

Michael Christopher Frengel

Northeastern University, 351 Ryder Hall • Boston, MA 02115
617-678-6954 • m.frengel@neu.edu • www.mikefrengel.com

EDUCATION

- Ph.D.** **City University, London, UK**
2005 Major: Electroacoustic music composition
 Composition Instructors: Denis Smalley, Simon Emmerson
- M.A.** **Dartmouth College, Hanover, NH**
1999 Major: Electroacoustic music composition
 Composition Instructors: Jon Appleton, Charles Dodge, Larry
 Polansky, Christian Wolff
- B.A.** **San Jose State University, San Jose, CA**
1996 Major: Electroacoustic music
 Composition Instructors: Allen Strange, Dan Wyman

PH.D. DISSERTATION

Process and Form: Perspectives on the application of predetermined systems to sectional forms in music composition

Advisor: Denis Smalley

Committee: Denis Smalley, Simon Emmerson, Mike Vaughan

Synopsis: A discourse on two concerns prevalent and interrelated in my music. The first is an interest in the use of predetermined systems, and in many cases rule-based processes, that produce a clear sense of directed motion as they unfold. The second is an interest in recurrent sectional forms. These two pursuits are coupled through the use of interleaved structures, whereby distinct processes are segmented and alternated in succession. Interleaved structures are uniquely continuous; upon the return of each process the development carries on from the point at which it was last suspended. This notion of continuation in musical form leads to the possibility that dynamic relationships might arise between the individual processes as the piece develops. Consequently, issues of process design and form become inseparable, as processes are conceived with an understanding of their dynamic relationships and formal implications.

MASTERS THESIS

Polyrhythmic Modulation Studies

Advisor: Larry Polansky

Committee: Larry Polansky, Charles Dodge, Christian Wolff

Synopsis: This thesis explores the use of simultaneous accelerating and decelerating voices, in effect, modulating between different polyrhythmic relationships. This work culminated in a thesis, *Polyrhythmic Modulation Studies*, surveying the use of tempo as a primary compositional concern in contemporary music, a set of twelve original compositions that explore the technique of polyrhythmic modulation and a software application that generates temporal transition data, either as a Csound score file or a MIDI file.

EMPLOYMENT HISTORY**Northeastern University, Boston, MA**

Fall 2011 – 2015	Director, Music Composition and Technology Program
Fall 2011 – present	Coordinator, Music Technology-Physics Combined Major Program
Fall 2009 – present	Associate Academic Specialist, Music Department
Fall 2009 – 2015	Coordinator, Music Technology-Interactive Media Combined Major Program
Fall 2009 – 2014	Music Representative, Creative Industries Curriculum Committee
Fall 2006 – present	Senior Lecturer, College of Professional Studies
Fall 2006 – present	Coordinator, Music Technology-Computer Science Combined Major Program
Fall 2005 – Fall 2009	Assistant Academic Specialist, Music Department
Fall 2005 – present	Director, Electronic Music Ensemble

Boston Conservatory, Boston, MA

Fall 2009 – present	Composition Faculty, Department of Music
---------------------	--

Thames Valley University, Reading, UK

Fall 2004 – Fall 2005	Guitar Instructor, School of Arts
-----------------------	-----------------------------------

Macrovision Corporation, Reading, UK

2004 – 2005	Project Manager, CDSecure (Audio CD Copy-protection)
2002 – 2004	Software Engineer, Macintosh Automation Development

International Computer Music Association

1997 – 1999	Webmaster
-------------	-----------

Apple Computers, Inc., Cupertino, CA

1999 – 1999	Software Engineer, Firewire Core Development Team
1996 – 1997	Supervisor, Multimedia Integration
1996 – 1997	Team Lead, Powerbook 3400 Development Team
1995 – 1996	Quality Engineer, Multimedia Integration

SCHOLARLY PRESENTATIONS***Visiting Composer, Anton Bruckner Privatuniversität, Linz, Austria, Fall, 2013.***

Andreas Weixler, Professor of Composition, invited me to visit the university to give a concert of my guitar works and a master class on contemporary composition for guitar. Nov. 10-12, 2013.

Visiting Composer, Hochschule für Musik und Theater, Hamburg, Germany, Spring, 2013.

Georg Hajdu, Professor of Multimedia Composition, invited me to compose a new acousmatic work at the Hochschule for their wave field synthesis sound system. The system consists of 300 speakers and renders a wave front in accordance with user defined spatial positions or trajectories. April 27 - May 4, 2013.

Visiting Composer, Bowling Green State University, Bowling Green, Ohio.

I was invited by Prof. Elaine Lillios to talk about my music. I gave two talks: one to the music technology students and one to the composition students and faculty. I also met with students individually. March 14-15, 2013.

Visiting Composer/Performer, Dulwich College, Beijing, China.

A group of professors from Northeastern University organized a series of concerts and presentations in Beijing. At Dulwich College I presented and performed two original works for guitar and electronics, in addition to performing a work by composer Benoit Granier. March 9, 2013.

Visiting Professor, Central Conservatory of Music, Beijing, China.

A group of professors from Northeastern University organized a series of concerts and presentations in Beijing. At CCOM I gave a talk to composition students about my music and composing mixed works in general. March 8, 2013.

Visiting Professor, Communications University of China, Beijing, China.

A group of professors from Northeastern University organized a series of concerts and presentations in Beijing. At CUC I gave a talk to composition and sound recording students about my music and composing mixed works in general. March 5, 2013.

Panelist, "Rebooting Live Instrumentation", Together Festival 2011, Boston, MA

I was invited by organizers of the Together Festival to sit on this panel, which discussed the use of electronic devices in live performance situations. Other panelists: Jake Boynton, Ed Guild, Derek Hoffend, John Mallia, Alex Russo and Jonathan Wyner. April 2011.

Special Interest Group on Graphics and Interactive Techniques (SIGGRAPH) 2009, New Orleans, LA

Paper presentation titled "Reconciling Music Language in Mixed Works: A Case Study" in the session on Music and Audio. August 2009.

Guest Speaker, Symposium on Sampling, Borrowing, Stealing and other facts of musical life, Northeastern University, Boston, MA

I was invited by Northeastern University Distinguished Professor and Musicologist Judith Tick to discuss issues of artistic validity in the use of borrowed materials in popular and electroacoustic music genres. March 2007.

Northeastern University Research Expo 2007, Boston, MA

I presented the current state of Mac OS X software that I have developed for generating polyrhythmic modulation MIDI data.

Guest Speaker, Liszt Academy, Budapest, Hungary

I was invited to speak about process music and the use of predetermined systems in my own work as part of an exchange between City University, London and the Liszt Academy. February 2002.

Visiting Composer, San Jose State University, San Jose, CA

I was invited by Prof. Allen Strange to present my work with polyrhythmic modulation. May 1999.

PUBLICATIONS

- Frengel, M. (2017) *The Unorthodox Guitar: A Guide to Alternative Performance Practice*. New York, NY: Oxford University Press (In Print).
- Frengel, M. (2016). Sound in Space: Sound Horizons Concert Review. *SEAMUS Journal* (In Print).
- Frengel, M. (2013). Interactivity and Liveness in Electroacoustic Concert Music. In *The Oxford Handbook of Interactive Audio*. New York, NY: Oxford University Press.
- Frengel, M. (2012). Technology and Music. In *Encyclopedia of American Music and Culture*. Santa Barbara, CA: ABC-CLIO.
- Frengel, M. (2010). A Multidimensional approach to relationships between live and non-live sound sources in mixed works. *Organised Sound*, **15**(2).
- Frengel, M. (2009). Reconciling musical language in mixed works: a case study. *ACM SIGGRAPH '09: Music & Audio Conference Proceedings*. New York: ACM.
- Frengel, M. (1999). Nick Didkovsky. In *New Grove Dictionary of American Musicians*. New York, NY: Oxford University Press.
- Frengel, M. (1999). Warren Burt. In *New Grove Dictionary of American Musicians*. New York, NY: Oxford University Press.

DISCOGRAPHY

- Frengel, M. (2004). *Slinky*. On ICMC 2009 Compact Disc. Montreal: International Computer Music Association. (2009).
- Frengel, M. (2000). *And Then, Romina...* On XXII Concorso Internazionale Luigi Russolo Di Musica Elettroacustica 2000. Varèse, Italy: Russolo-Pratella Foundation. (2001).
- Frengel, M. (1999). *Long Slender Heels*. On *Sonic Circuits VII*. St. Paul, MN: Innova Records.
- Frengel, M. (1996). *Three Short Stories*. On *CDCM Volume 26*. Baton Rouge, LA: Centuar Records. (1998).
- Frengel, M. (1996). *No Pestering*. On ICMC96 "On The Edge". Hong Kong: October Music.
- A Western Front (1998). *Millennium* (full length album). Los Gatos, CA: Quagmire Records.
- A Western Front (1997). *Silverdog* (full length album). Los Gatos, CA: Quagmire Records.
- A Western Front (1996). *A.D.* (full length album). Los Gatos, CA: Quagmire Records.
- Supertronic (1995). *WireFire* (full length album). Los Gatos, CA: Quagmire Records.

AWARDS AND RECOGNITIONS

And Then, Romina..., for electric guitar and electronics won 3rd Prize in the Luigi Russolo 2000 Composition Competition, Varese, Italy.

Hotbird, for guitar and 8-channel fixed media was selected from over 500 works for performance at ISCM World Music Days 2014 in Wroclaw, Poland.

Boston Guitar Festival Composition Competition Judge, 2014
New England Conservatory

Boston Guitar Festival Composition Competition Judge, 2015
New England Conservatory

COMPOSITIONS AND PERFORMANCES (selected premieres only)

***Peanootz*, for flute, clarinet, 2 percussion, piano, violin, and violincello; (11:00)**
To be premiered/recorded by Hub New Music at Northeastern University in Fall 2016.

***Five*, for nylon string guitar; (14:00)**
Expected to be premiered or recorded in Fall 2016.

***Gestenformen*, for wavefield synthesis system; (6:00)**
Premiered at the Hochschule für Musik und Theater in Hamburg, Germany, Spring 2013.

***Sarteano: L'estate*, for 8-channel fixed media; (13:00)**
Premiere at the Sonic Soundscapes Concert with guest composer Trevor Wishart, April 13, 2012, Boston, MA.

***Hotbird*, for electric guitar and electronics; (10:00)**
UK premiere by myself at the International Computer Music Conference, Huddersfield, 2011. US premiere by myself at the Society for Electro-Acoustic Music in the United States national conference at Miami, FL, 2011. Poland premiere by myself at the ISCM World Music Days 2014 in Wroclaw, Poland.

***And Then, Romina...*, for prepared electric guitar and electronics; (11:30)**
Prize-winner in the Luigi Russolo 2000 Composition Competition, Varese, Italy. UK premiere by guitarist Chet Andersen at City University's City Lights Concert Series, London, 2000. US premiere by myself at the International Computer Music Conference, Miami, FL, 2004. Italy premiere by guitarist Lorenzo Tomio, Nuovo Musica a Treviso Concert Series, 2011.

***Slinky*, for acoustic guitar and electronics; (12:00)**
Canadian premiere at the International Computer Music Conference, Montreal, 2009. Selected for inclusion on the ICMC 2009 compact disc. US premiere by myself at the Third Practice Festival of Electroacoustic Music, Richmond, VA, 2009.

***It's all relative*, for percussion trio; (6:00)**
Premiered by the Electronic Music Ensemble at Northeastern University, 2008.

***Seven Sisters*, for violincello and acoustic guitar; (18:00)**
Composed for UK cellist Thomas Gardner. Premiered by Gardner and myself at The Red Rose, London, 2003.

***Flap Jackson*, for two flutes, piano and electronics; (12:30)**
Premiered by Myrto Korkokiou (flute), Andrew Thomas (flute) and Caroline Rawlinson (piano) at City University's City Lights Concert Series, London, 2002.

The 3 Faces of Karen Black, plus one face only for good measure, for Bb clarinet and electronics; (11:00)

Composed for and premiered by clarinetist Alex Bondonno at City University's City Lights Concert Series, London, 2001. US premiere by clarinetist F. Gerard Errante at the North Carolina Computer Music Festival, Raleigh, NC, 2003.

Long Slender Heels, for stereo playback; (4:00)

Premiered at the Most Significant Bytes Festival, Akron, Ohio, 2000.

Dropped on my head, upside down, for flute and electronics; (8:00)

Composed for and premiered by flautist Margaret Lancaster as part of the Dartmouth New Music Festival, 1999.

Jumpstart my heart, for piano, 1 or 2 players; (7:00)

Premiered by pianist Gregory Hayes, Professor of Piano Studies at Dartmouth College, 1999.

With love..., for stereo playback; (5:00)

Premiered at the Society for Electro-Acoustic Music in the United States national conference at San Jose State University, 1999.

Woods, metals, skins, for percussion trio; (5:00)

Premiered by Owen Grace, Pat McKenzie and myself at The WayOUT Concert, Hanover, NH, 1999.

Twinkle Twinkle Rockstar, for 2 electric guitars; (8:00)

Premiered by Larry Polansky, Professor of Composition at Dartmouth College, and myself at The Hop, Hanover, NH, 1998.

Variations on an already complex theme No.1, for stereo playback; (5:00)

Premiered at the 6th Annual Florida Electro-Acoustic Music Festival. Gainesville, FL, 1997.

Rock Music, for stereo playback; (1:30)

Premiered at The Bonk Music Festival, 1999.

Three Short Stories, for stereo playback; (3:00)

Premiered at the International Computer Music Conference, Hong Kong, 1996. US premiere at the Sixth Annual Florida Electro-Acoustic Music Festival. Gainesville, FL, 1997. Chinese premiere at the International Conference on Computer Music and Science. Shanghai, P.R. China, 1996. Included on the CDCM Volume 26 compact disc published by Centuar Records.

The Coffee Kings, for stereo playback

Premiered at the International Computer Music Conference, Greece, 1997. US premiere at the Society for Electro-Acoustic Music in the United States national conference at Ithaca College, 1995. Broadcast live over the Internet as part of the Digt M-Bone Concert at San Jose State University, 1996, possibly one of the earliest electroacoustic works to be broadcast live over the Web.

Tribal Sound Reproduction, for stereo playback

Broadcast live over the Internet as part of the Digt M-Bone Concert at San Jose State University, 1996, possibly one of the earliest electroacoustic works to be broadcast live over the Web.

NATIONAL/INTERNATIONAL EVENT COORDINATION

Sound Horizons, Northeastern University, Boston MA

A four-day festival celebrating the art of sound diffusion. I was a central organizer of this event, in collaboration with Prof. Han Tustchku of Harvard University. We set up a 40-speaker diffusion system in the Fenway Center at Northeastern and offered workshops, panel discussions and concerts. Tomonari Higaki was the invited composer. May 1-4, 2015.

Beyond Notation: An Earle Brown Symposium, Boston MA

A two-day symposium organized by Northeastern University and the New England Conservatory of Music to celebrate the music of Earle Brown. I have been invited to manage the technical requirements for Brown's *Music for Stadler Gallery* sound installation as well as an 8-channel sound diffusion system used in two concert works performed by the Callithumpian Consort, led by Stephen Drury. January 2013.

Northeastern University NU Sounds Electroacoustic Concert Series, 2012-2013, Boston MA

A series of three concerts spread over the 2012-2013 academic year. I was a central organizer of these events. Invited composers include Marc Battier, Professor of Musicology at the University of Paris-Sorbonne; Philippe Leroux, Professor of Composition at the Schulich School of Music, McGill University; Trevor Wishart, Professor of Music at the Universities of Oxford and Durham, UK.

Sound In Space Festival, Northeastern University, Boston MA

A three-day festival celebrating the art of sound diffusion. I was a central organizer of this event, in collaboration with Prof. Han Tustchku of Harvard University, The Goethe-Institut Boston and the Cultural Services of the French Consulate, Boston. We set up a 32-speaker diffusion system in the Fenway Center at Northeastern and offered workshops, panel discussions and concerts. Invited composers included Daniel Teruggi, Director of the Groupe de Recherches Musicales (GRM) in France; Ludgar Brümmer, Director of ZKM Institute for Music and Acoustics, Germany; Elaine Lillios, Professor of Composition at Bowling Green State University. Nov. 17-19, 2011.

Boulez Festival, Boston Conservatory, Boston, MA

The Chair of Woodwinds, Prof. Eric Hewitt, invited me to provide electronics for two works by Pierre Boulez, *Dialogue de l'ombre double* and *Anthems 2*, as part of a three-day festival celebrating the composer's music. Clarinetist Michael Norsworthy and violinist Gabriela Diaz performed these works. November 2010.

Northeastern University NU Sounds Electroacoustic Concert Series, 2010, Boston MA

A series of four concerts spread over the spring 2010 semester. I was a central organizer of these events. Invited composers included Gilles Gobeil, Professor of Technology at the Collège de Drummondville, Canada; Denis Smalley, Professor Emeritus at City University of London; Karlheinz Essl, Professor of Composition at the Vienna University of Music and Performing Arts, Professor of Composition at Stuttgart Conservatory of Music.

Society for Electro-Acoustic Music in the Unites States (SEAMUS) 1998 National Conference, Dartmouth College, Hanover NH

As a graduate student at Dartmouth College, I played a significant role in the organization of this event.

International Computer Music Conference (ICMC) 1992, San Jose State University, San Jose CA

As an undergraduate student studying with Prof. Allen Strange, former President of the International Computer Music Association (ICMA) and conference host, I played a significant role in the organization of this event.

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Composers Forum
 Broadcast Music, Inc.
 Electronic Music Foundation
 International Computer Music Association
 Society for Electro-Acoustic Music in the United States

SELECTED MUSIC SOFTWARE

Brain2Music: Software environment using MatLab, Max/MSP and Open Sound Control to convert EEG brainwaves data (delta, theta, alpha, beta and gamma spectral bands) into sound and music. Developed as a collaborative project between Music and Engineering departments at Northeastern University.

myMusicKit Jazz Sequencer: Applescript-based online sequencer allowing users to arrange fragments of instrumental tracks to create their own Jazz sequence. Developed in collaboration with graphics designer Maureen Ton for Pearson Publishing's myMusicKit.

Polyrhythmic Modulation Generator: Objective-C application that calculates tempo transitions for 1-8 voices in a polyphonic texture, and then writes a standard MIDI file.

SwankTimeDomainDSP: Objective-C development environment for time domain processing.

SwankSpectrogram: Objective-C development environment that displays AIFF sound files in both time and spectral domains and allows for programmatic spectral-domain processing.

SwankTuner: Objective-C application that provides concert pitch, frequency (Hz), MIDI pitch and MIDI note equivalents.

SwankTime: Objective-C application that provides millisecond, second, bpm and frequency (Hz) equivalents.

Max/MSP Runtime Application Bundle: A collection of Max/MSP runtime applications.

Max/MSP VST Bundle: Collection of VST plugins written in Max/MSP.

Max/MSP Externals: Collection of externals for Max/MSP.

Multi-Index Player: A Max/MSP patch that allows a performer to trigger sound files using a MIDI foot pedal (or any other MIDI input device).

Tuner Conversions Bundle: Carbon bundle containing functions for converting between concert pitch, frequency (Hz), MIDI note and MIDI pitch.

Spectral Suite: A set of FFT-based filters that process SoundHack FFT analysis files.

TEACHING**Northeastern University, Department of Music, Boston, MA**

Spring 2013	MUST2540: Composing for Eight Speakers
Spring 2009; Spring 2012	MUST4611: Music Technology Senior Capstone
Fall and Spring semesters 2011–present	MUST1220: Intro to Music Technology
Spring 2011	MUST1221: Music Technology 2
Fall semesters 2006–2010	MUST3421: Digital Audio Processing
Spring semesters 2013- present	
Fall semesters 2006–2010	MUST3422: Music Composition Seminar 2
Fall 2011	MUST4610: Composition for Electronic Instruments
Fall, Spring and Summer semesters 2005–present	MUSC1903: Composition Lessons
Fall semesters 2005–present	MUST2315: History of Electronic Music
Spring 2011	MUSC1125: Twentieth-Century Music
Spring semesters 2006–2015	MUSC2308: Principles of Music Literature
Summer 2010	MUSC1119: Fundamentals of Western Music Theory
Spring semesters 2006–2008	MUSC1201: Music Theory 1
Spring 2007	MUSC1250: Instrumentation and Orchestration
Fall and Spring semesters 2005–present	MUSC1916: Contemporary Music Ensemble

Northeastern University, College of Professional Studies, Boston, MA

Spring semesters 2006– present; Summers 2008- present; Winter 2010	DGM6140: Sound Design
--	-----------------------

Boston Conservatory, Boston, MA

Fall semesters 2005–present	MU471: Electronic Music 1 (History Seminar)
Spring semesters 2005– present	MU472: Electronic Music 2 (Composition Seminar)

Thames Valley University, Reading, UK

Fall 2004; Spring 2005	PA115: Guitar Theory 1
------------------------	------------------------

REFERENCES

Daniel Strong Godfrey, Chair, Department of Music, Northeastern University, Boston MA	d.godfrey@neu.edu 617-373-6352
Anthony De Ritis, Former Chair, Department of Music, Northeastern University, Boston MA	a.deritis@neu.edu 617-373-3914
Andy Vores, Dean of Music The Boston Conservatory, Boston MA	avores@bostonconservatory.edu 617-536-6340

Larry Polansky, Professor, Music Department,
UC Santa Cruz, Santa Cruz, CA

lpolansk@ucsc.edu
831-459-3008

Hans Tutschku, Professor, Department of Music,
Harvard University, Cambridge MA

tutschku@fas.harvard.edu
617-495-2314

Dennis Miller, Professor, Department of Music,
Northeastern University, Boston MA

de.miller@neu.edu
617-373-4132