NOLAN LEM

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EDUCATION

Columbia University
Master of Fine Arts (MFA)   **2015 (expected)**
Sound Arts – Computer Music Center (CMC)

University of Kansas
Bachelors of Science in Electrical Engineering (BSEE)
Thesis – Analog electronics in Music Signal Processing   **2013**

University of Miami (FL)
Bachelors of Music (BM)   **2008**
Studio Music and Jazz Saxophone
Minor: Psychology

TEACHING EXPERIENCE

Columbia University – Computer Music Center
Teaching Assistant, Sound: Physics and Perception   **2014**
Co-taught course content related to psychoacoustics, wave propagation, biological
sound, physiology of hearing, and electronic sound production. Designed and carried out
experiments demonstrating sonic principles.

RELATED EXPERIENCE

Seismic Sound Lab – Geophysics and Seismology: Lamont-Doherty Earth Observatory
Sound Researcher   **2014 – Present**
Developed computer programs to sonify and visualize seismological data in multichannel
applications. Created open-source Python Library to acquire, render, and sonify
earthquake data.

Technical Assistant
Technical Assistant to Jean-Baptiste Barrière   **2014**
Worked with Jean-Baptiste Barrière on his installation, *Jardin des songe* and the Miller
Theater Composer Portrait concert.

Center for the Remote Sensing of Ice Sheets (CReSIS) – EECS Department
Researcher   **2011 – 2012**
Developed programmatic model for rendering climate and glaciological data into sound
and image. Programming in C++ with audio synthesis in Max/MSP.

Viacom
Audio Intern: News and Documentaries   **2007**
Developed web application for distributing song playlists to viewers. Edited music that
was selected for News and Documentary programs for MTV.

Frost School of Music - University of Miami (FL)
Music Computer Lab Technician   **2006**
Resolved technical issues with audio software. Assisted and instructed students in
numerous audio related coursework and programming applications.

PAPERS AND CONFERENCES

2014   *Toward an Acoustemology of Sound Art: Dice Roll (2014)* – Columbia Ethnomusicology
2013   *Swarm Theory and Sonic Emergence: Swarm and Drone*, DorkBot Conference, Prentis Hall, Columbia University
2013   Recipient of *Rummer Design Award* – Highest Award granted to student in EECS department – University of Kansas
2011   *Mutatis Mutandis* audio-visual installation, New Interfaces for Musical Expression (NIME) University of MI, Ann Arbor
2010   Keynote Speaker Undergraduate Honors Research Symposium – Sound in Data: Perceiving Climate Change, KU

TECHNICAL SKILLS

PROGRAMMING   Python, Java, Matlab, VHDL, Experience with C/C++, Assembly Language, PSPICE, Simulink
WEB   HTML5, CSS, PHP, Javascript, JQUERY, WebAudioAPI
AUDIO   Supercollider, Max/MSP/Jitter, RTCmix, Processing, Arduino, Logic Pro, Pro Tools, Ableton Live
SOFTWARE   Adobe Photoshop, InDesign, and Illustrator, Microsoft Office Suite, VISIO

RELEVANT COURSEWORK
            Signal and System Theory, Control Systems, Network Analysis, Digital Signal Processing,
            Analog/Digital Electronics, Electromagnetics, C ++ Programming, Digital Logic Design
FABRICATION
            EAGLE PCB Layout, Soldering and PCB, Wood and Metal Shop Fabrication, 3D Printing

GRANTS

2014   National Science Foundation (NSF) – *Seismic Sound Lab: Sights, Sounds and Perception of Earth as an Acoustic Space*
2011   Biodiversity Institute and Hall Center for the Humanities: *Mutatis Mutandis* installation
2010   Spencer Museum of Art: *Reflection/Projection* sound installation

SELECTED EXHIBITIONS, SOUND DESIGN, AND PERFORMANCES

2014   November - *SeismoDome*, Hayden Planetarium – American Museum of Natural History, NYC
2014   *Push-Pole*, installation – Columbia University Computer Music Center, NYC
2014   *My Orbital is Your Orbital*, for iPhones, sound performance – Central Park, NYC
2014   June – *Seismodome*, Hayden Planetarium – American Museum of Natural History, NYC
2014   *Under the Viaduct*, commissioned by Harlem Art Fund, Riverside Park, NYC
2014   *Dice Roll*, Wallach Art Gallery – NYC
2014   *HamletMachine* Theater Production, Sound Design – Shapiro Theater, NYC
2014   Umbria Jazz Festival, Umbria, Italy
            Sottobosco – Pisa, Italy
            Cellar Theory – Naples, Italy
            Un Tubo – Siena, Italy
2013   Casa Del Jazz, Rome, Italy
2012   MetaWebern no.2 – *Cryptograph: an exhibition for Alan Turing*, Spencer Museum of Art – University of Kansas
2012   *Mutatis Mutandis*, New Interfaces of Musical Expression (NIME), Ann Arbor, MI
2012   Ex Wide – Pisa, Italy
            Cockney London Pub – Correzzola
            Moroder – Ancona
            Jazz Club Torino, Torino, Italy
2011   *Reflection/Projection*, Spencer Museum
2011   Impulse Response – Wonderfair Art Gallery – Lawrence, KS
2011   Young Jazz Festival, Foligno, Italy
            TeatroC, Livorno, Italy
            Notte Fiorentina, Florence, Italy

2010   *Awkward Encounters,* Great Plains Museum, Lincoln, NE
2009   Maynooth Composition Symposium – "On Notational Interfaces for Free Jazz", Maynooth, Ireland
2008   Feeniks, Helsinki, Finland
        Sibelius Academy, Helsinki, Finland
2008   *IAJE*, Lucerne, Switzerland
2008   Katabami Quartet - Gusman Center for the Performing Arts – Miami, FL
2008   Downbeat Award Winner, University of Miami CJB Jazz Band