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Virginia Tech  
Department of Music - 0240  
Director, DISIS Interactive Sound & Intermedia Studio  
Assistant Co-Director, CCTAD  
Art & Art History, CS, CHCI (by courtesy)

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**E** DUCATION

**D.M.A.** in Composition, University of Cincinnati, College-Conservatory of Music, 2005.

- Cognates in *Computer Music & Programming* (advisor Mara Helmuth), and *Music Theory* (advisor Robert Zierolf).
- *Composition Studies* with: Mara Helmuth, Joel Hoffman, Michael Fiday, and Fredric Rzewski.
- *Individual Lessons* with: Paul Lansky, Brad Garton.
- *Computer Music Studies* with: Mara Helmuth.
- *Theory Studies with*: Robert Zierolf, Randall Wheaton, and Steven Cahn.

**M.M.** in Composition, University of Cincinnati, College-Conservatory of Music, 2001.

- *Composition Studies* with: Mara Helmuth, Henry Gwiazda, and Joel Hoffman.
- *Individual Lessons* with: Diane Thome.
- *Computer Music Studies* with: Mara Helmuth.
- *Theory Studies* with: Frank Samarotto, and Robert Zierolf.
- Additional studies in computer programming (College of Engineering) and organ performance (Leon Couch III).

**B.M.** in Composition (Summa Cum Laude), University of Cincinnati, College-Conservatory of Music, 1998.

- *Composition Studies* with: Darrel Handel, Joel Hoffman, Ricardo Zohn-Muldoon, and Mara Helmuth.
- *Individual Lessons* with: Paul Lansky.
- *Computer Music Studies* with: Mara Helmuth.
- *Theory Studies* with: Frank Samarotto, Joel Hoffman, and Robert Zierolf.
- Additional studies in orchestration (Samuel Adler), piano performance (David Warf), and orchestral conducting (Terence Milligan).

**Gymnasium degree** in Music Theory, Music Academy “Vatroslav Lisinski” (Zagreb, Croatia), 1992.

- Dissertation in choral conducting (advisor prof. Golčić).
- Additional studies in piano performance.

## AWARDS, GRANTS, AND ACHIEVEMENTS

- Appointed Assistant Co-Director of Collaborative for Creative Technologies in the Arts & Design, fall 2008-present.
- *Interactive Taiji* (VT Education Enhancement Grant) (PI), summer 2008.
- Recipient of the *Sustainable, Intelligent Environment for Communal Interaction with Art and Culture* matching internal grant (VT ISCE/ICTAS) (PI), summer 2008.
- Recipient of Virginia Tech Institute of Science, Culture, and Environment grants (Singing Darwin project co-PI), summer 2008.
- Recipient of the *Sustainable, Intelligent Environment for Communal Interaction with Art and Culture* external grant (Wake-Forest/Wachovia) (PI), spring 2008.
- Courtesy appointments in Art & Art History and Computer Science, fall 2007-present.
- Recipient of Virginia Tech Institute of Science, Culture, and Environment grants (AMHDI project PI, SMILE project co-PI, TWISTS commission), summer 2007.
- Virginia Tech/Arts Museum of Western Virginia DARC grant recipient, summer 2007.
- Virginia Tech Art Stakeholders research project (co-PI) grant recipient, spring 2007.
- Virginia Tech College of Liberal Arts and Human Sciences (CLAHS) exploratory research grant recipient, fall 2006.
- Virginia Tech Center for Excellence in Undergraduate Teaching (CEUT) FSG award recipient, fall 2006.
- Virginia Tech College of Liberal Arts and Human Sciences (CLAHS) creative grant recipient, spring 2006.
- *SEAMUS Electroclips* composition competition winner, 2006.
- First non-CS Member of the Virginia Tech's Center for Human Computer Interaction (CHCI) by invitation, 2006-present.
- Member of the Virginia Tech's Digital Arts Research Collaborative (DARC) by invitation, 2006-present.
- Elected Director of the international Linux Audio Consortium, 2005-present.
- ASCAP Plus annual award, 2005-present.
- Winner of the national graduate student award by the Croatia's National Ministry of Science, Education, and Sports, 2004.
- Author of the most downloaded and one of the most popular Linux desktop sound themes, 2004-present.
- *Upbeat* composition competition winner, Croatia, Hvar, 2003.
- *Presser Music Award* finalist, University of Cincinnati, College-Conservatory of Music, 2003.
- Author of the *RTMix* software featured by the Stanford and Eastman electroacoustic studios, 2003.
- Featured in Alumni publication *Communique*, 2002, 2003.
- University Research Council Grant recipient, University of Cincinnati, 2001, 2002.
- summer Graduate Scholarship, University of Cincinnati, College-Conservatory of Music, 1999, 2000, 2003.
- Graduate Assistantship Award, University of Cincinnati, College-Conservatory of Music, 1999-2003.
- University Graduate Scholarship, University of Cincinnati, 1999-2003.
- Nominated by the University of Cincinnati for *Who's Who Among Students in American Universities and Colleges*, 1999.
- *SAI* composer competition winner, Cincinnati, OH, 1998.
- University Honor Scholarship, University of Cincinnati, College-Conservatory of Music, 1993-1998.
- Second place in the National Pascal programming competition, Zagreb, Croatia, 1992.

## **T**EACHING EXPERIENCE

*Assistant Professor*, Virginia Tech University (teaching evaluations ranging between 3.5 and 4.0, on a scale of 0=worst to 4=best), 2006-present.

- Computer Music & Multimedia Design (MUS4124, MUS4984) (new 2-semester course), fall 2006-present.
- Soundtrack & Effects Composition (new course), fall 2007.
- Introduction to Music Technology (MUS2054), spring 2006, spring 2007, spring 2008.
- Composition, spring 2006-present.
- Independent Studies, spring 2006-present.
- Curriculum planning and development for the Music Technology program and the Cyberarts Initiative (a.k.a. Collaborative for Creative Technologies in Arts and Design or CCTAD).

*Adjunct Faculty*, University of Cincinnati, College-Conservatory of Music, 2005.

- Linux and Multimedia, winter, spring, 2005.

*Visiting Professor*, Oberlin College, spring 2004.

- Composition, spring 2004.
- Studio Skills for Composers (TECH 150), spring 2004.
- Computer Music (TECH 201), spring 2004.

*Guest Lecturer*, 1999-present.

- Visiting lecturer at the Duke University, spring 2008.
- Visiting lecturer at the Yong Siew Toh Conservatory of Music at the National University of Singapore, winter 2008.
- Visiting lecturer at the CPATH NSF-funded workshop (VT CS/CHCI), November 2007.
- Visiting lecturer at the UNC Greensboro Computer Music Festival, November 2007.
- Visiting lecturer at the Virginia Tech Computer Science's Human-Computer Interaction Seminar, spring 2007.
- Visiting lecturer at the Art & Art History Time-Based Media class, winter 2007.
- Visiting lecturer for the "The Genius of the Place: Land and Identity in Contemporary Art" exhibition at the Arts Museum of Western Virginia, Roanoke, VA, November 2006.
- Visiting lecturer at the Computer Science's Cyberarts class, fall 2006.
- Visiting lecturer at the *mama.mi2.hr* contemporary multimedia institute in Zagreb, Croatia, summer 2006.
- Visiting lecturer at the University of Manchester, UK, spring 2006.
- Visiting lecturer at the *Accent05* festival, Cincinnati, OH, 2005.
- Visiting lecturer at the *Workshops in Electronic and Computer Music*, Oberlin College, 2004.
- Visiting lecturer at the *Accent04* festival, Cincinnati, OH, 2004.
- Visiting lecturer at the *Uzmah* festival, Hvar, Croatia, 2003.

*Graduate Teaching Assistant*, University of Cincinnati, College-Conservatory of Music, 1999-2003.

- Linux and Multimedia (new course), 2002-2003.
- Computer Music Composition (substitute faculty), 2002-2003.
- Intro to Electronic Music, 2000-2003.
- Honors Music Theory and Analysis, 1999-2000.
- Composition, 1998-2003.

*Performance instructor*, 1995-2005 (non-contiguous).

- Piano teacher, Cincinnati, OH.

## **T**EACHING QUALIFICATIONS

### **Electroacoustic Music and Multimedia Art**

- Interactive multimedia art composition
- *Reactive* and *Interactive* installations
- Acoustics and Psychoacoustics
- Algorithmic content generation and shaping
- Digital signal processing and sound synthesis
- DSP software design & development
- DSP-oriented software and hardware
- Recording techniques
- Multimedia studio design and management
- Electroacoustic music history

### **Composition**

- Individual lessons and lectures in seminar and classroom settings
- Collaborative endeavors
- Experimental art
- Installations
- Orchestration & arrangement
- Scoring & notation
- Ability to teach various styles and aesthetical approaches

### **Intermedia**

- Audio-visual collaborations
- Interactive multimedia art
- Installations
- Hyperinstrument/interface design and implementation
- Art and technology collaborations
- *Libre* software and framework for arts and design

### **Mentoring**

- Multimodal interactivity, sound, and multimedia research
- Piano performance tutoring
- Ensemble coaching

## **A**DDITIONAL INTERESTS

Pragmatic uses of acoustics, psychoacoustics, sonification, and multimedia frameworks for the improvement of the overall quality of life, including assistive technologies using large speaker arrays (see *DREAM* in the *Research* section).

Use of gaming paradigm for the design and development of interactive multimedia art installations and integration into intelligent spaces (see *Wake Forest* project in the *Research* section).

Pathways and standards for easier adoption and dissemination of interactive multimedia art, including circumvention and/or abatement of physical and logistical limitations of art that relies upon the contemporary technology.

Recontextualization of silence (see *The 0<sup>th</sup> Sound* in the *Presentations and Conference Exposure* section).

Sound Ecology and silent computing.

Audio engines for gaming and professional audio.

New interfaces and hyperinstruments for multimedia composition and performance (HCI).

Adaptation of performance spaces and practices to the needs of the 21<sup>st</sup>-century art.

Generation of formal density using the subtractive stochastic approach.

New approaches to music analysis, sound visualization, and sonification.

Exploring collaborative potential between various art disciplines and bridging the gap between arts and sciences.

Music research in education, human health and development, and therapy.

## PROFESSIONAL EXPERIENCE

### Administrative Roles

Virginia Tech Dept. of Music, 2006-present.

- Founder and director of the new Digital Interactive Sound and Intermedia Studio (DISIS) <<http://disis.music.vt.edu>>.
  - Funding and studio infrastructure, design and oversight of the development of the new space.
  - DISIS branding/website project, fall 2007.
  - Negotiated student technician part-time position, fall 2007. Extended to two positions, fall 2008.
  - Secured approximately undergraduate assistantships for various projects in 2007 and 2008.
  - Developed new curriculum including Computer Music & Multimedia Design and Soundtrack & Effects Composition.
  - Raised \$125,000.00 through proposals and grants for the infrastructure, fall 2006, spring 2007.
- Assistant Co-Director of the Collaborative for Creative Technologies in the Arts and Design (CCTAD) <<http://www.cctad.vt.edu>>, fall 2008-present.
- Negotiating licensing deals with corporate vendors for departmental needs.
  - Sibelius, Spectrasonics, East West, 2006, 2007.
- Negotiating and coordinating repair/maintenance efforts for the music dept. equipment.
  - Yamaha Disklavier repair and restoration, 2006-2007.
- Heading the redesign and development of the new CCTAD branding logo, fall 2006.
  - Oversight of CCTAD graduate assistants.
- Member of the CEUT interdisciplinary design group (by invitation), fall 2006, fall 2007.
- Seeking and organizing opportunities, events, and workshops including:
  - Multimedia installation kiosk PI (CCTAD), fall 2007.
  - *Bradford Fenwick*, vice president for research presentation for CCTAD, fall 2006.
  - *John Gerrard*, media artist presentation for CCTAD and Music Dept. faculty, fall 2006.
  - *Sibelius* scoring software on-campus demo and workshop for students and faculty, fall 2006.
  - *Notion* scoring software on-campus demo and presentation, spring 2006.
- Research Experience for Undergraduates (CS, CHCI) mentor, summer 2007, 2008.
- Thesis Committee Member, spring 2008-present.
- Consulting in music technology and studio design.
  - University of Wisconsin-Eau Claire computer music studio redesign, fall 2006.
- Member of VT CLAHS delegation (headed by Dean Ott Rowlands) to Bangor University (Wales, UK) for the purpose of ratifying cooperation/collaboration/exchange agreement between the two institutions, fall 2008.

Linux Audio Consortium Director (elected), 2005-present.

- Steering the organization in order to foster greater exposure of Linux as a viable audio software and hardware platform.
- Establishment of a foundation.
- Fund-raising initiatives.
- Creation of new programs that encourage participation and collaboration between multimedia artists, software developers, commercial vendors and media.
- Recruiting new members and seeking corporate/institutional endorsement.
- spring 2006: in collaboration with Robin Gareus (IT specialist, Netherlands) moved all [Linuxaudio.org](http://linuxaudio.org) resources to be hosted by Virginia Tech's Music Department, including mailing lists, website, sub-sites, and documentation. As part of the outreach, these community resources have resulted in over 4 Terabytes (4,000GB) of traffic with hundreds of thousands of visitors. Hosted sites include:
  - <<http://linuxaudio.org>>
  - <<http://apps.linuxaudio.org>>

### Administrative Roles (continued)

- <<http://download.linuxaudio.org>>
- <<http://docs.linuxaudio.org>>
- <<http://lad.linuxaudio.org>>
- <<http://ladspavst.linuxaudio.org>>
- <<http://lau.linuxaudio.org>>
- <<http://lists.linuxaudio.org>>
- <<http://lowlatency.linuxaudio.org>>
- <<http://quicktoots.linuxaudio.org>>
- <<http://stats.linuxaudio.org>>

SEAMUS Board Member and Treasurer (elected), 2005-present.

- Participating in board meetings, decision-making process, and day-to-day operations.
- Advising Board and the President on financial matters.
- Managing all monetary aspects of SEAMUS non-profit organization including membership and taxes.
- Reelected for the 2007-9 term.

Member of the paper reviewing panel for the Linux Audio Conference (by invitation), 2005-2007.

- Reviewing camera-ready paper and demo proposals for the conference.

Member of the SEAMUS Conference Committee (by invitation), 2004-2006.

- Advising planning and coordinating yearly SEAMUS conferences.

Production manager for the *ICMC 2003* conference, 2003.

- Coordinating concert rehearsals, sound and stage setup.

Music Director at the St. Pius X Parish, KY, 2004-2005.

- Overseeing music program of the largest regional Parish, music planning, maintenance of the musical equipment and inventory, financial management and planning, hiring musicians and planning events for special occasions.
- Raised \$60,000.00 for the redesign of the sound system and reinvigoration of the music program.

*Interactive and Experimental Music Festival* chief technician, 2002.

- Managing electronic equipment, setup, PR, and production.

*MusicX* international summer music festival series administrative assistant, 1998-2005.

- Design and maintenance of the official website, design of PR material, organizing housing and transportation for the incoming guests, coordinating all technical needs for the concerts, manning the main mix for the pieces involving electronics, as well as assisting with the budget management and coordination of assistants.
- Oversaw sound setup for Steve Reich's *Tehillim*, Louis Andriessen's *M is for Mozart*, *Brave Old World*, Kaija Saariaho's *Amers* and *Six Japanese Gardens*.

### Technical

College-Conservatory of Music, Center for Computer Music Studios (CCM)<sup>2</sup> administrator, 1999-2003.

- Purchasing, maintaining, and deploying IRIX, Mac OS 7-9, OS X, Linux OS machines, and various audio-oriented software, design and maintenance of the studio website, implementation of Web, mail, ftp, and nfs servers, as well as installation and upkeep of hardware, including 26-channel-capable Linux audio workstation.

**Technical (continued)**

College-Conservatory of Music computer systems assistant administrator, 1998.

- Maintaining Windows 3.1, 95, 98, NT, Mac OS 7-9, and IRIX computers.

Computer lab technician, 1997-1998.

- Maintaining 20+ Apple computers, teaching station, and a variety of classroom accessories.

**Programming**

Various contributions to the Linux audio community, 1998-present.

- Design of *RTMix* free audio-oriented software
- Design of *SPiDSiG* free audio-oriented cross-platform software
- Instrument and code contributions to the *RTcmix* project
- Collaborator with Mara Helmuth on the *Internet2* research project titled *Soundmesh*
- Contributor to *Gem* framework for *PD (Pure Data)*
- Co-Author of the *munger1~* Max/MSP external
- Contributor to the Linux *Superkaramba* desktop enhancement project
- Author of one of the most popular *Superkaramba* desktop themes titled "*Borealis*"

**Production**

- Soundtrack composer for the *FreeCol* entertainment software
- Author of the Linux desktop sound theme "*Borealis*"
- Production of audio and video materials (*ICMC 2001*, College-Conservatory of Music studio report)
- Recording and re-mastering recitals, concerts, and lectures
- Multimedia design (websites, video, animations, installations, software, games)

**Other**

- "Computer Systems in Music Education" Session Chair at ICMC 2007.

## RESEARCH

*Discrete REconfigurable Aural Matrix (DREAM) (a.k.a. AMHDI) (PI)* – a Two-dimensional speaker array for the sonification of composite Geometric shapes and images: 2006-present (work-in-progress).

- Principal Investigator for a collaborative project involving Virginia Tech’s CS, CHCI, CCTAD, and Music.
- Foundation for a Novel ‘Interactive Aural Painting.’
- Use of an aural technology for the visually impaired.
  - Aural PONG game concept.
- Received Virginia Tech College of Liberal Arts and Human Sciences \$32,000.00 exploratory research grant for the phase I (November, 2006).
- Received Virginia Tech Institute for Society, Culture, and Environment (ISCE) \$20,000.00 summer grant (April, 2007).
  - Generated two undergraduate assistantships.
- \$799,500 CreativeIT NSF proposal pending (submitted fall, 2008).

*disis.aka.wiiremote* – Max/MSP object offering connectivity with Wii Fit balance board.

- Devised as part of the *Interactive Taiji* project.
- Available at <<http://ico.bukvic.net/Max>>.

*Digital Arts Research Collaborative REVO-OVER* – commissioned by the new Arts Museum of Western Virginia: 2007-2008.

- Est. \$150,000 in funding of a multimedia installation.
- Interactive multimedia installation featuring video, 3D graphics, experimental 3D audio array and supporting algorithms, and interactive layer for audience participation.
- Responsible for building a CAVE-like system in Max/MSP/Jitter and thus providing a “glue” infrastructure for contributions from six members of the collaborative, sound and music production, and design and implementation of the interactive system.

*Wake Forest Intelligent Sustainable Space (PI)* – a collaborative endeavor among Wake Forest, Wachovia, Virginia Tech, Winston-Salem, Winston-Salem Center for Design Innovation, and Workplace Strategies: fall 2007.

- Focus on development of intelligent sustainable space that will be shared between Wachovia corp. and Wake Forest MBA program.
- Use of interactive multimedia installation to facilitate collaboration and information retrieval.
- Received \$14,200 in initial funding for virtual interactive space prototyping using Unity3D.
- Received \$10,000 in Phase 2 funding from VT ICTAS and ISCE.

*Networked Ensemble* (collaborator) – joint project among National University of Singapore, Stanford University and Virginia Tech with focus on exploring collaborative potential of network-based music interaction: 2007-present (work-in-progress).

- Awarded \$975,978 (Singapore currency).

*Interactive Taiji (PI)* – summer 2008 – present.

- Project involving Music, Computer Science, HCI, Human Development, and Education.
- The design and development of a taiji audio-visual game system for use in K-12 education and its assessment as a catalyst for promoting self-regulation.
- Collaborative effort with regional K-12 institutions (Craig and Montgomery Counties).
- Received \$5,000 Art+Technology+Education seed grant.

*μ Library for Interfacing Max/MSP/Jitter with Unity3D (PI)* – spring 2008.

- Software layer for seamless integration of Max/MSP/Jitter and Unity3D.
- Available from <URL pending>.

*Sustainable Silent Multimedia Computing (PI)* – as part of the DISIS development, focus on design and implementation of powerful silent workstations for the studio using sustainable approach: 2007.

- Cut cost by up to 50% when compared to equivalent OEM solutions.
- Use up to 60% less power while providing comparable or better performance.
- Use of (wherever possible) from environmentally friendly materials.
- Use of a single 1200 RPM fan for the entire system.

*Virginia Tech Stakeholders Project (co-PI)* – soundtrack, effects, and interactivity for the multimedia 2-DVD production for the funding campaign of the new Performing Arts Center: spring 2007.

- Received \$25,000 grant.
- Soundtrack for the visual flyby animation.
- Sound effects, ambient sounds, and interactive algorithms for the interactive first-person virtual tour of the new facility using Unity3D engine.
- Orchestral soundtrack for the video documentary.
- Generated two undergraduate assistantships.

*SMILE Project (co-PI)* – program dedicated to teaching science and mathematics to young children in remote regions of Appalachia: 2007-present.

- Received Virginia Tech ISCE \$20,000.00 summer grant (April, 2007).
- Design of tunes as scientific metaphors.
- Generated three undergraduate assistantships.

*Shaders Ahoy! (PI)* – collection of real-time texture processing algorithms using GLSL shader language for Max/MSP/Jitter released under the GPL license: 2007.

- Available from <<http://ico.bukvic.net/Max/>>.

*CCTAD Branding Project (PI)* – design of the branding image, online exposure and consolidation of information resources: fall 2006- spring 2007.

- Lead the design of branding materials and online resources.
- Exploration of advanced technologies for the purpose of outreach.
- Oversight of four graduate assistants.

*Digital Interactive Sound and Intermedia Studio (PI)* – design and oversight of building of the new bleeding-edge multimedia studio for the music technology program and CCTAD: fall 2006-2007.

- Software, hardware, and infrastructure research for the purpose of the design of an OS-agnostic contemporary creative, research, and learning environment.
- Blueprint design oversight.
- Building supervision.
- Fund-raising for infrastructure.
- Curriculum development.
- Promotion of collaborative research.

*PerColate munger1~ Max/MSP Object (PI)* – porting and enhancing the object using a platform and software-independent flex framework: spring 2007.

- Collaboration with Princeton University's PerColate author Dr. Dan Trueman, flex author Thomas Grill, and Ji-Sun Kim, CCTAD graduate assistant.

- Generation of Pure-Data and Max/MSP-transparent code.
- Annotated documentation for the porting endeavors.
- Additional features coupled with backwards compatibility.
- Modularization of design and optimization of code.

*0<sup>th</sup> Sound* – recontextualization of silence through association with mathematical paradox of number zero: 2005-present.

- Philosophical and pragmatic exploration of silence in contemporary multimedia art.
- Preliminary work presented at SPARK festival in Minnesota (February, 2005).

*RTMix* – a Real-Time Interactive Multimedia Art Performance, Composition, and Coaching Interface: 2001-2004.

- Libre software written in C++/Qt for the purpose of establishing a unifying performance interface for the live and interactive multimedia art employing a variety of DSP software. It is under continuous development.
- Sponsored by the University of Cincinnati \$1,500.00 Research Council Grant (2002).
- Presented on the *ICMC 2002* (Gothenburg, Sweden), *SEAMUS 2003* (Tempe, AZ), *LAC 2004* (Karlsruhe, Germany) conferences.
- Published paper in the *Organised Sound* (December 2002).
- Central interface for several composer's works.
- Featured on the Stanford's *CCRMA* <<http://ccrma.stanford.edu/planetccrma/software/>>, Eastman University's *Turnkey* <<http://lulu.esm.rochester.edu/kevine/turnkey/home.html>>, DeMuDi <<http://www.agnula.info>> and APODIO <<http://www.apo33.org/apodio/doku.php>> Linux distributions, and College-Conservatory of Music (*CCM*)<sup>2</sup> studios <<http://meowing.memh.uc.edu>>.
- Additional documentation available at <<http://ico.bukvic.net/Linux/RTMix/RTMix-docs/>>.

*Interactive 3D Multimedia Landscapes* as a form of modular work of art: 2001-2002.

- Utilizes *3DML* meta-language that enables users to experience interactive 3D world populated with the 3D positioned sound in their Internet browsers.
- Sponsored by the University of Cincinnati \$1,500.00 Research Council Grant (2001).
- Aim is to establish a new artistic genre utilizing Internet resources in which listener/observer actively determines the pace and subsequently the structure of a piece. The form needs to remain sane and resilient to the listener's tampering, always resulting in a satisfactory structure.

Stochastic Phrase and Density Structure Generator (*SPiDSiG*): 2001.

- Cross-platform free software written in C used for sculpting formal density of a work of art by utilizing subtractive stochastic approach with complementary prime forms of mathematical curves as probability descriptors.
- Presented on the *SEAMUS 2002* conference in Iowa City, IA (April 2002).

*Internet2* research project – collaboration with Mara Helmuth: 2000-2005.

- Resulted in a *Soundmesh* free software for OS X and Linux capable of streaming CD-quality sound via *Internet2* connection, thus posing as a unique real-time collaborative music-making tool.
- Written in C++/Qt (Linux version).
- Project was at the *SEAMUS 2001* conference.
- Collaborations with institutions across the country.

Design of new *RTcmix* interactive DSP instruments: 1998-2001.

- Developed REVMIX and MOCKBEND *RTcmix* instruments.

## PUBLICATIONS

Bukvic, I., D. Gracanin, F. Quek. August 2008: “INVESTIGATING ARTISTIC POTENTIAL OF THE DREAM INTERFACE: THE AURAL PAINTING.” International Computer Music Conference 2008, Belfast, UK.

Bukvic, I., J. Kim, D. Trueman, T. Grill. August 2007: “munger1~: TOWARDS A CROSS-PLATFORM SWISS-ARMY KNIFE OF REAL-TIME GRANULAR SYNTHESIS.” International Computer Music Conference 2007, Copenhagen, Denmark.

“iCulture.” for *Vennue* regional Virginia arts magazine (commission), 2007.

“munger1~: TOWARDS A CROSS-PLATFORM SWISS-ARMY KNIFE OF REAL-TIME GRANULAR SYNTHESIS.” *International Computer Music Conference*, Copenhagen, Denmark, 2007.

“Made in Linux — The Next Step,” *Linux Audio Conference* proceedings, Karlsruhe, Germany, 2005.

“The 0<sup>th</sup> Sound.” published in proceedings for the *SPARK* festival, Minnesota, 2005.

“Tabula rasa,” (D.M.A. Dissertation) *Ohiolink*. Available at  
<<http://www.ohiolink.edu/etd/view.cgi?acc%5Fnum=ucin1131065629>>, 2005.

CD review (Eric Chasalow’s *Left to His Own Devices*) published in the printed edition of *Array*, *ICMA*’s magazine (2005).

“Linux as a Mature Digital Audio Workstation in Academic Electroacoustic Studios – Is Linux Ready for Prime Time.” *Proceedings of the International Computer Music Conference* 2004, Miami, Florida.

“University of Cincinnati, College-Conservatory of Music Center for Computer Music - (CCM)<sup>2</sup> in 2004.” (co-author) *International Computer Music Conference* 2004, Miami, Florida.

“RTMix – towards a standardized interactive electroacoustic art performance interface.” *Organised Sound* Vol.7 No.3 (December 2002), 275-286.

*ICMC* 2002 concert review published in the *Array*, *ICMA*’s online magazine (available at  
<<http://www.computermusic.org/array.php?artid=95>>)

“RTMix: a Real-Time Interactive Electroacoustic Music Performance, Composition, and Coaching Interface.” *Proceedings of the International Computer Music Conference* 2002, 79-82.

“SlipStreamScapes III: The Sea\*,” (Master of Music Thesis) *Ohiolink*. Available at  
<<http://www.ohiolink.edu/etd/view.cgi?ucin984494016>>, 2005.

“MIDI and Art Music – an Aesthetic Comparison.” *M-Station* online magazine (available at  
<<http://mstation.org>>), 2002.

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\* This work was originally titled “Meditations 3: The Sea.”

## **P**RESENTATIONS, LECTURES & CONFERENCE EXPOSURE

*Taubman Museum of Art* noon lecture series on *DARC Revo:oveR*, fall 2008.

*Tonmeistertagung* invited keynote on *Linuxaudio.org*, Leipzig, Germany, fall 2008.

“The Art of Composer and Multimedia Sculptor.” *50 years of Computing Conference*, Cincinnati, Ohio, fall 2008.

“Communal Performance Art through Technology: A Study of ‘Soul’ Composition for Baritone, Computer, and Audience.” *College Music Society National Conference*, Atlanta, Georgia, fall 2008.

*VT summer Band Camp* music technology lecturer, Virginia Tech, summer 2008.

*Wake-Forest Intelligent Sustainable Space Multimedia Installation Project* (Phase I PI) prototype showcase as part of the Workplace Strategies booth at the University of North Carolina Greensboro’s *Design, Art and Technology Symposium*, spring 2008.

Visiting lecturer, Duke University, spring 2008.

Visiting lecturer, Yong Siew Toh Conservatory of Music at the National University of Singapore, winter 2008.

*New Music Festival* visiting lecturer, UNC Greensboro, November 2007.

CPATH (NSF-funded workshop), visiting lecturer (VT CS/CHCI), November 2007.

“Complementing Traditional Performance Idiom with Contemporary Technology—A Study of *SlipStreamScapes V: Lullaby* Electroacoustic Piece for Two Pianos and Interactive Computer.” *College Music Society National Conference*, Salt Lake City, Utah, fall 2007.

“Pebble Space: An Intelligent Communal and Collaborative Space.” Interactive multimedia installation proposal to the Wake Forest partners for the new downtown Charlotte seven building construction project, fall 2007.

Visiting lecturer at the Virginia Tech Computer Science’s Human-Computer Interaction Seminar, spring 2007.

“Integrating Documentation, End-User Support, and Developer Resources using \*.linuxaudio.org.” *Linux Audio Conference* at TU Berlin, Germany, spring 2007.

Visiting lecturer at the Art & Art History Time-Based Media class, winter 2007.

“The Genius of the Place: Land and Identity in Contemporary Art” visiting lecturer for the exhibition at the Arts Museum of Western Virginia, Roanoke, VA, November 2006.

Visiting lecturer at the Computer Science’s Cyberarts class, fall 2006.

*mama.mi2.hr* visiting lecturer at the *mama.mi2.hr* contemporary multimedia institute in Zagreb, Croatia, summer 2006.

Visiting lecturer at the University of Manchester, UK, spring 2006.

“Linuxaudio.org — Who, What, and Why?” *Linux Audio Conference* in Karlsruhe, Germany, spring 2006.

*Accent05* festival visiting lecturer, Cincinnati, OH, summer 2005.

“Practical Guide to Interactive Electroacoustic Art.” *SEAMUS 2005* Conference, Ball State University, IN, spring 2005.

Panel member by invitation on the topic “Standards From the Computer Music Community.” *International Computer Music Conference 2004*, Miami, Florida, summer 2004.

*Workshops in Electronic and Computer Music* visiting lecturer, Oberlin College, summer 2004.

*Accent04* festival visiting lecturer, Cincinnati, OH, summer 2004.

Panel member by invitation on the topic “Future of Linux Audio.” *Linux Audio Conference* in Karlsruhe, Germany, spring 2004.

“Unlocking the Full Potential of RTMix real-time interactive multimedia Art Performance, Composition, and Coaching Interface,” *Linux Audio Conference* in Karlsruhe, Germany, spring 2004.

“Hurdles and Benefits of Introducing Linux as a Viable Digital Audio Workstation in the Academic Environment,” *Linux Audio Developer* conference in Karlsruhe, Germany, spring 2004.

*Uzmah* festival visiting lecturer, Hvar, Croatia, summer 2003.

“RTMix — a Real-Time Interactive Multimedia Art Performance, Composition, and Coaching Interface,” *SEAMUS 2003* Conference, Tempe, AZ, spring 2003.

“Stochastic Phrase and Density Structure Generator (SPDSG) Music Software,” *SEAMUS 2002* Conference, Iowa City, IA, spring 2002.

**C**OMMISSIONS

**(Title pending)** – SUN Microsystems sound theme for OpenSolaris, 2008 (in-progress).

**(Title pending)** – TWISTS soundtrack for online podcasts, 2008 (in-progress).

**(Title pending)** – a collaboration with Sue Ott Rowlands and Tibor Varszegi on a theatrical multimedia play, Romania, 2008 (in-progress).

**(Title pending)** – an audio-visual song-cycle based on poems by Dickinson (in collaboration with Carol Burch-Brown), commissioned by Theodore Sipes, 2008 (in-progress).

**TWISTS** – “Nuclear Power Reconsidered” theatrical play, 2007.

**derelicts of time** – commissioned by Jay Crone and in part sponsored by the CLAHS creative grant, 2008.

**Soul** – for computer and voice by Theodore Sipes, 2007.

**VT Stakeholders Project** – soundtrack, effects, and interactivity for the design of multimedia fund-raising materials, 2007.

**TLA** – soundtrack and effects for [www.wildfiregames.com](http://www.wildfiregames.com) title, 2007 (in-progress).

**FreeCol** – by [www.freecol.org](http://www.freecol.org) (in-progress).

**Gaudeamus** – by Virginia Tech Graduate School, 2006.

**“Borealis”** – expansion of the sound theme by Gregoire Gentil (for an undisclosed software project), 2006.

**Symmetries** – by violinist Anna Zielinska, 2005.

**Tabula rasa** – by the NeXT Ens contemporary ensemble, 2004.

**Synaesthesia** – by the [gaslightstudios.com](http://gaslightstudios.com), 2003.

**Parallax** – by the Etherealsoft, 2003.

**SlipStreamScapes V: Lullaby** –by pianist Michael Fowler, 2002.

**Outside Campus** – sitcom pilot soundtrack, 2002.

**“I See You”** – an arrangement of the *Midnight Oil* pop group tune by Jonathan Snyder, 1997.


**Africa** –by the Croatian *Radio Student* radio station, 1997.

**Metropolis** –by the Croatian *Radio Student* radio station, 1997.


## DISCOGRAPHY & MEDIA EXPOSURE


- 📖 **Collegiate Times** interview, online version available at [http://www.collegiatetimes.com/stories/2008/10/08/hokie\\_tonk](http://www.collegiatetimes.com/stories/2008/10/08/hokie_tonk) (September 2008).
- 📖 **VT Spotlight** (featured on the VT's front page) as part of the Creative Technologies [http://www.vt.edu/spotlight/innovation/2008-08-25\\_technology\\_art/2008-08-25\\_technology\\_art.html](http://www.vt.edu/spotlight/innovation/2008-08-25_technology_art/2008-08-25_technology_art.html) Virginia Tech (fall 2008).
- 📖 **iCulture** article on impact of technology in music in the *Vennue* regional arts magazine (summer 2008).
- 🌐 **Borealis** selected as the default the Gnome desktop sound theme (March 2008).
- 🌐 **Borealis** selected as the default desktop sound theme for Dropline GNOME (December 2007).
- 📻 **All Your Sprache Are Belong to Strauss** broadcast on WOBC radio station, Oberlin, OH (May 2007).
- 📻 **SlipStreamScapes III: The Sea** broadcast on TU Berlin's campusradio (March 2007).
- 🌐 **Structured Improvisation I -- Chalybs** featured on the SEAMUS website (March 2007).
- 🌐 **Borealis** selected as the default desktop sound theme for the UbuntuStudio (January 2007, October 2007).
- 🌐 **Freecol** opening tune featured on the Freecol website (December 2006).
- 📖 **SEAMUS Newsletter** features performance of *All Your Sprache Are Belong to Strauss* at Fylkingen, issue 4 (October, 2006).
- 📖 **Linux User & Developer** international magazine interview, issue 66 (September 2006).
- 📖 **Planet Blacksburg** online magazine interview (spring 2006).
- 🌐 **Borealis** desktop sound theme expansion commissioned by Gregoire Gentil for use in a software (August 2006).
- 📻 **All Your Sprache Are Belong to Strauss** featured on the SEAMUS 20<sup>th</sup> Anniversary Electroclips CD (fall 2006).
- 🌐 **Borealis** desktop sound theme licensed by the Realty Media company for their TRITON software (April 2006).
- 📻 **Symmetries** broadcast on Resonance FM radio station as part of the "Clear Spot" program, London, UK (August 2005).
- 📻 **SlipStreamScapes III: The Sea** broadcast on WORT-FM 89.9 radio station as part of the RTQE (Remember Those Quiet Evenings) program led by Gregory Taylor, Madison, WI (March 2005).
- 📻 **Made in Linux Vol.1** CD compilation of compositions made with Linux (2004).
- 📻 **"- wo die Quellen offen liegen - Freie Software und aktuelle Musik."** Radio broadcast of interview with compositions on German state radio SWR2 (November 1 2004).


**Sounds Expo.** Playbacks of the recordings of *SlipStreamScapes III: The Sea* and *SlipStreamScapes V: Lullaby* on the UK's Expo <<http://www.sounds-expo.co.uk/>> (2004).


 **Tabula rasa** and **SlipStreamScapes III: The Sea** live broadcast on WOBC radio station, Oberlin, OH (May 2004).

 **SlipStreamScapes V: Lullaby** live broadcast on WOBC radio station, Oberlin, OH (November 2002).

 **Fires Are Warm and Dogs are Cold** "I See You" arrangement as part of the CD compilation made by the *Midnight Oil* fans. The arrangement was judged as "the best produced work" on the album (1997).

 **Radio Student Interview** with performances of a number of compositions and commissioned works by the radio station on the Croatian Radio Student (1997).

 **Moonwaltz Performance** on Cincinnati's WGUC as part of the "Music of Our Times" contemporary music program (fall 1994).

 **Webcasts** of works and papers from Linux Audio Conference (spring 2004, 2005, 2006), EMM festival in Chicago (fall 2004).

## KEY CREATIONS & PERFORMANCES

**Elemental, and Cyrene Reefs** – commissioned works for the DARC Revo:oveR exhibit at the new Taubman Museum of Art <<http://www.taubmanmuseum.org/>> in Roanoke, VA, (est. completion Nov. 2008).

- Interactive multimedia art installations.
- *Cyrene Reefs* realized in collaboration with a conceptual artist Eric Standley.
- For concepts, footage, and additional info please visit
  - <<http://www.youtube.com/vtdisis>>
  - <<http://www.youtube.com/watch?v=GP3FHSRNH40>>
  - <<http://www.youtube.com/watch?v=pt0uiJgY94g>>
  - <<http://digitalartresearchcollective.blogspot.com/>>

**derelicts of time** – interactive audio-visual work for trombone and computer, 2008.

- In part sponsored by the VT CLAHS grant.
- Commissioned by Jay Crone.
- Shows:
  - DISIS Digital Id 080418 multimedia event (as part of the Arts Fusion week), Blacksburg, VA, April 2008 (premiere).
  - VT Composers concert, Blacksburg, VA, October 2008.

**iteration13** – interactive audio-visual work for tap dancer, visual artist, audio-visual hyperinstrument and computer, 2008.

- In collaboration with Ann Kilkelly and Carol Burch-Brown.
- Shows:
  - DISIS Digital Id 080418 multimedia event (as part of the Arts Fusion week), Blacksburg, VA, April 2008 (premiere).

**air.crane.moo.latte.runway** – interactive audio-visual work for an actor, computer and video, 2008.

- In collaboration with Sue Ott Rowlands and Carol Burch-Brown.
- Shows:
  - DISIS Digital Id 080418 multimedia event (as part of the Arts Fusion week), Blacksburg, VA, April 2008 (premiere).

**heads will roll** – interactive multimedia installation/game, 2007.

- Use of Max/MSP/Jitter.
- Shows:
  - DISIS Digital Id 071201 multimedia event, Blacksburg, VA, December 2007 (premiere).

**with delicate risk** – audio-visual work, 2007.

- In collaboration with Dane Webster.
- Performances:
  - DISIS Digital Id 071201 multimedia event, Blacksburg, VA, December 2007 (preview).
  - DISIS Digital Id 080418 multimedia event (as part of the Arts Fusion week), Blacksburg, VA, April 2008 (premiere).
  - *SEAMUS 2008*, Salt Lake City, UT, April 2008.
  - *Athens International Film Festival*, Athens, OH, April 2008.
  - *Brooklyn International Film Festival*, May 2008.
  - *ICMC2008*, Belfast, UK, August 2008.
  - *Amsterdam International Film Festival*, October 2008.
  - VT Composers concert, Blacksburg, VA, October 2008.
  - 3<sup>rd</sup> Practice, Richmond, VA, November 2008.

**TWISTS** – “Reconsidering Nuclear Power” an evening-long play by Theatre Workshop in Science, Technology and Society.

- Music, effects, sound design, and audio production.
- Sponsored by the VT Institute for Society Culture and Environment.
- Performances:
  - Virginia Tech nuclear power week (premiere), November 2007.

**Pandora** – for laptop, visuals, quad audio and motion-based gestural hyperinstrument, 2007.

- Performances:
  - Digital Id 070429 happening in Blacksburg, VA, April 2007 (premiere).
  - Oberlin College Festival, OH, May 2007.

**Soul** – for baritone and laptop, based on a poem by Emily Dickinson, 2007.

- In collaboration with Theodore Sipes.
- Performances:
  - Digital Id 070429 happening in Blacksburg, VA, April 2007 (premiere).
  - University of Michigan, Ann Arbor, September 2007.
  - Grand Valley State University, Grand Rapids, MI, September 2007.
  - Radford University, VA, October 2007.
  - Virginia Tech *Ut Prosim*, October 2007.
  - Virginia Tech (Dr. Sipes recital), November 2007.
  - College Music Society conference, September, 2008.

**Gaudeamus** – for woodwind nonet, 2006.

- Performances:
  - Virginia Tech Commencement, VA, December 2006 (premiere).
  - Virginia Tech Commencement, VA, May 2007.
  - Virginia Tech Commencement, VA, December 2007.
  - Virginia Tech Commencement, VA, May 2008.

**Structured Improvisation I – Chalybs** – for laptop, 2006.

- Performances:
  - *SEAMUS 2007* conference in Iowa, March 2007 (premiere).

**All Your Sprache are Belong to Strauss** – for tape, 2006.

- Winner of the 20<sup>th</sup> Anniversary SEAMUS Electroclips contest by membership vote, 2006.
- Featured in the SEAMUS Newsletter Issue 4, October 2006.
- Performances:
  - *SEAMUS 2006* conference in Oregon, March 2006 (premiere).
  - *US 2* concert titled *From Desolation to the Desert With Love* (Fylkingen), Stockholm, Sweden, September 14, 2006.
  - *ICM2006* conference in New Orleans, LA, November, 2006.
  - *CEC* concert series at Concordia University, Canada, November, 2006.
  - *WOBC* broadcast in Oberlin, OH, May, 2007.

**Symmetries** – for 8-channel computer, violin, and hyperinstrument, 2005.

- Performances:
  - *LAC3* conference in Karlsruhe, Germany, April 2005 (premiere).
  - *Sonic Explorations*, Cincinnati, OH, April 2005.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.

- *Music05* festival, Cincinnati, OH, June 2005.
- *Accent05* festival faculty concert, Cincinnati, OH, June 2005.
- *Resonance FM* radio station, London, UK, August 2005.
- *ICMC2006* conference in New Orleans, LA, November 2006.
  - Dance choreography by the Tulane University's Newcomb Dance Company.

**“Borealis” Linux Desktop Sound Theme** – collection of freely downloadable desktop sounds, 2004.

- Most downloaded (200,000+ downloads) and one of the highest rated Linux desktop sound themes on the kde-look.org.
- Portions commissioned by Gregoire Gentil for utilization in an internal software project (August 2006).
- Selected as the default theme for the UbuntuStudio distribution (January 2007, October 2007).
- Selected as the default theme for the Dropline GNOME project (December 2007).
- Featured in the “Let it Beep” by Scott Carr (May 2008).

**Legisonitus #1 – Gone in 8 Minutes and 11.527 Seconds** – for tape, 2004.

- Performances:
  - *WECM* Oberlin College summer festival concert, OH, June 2004.
  - *ICMC2004*, Miami, FL, November 2004.
  - *Threshold* festival, Ball State University, IN, November 2004.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.
  - *Sonic Explorations* concert series in Cincinnati, OH, April 2006.

**Tabula rasa** – DISSERTATION work for flute, cello, piano, and computer, 2004.

- In part sponsored by the \$6,000.00 national graduate student award by the Croatia's National Ministry of Science, Education, and Sports.
- Performances:
  - NeXT Ens premiere, Cincinnati, OH, April 2004.
  - Oberlin College's *mmm* festival, Oberlin, OH, May, 2004.
  - Live broadcast on the WOBC radio station in Oberlin, OH, May, 2004.
  - *Music04* festival, Cincinnati, OH, June 2004.
  - *EMM* festival, Lewis University, IL, September 2004.
  - *CMS Great Lakes Chapter Conference*, WKU, KY, April 2005.
  - *FEMF* festival, FL, April 2005 (by invitation).
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.

**Out of Doors Suite Part 2** – audio-visual composition utilizing Macromedia Flash, 2003.

- Performances:
  - *Rocky's Reels* at the College of Design, Architecture, Art and Planning, Cincinnati, 2003.
  - *Sonic Explorations* concert series in Cincinnati, OH, January 2004.
  - *SPARK* festival, University of Minnesota, February 2004.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.
  - *ICMC2005* conference in Barcelona, September 2005.
  - *GMEM Trans 'Electroacoustique* festival (by invitation) in France, January 2006.
  - *SEAMUS 2006* conference in Oregon, March 2006.
  - *Arts Fusion* festival in Blacksburg, VA, April 2006.
  - *Third Practice* festival at University of Richmond, November 2006.
  - *Popcorn!* At Stanford University, CCRMA, January 2007.
  - *New Music Festival* at UNCG, October 2007.

**What Happened** – intermedia project involving video, animation, and audio, 2003.

- Performances:
  - *Rocky's Reels* at the College of Design, Architecture, Art and Planning, Cincinnati, 2003.
  - *SPARK* festival, University of Minnesota, February 2005.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.

**Synaesthesia** – endless ever-changing aural installation in Macromedia Flash format, 2003.

- Performances:
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.
  - Permanent installation available on composer's homepage.

**Jadran poslije kiše** – for solo cello, 2003. (4')

- Winner of the *Upbeat* composition competition, 2003.
- Performances:
  - *Upbeat* international summer music festival in Hvar, Croatia, July 2003.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.

**Imitation Crabmeat Rag** – an interactive 4-channel electroacoustic work for a live performer and computer, 2003. (8')

- Interactivity achieved by utilizing Peavey 1600x MIDI controller that modifies 3D positioning of various sound sources, as well as their volume and spectral content.
- Performances:
  - *Sonic Explorations* concert series in Cincinnati, OH, May 2003.
  - *SEAMUS 2004* conference in San Diego, CA, March 2004.
  - *WECM* Oberlin College summer festival concert, OH, June 2004.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.
  - Signature soundtrack for the TWISTS Choices and Challenges podcasts, October 2008.

**SlipStreamScapes V: Lullaby** – an interactive electroacoustic work for 2 pianos and a computer, 2002. (9')

- Interactivity achieved utilizing *RTcmix* and composer-created software *RTMix*, whose function is to separately manipulate two pianos.
- Performances:
  - Pre-premiere at the *Interactive Installations* event at College-Conservatory of Music, April 2002.
  - *Music02* international music festival in Cincinnati, OH, June 2002.
  - Indiana University, June 2002.
  - *OCEAn* festival and a live broadcast on WOBC radio station in Oberlin, OH, November 2002.
  - *ICMC2003* conference in Singapore, October 2003.
  - *LAC2* conference in Karlsruhe, Germany, April 2004.
  - *Accent04* Faculty Concert, Cincinnati, OH, June 2004.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.
  - CMS National Conference, Salt Lake City, Utah, November 2007.
  - DISIS Digital Id 071201 multimedia event, Blacksburg, VA, December 2007.

**Mr. Ping** – for tape, 2001. (7')

- Performances:
  - *Sonic Explorations* concert series in Cincinnati, OH, January 2002.
  - *IEMF* festival in Cincinnati, OH, October 2002.
  - *SEAMUS 2003* conference in Tempe, AZ, March 2003.
  - *0<sup>th</sup> Sound* contemporary multimedia art concert (Dissertation Concert), St. Pius X, Edgewood, KY, May 2005.

**SlipStreamScapes III: The Sea** – interactive work for a solo guitar and computer in 5 movements, 2000. (28')

- Master Thesis work published as a first online music thesis on OhioLink (available at <<http://www.ohiolink.edu/etd/view.cgi?ucin984494016>>).
- Interactivity achieved utilizing RTcmix and an early version of the composer-created software RTMix.
- Performances:
  - MM degree recital, spring 2001.
  - *Music2001* international music festival in Cincinnati, OH, June 2001.
  - Oberlin College's *mmm* festival and a live broadcast on WOBC radio station in Oberlin, OH, May, 2004.
  - WORT-FM 89.9 radio broadcast Madison, WI, March 2005.
  - TU Berlin's Campusradio-online.de, Berlin, Germany, March 2007.

**SlipStreamScapes II: Visions** – for flute, bassoon, trumpet, piano, and marimba, 1999. (6')

- Utilizes composer-created software *SPiDSiG*
- Performances:
  - MM degree recital, spring 2001.
  - *Music2000* international music festival in Cincinnati, OH, June 2001.

**Polaris** – for tape, 2000. (9')

- Performances:
  - *Sonic Explorations* concert series in Cincinnati, OH, winter 2000.
  - *OCEAN* festival in Oberlin, OH, November 2000.

**String Quartet No.2 “Croatian Anthem”**, 1998, revised 2003. (8')

- Winner of the SAI composition competition, 1998.
- Performances:
  - BM degree recital, spring 1998.
  - SAI concert series in Cincinnati, OH, spring 1999.
  - *Music03* international music festival in Cincinnati, OH, June 2003.
  - Reading by the *Cuarteto Latinoamericano*, Cincinnati, OH, February 2004.

**SlipStreamScapes I : Ruins** for mezzo and stereo tape, 1998, revised 2005. (9')

- Utilizes composer-created software *RTMix* to coordinate mezzo and tape parts.
- Performances:
  - BM degree recital, spring 1998.
  - *Music98* international music festival in Cincinnati, OH, June 1998.
  - Virginia Tech NASM concert, Blacksburg, VA, November 2006.

**Nebulae** – for 5 oboes, 1997.

- Performances:
  - College-Conservatory of Music in Cincinnati, OH, fall 1997.
  - BM degree recital, spring 1998.

**Sziget** – for SSAATTBB *a capella* choir, solo boy soprano, and percussion, 1997. (13')

- Part of the CCM chorale concert series conducted by John Leman.
- Performances:
  - College-Conservatory of Music Chorale as a part of my BM degree recital in Cincinnati, OH, spring 1998.

**Moonwaltz** – for solo piano, 1994. (5')

- Performances:
  - College-Conservatory of Music in Cincinnati, OH, fall 1994.
  - WGUC radio in Cincinnati, OH, fall 1994.
  - BM degree recital, spring 1998.

## OTHER MEDIA

**Intelligent Sustainable Space** – an audio-visual virtual 3D environment simulating an interactive multimedia art installation concept, 2008.

- Sponsored by Wake-Forest MBA, Virginia Tech ISCE and ICTAS.
- Supported by Wachovia Inc.
- A variation of the project to be implemented as part of the DARC project.
- Available at <[http://ico.bukvic.net/Temp/Intelligent\\_Space](http://ico.bukvic.net/Temp/Intelligent_Space)>

**Self-portrait** – visual self-portrait presented in a form of a life-size poster, 2006.

- Exhibitions:
  - Cyberarts showcase at the Arts Fusion festival, Blacksburg, VA, April 2006 (premiere).

## PERFORMANCE EXPERIENCE

### Hyperinstruments

- Performing own works utilizing custom instruments and/or interfaces 2000-present.

### Piano/Keyboard

- Performing own works and the contemporary piano literature, 1983-present.
  - WTC marathon performance, Virginia Tech, January 2007.
- Organ performance, Cincinnati, OH, 1995-2005.

### Conducting

- Music Academy dissertation in choral conducting, performing sacred works including J.S. Bach's chorales, Zagreb, Croatia, 1991.
- BM recital, Cincinnati, OH, 1998.
- Performance of Azio Corghi's *Animi Motus* at the *Music02* international summer music festival, Cincinnati, OH, 2002.
- Choral conductor, Cincinnati, OH, 1995-2004.
- Music Director at St. Pius X Parish, Edgewood, KY, fall 2004-2005.

## COLLABORATIONS

Francis Quek (Virginia Tech), Mara Helmuth (University of Cincinnati), Brad Garton (Columbia University), Dave Topper (University of Virginia), John Gibson (University of Louisville), Christopher Bailey (College of William and Mary), Dan Trueman (Princeton University), Thomas Grill (College of Music, Vienna), Douglas Geers (University of Minnesota), Daniel Mason (University of Kentucky), Barbara Hayley (Tulane University), Michael Fowler (SIAL Sound Studios, Australia), Rena Ishii (University of Cincinnati), Anna Zielinska (Freelance Artist, Poland), Ivan Krznarić (Croatian Institute for Promotion of Education of the Visually Impaired), Dane Webster (Virginia Tech), Eric Standley (Virginia Tech), Michael Dunston (Virginia Tech), Tom Martin (Virginia Tech), William Holbach (Virginia Tech), Denis Gracanin (Virginia Tech), Steve Harrison (Virginia Tech), Yong Cao (Virginia Tech), Tonya Lynette Smith Jackson (Virginia Tech), Carlos Evia (Virginia Tech), Antonio Nieto (Virginia Tech), Simone Patterson (Virginia Tech), Ann Kilkelly (Virginia Tech), Carol Burch-Brown (Virginia Tech), Joy Rosenthal (Virginia Tech), Truman Capone (Virginia Tech), Tadd Sipes (Virginia Tech), Tracy Cowden (Virginia Tech), Lonce Wyse (National University of Singapore), Stephen David Beck (Louisiana State University).

## MISCELLANEA

### Language Skills

- Fluent in English and Croatian.
- Adept in German and Russian (reading and speaking).
- Proficient in French and Latin (reading, basic speaking skills).
- Familiar with several other Slavic languages and dialects.

### Memberships

- First non-CS member of Virginia Tech's *Center for Computer-Human Interaction* (by invitation), 2006-present.
- American Society of Composers, Authors and Publishers (*ASCAP*), 2005-present.
- Linuxaudio.org member, 2005-present.
- College Music Society (*CMS*), 2004-present.
- Electronic Music Foundation (EMF) (by invitation from the EMF President Joel Chadabe), 2003-present.
- Society of Electro-Acoustic Music in US (*SEAMUS*), 2001-present.
- International Computer Music Association (*ICMA*), 2001-present.
- Active participant and contributor to various Linux user & developer groups (*LAU*, *LAD*, *Linux Kernel*, *ALSA*), 1998-present.

### Programming Skills

- C/C++
- *Qt/KDE toolkits*
- *GTK toolkit*
- *Kdevelop*, *Qt Developer*, *Microsoft VB*, and *VC++* environments
- *Javascript*
- *Java*
- *Perl*
- *Python*
- *GLSL*
- *Cgi* scripting
- *Unix shell* scripting
- *HTML/DHTML/CSS*

- *PHP*
- *3DML*
- *Macromedia Flash*
- *Basic*
- *Pascal*
- *STOS*
- Some *assembly* knowledge
- Some *Objective C* knowledge

### Software Knowledge

- *Max/MSP/Jitter, Csound, Digital Performer, Logic, Cubase, Cakewalk products (Sonar, Project 5), Tracktion, Pro-Tools, Cool Edit Pro (a.k.a. Adobe Audition), Pure-Data/Gem, RTcmix, RTMix, Muse, Ardour, Reason, Halion, NI Kontakt, VSampler, GigaSampler, NI Komplete, Siedlaczek Classical Orchestra, East West Orchestral Sampler, various VST, DSSI, and LADSPA plug-ins and instruments, Vegas, snd, mxv, sweep, soundhack, Audacity, Rezound, Rt, Jack Audio Connection Kit, JAMin, Freqtweak, BIAS Peak, Jack-Rack, Logic (Pro), Supercollider, Buzz, DVD Architect, Apple Final Cut Pro, DVD Studio Pro, Camtasia Studio, Acid Pro, Roxio & Nero CD/DVD production suites, etc.*
- Familiar with *Csound, Cecilia, Visual Orchestra*, and other *Csound* front-ends, *Vaz Modular, Glame, Spiral Synth Modular, EyesWeb* etc.
- Experienced at desktop publishing (*Microsoft Office, Open Office, KOffice, StarOffice*), graphic design (*Photoshop, Gimp, Paintshop, Macromedia Studio*), Web design (*Macromedia Dreamweaver, Frontpage, Nvu, Composer*), and 3D rendering (*Softimage, Blender, Unity3D*).
- Knowledgeable with *NeXT, IRIX, DOS*, and *Atari ST's TOS, etc.*

### Studio Hardware

- Linux, Mac, Windows, SGI (IRIX)
- Digital and analog mixing consoles
- Microphones, sound reinforcement, acoustic insulation
- Recording and playback interfaces
- MIDI controllers, notes, and sensors
- Haptic interfaces
- Pro-grade soundcards and digital I/O boards
- Custom-built machines

### Other Skills

- Orchestration, scoring, and arranging utilizing latest notation software (i.e. *Sibelius, Finale, Notion*).
- Post-production, recording, and digital re-mastering of audio materials utilizing a variety of the aforementioned software.
- Graphic, 3D, and Web design and animation.

## REFERENCES

(in order of relevance)

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