Csound in the MetaVerse Richard Boulanger

Three Csound Dreams in the MetaVerse (2025)

Quest3 XR headsets: **Richard Boulanger, Tyler Kaufmann,** and **Mateo Larrea** (performing live in Krakow) with **Hung Vo** (performing from Lakewood, Ohio), and **Everett C Leigh** (performing from Irvine, CA)

An immersive 14-minute Csound journey performed by three local players on stage in Krakow wearing Quest3 XR headsets with their world-views projected live on three screen from within Unity. Plus they are joined in the MetaVerse by two remote players who interact with them directly. All five performers freely explore a number of worlds (AI-generated skyboxes by Blockade Labs), manipulating Csound instruments and effects ("Orbs," "Wanderers," and "Classics"). These sound-objects appear over time and are integrated into the current scenes by the underlying multi-track, multi-media timeline-based scoring system embedded in the open-source *CsoundMeta* software that has been developed over the past two years by Strong Bear and Dr.B. All sound objects, are live-rendered instances of Csound "instruments" computed, controlled, and spatialized in real time using the CsoundUnity API by Rory Walsh. Tonight, Three Csound Dreams with be realized - "Forest Dreams", "Desert Dreams," and "Shattered Dreams" and yet, at the end, in a world and a time and place beyond this spiraling downward present-day earth, a faint glimmer of hope emerges in the form of a simple lullaby.

GendyC Etude (2021)

A Realtime Csound MacBook Pro Rendering: Return key pressed by **Richard Boulanger**

A 6.6-minute 78-line note-list score is playing a single 26-line Csound instrument is rendered in real-time. The instrument is an exploration of but a few of the wide range of timbres produce by the "gendyc" opcode. It was a shock to the composer to discover how raw, intense and haunting that this work became as the instrument was being "practiced." To date, this is one of Boulanger's darkest works.

BrainStorm 2 (2025)

MUSE Athena Brainwave Sensors & Novation LaunchKey25 MIDI Keyboards: **Mateo Larrea**, **Richard Boulanger**

A 10-minute multi-movement duet exploring a number of Csound instrument and algorithms that read *MindMonitored* brainwave data in realtime that is passed from an iPhone and an iPad to a MacBookPro via OSC and that is triggered, controlled, pitched, mixed, paced, and "read" from MIDI keyboards under the control of each player. Their thoughts are their own, as are their pitches, rhythms, controls, and mix. And therefore, the piece has a certain underlying structure, but is always subtly, and sometimes quite dramatically, different.

FM Etude (2021)

A Realtime Csound MacBook Pro Rendering: Return key pressed by **Richard Boulanger**

A 3.3-minute 38-line note-list score is playing a single 47-line Csound instrument is rendered in real-time. The instrument is based on an FM+Noise design taken from John ffitch's composition "Deepest Red." What must the evenings sound like in Kiev these days?

Remembering Tomek (2025)

Satie Live Coding on MacBook Pro Laptops: **Mateo Larrea**, **Richard Boulanger**

Using Mateo Larrea's 3D Audio Soundscaping Software, *Satie*, the players recast the improvisations and sounds of the amazing Tomek Chołoniewski as his percussion samples, recorded for and captured from previous Audio Art Festival Boulanger-Chołoniewski compositions and performances, humbly, reverently, and respectfully evoke memories of Tomek's beautiful soul and indomitable spirit.

CsoundScape: Old Silver Beach at Night (2021)

A Realtime Csound MacBook Pro Rendering: Return key pressed by **Richard Boulanger**

A 4-minute 65-line note-list score is playing a single 16-line Csound Noise and Filter instrument is rendered in real-time. The instrument is based on an FM+Noise design taken from John ffitch's composition "Deepest Red" and resigned by the composer to evoke memories of cold and lonely winter midnight walks on one of Cape Cod's most beautiful beaches.

CsoundMetaJam (2025)

Quest3 XR headsets: **Richard Boulanger, Tyler Kaufmann,** and **Mateo Larrea** (performing live in Krakow) with **Hung Vo** (performing from Lakewood, Ohio), and **Everett C Leigh** (performing from Irvine, CA)

A 10-minute VR Jam Session built on algorithmically generated and permutated tribal grooves and featuring the latest CsoundMeta natural language prompted, AI generated, backing tracks. As in *Three Csound* Dreams, two remote players will appear onstage and join the three local performers whose unique immersive visual perspective will be projected on three screens so that the audience can have some sense of virtual worlds in which the local and transatlantic jam session is taking place.

ABOUT THE COMPOSER & THE PLAYERS

Richard Boulanger is a Professor of Electronic Production and Design at The Berklee College of Music in Boston who has dedicated over three decades to fostering the growth of talented students. His extensive collaborations have spanned various fields, including music production, research, publishing, performance, and composition. Notable collaborators include Alan R. Pearlman (ARP), Barry Vercoe (Csound), and Max Mathews (The Radio Baton & Conductor Program). In 1990, Boulanger served as a visiting Fulbright Professor at the Krakow Academy of Music.

Mateo Larrea an Ecuadorian researcher at Stanford's CCRMA, working across human-computer interaction and auditory neuroscience. At the Shape Lab, and in affiliation with the VR Design Lab and Neuromusic Lab, he explores how simulation, generative systems, and interactive media can enable new forms of creativity, learning, and well-being. His projects range from developing multimodal grammars in VR to designing agent-based models that simulate social behavior. He holds a bachelor's degree in computer music and psychoacoustics from Berklee College of Music. Prior to Stanford, he worked as a teaching assistant at MIT and as a Virtual Reality Developer at *Prisms*, a San Francisco-based EdTech startup focused on immersive STEM learning.

Tyler Kaufmann is a science-artist, composer, producer, and multi-instrumentalist known for his innovative blend of cinematic soundscapes, electronic production, and world instruments. A magna cum laude graduate of Berklee College of Music, he has toured internationally, collaborated with artists across genres, and performed internationally in major festivals including Burning Man. His interdisciplinary projects bridge music and science, with residencies at leading laboratories and has included a landmark concert for 10,000 people at Europe's largest neuroscience conference, the FENS Forum. Now based in London, Kaufman is producing new music, developing a live show and working on new science art installations.

Everett C. Leigh is widely recognized as one of the most accomplished young pianists of his generation. Trained under Professor Ethan Dong since the age of nine, he has garnered acclaim from prominent artists and educators globally. Notably, he has secured over 50 international competition victories, including prestigious top prizes at the Bösendorfer and Yamaha USASU International Piano Competition, the AD LIBITUM Warsaw International Piano Competition, and the Pearl River Kayserburg International Youth Piano Competition. As a soloist, Everett has collaborated with renowned orchestras such as the Pacific Symphony and San Diego Symphony, and has graced venues such as Carnegie Hall, Disney Hall, and the Soka Performing Arts Center. Appointed as the sole Junior Piano Soloist by the United Nations (UNITAR), he has utilized music as a powerful instrument for promoting global humanitarian causes, particularly through his performance at the UN "Piano Recital Recording Concert for Refugees."

Hung Vo (aka Strong Bear) is from Vietnam, and recently graduated from Berklee College of Music, Electronic Production and Design major. He holds a B.E. degree in Electronics and Telecommunications from Posts and Telecommunications Institute of Technology in Ho Chi Minh City, Vietnam and a M.S. Degree in Computer Science from Clemson University. He is the founder and CEO of *Designveloper*, a software design and development company, since 2013.