

Cárthach Ó Nuanáin

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Born: January 13, 1985 – Cork, Ireland

Education

- 2018 PH.D. in Computer Music, Universitat Pompeu Fabra
- 2009 M.PHIL. in Music & Media Technologies (First Class Honours), Trinity College Dublin
- 2007 B.Sc. in Computer Science (First Class Honours), University College Cork

Skills

Programming: C/C++, Python, Max/Pd
Frameworks/Libraries: JUCE, OpenFrameworks, Numpy
Audio: Pro Tools (PT201 Certified), Ableton, Sound Forge

Languages (in order of competence)

English, Irish, Spanish

Professional Experience

- 2017 - Present *Music AI Developer* - Melodrive Inc., Berlin
- 2010-2013 *Audio Producer/Engineer* - Microsoft Ireland, Dublin
 - Managed audio localisation on games like Halo, Forza and Gears of War
 - Engineer on car recording sessions at Ferrari and Bugatti factories.
 - Sound design and effects processing for Xbox Live Arcade
- 2010 *Software Developer* - Sensormind Ltd. Dublin
 - Automation tools in Visual Basic
- 2007-2008 *Software Engineer* - Analog Devices, Limerick
 - Designed the Correlation Tool, a software tool for the yield analysis of semiconductors
 - Tools: Perl, Tcl/Tk, XSL, CVS

Teaching Experience

- 2016-017 *Assistant Lecturer* - Universitat Pompeu Fabra
 - Undergraduate - Digital Synthesis and Real-time Audio Programming in Pd (Spanish/English)

- Masters - Digital Synthesis, Effects and Musical Instruments
- 2016 *Teaching Assistant* - Universitat Pompeu Fabra
- Undergraduate classes in C programming fundamentals (in Spanish)
- 2009-2014 *Lecturer* - Pulse Recording College, Dublin
- Courses and workshops in Interactive Programming, Multimedia and Web Design
- 2005 *Lab Tutor* - University College Cork
- Supervised lab sessions for 1st years in Internet Computing.

Awards & Scholarships

- 2017 Best Poster Award at International Symposium on Computer Music Multidisciplinary Research
- 2016 Best Paper Award at New Interfaces for Musical Expression
- 2015 Best Hack Award at Sónar Music Hackday
- 2013 DTIC Ph.D. Fellowship, Universitat Pompeu Fabra
- 2007 Title of College Scholar, University College Cork
- 2004 Title of College Scholar, University College Cork

Publications

BOOK CHAPTERS CO-AUTHORED

- 2018 Ó Nuanáin, C., Herrera, P. & Jordà, S. (2018) *k*-Best Unit Selection Strategies for Musical Concatenative Synthesis, *Lecture Notes in Computer Science Series*, Springer. - Forthcoming

JOURNAL ARTICLES

- 2017 Ó Nuanáin, C., Herrera, P. & Jordà, S. (2017) Rhythmic Concatenative Synthesis for Electronic Music: Techniques, Implementation, and Evaluation *Computer Music Journal*
- 2014 Vogl, R., Leimeister, M., Ó Nuanáin, C., Jordà S., Hlatky M., Knees P. (2016) "An Intelligent Interface for Drum Pattern Variation and Comparative Evaluation of Algorithms", *Journal of the Audio Engineering Society: Special Issue on Intelligent Audio Processing, Semantics and Interaction*

CONFERENCE PAPERS

- 2017 Ó Nuanáin, C., Jordà, S., & Herrera, P. (2016) *k*-Best Hidden Markov Model Decoding for Unit Selection in Concatenative Synthesis *International Symposium on Computer Music Multidisciplinary Research*, Porto, Portugal.
- 2016 Ó Nuanáin, C., Jordà, S., & Herrera, P. (2016) An Interactive Software Instrument for Real-time Rhythmic Concatenative Synthesis. *Proceedings of the International Conference on New Interfaces for Musical Expression*, Brisbane, Australia.
- 2016 Ó Nuanáin, C., Herrera, P. & Jordà, S. (2016) An Evaluation Framework and Case Study for Rhythmic Concatenative Synthesis *Proceedings of the International Symposium on Music Information Retrieval*, New York, USA.

- 2016 Ó Nuanáin, C., Jordà, S., & Herrera, P. (2016) Towards User-Tailored Creative Applications of Concatenative Synthesis in Electronic Dance Music *4th International Workshop on Musical Metacreation*
- 2015 Ó Nuanáin, C., Herrera, P., & Jordà, S. (2015). Target-based rhythmic pattern generation and variation with genetic algorithms. *Proceedings of the 12th Sound and Music Computing Conference.*
- 2014 Ó Nuanáin, C, O’Sullivan, L (2014), “Real-time algorithmic composition with a tabletop musical interface: a first prototype and performance”, *Proceedings of the 7th Audio Mostly Conference*

Thesis Supervision

- 2017 Troes, T. (2017). Measuring groove: A Computational Analysis of Timing and Dynamics in Drum Recordings (Master’s Thesis) - Co-Supervised with Daniel Gómez

Academic Reviewer

- 2018 Workshop on Intelligent Music Interfaces for Listening and Creation - Workshop Papers
- 2017 International Conference of Students of Systematic Musicology - Conference Papers
- 2017 New Interfaces for Musical Expression - Conference Papers & Demos
- 2016 New Interfaces for Musical Expression - Conference Papers & Demos
- 2016 International Society for Music Information Retrieval - Conference Papers
- 2015 International Society for Music Information Retrieval - Conference Papers
- 2014 International Society for Music Information Retrieval - Conference Papers

Artistic Reviewer

- 2017 New Interfaces for Musical Expression - Concerts & Installations
- 2016 New Interfaces for Musical Expression - Installations

Selected Artistic Works

- 2017 *Grief Mechanics* - String quartet and electronics - w/ Matosinhos String Quartet @ CMMR 2017, Porto, Portugal
- 2016 *Untitled* - Three or more synthesiser - w/ Barcelona Laptop Orchestra @ NIU & @ Phonos Foundation, Barcelona
- 2014 *Dissolve* - Fixed media - Radiophrenia 2016, United Kingdom (Scotland)
- 2016 *Cúige (Province)* - Multichannel soundscape - Sonic Environments, Brisbane, Australia
- 2015 *The Collapse of Historionics* - Fiddle and electronics - Sound and Music Conference, Ireland
- 2013 *Codes 2.0* - Mapping & Interaction Design w/ Midas Spaces, Hong Kong
- 2009 *ReactAct* - Live Real-time Composition - Darklight Film Festival, Dublin
- 2009 *Bitstream Tornado* - Fixed Media - Dublin Electronic Arts Festival Artist Compilation
- 2009 *Fresh Intelligence* - Live Real-time Composition - Samuel Beckett Theatre, Dublin, Ireland

References (Upon Request)

Dr. Sergi Jordà

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Mr. Jason Shirley

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