

Curriculum vitae

Doug Van Nort

vannod2@rpi.edu, dvnt.sea@gmail.com
www.music.mcgill.ca/~doug

cell: 518-203-3444
Arts Dept., West Hall
Rensselaer Polytechnic Institute
110 8th St.
Troy, NY 12180

About:

Doug Van Nort is an experimental musician and researcher whose work is dedicated to the creation of immersive and visceral sonic experiences, and to personal and collective creative expression through composition, free improvisation and generally electro-acoustic means of production. His instruments are custom-built systems that draw on concepts ranging from spectral analysis/synthesis to artificial life and machine listening algorithms, and his source materials include any and all sounds discovered through attentive listening to the world

His work, recognized internationally, has recently spanned telematic music, laptop ensemble compositions driven by evolutionary "human algorithms", improvisations in various acoustic/electronic settings, multi-channel electroacoustic pieces, sonic installations and various idiosyncratic algorithms related to machine improvisation and interactive sound sculpting.

Van Nort often performs with his custom GREIS software designed for on-the-fly spectral and textural sound transformations. He is a member of the trio Triple Point with Pauline Oliveros and Jonas Braasch, where his focus lies in improvised transformation of the sounds arising from his acoustic partners. This group also collaborates through research and teaching, and in this context Van Nort has been actively designing and creating an intelligent system for improvisation, currently as research associate in music at Rensselaer Polytechnic Institute. A discussion of Triple Point, GREIS and this intelligent systems work, of which he was primary author, was acknowledged with the "best paper award" at the 2010 International Computer Music Conference

Recordings of Van Nort's music can be found on Deep Listening, Pogus and Zeromoon among other experimental music labels, and his writing has recently appeared in Organised Sound and the Leonardo Music Journal. He has performed at venues ranging from the [sat] in Montreal, Casa da Musica in Porto (with Chris Chafe), Betong in Oslo, The Red Room in Baltimore, The Guelph Jazz Festival, Roulette, Harvestworks, the Miller Theatre, Issue Project Room and the Stone in NYC, at Town Hall (NYC) on intonarumori as part of the Performa futurist biennial, and at EMPAC in Troy, NY. His compositional work has been featured in contexts as disparate as the International Conference on Auditory Display (ICAD) and New Interfaces for Musical Expression (NIME) to the Flea theatre's "music with a view" series and the NYC electroacoustic music festival at Elebash Hall. Collaboration has been an important thread of recent work, including Oliveros, Braasch, Francisco López, Stuart Dempster, Chris Chafe, Al Margolis, Ben Miller, Anne Bourne, Judy Dunaway, Michael Century and many others.

Van Nort holds a Ph.D. in Music Technology from McGill University where he studied with Marcelo Wanderley, Philippe Depalle and Stephen McAdams, an M.F.A. in Electronic Arts from Rensselaer Polytechnic Institute including studies with Pauline Oliveros and Joel Chadabe, and an M.A. and B.A. in Pure Mathematics from the State University of New York (Potsdam) including studies in Electronic Composition at the Crane School of Music.

Education

- 2003-2009:** **McGill University, Montreal, QC**
Ph.D. in Music Technology (Defended Jan 8, 2010)
GPA: 3.93
Advisors: Philippe Depalle, Marcelo Wanderley
- Selected Courses:
Digital Sound Synthesis and Processing with Philippe Depalle
Gestural Control of Music with Marcelo Wanderley
Timbre as a Form Bearing Element in Music: Perceptual and Cognitive Issues with Stephen McAdams
Computational Acoustical Modeling with Gary Scavone
Music Information Retrieval with Ichiro Fujinaga
Composition Seminar: Chance Operations with Andrew Culver
Interactive Music Systems with Bruce Pennycook, Kojiro Umezaki
- 2001 – 2003:** **Rensselaer Polytechnic Institute (RPI), Troy, NY**
MFA in Electronic Arts
GPA: 4.0
Advisor: Pauline Oliveros
Additional Committee: Joel Chadabe, Neil Rolnick, Karen Thornton
- Selected Courses:
Computer Music, Interactive Arts Programming with Curtis Bahn
Deep Listening, Collaborations: Internet2 with Pauline Oliveros
Interactive Installation with Karen Thornton
Functional Analysis with Joyce McGlaughlin (Math Dept.)
Experimental Music History with Joel Chadabe
- 1999-2001:** **State University of New York, Potsdam, NY**
MA in Mathematics
GPA: 3.96
Courses in real and complex analysis, topology, abstract algebra, set theory and logic. Additional courses in signals and systems, dynamical systems.
- 2000-2001:** Master's Research: "**Fourier Analysis on Locally Compact Topological Groups**"
Advisor: Kerrith Chapman
- 1998-2001:** **Crane School of Music** electronic music studio, SUNY Potsdam.
Studies in composition using electronic means: analog and digital synthesizers, midi sequencers, tape machines.
Including courses Electronic Composition I-IV, Music theory I, Theory and Analysis of 20th C. Music (graduate course).
- 1997-2001:** **State University of New York, Potsdam, NY**
BA in Mathematics
GPA: 3.96

Selected Publications

Refereed Journals

Doug Van Nort, Pauline Oliveros and Jonas Braasch, “Deeply Listening Machines and Electro/Acoustic Improvisation”, *Journal of New Music Research*, accepted for publication, 2012.

Doug Van Nort, “Human:Machine:Human: Gesture, Sound and Embodiment in Interactive Music Performance”, *Kybernetes*, Vol. 40 (7/8), pp.1179 – 1188, 2011.

Doug Van Nort, “Multidimensional scratching, sound shaping and Triple Point”, *Leonardo Music Journal*, Vol 20, December 2010.

Doug Van Nort, “Instrumental Listening: Sonic Gesture as Design Principle”, *Organised Sound* 14(2), August 2009.

Doug Van Nort, “Noise/music and representation systems”, *Organised Sound* 11(2), August 2006.

H. McDonough, B. Madore, C. Miller, A. Rogalski, D. Van Nort, J. Wood, “Structure Theory for Finitely Generated Cayley Groups”, *Pi Mu Epsilon Journal*, vol. 12 no. 1, Fall 2004.

Book Sections

J. Braasch, N. Peters, P. Oliveros, D. Van Nort and C. Chafe. A Spatial Auditory Display for Telematic Music Performances, in Principles and Applications of Spatial Hearing - Proceedings of the First International Workshop on IWPASH, World Scientific, 2011.

Doug Van Nort. 2 entries: “Mapping” and “Mapping, in Digital Musical Instruments”, in A Luciani and C Cadoz (ed.) *Enaction and Enactive Interfaces: a Handbook of Terms*, Enactive Systems Books, Grenoble, 2007.

Doug Van Nort, “Noise to Signal: Deep Listening and the Windowed Line”, in *Deep Listening: A Composer’s Sound Practice* by Pauline Oliveros, iUniverse / Deep Listening Publications, 2005.

Refereed Conference Papers

S. Bringsjord, C. Kuebler, J. Taylor, G. Milsap, S. Austin, J. Braasch, P. Oliveros, D. Van Nort, A. Rosenkrantz, K. Hayden (2011) Creativity and Conducting: Handle in the CAIRA Project, 8th ACM Conference on Creativity and Cognition (C&C 2011).

J. Braasch, D. Van Nort, S. Bringsjord, P. Oliveros, A. Parks, C. Kuebler (2011) CAIRA - a Creative Artificially-Intuitive and Reasoning Agent as conductor of telematic music improvisations, Proc. 131st AES Convention 2011, Oct. 20-23, New York, USA.

Doug Van Nort, Jonas Braasch and Pauline Oliveros, “Sound Texture Analysis based on a Dynamical Systems Model and Empirical Mode Decomposition”, Proceedings of the 129th Convention of the Audio Engineering Society, San Francisco, CA, November 2010.

Doug Van Nort, Jonas Braasch and Pauline Oliveros, “Developing Systems for Improvisation based on Listening”, in Proc. of the 2010 International Computer Music Conference (ICMC 10), New York, NY, June 1-5, 2010. **Winner: ICMA best paper award.**

Jonas Braasch, Chris Chafe, Pauline Oliveros and Doug Van Nort, “Mixing Console Design Considerations for Telematic Music Applications”, Proceedings of the 127th Convention of the Audio Engineering Society, New York, NY, October 9-12, 2009.

Doug Van Nort, Jonas Braasch and Pauline Oliveros, “A System for Musical Improvisation Combining Sonic Gesture Recognition and Genetic Algorithms”, Proc. of the 2009 International Conference of Sound and Music Computing (SMC 09), Porto, Portugal, July 23-25, 2009.

Doug Van Nort, David Gauthier, Sha Xin Wei and Marcelo Wanderley, “Extraction of Gestural Meaning from a Fabric-Based Controller”, *Proc. of the International Computer Music Conference 2007 (ICMC 07)*, Copenhagen, Denmark, August 2007.

Doug Van Nort and Marcelo Wanderley, “Control Strategies for Navigation of Complex Sonic Spaces”, *Proc. of the International Conference on New Interfaces for Musical Expression 2007 (NIME 07)*, New York, NY, June 2007.

Doug Van Nort and Marcelo Wanderley, “The LoM Mapping Toolbox for Max/Msp/Jitter”, *Proc. Of the 2006 International Computer Music Conference (ICMC 06)*, New Orleans, LA, November 2006.

Doug Van Nort and Philippe Depalle, “A Stochastic State-Space Phase Vocoder for Synthesis of Roughness”, *Proc. Of the 2006 International Conference on Digital Audio Effects (DAFx 06)*, Montreal, QC, September 2006.

Doug Van Nort and Marcelo Wanderley, “Exploring the Effect of Mapping Trajectories on Musical Performance”, *International Conference of Sound and Music Computing (SMC 06)*, Marseille, France, May 2006.

Doug Van Nort, Marcelo M. Wanderley and Philippe Depalle, “On the Choice of Mappings Based on Geometric Properties”, *Proc. of the 2004 International Conference on New Interfaces for Musical Expression (NIME 04)*, Hamamatsu, Japan, June 2004.

Refereed Conference Abstracts

D. Egloff, J. Braasch, P. Robinson, D. Van Nort, T. Krueger (2011) A Vibrotactile music system based on sensory substitution (A), *J. Acoust. Soc. Am.* 129,

Doug Van Nort, “Extending the acoustic ensemble through spectral and temporal transformations in real-time”, *Proc. of the 159th Meeting of the Acoustical Society of America (ASA)*, Baltimore, MD, April 2010.

Jonas Braasch, Doug Van Nort, “Instrumental analysis of extended saxophone techniques for live electronics”, *Proc. of the 159th Meeting of the Acoustical Society of America (ASA)*, Baltimore, MD, April 2010.

Doug Van Nort, “Creating Systems for Collaborative, Network-Based Digital Music Performance”, *Proc. of the 2008 Winter Conference of the Acoustical Society of America (ASA)*, Miami, FL, November 2008.

Doug Van Nort, “Texture Perception: Signal Modeling and Compositional Approaches”, *Proc. of the 2007 Conference of the Society for Music Perception and Cognition (SMPC 07)*, Montreal, QC, August 2007.

Doug Van Nort, “Le Mappings Geometrique et Trajectoires Musicale”, in *L'interdisciplinarité dans les sciences et technologies de la musique Colloquium*, part of La Réunion 2006 de l'Association Francophone pour le Savoir (ACFAS), Montreal, QC, May 2006.

Doug Van Nort, “The Contemporary Production of Noise and the Role of the System”, in *Electroacoustic Music Studies 2005 (EMS 05) International Conference*, Université de Montréal, Montréal, QC, October 2005.

Stacy Denton and Doug Van Nort, “Music, noise and the (de)socialization of sound”, in *In and Out of the Sound Studio Conference*, Concordia University, Montreal, QC. July 2005.

Music

Triple Point, *Phase/Transitions*, Deep Listening Publications, 2012.

Oliveros/López/Van Nort/Braasch, *Quartet for the End of Space*, Pogus, 2011.

Van Nort/Margolis, *Live from DLI*, Zeromoon, 2011.

Doug Van Nort, “Playing with Fire in the Gasholder”, *Sounds Like Now: Improvisation + Technology*, MIT Press, December 2010.

Doug Van Nort, “Espereptic #2”, *360 Degrees of 60 x 60*, Vox Novus, 2010.

Oliveros/Dempster/Van Nort/Braasch, “Sound Shadows”, Deep Listening Publications, DL-DD1, Spring 2009.

Doug Van Nort, “DLCGO”, *Listening for Music Through Community*, MIT Press, 2009.

Doug Van Nort, “Live at eSpace Sono”, *iearPix DVD*, EMPAC publication, Sept. 2008.

Doug Van Nort, “Imbalance”, *HMMM Remix Compilation*, le Son 666 (666-13), May 2007.

dvnt, “DVNT VS. MBUOTYE”, *Saturnalia Jubilee: Two Days of “New” Music*, Birdland North Madison, September 2003.

dvnt, “impulstudy1.1”, *klanghausen – a .microsound project*, microsound.org/klanghausen, 2003.

Doug Van Nort, "Prelude: Storm", *P.Org 4 Composer's Compilation #1*, And-Oar Records (pho_cc/1), www.and-oar.org, September 2002.

Manuscripts/Theses:

Doug Van Nort, "Modular and Adaptive Control of Sound Processing", PhD Dissertation, McGill University, 2009.

Douglas Van Nort, "Noise/nature shift: balancing attention towards noise optimization", MFA Thesis, Rensselaer Polytechnic Institute, August 2003.

Matthew Dalton, Laurel Paget-Seekins, Christino Tamon, Doug Van Nort, Brennen White, "Total Shatterings of Graphs", *REU Manuscript*, August 2000.

Selected Presentations, Performances & Productions

- 10/11 Improvising as member of the *American Space Quartet*: Doug Van Nort (GREIS), **Phillip Schulze** (electronics), **Andrew Raffo Dewar** (saxophone), and **Jonathan Chen** (violin). Invited for opening of Philip Stearns' show at **RabbitHole** gallery, DUMBO, Brooklyn, NY.
- 9/11 The Albany Sonic Arts Collective and the Arts Center of the Capital Region co-present **Doug Van Nort / Al Margolis** duo and Mysterybear (**Dave Seidel**).
- 9/11 Improvisation on-air with GREIS and radio streams, as part of **Judy Dunaway's** Radiophonic Adventure, WGXC. A **free103point9** Transmission Art Event.
- 9/11 Performance with **Patrick Monte** of piece for text->speech synthesis, laptop, and guitar. Part of opening for the Brooklyn-Kingston Exchange Project curated by **Meir Gal** at **Gallery One Eleven**, Kingston, NY.
- 6/11 Performance (iPad synthesizers) at "cross-abilities" concert as part of **Electroacoustic Music Studies (EMS)** conference, with **David Whalen**, **Clara Tomasz**, members of Tintinnabulate and guests **Ellen Waterman** and **Larry Polansky**.
- 6/11 Performance of **Distributed Composition #1**, a piece for the telematic medium, featuring Triple Point and an intelligent agent conductor/spatialization system. Joined remotely by **Pauline Oliveros** (Palo Alto, CA) and **Jonas Braasch** (Troy, NY). Part of the NIME conference event, **Betong** performance space, Oslo, Norway.
- 5/11 Doug Van Nort presents **Genetic Orchestra #6: Deep Listening Genetic Orchestra 2011**. The sixth installment in this laptop ensemble piece, created with the students of the Deep Listening course at RPI and broadcast on Ustream.tv.

- 4/11 Quartet for the end of Space release party/performance, with **Pauline Oliveros, Francisco López, Jonas Braasch**, Issue Project Room, Brooklyn, NY.
- 4/11 Performing in a duo with **Al Margolis**, and a quartet with **Rjyan Kidwell** (aka Cex) and **Andrew Bernstein**, Red Room, Baltimore, MD.
- 3/11 **Invited Lecture** “Listening, Improvisation and Machine Mediation”, **University of Michigan Performing Arts Technology Department**, Ann Arbor.
- 12/10 Performing at **Opensound** series, Somerville, Mass. Solo (GREIS/laptop) and duo with bassist **Mike Bullock**.
- 11/10 Duo performance with **Al Margolis** at the **Deep Listening Institute**, streaming online as part of Ione’s 15th annual **Dream Festival**, Kingston, NY.
- 11/10 Performance (GREIS/laptop) and production of telematic event featuring **Miya Masaoka**, tintinnabulate ensemble with remote players **Chris Chafe** and his Soundwire ensemble from CCRMA. West Hall, Troy, NY.
- 10/10 Performing with tintinnabulate ensemble, **Pauline Oliveros** and **Miguel Frasconi**, glass musician. West Hall, Troy, NY.
- 9/10 Performance and world premiere of project involving myself, **Pauline Oliveros, Francisco López** and **Jonas Braasch**, at **Deep Listening Institute**, Kingston, NY. Presentation of composed pieces that were sculpted from studio improvisation sessions, followed by a quartet improvisation.
- 9/10 Presented sonic installation **blindfield** at **EMPAC** in Troy, NY. Piece created in collaboration with **Francisco López, Michael Oatman** and RPI students in Architecture and Arts. *First large-scale student-related project shown at EMPAC*, to great acclaim from staff and visitors alike.
- 9/10 Performance at EMPAC as remote performer in telematic piece for the **Guelph Jazz Festival**. Alongside **Pauline Oliveros, Anne Bourne, Jesse Stewart, Ben Grossman** (Guelph), **Ricardo Arias** (Bogotá), **Jonas Braasch**, and **Curtis Bahn**.
- 7/10 Performed greis/electronic at the **Stone**, NYC, in the ensemble/piece s/p(l)ace by **Sarah Weaver**, alongside **Ned Rothenberg, Gerry Hemingway, Jane Ira Bloom, Dave Taylor, Kenta Nagai, Jim Hi Kim**.
- 6/10 Piece "espereptic #2" played as part of the **60x60 Sanguine Mix**, during the **ICMC** conference in NYC and at Stony Brook University.
- 6/10 Presented award-winning paper “Developing Systems for Improvisation based on Listening” at the ICMC conference, NYC.
- 5/10 performance with RPI seminar ensemble **tintinnabulate** at the **Lotus Studio**, NYC.

- 5/10 Performed improvised duo with **Ben Miller** (former Destroy All Monsters sax/guitar) at the **Albany Sonic Arts Collective**. Opening act: **Barn Owl**.
- 4/10 Lecture/demo entitled “Extending the acoustic ensemble through spectral and temporal transformations in real-time” at the Acoustical Society of America Spring 2010 meeting, Baltimore, MD.
- 4/10 Performing with **Triple Point** and **Mike Bullock (bass)** at the **Red Room**, Baltimore, MD. Opening act: **Joe Reinsel**.
- 3/10 Performing with **Triple Point** at the prestigious **Schuman award concert** in honor of Pauline Oliveros. **Miller Theatre**, Columbia University. Video by **Benton-C Bainbridge**.
- 1/10 PhD defense: “Modular and Adaptive Control of Sound Processing”, with outside reviewers including **Joel Chadabe** and **Caroline Traube**.
- 11/09 Performing improvised music set with **Ben Miller** (former Destroy All Monsters sax/guitar), **Sam Sowydra** (percussion), **Jonathan Chen** (violin, electronics), **Nick Chase** (virtual turntable), West Hall, RPI, Troy, NY.
- 11/09 Featured performer on intonarumori (noise intoner) in the **Music for 16 Futurist Noise Intoners concert** at **Town Hall**, NYC.
<http://performa-arts.org/blog/music-for-16-futurist-noise-intoners/>
- 11/09 Selected for showing of work in progress (memetic orchestra #2) at Flea’s **Room with a View series**, **Flea Theatre**, NYC. <http://www.theflea.org/>
- 11/09 Presenting 5.1 piece “Imbalance 2009” and artist talk, part of **Sonicities**, first-ever sound installation at RPI School of Architecture. Also works by Pauline Oliveros, Barry Truax and John Cage.
- 10/09 Presentation of work with intelligent, interactive systems for improvisation, **Harvestworks Digital Media Center**, NYC.
- 10/09 Performance with **Triple Point** (Oliveros/Braasch/Van Nort) at the **New York Electronic Arts Festival, Roulette**, NYC. <http://www.nyeaf.org/>
- 8/09 Showing of interactive textile-based sound installation **Sonic Tapestry** at the **International Computer Music Conference**, Montreal, Quebec.
- 7/09 Performance at **Casa da Musica** of interactive, telematic music piece latent sea, with **Chris Chafe** (live, on daxophone), **Pauline Oliveros** (remote, accordion) and **Jonas Braasch** (remote, saxophone), Porto, Portugal. Part of concert curated by **Evan Parker**, **Nic Collins** and **Oliveros**.
- 4/09 Performance with **Tintinnabulate** ensemble at **EMPAC** and performing musicians at IUPUI (Indianapolis) under direction of **Scott Deal**. Performed in several telematic pieces, including **Telematic Drum Circle** by **Byeong Sam Jeon** and combat music by **Cristyn Magnus**.
- 4/09 Premiere of my piece **NEMO: Memetic Orchestra #1**, written for **Triple Point**, at the **NYCEMF festival**, Elebash Hall, NYC. Friday night concert to close the evening of concerts.

- 3/09 **Triple Point** performs night of improvised music, **Emily Harvey Foundation**, SoHo, NYC.
- 3/09 **Co-Director**, Sound Spaces Mixer for co-located performance between **Tintinnabulate** Ensemble (**RPI/Troy**), **Mark Dresser** and his ensemble at **UCSD** for the piece **Quasimodo the Great Lover** by **Alvin Lucier**. Acoustic Musicians performed modified score, and were sent via JackTrip software to disparate spaces (large hall, mik jug, etc.) and routed in a wonderful and complex environment that challenged distributed performance paradigms.
- 3/09 Telematic performer (greis) between **RPI** and **Stanford** University for piece by **Roco di Pietro**. Other performers include Pauline Oliveros, Chris Chafe and Jonas Braasch.
- 2/09 Director for co-located performance of **FLEAGO**, uniting ensembles **FLEA** (**FIU/Miami**) and **Tintinnabulate** (**RPI/Troy**), with audience on Miami Beach.
- 12/08 Network performance: **Triple Point (Oliveros/VanNort/Braasch)** at **RPI** in Troy, NY performing with **Pedro Rebelo/Franziska Schroeder/Alain Renaud** at the **Sonic Arts Research Center (SARC)** in Belfast, N. Ireland. Audience at SARC.
- 11/08 Network performance: with **Tintinnabulate** ensemble (Pauline Oliveros – director) performing in real life at the new *Experimental Media and Performing Arts Center (EMPAC)*, and the *Avatar Orchestra Metaverse performing* at *U21 Global* in Second Life. Audience at EMPAC.
- 4/08 Presentation of piece *fleago* for laptop ensemble, performed by the FIU Laptop and Electronic Arts Ensemble, directed by **Paula Matthusen**. Part of *12 Nights: Computer Music and Art at Harold Golen Gallery*, Miami, FL.
- 3/08 Installation of interactive tapestry piece, part of **Remedios Terrarium** Exhibit of interactive media art, Faculty of Fine Arts (FOFA) Gallery, Concordia University. Materials woven by Margeurite Bromley of XSLab (Joey Berzowksa, director). Electronics by David Gauthier (MIT Media Lab) and Elliot Sinyor (McGill University).
- 12/07 Presentation of electroacoustic music. Part of the **Progetto Musica 2007** festival, coordinated by the Federazione **CEMAT**, Rome, Italy.
- 12/07 Presentation of piece/ensemble **DLGO – Deep Listening Genetic Orchestra**. 10 laptop performers using evolutionary algorithms to generate and improvise with recorded sounds, structured by score I had written as well as software instruments I created for this performance. Featuring **Al Margolis, Pauline Oliveros, Kim McCarthy, Tom Bickley, Katharina von Rütte, Gayle Young** among others. Presented Dec. 14 at the **International Society of Improvised Music (ISIM) Conference**, **Northwestern University**, Evanston, Illinois.

- 9/07 Acousmatic-style presentation/performance of new electroacoustic work on 8.1 surround system. Part of the *espaceSono* event at **Society of Art and Technology** [sat] in Montreal. Also on the program: **o.blaat** (NYC), **Martijn Tellinga / Boca Raton** (Netherlands), **Mike Hansen** (Toronto), **Martin Tétréault** (Montreal) and **Nathan McNinch** (Montreal).
- 6/07 Performance (**greis**, live processing) with **Pauline Oliveros**, **Jonas Braasch** the **Tintinnabulate** ensemble (RPI, remotely over internet) and **Chris Chafe** (Stanford, remotely). Sound displayed simultaneously with ViMiC spatialization system as well as binaurally (played out to 200 headphones). **Featured performance of the International Conference on Auditory Display (ICAD) 2007**, Montreal, QC.
- 6/07 Presentation and discussion of composition “[a]wash in [a] dvnt.sea #2” for headphones at the **International Conference on Auditory Display (ICAD) 2007**, Montreal, QC.
- 6/07 Presentation/performance of piece *DLC-GO!*, for laptop orchestra. 11 performers use genetic algorithm techniques to generate and improvise with pool of sound. Featuring **Al Margolis**, **Pauline Oliveros**, **Kristin Norderval**, **Tom Bickley**, **Monique Buzzarté** and more. Part of the *Deep Listening Convergence*, Life Bridge Sanctuary, High Falls, NY.
- 6/07 Presentation of paper “Control Strategies for Navigation of Complex Sonic Spaces”, 2007 *International Conference of New Interfaces for Musical Expression (NIME)*, NY, NY.
- 5/07 Performance of new electroacoustic music, part of the [ctrl]:tas – politics under fire conference/festival of media theory/art, with works by French media collective **RYBN**, musicians **Tara Rodgers + Javier Arciniegas**, international video screenings, etc. **Society of Art and Technology**, Montreal, QC.
- 11/06 Presentation of audio piece “[a]wash in [a] dvnt.sea.pre”, part of the *Upgrade! International conference of DIY media arts*, Oklahoma City, USA.
- 11/06 Presentation of paper “The LoM Mapping Toolbox for Max/MSP/Jitter”, part of the *International Computer Music Conference (ICMC 06)*, New Orleans, USA.
- 9/06 Presentation of paper “A Stochastic State-Space Phase Vocoder for Synthesis of Roughness”, part of the international conference on *Digital Audio Effects (DAFx 06)*, Montreal, Canada.
- 7/06 Director/Performer for the *Montreal Genetic Laptop Orchestra*, a 15-person ensemble of electronic musicians. Opening for **Kim Cascone**. **Société des arts technologiques** [sat]. July 2, 2006, Montreal, QC.
- 5/06 Presentation of paper “Exploring the Effect of Mapping Trajectories on Musical Performance”, part of the international conference of *Sound and Music Computing (SMC 06)*, Marseille, France.

- 10/05 Presentation of paper “The Contemporary Production of Noise and the Role of the System”, part of the international conference of *Electroacoustic Music Studies (EMS 05)*, Université de Montréal, Montreal, QC.
- 7/05: Presentation of paper “Music, Noise and the (de)Socialization of Sound” with Stacy Denton, at the *In and Out of the Sound Studio* conference, Concordia University, Montreal, QC.
- 6/05: Lecture/presentation of work: granular synthesis performance patch in Max/MSP and sound examples. Part of *the Upgrade!* monthly gathering of artists, curators and lovers of new media, hosted by **Society of Art and Technology (SAT)**, Montreal, QC.
- 4/05: Laptop performance: one composed piece, one improvisation with feedback. With **Tomas Phillips, Sylvain Delisle** and **J. Winston Phillips**. Café Esperanza, Montreal, QC.
- 4/05: Network music performance: transmission of 8 channel audio between the Society of Art and Technology (S.A.T.) in Montreal and iEAR studios at RPI in Troy, NY. Performance with **Pauline Oliveros** and **Zack Settel**.
- 1/05: Presentation of max/msp performance interface, Music Technology Area Colloquium/Workshop, McGill University, Montreal, QC.
- 12/04: Performance/Presentation of duo for sensor-based gloves controlling sound synthesis with Pierre-Yves Fortier. Part of IBM Day conference at McGill University, Montreal, QC.
- 12/04 Performance: laptop improvisation of feedback analog mixer and max/msp interface, along with **Javier Arcienegas** on feedback pipe. Part of mu.tech.1, first in a concert series which I organized towards showcasing new talent in electronic music. Café Esperanza, Montreal, QC.
- 11/04: Network music performance with the **Hub (Chris Brown, John Bischoff, Tim Perkis, Scot Gresham-Lancaster, Mark Trayle, Phil Stone), Tadashi Usami** and another performer in Marseilles, as part of the Hub reunion concert at the *2004 Dutch Electronic Arts Festival (DEAF 04)*. Performed (remotely from Montreal) in two pieces: an ongoing collaboration with Usami and joined by Chris Brown, as well as a piece written by Brown and including all members of HUB.
- 7/04: Network music performance. Quartet performance with **Tadashi Usami, Roddy Schrock** and **Michael Cox**, with interface developed in SuperCollider by Tadashi Usami with Doug Van Nort. Part of the summer SuperCollider workshop at **STEIM** in the Netherlands. Performed remotely from Montreal, Tokyo, Oakland and Amsterdam, with audience in Amsterdam.
- 6/04: Presentation of paper “On the Choice of Mappings Based on Geometric Properties”, at *International Conference on New Interfaces for Musical Expression*, Hamamatsu, Japan.

- 1/04: Live performance: improvisation of interactive system utilizing granular synthesis and environmental sound, with musician **Carmine Casciato**. Part of the *Electrolab* event, **Universite de Montreal**, Montreal, Quebec.
- 7/03: Live performance of amplified objects, along with laptop artist mbuotye. Part of *Saturnalia: Birdland III* in Madison, Conn. Festival including performances by **Pauline Oliveros, Henry Grimes, Sabir Mateen, Samit Chaterjee, Cul de Sac, Orchestra d’Fou** and others.
- 5/03: Thesis performance of :noise:nature:shift: at the **Arts Center of the Capital Region** in Troy, NY. Interactive music piece and a 5.1 channel DVD audio piece. Improvisation with video artist **Hisao Ihara**.
- 4/03: Internet2 Network Collaboration with laptop performer, vocalist, and dancers from Mills College in Oakland as well as dancers, vocalists and architecture students (3D virtual space design) from RPI in Troy, NY. Including **Pauline Oliveros**, artist **Brian Lonsway**, vocalists **Myriam Hammani, Anne Hege**, dancer **Jennifer Mesch** and others. Creating a network instrument for audience participants to collaborate with myself, and artist **Tadashi Usasmi** via standard network connection. Programming done in Max/MSP and supercollider, utilizing Open Sound Control network protocol.
- 3/03: Performance of granular synthesis/graphical interface instrument, programmed in max/msp. Part of *Audicon Plantar* festival, Birdland, Madison, Conn.
- 3/03: Interactive improvised performance: granularization of field recordings. In collaboration with **Will Swofford** on field recording, tabla, and **Hisao Ihara** on live video. Part of the *Alternating Currents* concert series, **Deep Listening Space**, Kingston, NY.
- 12/02: Performance of interactive composition $E_7(2,1)$ for laptop, tablet and 5.1 surround sound, *On Again, Off Again* art show, Troy, NY.
- 11/02: Electronic Music performance, B.R. Finley’s, Troy, NY. Performed feedback from mixer with laptop.
- 10/02: Electronic music performance of amplified contact mics on metal, at *Saturnalia: Two Days of Now Music*, Madison, Conn. Solo and alongside **Daniel Carter, Ira Cohen, Kesh**.
- 10/02: Improvisational set of processed field recordings, “no-input” mixer. West Hall, Troy, NY. Part of the webcast *Awakening* all night vigil, Organized by **Pauline Oliveros** (east coast) and **Terry Riley** (west coast). With **Will Swofford, Pauline Oliveros** on processed objects and **Kristin Nordeval** on vocals.
- 10/02: Electronic Music performance, Miss Mary’s Art Space, Albany, NY. Works for 5.1 surround sound, along with video artist Ann Marie Lanese.

- 9/02: Electronic music performance at Virgo Bats and Leo Phrogs, Utica, NY
New pieces performed on custom designed graphical tablet interface.
- 6/02: Electronic music performance and discussion at the **Deep Listening Space**, Kingston, NY. Part of **Community Café** series. Performed one composed piece of processed environments, one improvisational piece; discussed the process of their realization, and the interface used.
- 5/02: Electronic music performance, at The Fields, Potsdam, NY. Performed live on laptop computer running max/msp, synthesizer, vocoder, and various guitar pedals.
- 5/02: Presentation of sound piece at the *Troy Bi-Annual Blowout of Postmodern Masterworks*, Troy, NY. 5.1 surround noise piece for processed environments.
Installation: *The Sound Maps Room* at the *Troy Bi-Annual Blowout of Postmodern Masterworks*, Troy, NY.
- 4/02: Performance/Interactive Installation *The Sound Maps Room*, including **video tracking software** patch programmed in **softVNS**. a part of *The Library of Maps: An Opera in Many Parts*, a multimedia production/collaboration with **Moira Roth, Pauline Oliveros**, students at RPI and the children of the **Ark Charter School**. West Hall, Troy, NY.
- 2/02: Electronic Music Performance at Positively 4th Street, Troy, NY.
Processed field recordings, Performed live on laptop computer running max/msp, synthesizer, vocoder, and various guitar pedals.
- 12/01: Live electronic score and video, <*Famous Last Words*>, performed as part of **William Duckworth's Cathedral: A Work For the Web, Galapagos Art Space**, Brooklyn, NY. Performed on synthesizer and vocoder to narrative-style video, with Violinist Naomi Ture.
- 12/01: Presented live electronic score and video, <*Famous Last Words*>, at *Streams* art show, Troy, NY. Score performed on synthesizer and vocoder, with violinist. Video is scene 1 of a representation of the last minutes of gangster Dutch Schultz's life, as seen through the eyes of William S. Burroughs in his work *The Last Words of Dutch Schultz*.
- 12/01: Electronic Music Performance at Positively 4th Street, Troy, NY.
Improvisational set of processed field recordings, Performed live with synthesizer, vocoder, sampler and various guitar pedals.
- 8/01: Poster presentation: ***On the Structure of Root Groups***, Clarkson University, Potsdam, NY. Presented in conjunction with the ergodic theory/group theory group from the Clarkson/Potsdam summer research project.
- 5/01: Lecture: ***L^1 is a locally compact topological group under convolution***, Math Dept., Potsdam College, Potsdam, NY.

- 3/01: Presented composition, *Rusty Swingset*, Crane School of Music Student Composer's Forum, Potsdam, NY
- 11/00: Presented composition, *Lemniscate*, Crane School of Music Student Composer's Forum, Potsdam, NY.
- 10/00: Composition Master class with **Libby Larsen**, Presented composition, *Modular Nail Trek*. Crane School of Music, Potsdam, NY
- 11/99: Composer's Forum. Presented *Cat Fight (Pig Resolution)*, Crane School of Music, Potsdam, NY

Administrative/Organizational/Curatorial/etc.

August 2009-present:

Member, Board of Advisors, Deep Listening Institute.
www.deeplistening.org

August 2011:

Paper review committee for AES 44th Conference on Audio Networking.

May-June 2011:

Panel review committee to determine "best paper award", 2011 International Computer Music Conference (ICMC 11).

May-June 2011:

Member of paper review committee for 2011 International Computer Music Conference (ICMC 11).

February 2007:

Member of paper/poster review committee for 2007 International Conference on New Interfaces for Musical Expression (NIME 07).

June-October 2006:

Member of organizing committee for 2006 International Conference on Digital Audio Effects (DAFx 06).

January-June 2006:

Organized four day workshop with Kim Cascone. Involved writing grant proposals/ acquiring funds from various institutions, booking the artist, event planning, negotiating a venue, advertisements/graphic design, commercial writing (radio), overseeing technical setup/support.

February 2006:

Member of Paper/Poster Review Committee for the 2006 International Conference on New Interfaces for Musical Expression (NIME 06).

December 2004:

Organized the *Music.Techs.Time* performance night, showcasing electronic music and interactive instruments to come from the McGill Music Technology Program.

Teaching Experience

- Fall 2011: Co-Instructor of “**Composition, Improvisation and Performance**” seminar. See “Fall 2009” below for description
- Spring 2011: Co-Instructor of “**Experimental Telepresence**” seminar. See “Spring 2009” below for description.
- Fall 2010: Co-Instructor of “**Composition, Improvisation and Performance**” seminar. See “Fall 2009” below for description.
- Spring 2009: Co-Instructor of **ARTS 4967: “Production, Installation, Performance”** seminar with Michael Oatman. Funded by acoustician and alumni Chris Jaffe, this special topics course, cross-listed with architecture, allows for architecture and arts students to collaborate on a large-scale sound and performance project in conjunction with a visiting artist. This will be performed at **EMPAC** in the fall of 2010. The visiting artist for the course was **Francisco Lopez. Received excellent teacher rating of 4.3/5.**
- Spring 2009: Co-Instructor of “**Experimental Telepresence**” seminar. See “Spring 2009” below for description. **Received excellent teacher rating of 4.0/5.**
- Fall 2009: Co-Instructor of “**Composition, Improvisation and Performance**” seminar, with Pauline Oliveros and Jonas Braasch,, Arts Dept., Rensselaer Polytechnic Institute. Guiding creative research for personal projects in composition and improvisation at the intersection of sound, video and performance. Also assisting with Max/MSP, Jitter and Processing media software.
- Spring 2009: Co-Instructor of “**Experimental Telepresence**” seminar, with Pauline Oliveros and Jonas Braasch, Rensselaer Polytechnic Institute. Guiding creative research in telepresent multimedia projects, from large scale ensembles over Internet2 to software projects using shared control and Skype low-bandwidth audio communications protocol. Final project resulted in large audio/video performance at **EMPAC** media arts space.
- Winter 2008: Instructor for course **MUMT 303: New Media Production 2**. See “Winter 2006” below for description.
- Fall 2006: Instructor for course **MUMT 202: Fundamentals of New Media**. Theory and techniques of control protocols (MIDI/OSC), time-based and interactive media (audio and video production, real-time audio/video processing). Software includes Logic, iMovie, Max/MSP, Jitter and related pedagogical tools. Concepts include details of MIDI messages, audio sampling, digital video, colorspace, file formats and compression.

Winter 2006: Instructor for course **MUMT 303: New Media Production 2**. A media arts practice course centered around the use of production techniques learned in New Media Production 1. Projects in interactivity, sound art, video art, DVD authoring and web/multimedia. Selected readings (e.g. Manovich, Cage) dealing with theoretical (aesthetic, historical, cultural) aspects of new media assist in framing creative practice. **Received overall rating of 4.83/5, regarding students' desire to take another course with me.**

Winter 2005: Instructor for course **MUMT 203: Introduction to Digital Audio**. Teach students the fundamentals of digital audio, including sampling theory, time domain vs. frequency domain characteristics, digital transmission formats, error correction, file formats, channel codes, psychoacoustics, components in ADC and DAC chain, etc.

8/2002 – 8/2003:

Teaching Assistant to Pauline Oliveros, **Deep Listening Course**, Arts Dept., RPI. See Work Experience/Research section for description.

Selected Work Experience/Research

9/2008- present:

Research Associate in Architecture and the Arts, Rensselaer Polytechnic Institute. Research for grant “A Robust Distributed Intelligent System for Telematic Applications”, co-written with Pauline Oliveros and Jonas Braasch.

Fall 2003 – Summer 2008:

Doctoral Fellow: research into control of real time performance systems. Funded by the **Tomlinson Doctoral Fellowship** (3 years) and the **McGill Major Fellowship** (2 years), **McGill University**.

8/2006 – 8/2007:

Research in gestural analysis. Part of *WYSIWYG* project, in collaboration with Sha Xin Wei, Topological Media Laboratory, Concordia University, and Marcelo Wanderley, Music Technology, McGill University.

Summer 2003:

Programmer for the Technology Plays, a series of interactive plays/installations. In conjunction with University of Albany and the Capital Repertory Theatre. Work includes designing graphics and keyboard based interactions for participants. Playwrights include William Kennedy and Richard Dressner.

Created DVD for Library of Maps performance which took place at RPI's West Hall auditorium on 4/18/02. Including video editing, DVD authoring/programming, and sound editing.

8/2002 – 8/2003:

Research/Teaching Assistant to Pauline Oliveros, Arts Dept., RPI. Assistant for Deep Listening Class: Teach basic digital audio, web site creation and Maintenance. Filled in for instructor on several occasions in Deep Listening seminar, leading body/listening exercises. Also technical assistance for Internet 2 collaboration with UC-Hayward. Independent research. Creating network software for internet2 piece, allowing performers to collaborate across network connection. Participants from the web are able to collaborate via this customized software application.

6/2002-7/2002:

Freelance Audio Engineer. Digitally restored degraded tape media for client.

1/2002 – 5/2002:

Technical Assistant, iEAR studios, RPI. Maintained multimedia studios, responded to equipment failure reports, assisted studio users.

8/2001 – 12/2001:

Research Assistant to Curtis Bahn, Arts Dept., RPI. Programmed functions for Max/MSP interface, created templates for spherical speakers, verified mathematics/geometry of their construction.

6/2001 – 8/2001:

Group Leader for the Ergodic Theory/Group Theory research group, part of the Clarkson/Potsdam Research Experience for Undergraduates. Classified Structure of the Root Groups, created by Dr. Blair Madore to solve problems which arise in Ergodic Theory.

9/2000 – 5/2001:

Assistant Audio Engineer, Crane School of Music. Assistant to School's audio engineer, Gary Galo; recorded recitals, provided technical assistance, provided sound reinforcement for live concerts.

9/2000 – 12/2000:

Grader for graduate course in Linear Algebra.

9/99 – 5/2001:

Tutor for The Math Lab, Math Dept., Potsdam College. Assisted students with calculus, probability theory, set theory, differential equations, etc.

9/98 – 12/2000:

Tutor for mathematics and physics, Student Support Services, Potsdam College.

6/2000 – 8/2000: :

Member of the Graph theory research group, part of the Clarkson / Potsdam Research Experience for Undergraduates. Classified results concerning the testing dimension and Vapnik-Chervonenkis (VC) dimension of graphs. Presented findings at Clarkson University.

Software/Programming Skills

Audio software:

Max/MSP, PD, Supercollider, Csound, Protools, Cubase, Peak, Finale, Audiosculpt, Synthesis Toolkit (STK), Ardour, others

Video/Multimedia: Jitter, Final Cut Pro, After FX, DVD Studio Pro, Director, others.

Programming languages/environments: C, C++, HTML/CSS, Matlab, Tex, Javascript, Python.

Programming Projects include:

Timbre Recognition, physical modeling of acoustic tubes, and fast convolution in Matlab

Glass Breaking Physical Model in C++ (for synthesis toolkit)

Genetic Algorithm and Mapping/Interpolation schemes in C (created as Max/MSP objects)

State-Space and Kalman-based Phase Vocoders in Matlab

Empirical Mode Decomposition in C and Max/MSP

Electronics:

Programming/building of microcontroller circuits: Created midi controllers using various sensors – dual axis accelerometers, sonar distance sensors, video tracking.

Affiliations

Member, International Society of Improvising Musicians (ISIM)

Member, International Computer Music Association (ICMA)

Member, Acoustical Society of America (ASA)

Member, Audio Engineering Society (AES)

Member (inactive), American Mathematical Society (AMS)

Member (inactive), Mathematical Association of America (MAA)

Member, Center for Interdisciplinary Research in Music Media and Technology (CIRMMT)

Selected Honors/Awards

2010: Awarded ICMA “best paper award” for paper “Developing Systems for Improvisation based on Listening” written as first author (in collaboration with Pauline Oliveros and Jonas Braasch).

2008-: Hired as research specialist for NSF CreativeIT project *A Robust Distributed Intelligent System for Telematic Applications*, Pauline Oliveros and Jonas Braasch Co-PIs.

- 2007-8: CIRMMT Student Grant, CIRMMT, McGill University, Montreal, QC
Renewal Awarded based on research proposal. \$3,000
- 2006-8: *McGill Major Graduate Fellowship: J.W. McConnell Memorial Fellowship*,
(Changed to *Friends of McGill Fellowship* for practical reasons), McGill
University, Montreal, QC, \$10,000/yr
- 2006-7: CIRMMT Student Grant, CIRMMT, McGill University, Montreal, QC
Awarded based on research proposal. \$5,000
- 2004-8: Various Competitive Travel Grants from CIRMMT and McGill, \$500-\$2,000
- 2003-6: *Tomlinson Doctoral Fellowship*, McGill University, Montreal, QC. McGill's
Most prestigious fellowship. \$20,000/yr
- 2001-3: Graduate Assistantship and tuition scholarship, Arts Dept., RPI, Troy, NY
\$12,000/yr + waiver of tuition worth \$26,400/yr
- 2001: Selected Group leader for NSF funded Research Experience for Undergraduates
(REU) program, Clarkson University/Potsdam College
- 2001: Senior Mathematical Alumni Award for Excellence in Mathematics, Potsdam
College
- 2001: Pi Mu Epsilon senior award, for excellence in mathematics, Potsdam College
- 2001: Academic Scholarship for Excellence, New York State
- 2001: Departmental Scholar award, mathematics dept., Potsdam College
- 2000: Charlie Smith Scholarship for excellence in mathematics, Potsdam College
- 2000: Inducted into Pi Mu Epsilon mathematics honor society, Potsdam College
- 2000: Inducted into Phi Kappa Phi junior/senior honor society, Potsdam College
- 2000: Junior Mathematical Alumni Award for Excellence in Mathematics, Potsdam
College
- 1999: Sophomore Mathematical Alumni Award for Excellence in Mathematics,
Potsdam College

References

Jonas Braasch, Ph.D., D.Eng.
Assistant Professor, School of Architecture
Rensselaer Polytechnic Institute
Greene Building, 110 8th St., Troy, NY
(518) 276-3864
braasj@rpi.edu

Chris Chafe, D.M.A.
Director, Center for Computer Related Music and Acoustics (CCRMA)
Dept. of Music, Stanford University
Stanford, CA 94305
(650) 723-4971 x305
cc@ccrma.stanford.edu

Philippe Depalle, Ph.D.
Professor, Music Technology, McGill University
Researcher, Center for Interdisciplinary Research in Music Media and Technology
(CIRMMT)
555 Sherbrooke St. W.
Montréal, Québec, Canada H3A 1E3
514-398-4535 x00317
depalle@music.mcgill.ca

Pauline Oliveros, Ph.D. (hon.)
Distinguished Research Professor of Music, Arts Dept.
Rensselaer Polytechnic Institute, Troy, NY
PO Box 1956
Kingston NY 12402
(845) 389-7048
paulineo@deeplisting.org

Marcelo Wanderley, Ph.D.
Assoc. Professor, Music Technology, McGill University
Researcher, Center for Interdisciplinary Research in Music Media and Technology
(CIRMMT)
555 Sherbrooke St. W.
Montréal, Québec, Canada H3A 1E3
514-398-4535 x00917
marcelo.wanderley@mcgill.ca

Additional References

Stephen McAdams, Ph.D.
Canada Research Chair, Music Perception and Cognition
Professor, Music Technology and Psychology, McGill University
555 Sherbrooke St. W.
Montréal, Québec, Canada H3A 1E3
514-398-6670
smc@music.mcgill.ca

Sha Xin Wei, Ph.D.
Canada Research Chair, Media Arts and Sciences
Assoc. Professor, Computer Science and Fine Arts, Concordia University
Director, Topological Media Lab
Director, Active Textiles and Wearable Computers Axis, Hexagram
514-848-2424 x 7801
EV03-129, 1515 Ste-Catherine West • Montréal, Québec • H3G 2W1 • CANADA
sha@encs.concordia.ca