

## Biography

Zack Settel was born in 1957 and raised in the New York area. He received a BFA in Music Composition from the California Institute of the Arts (CalArts), where he studied composition with Leonard Stein, Morton Subotnick, Mel Powell, and Morton Feldman. Keenly interested in the use of technology in music production/performance, Settel moved to Paris in 1986, with a Fulbright Scholarship for computer music research and composition at the Institute for Research and the Coordination of Acoustics and Music (IRCAM), headed by Pierre Boulez. After a two-year composing residency there, Settel remained at IRCAM until 1995, working full-time in the music production and music research groups. In 1997 Settel returned to North America, where he was a professor at McGill University in Canada for two years, chairing the Music Technology area, and teaching courses and graduate seminars in computer music. He also was a visiting professor of composition at the University of Montreal in 2001-02. . In addition to composing full time, Settel now is an associate professor in the Music Faculty at the University of Montreal (UdM), where he teaches music composition. He is also in (arts/science) collaboration with the Center for Intelligent Machines at McGill, working on immersive audio/music. From 2003-2008, Settel founded and directed the immersive audio research group at the Société des Arts Technologiques (La SAT) in Montreal, where he remains a resident artist. His latest musical exploration and research is focused on spatial organization and interaction in music composition, performance and listening.

Settel has composed chamber works, studio works, as well as music for film, video, television, theater, dance, and opera. His music also includes the use of advanced live interactive electro-acoustic systems. Settel's music is published by Editions Ambrosio (Paris), recorded on the CENTAUR, ICMA, MIT Press, and Empreints Digitales labels, and is performed regularly in North/South America and in Europe and Asia. Settel has worked with various performing ensembles including the Ensemble Intercontemporain (Paris), Le Nouvel Ensemble Moderne (Montréal), Zeitgeist (Minneapolis), the California Ear Unit (Los Angeles), and Chants Libres (Montréal).

**Personal**

Name: (Joel) Zack Settel Date of Birth: July 22, 1957  
 Address: 4311 Esplanade Citizenship: US  
 Montreal, Quebec, H2W 1T1 CANADA Phone: (1) 514 842 3047

Address: 156 rue Oberkampf  
 (Europe) 75011 Paris FRANCE Phone: (33) 6 6364 8463

email: zack@sheefa.net

**Discography**

2006	<b>L'Enfant des Glaces</b>		ATMA	DVD25000
1996	<b>Hok Pwah</b>	CDCM	CENTAUR	CD vol. 23
1993	<b>Vleigel Zeugah Excerpts</b>		MIT Press	CD vol. 0-262-68075-0
1993	<b>Skweit Chupp</b>	Empreints Digitales	IMED 9004 CD	CD vol. 20
1992	<b>Hok Pwah Sketches</b>		ICMA	PRCD 1300

Publisher: Editions Ambrioso, France Author's Guild: SACAM

**On-line materials:**

Music directory: <http://sheefa.net/zack/portfolio/>  
 CV: <http://sheefa.net/zack/bio/>  
 photos: <http://sheefa.net/zack/bio/photos/>  
 press: [http://sheefa.net/zack/press\\_kit/](http://sheefa.net/zack/press_kit/)  
 publications: <http://sheefa.net/zack/publications/>  
 additional music: <http://coptox.com/~zack/music>

**University Education**

1997-2001 Doctorate, Music Composition , University of Montreal, Canada  
 1985-86 Composition Major, Graduate studies in MFA program, CalArts  
 Professors of Composition: Mel Powell, Morton Feldman  
 1983-86 Studies in Mathematics, College of the Canyons, Valencia, California  
 1982-85 Bachelor's Degree (BFA), Music Composition, California Institute of the Arts (CalArts)  
 Professors of Composition: Morton Subotnik, Leonard Stein

**Teaching**

Experience teaching classes in music technology (including programming for artists), and seminars / directed studies in music composition (acoustic, electroacoustic, and musique mixte). Experience in directing research in related areas.

2011 Visiting Professor, Research Fellowship, University of Newcastle, UK  
 2006- Associate Professor, Music Composition, University of Montreal  
 2001-02 Visiting Professor, Music Composition, University of Montreal  
 1997-99 Visiting Professor, Chair of Music Technology, Music Faculty, McGill University, Montreal  
 1989-93 Instructor, New Technologies in Composition - Doctoral Students in Musicology,  
 University of Paris - Formation Doctorale Musique et Musicologie du XX<sup>ème</sup> Siècle  
 1990-93 Instructor, New Technologies in Composition - Doctoral Level Composition Students,  
 Conservatoire National de Paris  
 1990-93 Instructor, New Technologies in Composition - Masters and Doctoral Level Composition Students,  
 Cursus de Composition Informatique Musicale - IRCAM  
 1989-92 Instructor, New Technologies in Music Education - Seminars for Educators - Minister of Education  
 (France)  
 1988-94 Instructor, Summer Sessions: New Technologies in Composition - Masters and Doctoral Level  
 Composition Students, Stage d' Informatique Musicale pour Compositeurs - IRCAM  
 1988-89 Instructor in Music, Sound and Technology - American School of Modern Music (Paris)

**Piano Studies**

1972-75 **Steuart Henningway**, Jazz Piano  
 1971-72 **John Mehegan**, Jazz Piano

1965-72 Classical Piano Instruction

### References

Pierre Boulez, IRCAM , France  
 John Chowning, Stanford University, USA  
 Miller Puckette, U. of California, San Diego, USA  
 Jean-Claude Risset, LMA (CNRS) France  
 Philippe Manoury, U. of California, San Diego, USA  
 David Wessel, U. of California, Berkeley, USA

### Works for Music for Theater, Opera, Television, Film, Video, Dance etc.

#### *Opera:*

- 2012 "Alexandra", one-hour chamber opera, with live voice processing, Usine C, Montreal, commissioned by Chants Libres  
 2002 "Pacamambo", one-hour children's opera with and live interactive electronics, **Museum of Contemporary Art**, Montreal / commissioned by **Chants Libres**  
 five Performances from Dec. 1-3, 2002 Montreal, CANADA  
 2000 "l'Enfant des Glaces", one-hour opera with soundtrack and live interactive electronics, **Museum of Contemporary Art**, Montreal / Canadian Broadcasting Company (**CBC**)  
 Ten Performances from Sept. 8 - 23, 2000 Montreal, CANADA

#### *Dance:*

- 1998 "GO", Live interactive dance performance, **Kanagawa Arts Foundation**, Tokyo  
 1997 "A Work in Progress", Music for Dance Concert: **Théâtre Contemporain de la Danse**, Paris  
 1996 "Japtax sketches", Live music for dance, Elizabeth Corbett Dance Ensemble  
 1995 "Convolution", Live music for dance: The Convolution Brothers, Elizabeth Corbett Dance Ensemble  
 1991 "Eshroadepipel", Piece adapted for choreographer Keith Ormand, Cologne Germany  
 1991 "XYZ", Piece adapted for choreographer Keith Ormand, Cologne Germany

#### *Music Theatre:*

- 2010 "Convolution Brothers, Live at NYU", New York University, New York City  
 2009 "An Evening with the Convolution Brothers, Santiago/Valdivia Chile  
 2007 "Mustang Sally", Music theater : The Convolution Brothers w/ Robert Rowe, International Computer Music Conference./ "ICMC"/ (Copenhagen)  
 2006 "Commissions for the Convolution Brothers", Music theater : The Convolution Brothers, International Computer Music Conference./ "ICMC"/ (New Orleans)  
 2005 "Watch TV with the Convolution Brothers", Music theater : The Convolution Brothers, International Computer Music Conference./ "Off ICMC"/ (Barcelona)  
 2002 "Gandy Bridge XII", Music theater : The Convolution Brothers, International Computer Music Conference (Göteborg)  
 2001 "Gandy Bridge XI", Music theater : The Convolution Brothers, Engine27, New York City  
 1997 "Throttle", Live Music with electronics, The Demolition Brothers, Opus Festival, San Francisco  
 1997 "Gandy Bridge X", Music theater : The Convolution Brothers, ICMC 97  
 1997 "Probes X and XII", Live Music with electronics, The Demolition Brothers, Le Garage, Paris  
 1997 "Gandy Bridge VI", Music theater : The Convolution Brothers, Gainesville Fla.  
 1996 "Gandy Bridge V", Music theater : The Convolution Brothers  
 1995 "Gandy Bridge IV", Music theater : The Convolution Brothers  
 1994 "Gandy Bridge II, III", Music theater : The Convolution Brothers  
 1993 "Gandy Bridge", Music theater : The Convolution Brothers

#### *Radio works:*

- 2002 Radio Drama, "Prometheus ", collaboration with author Atau Tanak and WDR, Germany  
 1997 Radio Session, Live Music, **Canal PLUS**: The Demolition Brothers, Paris

#### *Live Film accompaniment:*

- 1997 "Kinobits Series ", Live music for film, with Metamkine, France

- 1996 "Kinobits II ", Live music for film, with Metamkine, France  
 1996 "Kinobits", Live music for film, with Metamkine, France

*Independent Film soundtracks:*

- 2011 "Voluptuous Sleep" ", music contribution for soundtrack: Z. Settel, Director/producer: Betsy Bromberg, Los Angeles, USA  
 2005 "A Darkness Swallowed", music for soundtrack: Z. Settel, Director/producer: Betsy Bromberg, Los Angeles, USA  
 2005 "LUFTBERUSNING (Air Intoxication)", Z. Settel; Director/producer: Fern Seiden  
 2004 "Reves Sous Leau", music for soundtrack: Z.Settel; Director/producer: Fern Seiden, Stockholm, Sweden  
 2002 "Nicht Umdrehen", music for soundtrack: Z.Settel; Director/producer: Scott Kirby, Berlin Germany  
 2001 "The Visitors", surround-sound film soundtrack: Z.Settel; Director/producer: Luc Courchesne, Montreal, CA  
 1996 "Divinity Gravis", music: Z. Settel/Tom Waits, Music for a 55 minute film. Producer/director: Betsy Bromberg, Los Angeles USA  
 1991 "Body Politic", Music for a 40 minute film. Producer/director: Betsy Bromberg, Los Angeles USA  
 1987 "La Chinoise", Music for a 30 minute film. Producer: Les Films MCS, Paris; Director: Carlotta Croce-Spinelli, Paris  
 1986 "The Ghost of the Weed Garden", Music for a 40 minute film. Producer/Director: Carlotta Croce-Spinelli, Los Angeles USA

*Television:*

- 2001 "Le Robinet et La Plume", soundtracks for two 3-minute clips for the French cable series **13eme Rue**, Producer: FilmEnStoc, Paris. Director, Les ROJOS  
 1995 "Huaorani", soundtrack for one hour documentary on **Discovery Channel**, Producer: Marathon Productions, Paris, Director: Philippe Molins, Paris  
 1991 "300 Ans des Brévets Française", Music for a video producer: **Les Films MCS**, Paris; Director: Michel Croce-Spinelli  
 1989 Two 30" spots for **African Television**, Music and soundtrack for a video for the UTA Company. Producer: Les Films MCS, Paris; Director: Michel Croce-Spinelli, Paris

*Theater:*

- 2005 "Mille Anonymes, by director/writer Daniel Danis, (work in progress), France  
 1991 "Valentine", Arrangement for music theater production - Daniel Petit-Jean, France

*Video:*

- 1990 "Egypte", Music for a 50 minute commercial Travel video by the **Media9** Company, France  
 1989 "La Malaisie", Music for a 20 minute commercial in-flight travel video by **Les Films MCS** for the **UTA Company**, France  
 1989 "Ciel de Qualité", Music and soundtrack for a 25 minute commercial video by **Les Films MCS** for the **UTA Company**, France  
 1988 "CGA-HBS", Music and soundtrack for a 30 minute commercial promotional video by **Les Films MCS**, Paris France  
 1988 "Fragmine", Music for a 5 minute commercial video by **Odessa Films**, France  
 1988 "Le Mur des Images", Music and soundtrack for a 40 minute commercial video installation by Les Films MCS for the **COGIMA** Company, France

*Installations:*

- 2011 "Audio Graffiti Toronto", indoor gallery installation, Nuit Blanche Festival, Toronto CA  
 2010 "Audio Graffiti New London", indoor gallery installation, Connecticut College, USA  
 2009 "Sonic Slalom Project", ski slope-based mobile audio installation, Banff Center, Alberta CA  
 2009 "Audio Graffiti", outdoor mobile audio installation work, McGill University, ICMC 2009, Montreal  
 2008 "Sound Park", outdoor mobile audio installation work, Parc Jean-Mance, Montreal  
 2007 "4Dmix3". Interactive Immersice Music Installation, Société des Arts Technologiques, Montreal, Canada

- 2006 "Soundscape", Interactive Immersive Music Exhibition, Centre culturel aux Carré des Jalles, Medard en Jalles, France
- 2005 "Soundscape de la Voix", Interactive Immersive AudioVisual installation for voice; Rebond Festival, Groupe de Musique Experimental d'Albi (GMEA) Albi, France
- 2004 "Espace V", Interactive Immersive AudioVisual installation for voice; GROUPEMENT D'EXPERIMENTATION PLASTIQUE DU SONORE (GEPS) Rennes, France
- 2001 "Bruits de l'Esprit", Multi-media installation, collaboration with Danish painter Philip Barfred, hosted by la société des arts technologiques (la SAT), Montréal Canada

### Concert Works

- 2011 Ball Jam, commissioned by the Quasar Saxophone Quartet, for saxophones and augmented performance space.
- 2008 Blairatta Policeme, commissioned by ArrayMusic, for jazz trio and mobile chamber quartet, using Audioscape for spatial signal processing.
- 2007 Menagerie Imaginaire, work for live performance using AudioScape
- 2007 Tibet, co-composed with Atau Tanaka, duo for temple bowls, and electronics
- 2007 Sheefa Variations, Saxophone Quartet, commissioned but the Quasar Ensemble
- 2004 2 works: "Tango pour 18h07" et "Tango pour 22h10", for 4 voices w/ traditional accompaniment
- 2003 "Misbehavior for Trombone Duo" w/ electronics
- 1999 "Quark240599", for bio-feedback controller, percussion and voice with computer-based live electronics
- 1999 "DyGromitz", for solo piano with live computer-based electronics
- 1999 "LLG147B", for the Oberkampf Quintet with live computer-based electronics
- 1997 "Three Men Operating Sound Equipment", for the Oberkampf Trio with live computer-based electronics
- 1997 "Punjar", Saxophone solo with live computer-based electronics
- 1996 "Japtax for Prepared Kettledrum", Percussion solo with live computer-based electronics
- 1994 "Sketches for Framed Portrait", Electronic Music Theatre work (Banff Centre)
- 1993 "Hok Pwah", Duet for percussion and voice with live computer-based electronics
- 1992 "Taudrium", Double bass solo with live computer-based electronics
- 1991 "Sketches for Hok Pwah", Duet for percussion and voice with live computer-based electronics
- 1990 "Eshroadepipel", Clarinet solo with live computer-based electronics
- 1990 "Skweeit-Chupp", Tape piece realized in the studios of IRCAM
- 1990 "Vleigel Zeügah", Percussion solo with live computer-based electronics
- 1988 "Sprout Niesko", Duet for with live computer-based electronics
- 1988 "Hommage à Hydjik Nelmen", Duet for two trombones with live computer-based electronics
- 1987 "Shlolispushk", Solo for live electronic percussion
- 1986 "Ladi Cramour", Chamber piece with live electronics
- 1986 "Homage for Peter Lampheris", Tape piece realized in the studios of CalArts
- 1985 "Blotwob", Chamber piece with four vocalists and live electronics
- 1984 "Homage for Phil Niglius", Music theater piece for small chamber ensemble
- 1984 "Euki Ami", Tape piece (mainframe computer) realized in the Electronic Music Lab at MIT
- 1984 "Homage for Orgee Bhorfman", Chamber piece with four vocalists and live electronics
- 1983 "Quadmallisance", Tape piece realized in the studios of CalArts
- 1983 "Puzz Mubb", Tape piece realized in the studios of CalArts
- 1982 "Croidle-zoitszer", Tape piece realized in the studios of CalArts

### Festival Performances

- 2011 Nuit Blanche, Toronto, Audio Graffiti, audiovisual installation for general public.
- 2011 Laptop Meet Musicians Festival (LMMF) Venice, ITALY, live performance (w/ Atau and Adam duo)
- 2011 *Festival de L'Eau*, Burkina Faso, live performance tour
- 2010 Twelfth Biennial Arts and Technology Symposium (New London, Ct., USA), Audio Graffiti

- 2009 IX Festival Internacional de Música Electroacústica Ai-Maako 2009, organized by the Comunidad Electroacústica de Chile
- 2009 *Festival de L'Eau*, Paris, Cherbourg, France, live performances
- 2007 International Computer Music Conference (Copenhagen, Danmark) *The Convolution Brothers*
- 2007 New Interfaces for Musical Expression (NIME) (New York, USA) *Menagerie Imaginaire*
- 2006 International Computer Music Conference (New Orleans, USA) *The Convolution Brothers*
- 2005 International Computer Music Conference (Barcelona) *The Convolution Brothers*
- 2005 Elektra Festival, (Montreal), **Espace V**
- 2004 June in Buffalo, (Buffalo, USA) **Eschroadepipel, Japtax**
- 2003 38me Rugissants (Grenoble France) **Les Trois Vierges**
- 2002 Elektra festival (Montréal) **le Robinet, la Plume**
- 2002 International Computer Music Conference (Göteborg) *The Convolution Brothers*
- 2002 Mutek (Montreal), live performance: Surround-DJ
- 2002 6-Day Opera Festival (Dusseldorf, Germany), **l'Enfant des Glaces**
- 2001 Lund Music Festival (Lund Sweden), *The Convolution Brothers*, live performances
- 2001 Musique Action (Vandoeuvre France, *Festival de L'Eau* live performances
- 2001 Eighth Biennial Arts and Technology Symposium (New London, Ct., USA) **l'Enfant**
- 2000 *Festival de L'Eau*, Paris France, live performances
- 2000 *Festival de L'Eau*, Burkina Faso, Africa, live performance
- 2000 *Festival El Callejon del Ruido*, Guanajuato, Mexico, live performance
- 2000 Musique Action (Vandoeuvre France) **Hok Pwah, Taudrium, live performance**
- 1999 Semaine de la Voix (Montreal) **Hok Pwah.**
- 1999 Musique Actuelle (Victoriaville-Canada) **Quark Trio.**
- 1999 Festival El Callejon del Ruido (Guanajuato-Mexico) **Punjar, Morales Kimura Settel trio.**
- 1999 Seventh Biennial Arts and Technology Symposium (New London, Ct., USA) **Punjar**
- 1998 Electro-Temps Reel, (producer: ACREQ, Montreal) **Punjar**
- 1998 XII Colloquium on Musical Formatics (Gorizia, ITALY) **Punjar**
- 1997 Opus Festival (San Francisco, USA) **Throttle**
- 1997 International Computer Music Conference (Greece) **Gandy Bridge X**
- 1997 Bourges Festival (Bourges, France) **Punjar**
- 1997 Annual Electroacoustic Music Festival (Gainsville, Fla., USA) **Gandy Bridge Series**
- 1997 Sixth Biennial Arts and Technology Symposium (New London, Ct., USA) **Japtax**
- 1997 Rebonds (Albi-France) **Quark Trio**
- 1997 Son d'Hiver (Arcueil-France) **Kinobits**
- 1997 Son d'Hiver (Le Perreux-France) **CinéConcert**
- 1996 Tramway Festival (Rouen, ) **Kinobits**
- 1996 Festival El Callejon del Ruido (Guanajuato-Mexico) **Taudrium, Gandy Bridge V**
- 1996 Bang/Klang (Montréal) **Japtax for Prepared Kettledrum**
- 1996 Musique Action (Vandoeuvre France) **Kinobits**
- 1995 World Music Days (Essen-Germany) **Skweeit-Chupp**
- 1995 5th Symposium on the Arts and Technology (New London-Connecticut) **Hok-Pwah (solo version)**
- 1995 Emerging Voices Festival (San Diego USA) **Gandy Bridge IV**
- 1995 Sonar Festival, live Multi-Media Link, Amsterdam / Barcelona, **Les Trois Vièrges**
- 1994 38me Rugissants (Grenoble France) **Gandy Bridge III**
- 1994 5th International Symposium on Electronic Art (Helsinki-Finland) **Gandy Bridge**
- 1994 Japan New Technologies Festival (Kunitachi College of Music Tokyo) **Taudrium**
- 1994 Sonic Circuits II (St. Paul-Minnesota) **Gandy Bridge**
- 1994 Utrecht Interactive Music Festival (Kikker Theatre) **Taudrium, Hok Pwah (solo version)**
- 1993 4th International Symposium of Electronic Art (Minneapolis-Minnesota) **Hok Pwah**
- 1993 International Computer Music Conference (Tokyo-Japan) **Taudrium**
- 1993 Interaction Digital (East Berlin) **Hok Pwah**
- 1993 Japan Musicology Special Events (Tokyo) **Taudrium**
- 1993 Musica 93 (Copenhagen-Denmark) **Taudrium**
- 1993 4th Symposium on the Arts and Technology (New London-Connecticut) **Taudrium**
- 1992 Japan Music and Computer Science Festival (Tokyo-Japan) **Hok Pwah**
- 1992 International Computer Music Conference (San Jose-California) **Hok Pwah**
- 1991 9th Colloquium of Computer Music in Italy (Genoa-Italy) **Eschroadepipel**
- 1991 International Computer Music Conference (Montreal) **Eschroadepipel**
- 1990 2nd Symposium on the Arts and Technology (Groningen Holland) **Eschroadepipel**
- 1990 New Music America (Montréal) **Vleigel Zeugah**

- 1989 Contemporary Music Festival, (Los Angeles) **Sproyt Niesko**  
 1988 MIDI festival, Geneva Conservatory of Music **Hommage à Hydjik Nelmen**

### Composition Prizes and Awards

- 2012 OPUS Music Awards, Montreal, nomination for "New Work of the Year"  
 1989 FITCOM Festival - Gold medal, (France) **La Malaisie**  
 1991 19th Annual Electroacoustic Music Competition - mention, Bourges (France) **Vleigel Zeugah**  
 1988-89 Grant from the French Minister of Foreign Affairs for Music Composition, IRCAM, Paris  
 1987-88 Fulbright Grant (USA) for Music Composition / Research in France at IRCAM, Paris

### Commissions / Scholarships / Invitations

- 2012 Commission by dancer Peter Trosztmer, for research/creation of new dance work.  
 2012 Commission by Chants Libres, Montreal, for a one-hour opera, "Alexandra".  
 2011 Commission by the Quatour de Saxophone, Quasar, Montreal, for concert piece, "Ball Jam"  
 2010 Commission by the Sacred World Lab, Delhi, India, for "Chinese Temple" installation  
 2008 Commission by the Arraymusic Ensemble, Toronto, for concert piece, "Blairatta".  
 2007 Commission by the Société des Arts Technologiques (SAT) for the installation "4Dmix3"  
 2007 Commission by the Quatour de Saxophone, Quasar, Montreal, for the work "Sheefa Variations"  
 2006 Commission by Sacred World Lab, Delhi, India, for "Magic Strings" installation  
 2004 Commission by Chants Libres (Montreal) for two pieces: "Tango pour 18h07" et "Tango pour 22h10"  
 2003 Commission by Trombonist Hilary Jeffrys (Holland) for concert piece, "Misbehavior for Trombone Duo"  
 2002 Commission by Chants Libres / Musée de l'Art Contemporain (Montreal) for opera, "Pacamambo"  
 2000 Commission from Chants Libres / Musée de l'Art Contemporain (Montreal) for opera, "l'Enfant des Glaces"  
 1999 Commission by Canadian Pianist Marc Couroux, for concert piece, "Dygromitz"  
 1998 Commission by Kanagawa Arts Foundation, for Interactive Dance work, "GO"  
 1997 Commission by US Saxophonist Steve Duke, for concert piece, "Punjar"  
 1996 Commission by Canadian percussionist Trevor Tureski, for concert piece, "Japtax"  
 1995 Commission for recording session for CD CDCM, "Hok Pwah"  
 1994 Invitation to Composer's / Librettist's Symposium at the Banff Centre (Alberta-Canada), "Framed Portrait"  
 1993 Commissioned recording Session by/at the Banff Centre (Alberta Canada) for "Hok Pwah"  
 1992 Commissioned recording by the Minnesota Composer's Forum for "Hok Pwah"  
 1992 Commissioned recording for CD International Computer Music Association, "Sketches for Hok Pwah"  
 1992 Invitation for residency at STEIM studio (Amsterdam) for composition, "Eschroadepipel"  
 1992 Invitation for residency at the Banff Centre (Alberta Canada) for composition, "Hok Pwah Sketches"  
 1991 Invitation for residency at STEIM studio (Amsterdam) for composition, "Vleigel Zeüghah"  
 1991 Commission from Bassist Maurizio Romero and Association MIXTURE, for concert piece "Taudrium"  
 1991 Commission from Keith Ormand Dance Company (Cologne), for concert piece, "Eschroadepipel"  
 1991 Invitation for residency at the Banff Centre (Alberta Canada) for composition, "Vleigel Zeüghah"  
 1990 Commission from Canadian percussionist Trevor Tureski, for concert piece, "Vleigel Zeüghah"  
 1990 Commission from Diffusion iMÉDIA: Electro-Clips, "Skweeit-Chupp"  
 1984 Scholarship for MIT Computer Music Workshop, Massachusetts Institute of Technology (MIT) USA

### Guest Residencies/Lectures / Workshops

- 2011 Laptop Meet Musicians Festival (LMMF) Venice, IT, Presentation: Mobile Audio & Instrument Design  
 2011 Fellowship research/creation residency at Newcastle University's CULTURE LAB (3 weeks)  
 2010 Lecture presentation at the "Human Tracking" seminar, organized by the Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT) at University of Montreal, in September  
 2009 IX Festival Internacional de Música Electroacústica Ai-Maako 2009, workshops organized by the Comunidad Electroacústica de Chile  
 2009 Composer, lecturer Independent Residenc "Sonic Slalom Project", Banff Center, CA  
 2008 Guest composer, ArrayMusic, Toronto, CA  
 2007 Composer/researcher, "Almost Perfect" Locative Media Workshop, Banff Centre, CA  
 2006 Guest composer/ lecturer, Banff Centre, Alberta, CA  
 2006 Guest composer/ lecturer, Hochschule für Musik und Theater, Hamburg  
 2006 Guest composer/ lecturer, ARRAY music, Toronto, CA,  
 2005 Guest composer/ lecturer, GMEA, Albi, France  
 2004 Panelist/composer/, *Entretiens Jacques Cartier*; Montreal, CA  
 2004 Guest composer/ lecturer, University of Buffalo; USA

- 2004 Guest composer/ lecturer, GEPS, Rennes, France
- 2003 Guest composer/ lecturer, GMEA, Albi, France
- 2001 Guest composer/ lecturer, *X Arts Management Course, Fundación Polar, Venezuela*
- 2000 Guest composer, *Festival El Callejon del Ruido*, Guanajuato, Mexico; lecture and concert
- 1999 Guest composer/lecturer, *June in Buffalo*, Buffalo, USA; lecture and workshops
- 1999 Guest composer, *Festival El Callejon del Ruido*, Guanajuato, Mexico; lecture and concert
- 1998 Lecturer, Northwestern University Music Faculty, Illinois.
- 1998 Interactive Dance Workshop, Kanagawa Arts Foundation, Tokyo
- 1997 Musique et Danse: Techniques d'Improvisation et de Composition Simultanée, *Théâtre Contemporain de la Danse*, Paris; workshop
- 1997 Informatique et Musique: le Language MAX, *Cycle de Formation de L'ENMDT* Albi, France; workshop
- 1996 Workshop in Audio Morphing, *The 6th International Symposium of Electronic Art*, Rotterdam,
- 1996 Workshop, lecture, concert, *Musique Action festival*, Vandoeuvre France
- 1996 Guest composer, *Festival El Callejon del Ruido*, Guanajuato, Mexico; lecture and concert
- 1995 Workshop entitled "Advanced Applications in Max", *International Computer Music Conference*, Banff, Canada
- 1995 Guest composer, *Emerging Voices Festival*, University of California, San Diego; lecture and concert
- 1994 Guest composer, Music Theatre Seminar, Banff Center for the Arts, Alberta Canada; lecture
- 1994 Guest composer, IRCAM Users Group, IRCAM Paris; lecture presentation
- 1994 Lecturer, SEGA Corporation, Tokyo; workshops
- 1994 Lecturer, NTT Corporation, Japan; workshop
- 1994 Lecturer, Nippon Electrical College, Tokyo; lecture
- 1994 Lecturer, Silicon Graphics Corporation, Tokyo; lecture
- 1994 Lecturer, Lysis, Switzerland; lecture, presentation
- 1994 Guest composer at The Center for Computer Music & Music Technology, Kunitachi College of Music; lectures, workshop.
- 1993 Workshop in computer music, *The 10th Colloquium of Computer Music*, Milan
- 1993 Lecture, workshop in computer music, *The 4th International Symposium of Electronic Art*, Minneapolis
- 1993 IRCAM Users Group, IRCAM Paris; presentation, lecture
- 1993 Guest composer, New York University Music and Technology Center, New York; lectures and concert
- 1993 Guest composer, Banff Center for the Arts, Alberta Canada, lecture and concert
- 1993 Lecture in computer music sponsored by WAVE Radio, Tokyo
- 1993 Workshop entitled "Signal Processing Max on the ISPW", *International Computer Music Conference*, Tokyo
- 1993 Guest composer, *Les 38ème Rugissants festival*; lecture, presentation
- 1993 Guest composer, Theatersaal Tacheles, *Digital Interacts*; lecture, concert
- 1992 Lecturer, Conservatoire National Supérieur de Musique, Lyon, France
- 1992 Guest composer, Conservatoire National de Narbonne, Educators Seminar; lecture, workshops
- 1992 Lecturer, FX studio, W. Prati, Milan Italy; workshops, seminars
- 1992 Guest composer, University of California, San Diego; lecture
- 1992 Lecture in ISPW programming, Commedia Technology, Amsterdam
- 1992 Lecture in computer music, STEIM Studios and the Instituut voor Sonologie, Amsterdam
- 1992 Lectures on Max and the ISPW, *International Computer Music Conference*, San Jose
- 1992 Workshops, lectures, concert, Université d'été, Ministère de l'Education Nationale, Grenoble
- 1991 Lecturer, Ecole Normale de Toulouse: Educators Seminar (Ministère de l'Education Nationale), Toulouse; workshops
- 1991 Guest composer, Banff Center for the Arts, Alberta Canada; lecture and concert
- 1991 Workshops, lectures, concert, Université d'été, Ministère de l'Education Nationale, Grenoble
- 1991 Guest composer, *MUSICORA*, (Grand Palais, Paris, April 10 - 14); lecture, music demonstration, IRCAM Production
- 1991 Lecturer, Ecole Normale de Toulouse: Educators Seminar, Ministère de l'Education Nationale, Toulouse France; lecture, presentation
- 1991 Lectures on Max and the ISPW, *The International Computer Music Conference*, Montreal,
- 1991 Lecturer, *The 9th Italian Colloquium of Computer Music*, Genoa; presentation, lecture
- 1991 Lecturer, Yamaha PK Group (auto-accompaniment synthesizers), Hamamatsu Japan; workshops, lecture
- 1990 Lecturer, Ecole Normale de Toulouse: Educators Seminar (Ministère de l'Education Nationale), Toulouse France; workshops
- 1990 Lecturer, 2nd International Symposium on Electronic Art, Groningen, The Netherlands; lectures
- 1990 Guest composer, Banff Center for the Arts, Alberta Canada; lecture and concert
- 1990 Guest composer, Concert/seminar produced by Tempo Reale, Milan; lecture

- 1989 Lecturer, seminar for Educators from the Education Nationale, IRCAM Paris; workshops, lectures  
 1989 Guest composer, Atelier Cuivres et Percussions de l'Intercontemporain; presentation, concert.  
 1989-93 Lecturer, IRCAM Summer Academy and Composer's Seminar, Paris; workshops, lectures  
 1988 Guest composer, Zurich Conservatory, Zurich; seminar and concert.  
 1988 Lecturer, 1st International Symposium on Electronic Art, Utrecht, The Netherlands; lecture, workshop  
 1987-93 Lecturer, IRCAM internal seminars, Paris; workshops, lectures

### Publications

- M. Wozniowski, Z. Settel, N. Bouillot, and J.R. Cooperstock. Sonic Interaction via Spatial Arrangement in Mixed Reality Environments. Chapter in CFP Sonic Interaction Design book: Case Studies, MIT Press, 2012. (Pending publication).
- R. Pellerin, N. Bouillot, T. Pietkiewicz, M. Wozniowski, Z. Settel, E. Gressier-Soudan, J.R. Cooperstock. SoundPark: Exploring Ubiquitous Computing through a Mixed Reality Multi-player Game Experiment. *Studia Informatica Universalis*, Special Issue: Best Papers from NOTERE 2009, 8(3):21. 2010.
- 2009 Z. Settel, *Storytelling with Voice and Computer*, Opera Today, Spring 2009
- 2009 Z. Settel, M. Wozniowski, N. Bouillot, and J.R. Cooperstock. Audio Graffiti: A location based audio-tagging and remixing environment. International Computer Music Conference (ICMC), Montreal, Canada, Aug. 16-21, 2009.
- 2009 R. Pellerin, N. Bouillot, T. Pietkiewicz, M. Wozniowski, Z. Settel, E. Gressier-Soudan, and J.R. Cooperstock. SoundPark: Towards Highly Collaborative Game Support in a Ubiquitous Computing Architecture. 9th IFIP International Conference on Distributed Applications and Interoperable Systems, Lisbon, Portugal, June 9-12, 2009.
- 2008 M. Wozniowski, N. Bouillot, Z. Settel, and J. R. Cooperstock. Large-scale mobile audio environments for collaborative musical interaction. International Conference on New Interfaces for Musical Expression, Genova, Italy, June 5-7, 2008.
- 2008 N. Bouillot, M. Wozniowski, Z. Settel, and J. R. Cooperstock. A Mobile Wireless Augmented Guitar. International Conference on New Interfaces for Musical Expression, Genova, Italy, June 5-7, 2008.
- 2008 M. Wozniowski, N. Bouillot, Z. Settel, and J. R. Cooperstock. An Augmented Reality Framework for Wireless Mobile Performance. Mobile Music Workshop, Vienna, Austria, May 13-15, 2008
- 2007 J.R. Cooperstock, M. Wozniowski, and Z. Settel. Towards mobile spatial audio for distributed musical systems and multi-user virtual environments. Spatial Audio for Mobile Devices, workshop in conjunction with International Conference on Human Interaction with Mobile Devices and Services (MobileHCI), Singapore, Sep. 9, 2007.
- 2007 M. Wozniowski, Z. Settel, and J.R. Cooperstock. AudioScape: A Pure Data library for management of virtual environments and spatial audio. Pure Data Convention, Montreal, Canada, Aug. 21-26, 2007.
- 2007 M. Wozniowski, Z. Settel, and J.R. Cooperstock. User-specific audio rendering and steerable sound for distributed virtual environments. International Conference on Auditory Display (ICAD), Montreal, Canada, June 26-29, 2007
- 2006 M. Wozniowski, Z. Settel, and J.R. Cooperstock. A framework for immersive spatial audio performance. New Interfaces for Musical Expression (NIME), Paris, France, June 5-7, 2006.
- 2006 M. Wozniowski, Z. Settel, and J.R. Cooperstock. A Paradigm for Physical Interaction with Sound in 3-D Audio Space. International Computer Music Conference (ICMC), New Orleans, USA, Nov. 6-11, 2006.

- 2006 M. Wozniowski, Z. Settel, and J.R. Cooperstock. A Spatial Interface for Audio and Music Production. International Conference on Digital Audio Effects (DAFx), Montreal, Canada. Sept. 18-20, 2006.
- 2001 Z.Settel, The use of real-time interactive music systems in music composition and performance, doctoral dissertation, University of Montreal, June 2001
- 2000 Real-Time Streaming of Multichannel Audio Data over Internet. Xu, A.; Woszczyk, W.; Settel, Z.; Pennycook, B.; Rowe, R.; Galanter, P.; Bary, J.; Martin, G.; Corey, J.; and Cooperstock, J. R. 2000. Journal of the Audio Engineering Society, 48(7/8):627-641, July.
- 1999 Proceedings of the 2nd COST G-6 Workshop on Digital Audio Effects (DAFx99), NTNU, Trondheim, Norway, December 1999; "Audio-rate Control of FFT-based Processing Using Few Parameters", co-authors C. Lippe, Z.Settel
- 1999 1999 IEEE ASSP Workshop, Mohonk, NY, Proceedings  
"Low-Dimensional Audio-rate Control of FFT-based Processing", co-authors C. Lippe, Z.Settel
- 1999 7th Biennial Symposium on the Arts and Technology, Connecticut College, Proceedings, pp. 156-167, "Low-dimensional audio-rate control of FFT-based processing", co-authors C. Lippe, Z.Settel
- 1998 Journal of the Acoustical Society of America, Vol. 104, No. 3, Pt.2, September 1998  
"Sound Source Localization in Multimedia Applications", Z. Settel
- 1998 International Computer Music Conference, Ann Arbor, Proceedings  
"Real-time Control of the Frequency-Domain with Desktop Computers", co-authors C. Lippe, Z.Settel
- 1998 Novak, B., Pennycook, B. Settel, Z., Strawn, S., Wisner, P. & Woszczyk, W. (1999). Next-Generation Internet Capabilities. J. Audio Eng. Society.47 (4) 300-307.
- 1998 Society for Electro-acoustic Music of the United States Conference, Dartmouth College, New Hampshire, Proceedings, "The MSP audio programming Environment", co-authors C. Lippe, Z.Settel
- 1996 6th International Symposium of Electronic Art, Rotterdam, workshop text,"Audio Morphing Tutorial", Z.Settel
- 1995 11th Italian Colloquium on Computer Music, Bologna, Proceedings  
"Musical Applications Using Real-time Signal Processing", co-authors C. Lippe, Z.Settel
- 1995 1995 IEEE ASSP Workshop, Mohonk, NY, Proceedings  
"Real-time Musical Applications Using Frequency Domain Signal Processing", co-authors C. Lippe, Z.Settel
- 1995 5th Biennial Symposium on the Arts and Technology, Connecticut College, Proceedings  
"More Real-time Musical Applications Using FFT-based Resynthesis Performance", co-authors C. Lippe, Z.Settel
- 1994 Contemporary Music Review, Vol. 10, United Kingdom, "Real-time Timbral Transformation: FFT-based Resynthesis", Harwood Academic Publishers, co-authors C. Lippe, Z.Settel
- 1994 International Colloquium in New Music Research, Ghent, Proceedings  
"FFT-based Resynthesis for Timbral Transformation in a Compositional Context", co-authors C. Lippe, Z.Settel
- 1994 International Computer Music Conference, Aarhus, Proceedings  
"Real-time Musical Applications using FFT-based Resynthesis", co-authors C. Lippe, Z.Settel
- 1994 Journees d'Informatique Musicale, Bordeaux, Proceedings, "Applications for Real-time FFT-based Resynthesis", co-authors C. Lippe, Z.Settel

- 1994 Society for Electro-acoustic Music of the United States Conference, Middlebury College, Vermont, Proceedings, “Real-Time Timbral Transformation: FFT-based Resynthesis” , co-authors C. Lippe, Z.Settel
- 1993 10th Italian Colloquium on Computer Music, Milan, Proceedings,“FFT-based Resynthesis for Real-Time Transformation of Timbre” , co-authors C. Lippe, Z.Settel
- 1993 4th International Symposium of Electronic Art, Minneapolis, Proceedings,“Live Interaction Applications for Real-Time FFT-based Resynthesis ” , co-authors C. Lippe, Z.Settel
- 1993 International Computer Music Conference, Tokyo, Proceedings, “The IRCAM Signal Processing Workstation and Max User Groups: Future Developments and Platforms” , co-authors C. Lippe, Z.Settel
- 1993 International Computer Music Conference, Tokyo, Proceedings, "Remote Applications using 'Smart Controllers' in Versatile Hardware Configurations”, Z. Settel
- 1993 International Computer Music Conference, Tokyo, Proceedings, “Nonobvious roles for electronics in performance enhancement”, Z. Settel, M. Puckette
- 1993 Audio Engineering Society proceedings: 94th Convention, Berlin, "Computer Control of a Digital Mixing Console" , Preprint #3558 (K1-2), T. Holton, Z. Settel
- 1993 City University of London, 3rd Science and Music Conference, United Kingdom, Proceedings, “Real-Time Timbral Transformation: FFT-based Resynthesis” , co-authors C. Lippe, Z.Settel
- 1992 Interactive Computer Music, by Robert Rowe, MIT Press; CD supplement: programming examples, Z. Settel
- 1992 Array Communications, vol.13, No. 1 “A Max Forum”, co-authors C. Lippe, Z.Settel
- 1992 International Computer Music Conference, San Jose, Proceedings, “Recent Developments: The IRCAM Signal Processing Workstation” , co-authors C. Lippe, Z.Settel
- 1991 9th Italian Colloquium on Computer Music, Italy, Proceedings,“The IRCAM Musical Workstation: A Prototyping and Production Tool for Real-Time Computer Music” , co-authors C. Lippe, Z.Settel
- 1991 Yamaha Internal Publication: Yamaha LM Division, Japan, "Musically interesting control of uninteresting sound generation parameters by means of global control and parameter grouping", D. Bristow, Z. Settel
- 1987 International Computer Music Conference, Urbana Illinois, Proceedings, “Control of Phrasing and Articulation in Synthesis", D. Wessel, D. Bristow, Z.Settel

### **Funded Research**

- 2012 Canada Council for the Arts (InterArts): Research: Music in Motion: Kinematics (physical models for movement) applied to spatial interaction with audiovisual content in dance performance. Funding, \$20K, duration 6 months, role: grant co-author, researcher/artist.
- 2011 Research Fellowship Award , Research: “Mobile audio processing for music applications”, University of Newcastle, Funding: \$6K, duration 3 months, role: grant co-author, researcher/artist.
- 2011-13 La Societé des Arts Technologiques (La SAT): MetaLab, Research: SpatOSC for renderer-independent audio rendering for audio scene graphs (or: spatializer-independent sound spatialization). Research: Audio Graffiti (mobile audio for geo-spatial interaction with sound and music). Funding: \$30K., duration 3 years, role: principal researcher.
- 2010-11 Programme Appui au passage à la société de l'information, Ministère des Services gouvernementaux , Research: “In Situ Audio Services”, Funding: \$300K, duration 2 years, role: grant co-author, researcher.

- 2009-12 CRSH Research/Creation, Research: “Écriture de l'espace dans les arts médiatiques du son et de l'image”, University of Montreal, Funding: \$250K, duration 3 years. role: grant co-author, researcher/artist.
- 2008 La Societé des Arts Technologiques (La SAT): PropulseArt (Développement économique, Innovation et Exportation Quebec), Research: Spatial Interaction and Interfaces using 3D scene graphs, Funding: \$40K, duration 1 year, role, principal researcher.
- 2008 Conseil des arts et des lettres du Québec (CALQ) grant for research/creation residency in “Spatial / Mobile Music”, with the Arraymusic Ensemble of Toronto. Funding: \$10K, duration five months, role grant co-author, researcher/artist.
- 2007-10 Canada Council for the Arts / Natural Sciences and Engineering Research Council New Media Initiative, Artist at McGill’s Center for Intelligent Machines (J. Cooperstock), “A Pervasive Multi-user Augmented Space for Mobile Immersive Interaction with Sound and Music”. Funding: \$389K: \$89K (arts) + \$300K (science), duration 3 years, role: grant co-author, researcher/artist.
- 2006-10 Fondation Canadienne pour l'innovation. University of Montreal, Funding: \$3,5 million, duration 4 years, role: primary researcher.
- 2006-7 Canada Council for the Arts, Commission/collaboration, Sacred World Lab, Delhi, India, Research: Audioscapes for Audiovisual Installations, Funding: \$62K: \$17K (arts) + \$45K (hosting), duration 1 year, role grant co-author, researcher/artist.
- 2004-6 Canada Council for the Arts / Natural Sciences and Engineering Research Council New Media Initiative, Artist at McGill’s Center for Intelligent Machines (J. Cooperstock), Research: “ISoundscape Performance Works via Interactive Environment for Immersive Audiovisual Scene Generation”, Funding: \$256K: \$56K (arts) + \$200K (science), duration 2 years, role: grant co-author, researcher/artist.
- 2003-07 La Societé des Arts Technologiques (La SAT): Territoires Ouverts (Patrimoine canadien), Research: nSlam: multi-channel Audio Streaming and utilities, and AudioTwist: audiovisual scene graphs for interactive arts, Funding: \$120K, duration 4 years, role, principal researcher.

### Research Activities

- 2011 spatOSC (3D audio scene graph rendering), and mobile geo-tagged audio capture and rendering(MetaLAB project), La SAT, Montreal
- 2011 Kinesonics: motion dynamics modeling for spatial user interaction with virtual audiovisual content in augmented reality applications, University of Montreal Faculty, La SAT
- 2011 Mobile Audio Processing, libPD, for IOS hardware for music performance applications, Newcastle University, UK
- 2010... Mobile Audio/Music, University of Montreal
- 2009... “Volumetric Audiovisual Arts”, University of Montreal, Music Faculty
- 2008-9 3D spatial interaction, (PropulseART project), La SAT, Montreal
- 2007-9 “A Pervasive Multi-user Augmented Space for Mobile Immersive Interaction with Sound and Music”, Center for Intelligent Machines, Engineering Dept. McGill University
- 2006... Immersive Audio (3D), (TOT project), La SAT, Montreal
- 2004-6 Immersive Audio/Music, Soundscape Project, Center for Intelligent Machines, Engineering Dept. McGill University
- 2003... Multi-channel audio and streaming utilities for music production, (TOT project), La SAT, Montreal.
- 2000-01 Multi-channel sound source simulation techniques and innovations for Sheefa.net
- 1999 Real-time network streaming software for transmitting multi-channel audio prepared for demonstration at the Audio Engineering Society Convention in New York City, 9/99.
- 1999 Low-dimensional control of Real-time Frequency-domain DSP implementations, using Max Signal Processing (MSP)
- 1998 Real-time Frequency-domain DSP implementations for convolution, using Max Signal Processing (MSP)
- 1997... Audio diffusion system research and development for commercial Surround Sound implementation. Sheefa.net, USA
- 1996 Feasibility study: audio-visual systems for EXPO 2001 (Switzerland) including projected virtual reality implementations. Nagra-Lysis / Merlin, Switzerland

- 1995 All-software audio mixing and mixer control surface design; collaborators: Nagra-Lysis engineering team, Switzerland
- 1994 Digital Filter Design for audio mixing applications, parametric boost/cut bandpass and double shelving filters; collaborator: Jean-marc Jot, IRCAM Paris
- 1993-97 Real-time convolution applications: Cross Synthesis, Phase Vocoding, Filtering, Denoising and Musical Event Detection; collaborators: Miller Puckette, Cort Lippe, Stephan Bilbao, IRCAM Paris
- 1990... Musical Event Detection in sung and spoken voice; collaborators: Fides Kruker, Margaret Ball, Paul Dutton, Barbara Hannigan, Banff Center, Alberta Canada, and IRCAM Paris
- 1992-93 Physical Modeling of wind instruments; collaborator: Josef Morrison (Mosaic Application), IRCAM Paris
- 1991-92 Real-time automatic keyboard harmony analysis; collaborators: Yamaha PK division development team, Japan
- 1991-92 Musical Event Detection in Brass Instruments; collaborators: Benny Sluchin, Jerome Naulais, Gerard Bouquet (Ensemble Intercontemporain), IRCAM Paris
- 1991-92 Global parametric control of sound generators; collaborator: David Bristow, Yamaha LM Division, Japan
- 1990-93 Chaos models applied to sound control and generation; collaborator: James Dillon, IRCAM Paris
- 1987-89 Time Map representations using smooth, monotone, interpolating B-splines, and line segment approximations for continuous functions; collaborators: Susan Winsberg (Bell Labs), David Wessel, IRCAM Paris
- 1987-89 Time Map applications for resampling, time stretching, Midi Sequencing, and tempo following, IRCAM Paris.
- 1987-88 Classification of musical tones by timbre (Timbre Space); collaborators: David Bristow (Yamaha), David Wessel, IRCAM Paris
- 1986-87 Object Oriented Music Environments, Preformes (L. Boynton), IRCAM Paris
- 1984 Sound generation using multiple sample tables; advisor: Miller Puckette, Massachusetts Institute of Technology (MIT) USA

### **Music Software Design and Development**

- 2009... SPIN (Spatial Interaction Framework) for 3D audiovisual scene authoring and rendering
- 2009... PDsheefa, libraries and utilities for audio rendering and Spin client authoring.
- 2009 Audioscape 2.1, scalable audio scenegraph renderer
- 2008-9 Vess and AudioScape 1.0, framework for 3D audio and music authoring and rendering
- 2006-7 AudioTwist 3D immersive audio package, including "Xjimmies" – conception and design. La SAT, Montreal, CA
- 2005-8 "Soundscape" Immersive Audio Framework – conception / design / audio development, Center For Intelligent Machines (CIM) Engineering Dept. McGill University, CA
- 2004-5 nSLAM audio package, including "Xjimmies" – conception and design. La SAT, Montreal, CA
- 2002 Design and development of "LocalizeQ", Second edition of the Zeep LocalizerDSP for multi-channel three-dimensional sound source simulation. [*Sheefa.net, USA*]
- 2000-01 Design and development of "LocalizerDSP", a Macintosh-based application for multi-channel sound source simulation (surround sound tools). [*Sheefa.net, USA*]
- 1999 Production of "Made at McGill" software package, contributed to Cycling74's "Pluggo" release
- 1999 Development of Real-time Sound source localization software: "Dr. Dop", contributed to Cycling74's "Pluggo" release.
- 1999 Design and development of "Yamaha O1V Tools", a Macintosh-based application to control and manage a large digital audio mixing console. [*Sheefa.net, USA*]
- 1998 Design and development of DSP library: "Jimmies", 2nd edition, released by IRCAM Forum [*IRCAM, Paris*]
- 1998 Design and development of Frequency Domain-based DSP software, bundled with MSP [*Cycling74, USA*]
- 1997 Design and development of website server-based GCI routines for sound and music web applications such as "Music Mail".
- 1997... Design and development of "Yamaha O2R Localizer", a Macintosh-based application for Surround Sound Mixing on a large digital audio mixing console, being controlled by the Macintosh PC. Design and development of complete application from surround sound implementation to GUI. [*Sheefa.net, USA*]
- 1996... Design and development of "Yamaha O2R Project Manager Pro.", a Macintosh-based application to control and manage a large digital audio mixing console. Design and development of dynamically linked code segments (Plug-ins) to provide additional functionality for the above application. [*Sheefa.net, USA*]

- 1996... Design and development of a real-time device communications protocol, and real-time scheduling/dispatching software for television automation systems. [*Lysis, Switzerland*]
- 1996... Development of external code resources (externs) for Opcode's Max program, involving the porting of existing externs to the Apple Power PC platform. [*Opcode Systems, USA*]
- 1995-96 Design and development of "Yamaha O2R Project Manager", a Macintosh-based application to control and manage a large digital audio mixing console, including:
- Protocol design for external communication with the Yamaha O2R digital audio mixing console.
  - Program design and development of Yamaha Project Manager Software. [*Yamaha Pro-Audio Division, Japan*]
- 1995... Design and Development of an Audio-Morphing Package for the Ircam Signal Processing Workstation (ISPW), used in the FFT workshop at ICMC95 in Banff. [*Sheefa.net USA*]
- 1995... Web site design and development, including server-level administration (UNIX) and CGI development. [*Bionic Media, Paris*]
- 1995 Design team member in the development of a real-time external control RS422 communications protocol for the Yamaha O2R digital audio mixing console. [*Yamaha Pro-Audio Division, Japan*]
- 1994-95 Design and development of a software-based audio mixing engine and control system for radio broadcast.
- DSP design and development.
  - Control surface integration and development. [*Nagra-Lysis, Switzerland*]
- 1994-95 Design and development of Macintosh-based inter-application event protocol and runtime library supporting communication between Avid's Macintosh-based "Audio Vision" post-production video editing application and digital audio mixer control software. [*Avid Technologies, USA*]
- 1994 Collaboration with Jean-Marc Jot in the development of "Tunable Digital Frequency Response Equalization Filters" for use in multi-band parametric EQ applications [*IRCAM, France*].
- 1992 Member of consultation group (and contributing author), for the "Lingotto" project, during the planning stages of the Lingotto Computer Music Facility. [*Tempo Reale: L. Berio, Italy*]
- 1991-94 Work on the IRCAM Signal Processing Workstation (ISPW) Max program including:
- The design and development of IRCAM's ISPW digital signal processing (DSP) libraries.
  - Contributions in design and development of the general environment and final software release for ISPW Max [*IRCAM, Paris*]
- 1991-92 Research, design and development of prototype synthesizer control interface and software, providing low-dimensional global control of large numbers of synthesis parameters, during the planning stages of Yamaha's SY88 synthesizer. [*Yamaha LM Division, Japan*]
- 1991-94 Design and development of "Yamaha DMC1000 Project Manager", a Macintosh-based application to control and manage a large digital audio mixing console; three consecutive major versions of the program were developed. [*Yamaha Research and Development, London*]
- 1991-92 Design and development of a (Macintosh-based) emulator "ABC", emulating the interaction software in the Yamaha "PSR" home keyboard series, including real-time harmonic analysis and automatic accompaniment. Two consecutive major versions of the program were developed. [*Yamaha PK Division, Japan*]
- 1991 Development of "Yamaha DMC1000 Demonstration Software", a Macintosh-based application for promotional use, demonstrating Yamaha's DMC1000 digital audio mixing console. [*Yamaha Pro-Audio Division, Japan*]
- 1990 Design and development of Max-based, real-time MIDI processing library for live performance applications [*L. Berio: Tempo Reale, Italy*]
- 1988-89 Design Team in planning the Trails Audio Matrix System for concert hall sound spatialization, used by Luciano Berio. [*Audio-Matica, Italy*]
- 1987-90 Important contribution in design and development of several objects for the original version of the Max program by Miller Puckette. [*IRCAM, Paris*]
- 1987-89 Design and development of time mapping preprocessor with graphic editor, written in Lisp (UNIX and Apple) for resampling, time stretching and Midi sequencing. The project included research with mathematician Susan Winsberg (Bell Labs) in the area of smooth, monotone, interpolating B-spline curves. [*IRCAM, Paris*]
- 1986-87 Development of real-time remote control audio mixer software (Midi Lisp). [*IRCAM, Paris*]
- 1986-93 Software development for IRCAM Music Production: [*IRCAM, Paris*]
- Time map-based time distortion package (Yuasa 1987, Vinao 1989).
  - Real-time tempo follower and synchronizing playback sequencer (Vinao 1989).
  - Data base, accessors and preprocessors based on chaos algorithms for automated soundfile mixing (Dillon 1990) and real-time signal-processing control.
  - Compositional software for analyzing and manipulating pitch and rhythm contours, and interval vectors. (Durand 1991, Schaathun 1992).

- Sound spatialization platform for Ircam's 32 X 32 point audio mixing matrix (Dillon 1990, Schaathun 1992).
- Real-time instrument (violin) tracking software (Schaathun 1992).
- Real-time automatic mixing, signal processing environment (Jarrell 1992, 1993).
- Design and implementation of sound unit generators, based on chaos models (Jarrell 1993).

### Technical Experience, Positions/Clients

- 2011.. Principal Researcher, spatOSC and Audio Graffiti projects, La SAT, Montreal, Quebec  
 2007-9 Project Director, Mobile Audio project, CIM- McGill University Engineering Dept.  
 2005-7 Project Director, "Soundscape" project, CIM- McGill University Engineering Dept.  
 2003... Audio Research Director, La SAT, Montreal, Quebec  
 1997-98 Software Developer, Bionic Media/France Telecom, Paris  
 1996-05 Software Developer/Founder, Sheefa.net, USA  
 1995-96 Audio-Visual Consultant, Atelier Merlin, Switzerland  
 1994-95 Software Consultant, IRCAM, Paris  
 1994-96 Lysis Staff: Project Engineer, Lysis, Switzerland  
 1990-96 Software Consultant, Yamaha Corporation, Japan  
 1989-96 Software Consultant, Yamaha Research and Development, England  
 1994-95 Software Consultant, Avid Technologies Corporation, USA  
 1994-95 Software Consultant/Instructor Marubun Corporation, Japan  
 1990-95 Yamaha Studio Manager at IRCAM, Yamaha Corporation, Japan  
 1988-92 Music Technology and Software Consultant, Tempo Reale / Audio Mactica, Italy  
 1988-94 IRCAM Staff: Composer/lecturer/Developer, IRCAM, Paris  
 1986-88 Invited composer / researcher, IRCAM, Paris

### Programming languages and environments

Basic, Lisp (w/ Object Oriented extensions), C, C++, Assembler, HTML, CGI development (Internet servers)  
 UNIX, Apple, NextStep, MAX/MSP and PD-GEM (DSP / OpenGL programming)

### Public Service and Miscellaneous Activities

- 2007... Principal Researcher, "iACT", University of Montreal.  
 2008 Jury Member, CALQ  
 2006... Jury Member, Masters and Doctoral examinations, University of Montreal, Music Faculty  
 2003-05 External Jury member, HEXAGRAM, Montreal CA  
 2001 Referee for papers, *The International Computer Music Conference*, Havana, Cuba, 2001  
 1998-01 Chairman of Networked Audio Systems, Audio Engineering Society (AES)  
 1997.. Artistic Committee, Association Creation Recherche Electroacoustiques Quebec (ACREQ)  
 1997-99 Chair of Music Technology, Music Faculty, McGill University  
 1997 Referee for papers, *The International Computer Music Conference*, Thessaloniki, Greece 1997  
 1996 Music judge for ICMA Commission, International Computer Music Association  
 1996 IRCAM User's group affiliate member  
 1993-97 Performer and founding member of the *IRCAM Blues Band*  
 1993... Composer, performer, and founding member of the interactive computer performance group *The Convolution Brothers*  
 1988-91 Member of the IRCAM Committee de Lecture (reading panel) for the Stage d' Informatique Musicale pour Compositeurs  
 1989-95 Composer and member of the Paris-based group *Association MIXTURE* which presents concerts of contemporary music using new technology  
 1986-95 Composer and member of the Paris-based group *New American Music in Europe* (NAME) which presents concerts of contemporary American music in Europe

### Technical Awards

- 2001 Audio Engineering Society (AES) Citation Award for work in the area of Collaborative Multichannel Performance via Broadband Internet.

### Affiliations

University of Newcastle, CultureLab, Newcastle, UK

Association Creation Recherche Electroacoustiques (ACREQ) Montreal, CA  
Audio Engineering Society (AES)  
Center for Intelligent Machines (McGill Univ.) Montreal, CA  
Faculty of Musique, University de Montreal, Montreal, CA  
Groupe de Musique Experimentale de Albi (GMEA) Albi, France  
Hexigram Committee du Recherch et Creation (CRC), Montreal, CA  
International Computer Music Association, USA  
IRCAM Forum User's Group, FRANCE  
Minnesota Composers Forum, USA  
Music Technology and Recording Faculty, McGill University, Montreal, CA  
Society for Art and Technology (SAT), Montreal, CA  
Société des Auteurs, Compositeurs et Editeurs de Musique (SACEM), FRANCE