthesis of Dynamic Frequency Modulation Tones Using an Evolution Strategy. *Proceedings of the 3rd European Workshop on Evolutionary Music and Art.* Lausanne.

Employment

- **University of the West of England**   Bristol, UK
  Associate Professor   *2018 - present*
  Senior Lecturer   *2011 - 2018*
  Acting Associate Head of Department   *November 2016 - January 2017*
  Lecturer   *2007 - 2011*

  ### Responsibilities

  – Leading the Creative Technologies Laboratory: a faculty-recognised research group. Comprising 20 members/associates and 6 PhD students. Responsibilities include organising group activities, budgets and administration

  – Fundraising for academic research, (raising over £500k since 2010)

  – Managing and organising teaching teams while temporarily acting as Associate Head of Department, supporting, representing and overseeing a team of over 30 full-time academic staff

  – Supervision of 6 PhD and 4 MSc students; progression/examination of 3 PhD and 6 MSc theses

  – Curriculum design, development and leadership of MSc Music Technology and MSc Creative Technologies and major contributions to a range of undergraduate Music Technology programmes including module leadership at all levels. Subject expertise in software design and development, DSP, HCI, machine learning, artificial intelligence, interactive art/music systems

  – Member of the Faculty of Environment and Technology Research Management Group

  – Forming research partnerships and running high-profile projects including: `www.figuring-project.com`, `www.danceroom-spec.com`, `www.mimugloves.com`, `www.phona.co.uk`, `www.transmission.org`, `www.secretlivesofbooks.org`

- **University of Bristol**   Bristol, UK
  Honorary Visiting Researcher   *2017 - present*
  – Honorary member of the Glowacki Group, collaborating with and supervising members on the development of NanoSimBox a rigorious mollecular dynamics simulation in Virtual Reality.

- **Interactive Scientific**   Bristol, UK
  Digital Artist   *2013 - 2018*
  – Delivering sound and interaction design for a range of artistic projects and installations including danceroom Spectroscopy, NanoSimBox and Figuring

- **Spitfire Audio Holdings Ltd.**   London, UK
  Consultant   *Feb 2017 - present*

  Design, development, testing and maintenance of commercial end-user music sound synthesis plug-ins working closely engineers and recording artists `https://www.spitfireaudio.com`

- **Tracktion Software Corporation**   Washington, US
  Consultant   *2014 - 2015*

– Working closely with the development team designing, developing testing and maintaining algorithms, features and updates for the Tracktion Digital Audio Workstation (DAW) `www.tracktion.com`

Phona Ltd. Bristol, UK
Consultant *2014 - 2017*
– Leading and managing technical developments at Phona Ltd. an audio visual software development company focussing on mobile platform applications for voice training
– Responsible for product design/development, fundraising, project management, client liaison, build and release management `http://www.phona.co.uk/`

x-io Technologies Bristol, UK
Consultant *May 2011 - present*

Software interface and application development for networked inertial measurement units for gestural human computer interaction.
– Co-design, development and fundraising for x-OSC product: a wireless interface for interactive multimedia applications

Mimu Ltd. London, UK
Co-founder, Consultant *January 2013 - present*
– Development of the originating IP on which the company was formed including the user-centred development of all software components: GUI, signal processing/ conditioning, machine learning algorithms, human factors, network, MIDI and wireless interfacing
– Responsibilities: software design/ development, fundraising, stakeholder liaison, product design development in collaboration with designers and clients `http://mimugloves.com/`

University of the West of England Bristol, UK
Visiting Lecturer (Part time) *Sept 2004 - Jan 2007*
This work involved the delivery of tutorials/lectures and responsibility for the associated marking and administrative duties for the following modules:
– UFEE7A-20-1 : Software Development for Engineers
– UFEEHP-10-0 : Programming in C

GE Inspection Technologies (formerly Hocking NDT) St. Albans, UK
Software/Design Engineer *Sept 2001 - Aug 2004*
– Design and development of commercial handheld non-destructive testing devices and applications.
– Application, embedded and DSP software development in C.
– Development of bootstrap firmware installation framework to streamline manufacturing processes.
– Implementation of fast filter coefficient engine
– Assistance with sales visits and client liaison.

HHB Communications Ltd London, UK
Engineer (Placement) *Jun. 1999 - Jul. 2000*
– Development of audio test and analysis scripts/procedures.
– Testing of prototype products for commercial release.
– Servicing, fault finding and repair of professional electronic audio apparatus.

Funding and Other Indicators of Esteem

Funding

- Artificial Intelligence Research Group Summer Internship, UWE (Adam Bethel) (£2,500), 2017
- HEIF, Research Impact Case Study Development Fund (£1,600), 2017
- UWE Undergraduate Research Internship Award (Ed Davies), (£2,500), 2017
- Innovate UK - Better interactions between people and machines - Feasibility Study (£45,000), 2015
- Innovate UK - Innovation Vouchers (£5,000), 2015
- Oxford University Press - product investment (£10,000), 2014
- Southwest Microelectronics iNet (£77,000), 2013 - 2015
- Arts Council England, Transmission (£15,000), 2014
- C2D2 Research Fund, University of York (£20,000), 2014
- Mixed Funding (UWE, EPSRC, Watershed, RSC, UoB) raised for the *danceroom Spectroscopy Festival*, including schools/public workshops and Hidden Fields premier (£70,000), 2013
- AHRC/REACT, Books and Print Sandbox (£42,000), 2013
- iNets Southwest Microelectronics, Device Development Proposal Fund (£5,000), 2013
- Arts Council England, danceroom Spectroscopy (£50,000), 2012
- UWE Early Career Research Starter Grant for music and gesture research (£15,939), 2010
- EPSRC Doctoral training account bursary for PhD research 2004

Accreditation and Reviewing

- Fellow of the Higher Education Academy
- Member of the Association for Computing Machinery
- Member of the International Computer Music Association
- Conference reviewing: NIME, NIME Meta-reviewer, CMMR, TEI, DIS, ISS
- Journal reviewing: Leonardo
- Book reviewing: Bentham Science Publishers
- Panel member for Professor, Senior Lecturer and PhD interviews

Awards

- Exceptional Contribution Honorarium, UWE Staff Changes Award, 2017
- Presentation with the most impact, FET Impact Showcase Bristol, 2017
- REACH Leadership award, UWE Bristol, 2016
- Wearable IT/Fashion Tech Award Winners for mi.mu Gloves *Gewinner des Berlin Awards*, 2015
- Winners of People's Choice Award (Film about mi.mu Gloves) *The Webby Awards*, 2015
- Best Pitch Award for SayIt App Business Plan *SetSquared Healthcare Innovation Workshop*, 2015
- Established Projects Category Winner for danceroom Spectroscopy *NCCPE Awards*, 2014
- Department of CSCT Researcher of the Year, *UWE Researcher Of the Year Awards*, 2014
- Outstanding Contribution to Innovation for danceroom Spectroscopy, *Media Innovation Awards*, 2013
- Best Installation/Exhibition for danceroom Spectroscopy, *Media Innovation Awards*, 2013
- Highly commended, *UWE Researcher Of the Year Awards*, 2013
- Hybrid Arts (Honorary Mention) for danceroom Spectroscopy, Prix Ars Electronica, 2013
- Best Digital Innovation for danceroom Spectroscopy, UK Royal Television Society, 2013
- Nominee for the UWE *Excellence in Research Award*, 2012

Selected Appearances

- Installation, Figuring, September 2018
- Panel Member, Music Tech Research Afternoon, Wallifornia Music Tech Festival, Belgium July 2018
- Mentor, Hackathon, Wallifornia Music Tech Festival, Belgium, July 2018
- Exhibition, danceroom Spectroscopy, Making the Invisible Visible, We The Curious, October 2017 - January 2018
- Panel Member, danceroom Spectroscopy, Making the Invisible Visible, We The Curious November 2017
- Presentation, Enabling Musical Expression with Gestural Iteration, FET Impact Showcase, Bristol, May 2017

- Open-Lab, danceroom Spectroscopy, Barbican, Jan 2017
- Presentation, Performance, with Gloves Loop Festival, Berlin, Germany, November 2016
- Presentation, Performance, with Gloves Sonar-D Festival, Barcelona, May 2016
- Presentation, Glover: An End-User Application for Rapid Digital Musical Instrument Mapping, MiXD Birmingham, April 2016
- Presentation, Performance, with Gloves JISC Conference Birmingham, March 2016
- Presentation, International Computer Music Conference, Texas, US, Septemeber 2015
- Talk, Evolving Molecular and Atomic Aesthetics, Lunch Time Talk, PM Studio, Bristol, August 2015
- Presentation, Interactive Music, SIGGRAPH, LA US, August 2015
- Performance, Installation and Talk, Dance Digital, June 2015
- Talk, *Creative Technology Practice*, Bath-Spa University, Bath, May 2015
- Talk, *Research With Impact*, UWE, Bristol, May 2015
- Performance and Installation, *Hidden Fields* with danceroom Spectroscopy, Z Space, San Francisco, CA, US, March 2015
- Performance and Installation, *Hidden Fields* with danceroom Spectroscopy, Stanford University, CA, US, March 2015
- Presentation, SayIt: A Pronunciation App, London, January 2015
- Talk and Workshop, MiMu Gloves Collaborator Workshop, London, December 2014
- Installation, Transmission, Manchester Science Festival, Manchester, October 2014
- Presentation, International Computer Music Conference, Athens, Greece, September 2014
- Performance and Demo *Reverb Festival*, Imogen Heap Performance with 'The Gloves', Roundhouse, London, August 2014
- Performance, A Rainbow in Curved Air, with danceroom Spectroscopy and Charles Hazlewood's All Stars, Bristol Old Vic, August 2014
- Talk and Performance, Robust Wi-Fi and the Gloves, International Conference on New Interfaces for Musical Expression NIME, Goldsmiths University, July 2014
- Talk, Installation and Performances, Transmission, York Festival of Ideas, University of York, June 2014
- Talk, Workshop and Installation, danceroom Spectroscopy, Dance Digital Festival, Bedfordshire University, April 2014
- Performances and Installation, *Hidden Fields* with danceroom Spectroscopy, We Create Weekender, Barbican, London March 2014
- Performances and Installation, *Hidden Fields* with danceroom Spectroscopy, ZKM Centre for Arts and Media, Karlsruhe, Germany, January 2014
- Interview, danceroom Spectroscopy, Bristol Community Radio, December 2013
- Performance, *Transmission*, work in progress showing, University of York, December 2013
- Installation, *The Secret Lives of Books*, Library of Birmingham, December 2013
- Workshop, *Electronics Over WiFi with x-OSC*, Music Hack Space, London, December 2013
- Presentation, *Quantum Visualisations and Sonifications*, Seeing Sound Symposium, Bath Spa University, Bath, November 2013
- Performance, *Hidden Fields* with danceroom Spectroscopy, Seeing Sound Symposium, Bath Spa University, Bath, November 2013
- Performance, *Hidden Fields* with danceroom Spectroscopy, Digital Art and Performance Weekender, Watermans Theatre, London, October 2013
- Fundraising, schools workshops and *Hidden Fields* performance, danceroom Spectroscopy Festival, Brunel's Old Station Passenger Shed, Bristol, October 2013
- Presentation, sonification work included within TEDxAlbertopolis talk by Jess Thom, *Tourette's Syndrome: The Alchemy of Chaos*, Royal Albert Hall, London, September 2013
- Performance, *Vibrations* with danceroom Spectroscopy and Nicola Benedetti, Bristol Proms, Old Vic, Bristol, August 2013
- Interview, danceroom Spectroscopy at the Bristol Proms, BBC Points West, August 2013
- Presentation, *x-OSC: A Versatile Wireless I/O Device For Creative/Music Applications*, Sound and Music Computing Conference, Stockholm, August 2013

- Invited Talk, *Interdisciplinary Collaboration*, RENKEI Researcher Development School, Bristol, July 2013
- Installation, Performance, danceroom Spectroscopy, World Science Festival, New York, June 2013
- Installation, danceroom Spectroscopy, Field Day, London, May 2013
- Invited Talk, *Interdisciplinary Collaboration* South West Crucible, Bath, April 2013
- Invited talk, *x-OSC: a wireless device for creative programmers and hackers*, Pervasive Media Studio, Bristol, March 2013
- Performance and installation, *danceroom Spectroscopy/Hidden Fields*, Musion Academy, Kinetica Art Fair, London, February 2013
- Gloves Workshop - *CTM Hacklab*, 4-day workshop, Berlin, January, 2013
- Performance and Demo *Dara O Briain's Science Club*, Imogen Heap Performance with 'The Gloves', BBC2, December 2012
- Performance and Presentation, *Musical glove performance with Imogen Heap* AHRC Digital Transformations Moot, London, November 2012
- Contributor, *danceroom Spectroscopy* AHRC Digital Transformations Moot, London, November 2012
- Performance and installation, *danceroom Spectroscopy/Hidden Fields* Venturefest, Bristol, November 2012
- Performance and installation, *danceroom Spectroscopy/Hidden Fields* Natural Circuits Weekender, Barbican Arts Centre, London, November 2012
- Performance, *Musical glove performance with Imogen Heap*, Wired Conference, London, October 2012
- Performance, installation and workshop, *danceroom Spectroscopy/Hidden Fields*, ICCI 360° Dome, The Cultural Olympiad, UK Olympics, Weymouth, August 2012
- Installation and performance *danceroom Spectroscopy/Hidden Fields*, Bristol Harbourside Festival, Arnolfini, Bristol, June 2012
- Installation, *Tracking You*, collaboration with artist Tine Bech, V&A Digital Design Weekend, London, June 2012
- Performance, *Musical glove performance with Imogen Heap*, TEDGlobal, Edinburgh, June 2012
- Installation, *danceroom Spectroscopy*, Watershed's 30th Anniversary, June 2012
- Presentation, *Musical Interaction with Hand Posture and Orientation: A Toolbox of Gestural Control Mechanisms*, NIME2012, University of Michigan, May 2012
- Interview, BBC Points West News, BBC1, September 2011
- Performance, *Musical glove performance with Imogen Heap*, TEDxBristol, September 2011
- Interview, Wired UK *Podcast 35*, www.wired.co.uk/podcast/episode-35, July 2011
- Performance, *Musical glove performance with Imogen Heap*, Wired UK *Future of Music* event, London, July 2011
- Performance, *Musical glove performance with Imogen Heap*, TEDGlobal, Edinburgh, June 2011
- Presenter/participant, *Music and Gestural Interaction*, DigiCult, UWE, Bristol, June 2011
- Poster presentation, *SoundGrasp: A Gestural Interface for the Performance of Live Music*, NIME2011, University of Oslo, May 2011
- Invited talk, *Gesture and Music Interaction*, Pervasive Media Studio, February 2011
- Invited lecture and panel member, CODA Symposium, University of the West of England, Bristol, July 2008
- Invited lecture, *Evolutionary Sound Matching*, Artificial Intelligence Group, University of the West of England, Bristol 2008
- Presentation, *Evolutionary Sound Matching*, International Conference on Machine Learning and Applications, Cincinnati, December, 2007
- Presentation, *A Comparison of Evolution Strategy-Based Methods for Frequency Modulated Musical Tone Timbre Matching*, International Conference on Adaptive Computing in Design and Manufacture, Bristol, April 2006
- Presentation, *Frequency Modulation Tone Matching Using a Fuzzy Clustering Evolution Strategy*, Convention of the Audio Engineering Society, Barcelona, May 2005
- Poster presentation, *Convergence Synthesis of Dynamic Frequency Modulation Tones Using an Evolution Strategy*, European Workshop on Evolutionary Music and Art, Lausanne, 2005

- Performance, *Holiby's Theorem (Extended)*, Musical Composition and live performance for Louis Vuitton spring/summer collection, Paris, 2002
- Multiple live performances supporting Fujiya & Miyagi, London, 2002
- Music Publication, *Ipambelf + Team Axe, Get The Claw EP*, Massive Advance, 2002
- Performance, Live musical performance for art exhibition opening, London, 2001
- Music Publication, *Welcome to Celebrity*, Spymania, 1999
- Music Publication, *Spunk Jazz*, iLL, 1997
- Music Publication, *Meal Time*, Planet Mu / Virgin, 1997

Selected Media Coverage

Television
- *BBC Points West*, Interview, August 2013
- *Dara O Briain's Science Club*, Imogen Heap Performance with 'The Gloves', BBC2, December 2012
- *BBC Points West*, Interview, September 2011

Print
- *The sound catcher* Q&A, Nature, 486, June 2012
- *Make music with gestures*, Wired, October 2011
- *Gloves let singer compose with a wave*, New Scientist, No. 2821, 16th July 2011

Online
- *How one UWE Bristol researcher's work led to AI gloves that control sound* Tech Spark, March 2017
- *And on the MiMu gloves ... the ingenious devices helping disabled musicians to play again* Guardian, May 2016
- *Imogen Heap's sci-fi gloves make anyone a musician* CNN, January 2015
- *Mi.Mu Turns Hand Gestures Into Music* Tech Crunch, Apr 2014
- *When motion becomes music*, Humans Invent, December 2012
- *Gloves let you sing a duet with a wave of your hand*, New Scientist, February 2012
- *Imogen Heap: 'I've just done a poll with YouGov to find out about my fans'*, Guardian, 23 February 2012
- *Imogen Heap's musical gloves mix sounds on the fly*, New Scientist, July 2011
- *Live music production system is controlled by hand gestures*, The Engineer, July 2011
- *Musical gloves kick off TEDGlobal tech conference*, BBC News, July 2011

Other

- Program committee member for The International Conference on New Interfaces for Musical Expression
- Co-organiser of the UWE, Bristol *Around Sound* talks
- Former co-organiser of *This Happened, Bristol* a tri-monthly interaction design event
- Software development for *monome*-based televised performance of First Train Home by Imogen Heap, *Late Show with David Letterman*. US, August 2009
- Software development for multiple *monome*-based performances by composer/ performer Vexkiddy
- Resident at the Pervasive Media Studio

Skills

Languages: C, C++, Max/MSP, Python, Pd, Visual Basic, C#, HTML, CSS, Perl

Tools: MatLab, GIT, SVN, Doxygen, LaTeX, OSC, Arduino, Processing, OpenFrameworks, JUCE, GTK+, LabWindows™/CVI, Wordpress

Operating Systems: Linux, UNIX, MacOS X, Windows

Applications: Xcode, Visual Studio, OpenOffice, MS Office, Final Cut Pro, Omnigraffle, Illustrator

Audio: Audio engineering, composition and production

Miscellaneous: Strong verbal/written communication, problem solving and teams skills