

# Peter Bennett

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## CONTACT INFORMATION

Sonic Arts Research Centre  
Queens University Belfast  
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<http://www.peteinfo.com>

## RESEARCH INTERESTS

Tangible User Interfaces, Digital Musical Instruments, Embodied Interaction, Design Theory, Interaction Design.

## EDUCATION

### Queen's University Belfast

September 2006 to Present

Ph.D., Sonic Arts Research Centre (expected graduation date: July 2010)

- Thesis Title: *The Representation and Control of Time in Tangible User Interfaces (Designing Musical Instruments for the Manipulation of Temporal Media)*
- Research Topics: Tangible User Interfaces, Embodied Interaction, Temporal Digital-Media, Digital Musical Instrument Design, Design Theory.
- Supervisors: Dr. Sile O'Modhrain, Dr. Roger Woods
- Projects: *BeatBearing*, a tangible rhythm sequencer; *DAMPER*, a physical-effort instrument and *Air-Record*, an augmented record interface.

### University of Brighton

September 2005 to September 2006

MA, Design by Independent Project

- Topic: *Exploration of multimodal interaction in digital musical instruments.*
- Project: *PETECUBE*, a series of musical cubes designed to provide the user with multiple sensory modalities of feedback.
- The MA was completed as a transfer from the PGDip in Digital Media Art.

PGDip, Digital Media Art

September 2004 to September 2005

- Modules: *Multimedia authoring and web design, interactive audio-visual, digital media in social and learning environments, critical and media concepts*
- Projects: *Two installations were created during the year: TIDA and Bliptronic3000*

### University of Reading

September 2000 to July 2004

MEng, Cybernetics, Graduated with 2:1,

- Prizes: *"Best Part IV Project" (sponsored by Nortel Networks) & "A Novel Contribution to Haptic Technology" (external examiners commendation)*
- Modules included: *Electronic Engineering, Event-driven Programming, Engineering Mathematics, Control & Measurement, Information & Signal theory, Object-Orientated Design & Programming, Neural Networks, Engineering Design & Business Studies, Computer Controlled Feedback Systems, Mechatronic & Measurement Systems, Machine Intelligence, Virtual Reality, Robotics, Bionics, Advanced Control and the Dynamic Theory of Mind.*
- Project: *4<sup>th</sup> year project involved designing and constructing a haptic interface for a virtual drum-kit, allowing the user to feel the virtual drums. This involved mechanical, electronic and control engineering.*

## ACADEMIC EXPERIENCE

### Queen's University Belfast

Assessment of Laboratory Platform

April 2010

- *Assessing the suitability of National Instruments' 'Elvis' educational design and prototyping platform for use in first-year undergraduate electronic engineering labs.*

Graduate Student Consortium TEI'10 **February 2010**

- *Presented a summary of PhD work at the TEI'10 Graduate Student Consortium.*

Workshop at TWEAK digital art festival **September 2008**

- *Workshop organised and run in collaboration with Michael Gurevich and addressed the concept of style in interaction systems.*
- *Physical Sketching was used to explore style in interaction design.*
- *Workshop led to collaboration on a paper published in the NIME'09 conference.*

Teaching Assistant **January to May 2008**

- *Computer Programming for Musical Applications 1 (MTE1007)*
- *Topics: Audio programming in MaxMSP including event generation and processing, and sound synthesis and programming.*

Lab Assistant **February to April 2008**

- *Digital Systems Lab 2 (ELE2001)*
- *Topics: Combinational logic design, sequential logic design, design using multiple output networks including FPGAs.*

Lab Assistant **January to March 2007**

- *Communications and Information Systems 2 (ELE2007)*
- *Topics: Communication system fundamentals including modulation and demodulation, both analogue and digital.*

PROFESSIONAL  
EXPERIENCE

**Animazoo Motion Capture**, Brighton, UK **November 2004 to July 2006**

Production Manager & Engineer

- *Animazoo designs and manufactures novel motion-capture hardware.*
- *The job involved fabrication of motion capture suits, implementing design improvements, managing the workshop, and demonstrating the use of the suits.*
- *Progressed with company from garage start-up, through Sussex University's Innovation Centre, to current headquarters.*

MAGAZINE  
PUBLICATIONS

Bennett P. "BeatBearing Rhythm Sequencer", *instructions on how to make your own BeatBearing*, MAKE Magazine vol.17, O'Reilly Media.

CONFERENCE PUBLICATIONS	<p>Bennett P. “The Representation and Control of Time in Tangible User Interfaces (Summary of PhD Research)” TEI’10, Proceedings of the 4th international conference on Tangible, Embedded and Embodied Interaction, Cambridge, MA, 2010</p> <p>Gurevich, M., Stapleton, P. &amp; Bennett, P. “Designing for Style in New Musical Interactions” NIME ’09 Proceedings of the 9th international conference on New Interfaces for Musical Expression, Pittsburgh, 2009</p> <p>Bennett, P. &amp; O’Modhrain, S. “The BeatBearing: a Tangible Rhythm Sequencer” Proceedings of NordiCHI 2008: 5th Nordic Conference on Computer-Human Interaction, 2008</p> <p>Bennett P., O’Modhrain, S. “Towards Tangible Enactive-Interfaces” ENACTIVE’07, Grenoble, 2007</p> <p>Bennett, P., Ward, N.; O’Modhrain, S. &amp; Rebelo, P. “DAMPER: A Platform for Effortful Interface Development” NIME ’07: Proceedings of the 7th international conference on New Interfaces for Musical Expression, New York, 2007</p> <p>Bennett, P. “PETECUBE: a multimodal feedback interface” NIME ’06: Proceedings of the 2006 conference on New interfaces for musical expression, IRCAM, Centre Pompidou, 2006</p>
WEBSITES	<p>PhD Blog: <a href="http://petes-sonic-art-research.blogspot.com/">http://petes-sonic-art-research.blogspot.com/</a></p> <p>Homepage: <a href="http://www.sarc.qub.ac.uk/~pbennett">http://www.sarc.qub.ac.uk/~pbennett</a></p> <p>BeatBearing Project: <a href="http://www.beatbearing.co.uk">http://www.beatbearing.co.uk</a></p>
SOFTWARE	<p>Expert in: MaxMSP, Processing, Ableton Live, Adobe Illustrator.</p> <p>Confident in: Flash and Actionscript, Final Cut Pro, Dreamweaver, LaTeX.</p> <p>Experience with: C++, Java, Javascript, Photoshop.</p>
SKILLS	<p>Design, Physical Sketching and Prototyping, Drawing, Photography, Electronics, Arduino.</p>
PERSONAL INTERESTS	<p>Music-composing/playing/improvising/performing/listening, cycling, swimming, surfing, synthesisers.</p>
REFERENCES	<p>Available from Sile O’Modhrain (sile@qub.ac.uk) and Roger Woods (r.woods@qub.ac.uk) upon request.</p>