

## Audio Software Projects:

2019: [CZ V synthesiser](#) DSP Engine for Arturia (C++).

2018-present: Lead developer of [iPlug 2](#). Open source cross-platform C++ audio plug-in framework for Windows/macOS/iOS/Web supporting VST2, VST3, AUv2, AUv3, AAX and WAM formats. Based on WDL-OL (2011-2018). [Winner of 2018 FAUST competition](#).

2017-present: H.A.C.K. Toolkit for creative sound synthesis in High Order Ambisonics with WebVR visualisation and binaural rendering in Reaper (C++/JavaScript).

2016: [SpatialPodcast](#) for The University of Salford Acoustics department (C++/JUICE).

2015-present: [Web Audio Modules](#). Collaborated on WAM C++/Javascript APIs enabling web based audio plug-ins using the Web Audio API, AudioWorklets and WebAssembly via emscripten.

2015: [VPROM](#) for AlyJamesLab (C++). Linn LM-1 drum machine emulation.

2014: [Red Plug-in Suite](#) for Focusrite. (C++). Realised two plug-ins in C++ that ship with best selling hardware.

2013-present: [VirtualCZ](#) (C++) - a detailed emulation of the CASIO CZ synthesiser. Voted MusicTech magazine's [Software Synthesiser of the Year 2014](#). [Reviewed in Sound on Sound](#). Try the [WAM version online](#).

2011: [Kasio-M4L](#) for Ableton: (MaxMSP/C++) phase distortion synth.

2008-present: [pMix](#) preset interpolator (MaxMSP/JavaScript). Winner of the second prize in the [LOMUS 2008](#) international music software competition. V2 rewritten in C++/JUICE and a runner up in 2015 FAUST software competition and ADC 2017 JUICE competition.

2004-present: [Endless Series](#) - a unique synthesis and effect plugin based on the Shepard Tone auditory illusion. Used by many musicians and sound designers. See [review at Designing Sound](#).

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## Employment:

Jan 2009-March 2016: Systems Administrator/Research Programmer  
Music Department, University of York.

- Software development for research projects and collaborations such as:
  - [The Morning Line](#). International project featuring 48 channel multi-spatial sound system. Installed in Seville, Istanbul, Vienna, ZKM Karlsruhe.
  - [TBA21 Academy](#). Ambisonic sound system and software solutions for a series of composer/scientist residencies and domestic audio needs aboard a research vessel.
  - [New Aesthetics in Computer Music \(NACM\)](#). Custom software for visiting artists.
- Teaching: MA Music Production (2014-2016): Audio Signals module (using Reaper JesuSonic). MA Music Technology (2009-2013) Digital Audio Programming and Interfacing Modules. Supervising final projects. Content including DSP, Audio Synthesis, Interfacing technology, MaxMSP & C/C++ programming.

- Administration of department's Linux/Windows servers and studio computer systems.
- Development of digital systems to facilitate admin. Departmental Computing Officer, Departmental Safety Officer.

Nov 2006-Dec 2008: Research Assistant at ICSRIM, Interdisciplinary Centre for Scientific Research in Music, University of Leeds

- [i-Maestro](#), an EC-IST research project on technology enhanced education for music. Focus on Violin/Cello gesture analysis with VICON motion capture and multi-modal feedback (OpenGL visualisation and sonification). Responsible for research, software development and presentations at international conferences (NIME, ICAD, ICMC).
- 2007/2008: Teaching Assistant on undergraduate and postgraduate Music Technology modules. Content including Audio Synthesis, C++ programming.

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### Other Relevant Experience:

2019: "Isang Yun Remembered" - Classical recording engineer (release forthcoming).

2018: "[Pogo & Sonic Species - Numinous 3D](#)", - Spatial HOA Remix (with WebVR site and FB360 visualisation of sound field).

2013: "[Reason Breeds Monsters - The Desert EP](#)". Recording engineer.

2016/2017/2018: Audio Developer Conference (ADC) program committee member.

2005: INA GRM (Institute National de la Audiovisuel - Groupe de Recherches Musicales), Paris, France. Production team: Studio and concert technician/sound engineering, composer's assistant. (5 Months)

2015: GRAME, Lyon, France. Research residency - Developing pMix2 and JUCE FAUST LLVM module (2 Weeks)

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### Education and Qualifications:

2006: Middlesex University. Bachelor of Arts with First Class Honours in Sonic Arts.

2001 - Grade 8 Classical Guitar (Trinity)

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### Skills and Programming Experience:

Win/macOS/iOS software development with a focus on audio plug-ins: C/C++, Objective C, JavaScript, FAUST, IPLUG, JUCE, WebAudio, Reaper Scripts & Extensions. Version control, Continuous integration, debugging, optimisation. Visual Studio, Xcode, GNU, Emscripten.

Interfacing and programming for digital-media projects: Spatial audio, Networking, Arduino, MaxMSP/Jitter, PD.

Sys-admin: Mac OSX, Windows, Linux, Apache. Audio workstations and servers. Confident scripting with Bash, Python, and Windows and working on the command line.

Competent audio producer and recording engineer, experienced with all major digital audio packages.

## **Selected Publications:**

Larkin, O., Harker, A, Kleimola, J. "iPlug 2: Desktop Plug-in Framework Meets Web Audio Modules", in Proceedings of the Web Audio Conference, September 17, 2018. Berlin, Germany.

Larkin, O. "FAUST in iPlug 2: Creative coding audio plug-ins", in proceedings of the International FAUST Conference, July 17-18 2018. Mainz, Germany.

Kleimola, J., and Larkin, O., "Web Audio Modules", in Proceedings of the 12th Sound and Music Computing Conference (SMC-2015), July 30 – August 1, 2015, Maynooth, Ireland.

Larkin, O., "pMix Touch" in Proceedings of the 1st Innovation in Music Conference, York, UK. 2013.

Malham, D., Myatt, T., Larkin, O., Worth, P., Paradis, M., "Audio Spatialisation for The Morning Line" in Proceedings of the 128th AES Convention London, UK, 2010.

Larkin, O., Koerselman, T., Ong, B., Ng, K. - "Sonification of Bowing Features for String Instrument Training". Proceedings of the International Conference on Auditory Display (ICAD), 2008. Paris, France.

Larkin, O. "Int.lib - A Graphical Preset Interpolator for Max MSP". Proceedings of the International Computer Music Conference (ICMC), 2007. Copenhagen, Denmark.

Ng, K., Larkin, O., Koerselman, T., Ong, B., Schwarz D, Bevilaqua, F. - "The 3D Augmented Mirror - Motion Analysis for String Practice Training". Presentation, Proceedings of the International Computer Music Conference (ICMC), 2007. Copenhagen, Denmark.

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## **Selected Talks and Workshops:**

20/11/18 - Audio Developers Conference, London. ["Bringing VirtualCZ to the Web"](#).

28/9/18 - Web Audio Conference, Berlin. ["iPlug 2: Desktop Plug-in Framework Meets Web Audio Modules"](#) & iPlug2/WAM workshop.

28/04/18 - BEASTFeast, Birmingham. "What does the democratisation of spatial audio technology mean for music production?"

27/06/17 - Sounds in Space, Derby. "Synths in Space: Experimental Spatial Synthesisers"

19/12/15 - JUCE Summit, London. ["Using the FAUST DSP language and the libfaust JIT compiler with JUCE"](#)

11/02/13 - (Guest Lecture) Goldsmiths University, London. "Intro To Audio Plug-In Development With iPlug"

18/04/12 - (Guest Lecture) HFG Karlsruhe. "Sound Spatialisation for The Morning Line"

## **Interviews:**

<http://artmusictech.libsyn.com/podcast-223-oli-larkin>

<https://cycling74.com/2011/06/22/the-morning-line-part-1/>

<https://cycling74.com/2011/06/22/the-morning-line-part-2-surround-concepts/>

<https://cycling74.com/2014/03/14/mini-interview-oli-larkin/>

<http://www.musicradar.com/news/tech/what-is-phase-distortion-synthesis-618081>