

Dan Stowell

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Professional experience

- 2010–present **Postdoctoral research assistant**, *Centre for Digital Music, Queen Mary University of London*.
“*Musicology for the Masses*” project (EPSRC-funded, 18 months, PI: Simon Dixon). Activities thus far:
- Improvements to Sonic Visualiser software (included in latest v1.8 release; C++/Qt, Linux and Mac)
- Ethnographic study in two secondary schools
- Research articles: two conference papers accepted (ICMC, ISMIR), one journal paper submitted
- 2010 **Postdoctoral research assistant**, *Centre for Digital Music, Queen Mary University of London*.
Ported SuperCollider audio engine to Android platform.
Investigated automatic birdsong classification. (C4DM Platform Grant, 3 months, PI: Mark Plumbley)
- 2002–2006 **Web technology developer and Faculty Information Support Officer**, *Information Systems, UCL*.
Developed web technology including PHP/MySQL dynamic websites, provided consultancy and IT training.

Software projects

- 2005–present **SuperCollider**, *open-source music system*, lead developer (C/C++/Python).
- 2010–present **Sonic Visualiser**, *audio/music analysis platform*, contributing developer (C++).
- 2010–present **Puredyne**, *audio/video Linux distribution*, developer (Debian and Ubuntu Linux).
- 2010 **SuperCollider-Android**, *audio engine for Android mobile devices*, developer (Java/C/C++).
- 2009 **kdpee**, *entropy estimation algorithm*, lead developer (C/C++/Python/Matlab).
- 2004–2006 **Moodle**, *web education environment*, developer (PHP/MySQL/JavaScript).
- 2004–2006 **OnCite**, *web publications database*, lead developer (PHP/MySQL/JavaScript).
- 2004 **3D HIV**, *educational visualisation*, sole developer (Java/OpenGL).

For sourcecode analytics see <http://ohloh.net/accounts/danstowell>

Education

- 2006–2010 **PhD**, *Centre for Digital Music, Queen Mary University of London (QMUL)*.
Supervisor: Mark Plumbley. Funded by EPSRC Doctoral Training Account.
Title: “*Making music through real-time voice timbre analysis: machine learning and timbral control*”.
- 2002–2005 **Postgraduate Certificate**, *University College London (UCL)*.
Learning Technologies Research – part-time study, professional development scheme.
- 1997–2000 **1st class BA hon.**, *University of Cambridge*.
Natural Sciences (History and Philosophy of Science).

Publications

Journal articles:

- D. Stowell and M. D. Plumbley, “Learning timbre analogies from unlabelled data by multivariate tree regression,” *Journal of New Music Research*, accepted.
- D. Stowell and M. D. Plumbley, “Delayed decision-making in real-time beatbox percussion classification,” *Journal of New Music Research*, vol. 39, pp. 203–213, Sep 2010.
- D. Stowell and M. D. Plumbley, “Fast multidimensional entropy estimation by k-d partitioning,” *IEEE Signal Processing Letters*, vol. 16, pp. 537–540, Jun 2009.
- D. Stowell, A. Robertson, N. Bryan-Kinns, and M. D. Plumbley, “Evaluation of live human-computer music-making: quantitative and qualitative approaches,” *International Journal of Human-Computer Studies*, vol. 67, pp. 960–975, Nov 2009.

Other selected publications:

D. Stowell, "Scheduling and composing with Risset eternal accelerando rhythms," in *Proceedings of the International Computer Music Conference (ICMC)*, accepted.

D. Stowell and M. D. Plumbley, "Cross-associating unlabelled timbre distributions to create expressive musical mappings," in *Proceedings of the 2010 Workshop on Applications of Pattern Analysis (WAPA)*, 2010.

D. Stowell and M. D. Plumbley, "Timbre remapping through a regression-tree technique," in *Proceedings of Sound and Music Computing (SMC)*, pp. 45–50, 2010.

D. Stowell, "Writing unit generator plugins," in *The SuperCollider Book* (S. Wilson, D. Cottle, and N. Collins, eds.), ch. 25, Cambridge, MA: MIT Press, 2011.

Academic activities

invited talks

- Open University seminar, Milton Keynes, March 2011
- University of Oldenburg seminar, Germany, October 2010
- QMUL Statistics Department seminar, May 2010
- Openmute "Digital Innovation for the Arts" workshop, London, April 2010
- Puredyne code-sprint (invited developer/speaker), Helsinki, Finland, March 2010
- AES Audio for Games Conference 2009 (invited chair), *Speech Processing and Analysis* session

reviewing Journal and conference reviewing for:

- IEEE Journal of Selected Topics in Signal Processing
- IEEE Transactions in Audio Speech and Language Processing
- IEEE Computer
- Neural Computation
- International Conference on Music Information Retrieval (ISMIR) 2011
- AES Conference on Semantic Audio 2011
- International Computer Music Conference (ICMC) 2009

teaching Undergraduate / postgraduate teaching at QMUL:

- 2011 Supervised MSc project "Sound design by genetic algorithms"
- 2009–2011 Invited lecturer (1 lecture/year), MSc Digital Music
- 2010 Oversaw two undergraduate interns, annotating a dataset
- 2007–2010 Teaching assistant, ELE207 (Web Site Design and Authoring Tools)

Also various workshops taught outside QMUL, including:

- 2009 London OpenLab workshop series (led two evening classes)
- 2009 Middletown CT, USA (led two workshops as part of SuperCollider Symposium)
- 2009 New York, Harvestworks workshops (co-taught a week of sessions)
- 2002–2006 UCL (planned and led many IT workshop sessions for academic and administrative staff; developed written and online teaching materials; co-ordinated with others on training provision)

Awards and prizes

- 2009 **Winner**, *Best PhD Poster*, Research Open Day, QMUL School of Elec Eng & Comp Sci (£50 prize).
- 2009 **Finalist**, *Guthman New Musical Instrument Competition*, Georgia Tech University, USA.
- 2008 **Winner**, *IET Best Presentation in Research Group*, QMUL Elec Eng open day (£50 prize).
- 2007 **Finalist**, *Daily Telegraph Science Writer Awards*.