

DOYUEN KO

Mike Curb College of Entertainment and Music Business
Belmont University
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EDUCATION

Ph.D in Sound Recording

McGill University, Montreal, Canada

expected January, 2015

- Dissertation title: Development and Evaluation of a New Electro-Acoustic Enhancement System for Performance Spaces
- Advisor: Dr. Wieslaw Woszczyk

M.Mus in Sound Recording

McGill University, Montreal, Canada

2008

Diploma in Sound and Music Recording

Recording Arts Canada, Toronto, Canada

2005

B.A in Geography

Chonnam National University, Kwangju, South Korea

1999

TEACHING EXPERIENCE

Instructor

Mike Curb College of Entertainment and Music Business

Audio Engineering Technology

Belmont University, Nashville, USA

2013 - present

Lecturer

Schulich School of Music, McGill University

2010 - 2013

- Taught Technical Ear Training (MUSR 629), Advanced Technical Ear Training (MUSR 631) and Media Project (MUPG 640) to the Masters students in the sound recording and music performance major.

Lecturer

Recording Arts Canada, Montreal, Canada

2010 - 2011

- Taught Acoustics covering physics of sound, auditory perception, room acoustics, studio acoustic design and musical acoustics to post-secondary level students.

Teaching Assistant

Schulich School of Music, McGill University

2008 - 2010

- Assisted teaching Advanced Topics in Sound Recording and Reproduction Seminar (MUSR 695). Organized and led class to conduct experiments and instructed Masters students class projects.

RESEARCH EXPERIENCE

Research Assistant & Lab Manager: Virtual Acoustic Technology (VAT) Lab

Schulich School of Music, McGill University

2008 - 2013

- Developed a new room impulse response-based active acoustic enhancement system for live music performance and studio recording.
- Designed 'Space Builder', a 22.2 channel spatial sound design tool for Ultra High Definition Television (UHDTV), official standard for the future high definition broadcasting format approved by ITU and SMPTE.
- Research co-operated with Japan Broadcasting Cooperation (NHK) Science and Technical Research Laboratory and Skywalker Sound (CA, USA).
- Organized research experiments, system demonstrations and academic project activities.

Audio Researcher: McGill Ultra-Videoconferencing Group

McGill University, Montreal, Canada

2010 - 2012

- Designed an entire audio recording and reproduction scheme for 'Open Orchestra', a project creating a networked musical ensemble simulator providing musicians with a realistic and immersive experience of ensemble rehearsal.
- Research funded by Canada's Advanced Research and Innovation Network (CANARIE).
- Project co-operated with music faculty of University of British Columbia, the Banff Centre, Humber College, the National Youth Orchestra and the National Arts Centre Orchestra.

PROFESSIONAL EXPERIENCE

Freelance Sound Engineer

Canada & USA

2005 - present

- Music recording, editing, mixing and mastering for various record labels and companies including Naxos, Oxingale Records, Bridge Records and Canadian Broadcasting Corporation.
- Recording live premier concerts such as Digital Audio Effects (DAFx) concert, International Conference on Auditory Display (ICAD) concert and entire program of the 1st Canadian International Organ Competition (CIOC).

Sound Designer, Korean Broadcasting System (KBS)

Seoul, South Korea

2002 - 2003

- Performed various tasks in audio for video such as sound design, sound effects, location recording and foley.
- Designed sound for television and radio programs including drama series, scientific documentaries and sports broadcasts.
- Surround sound designed for "Eastern Asia Migratory Bird Research" - one of the largest documentary projects in the history of Korean broadcasting.

House Recording Engineer, World Music Studio

Seoul, South Korea

2000 - 2002

- Recorded and mixed some of the most prominent musicians and bands in South Korea.
- Managed all studio recording and mixing sessions including session schedules, assistant engineer allocations and equipment maintenance.

FELLOWSHIPS (ONLY SELECTED MONETARY VALUE \$5,000 AND ABOVE)

CIRMMT Students Award

Centre for Interdisciplinary Research in Music Media and Technology, Montreal 2012 - 2013

- Awarded to excellent interdisciplinary research projects.

SSHRC Doctoral Fellowship

Social Sciences and Humanities Research Council of Canada 2010 - 2012

- Proposal title: Evaluation and Auralization of Musically Ideal Canadian Acoustic Spaces for 22.2 Multichannel Sound Production

FQRSC Doctoral Fellowship

Fonds de recherche du Quebec societe et culture 2010 - 2012

- Proposal title: Evaluation et auralization d'espaces acoustiques du Quebec ideaux pour la production de son multicanaux surround 22.2

AES Educational Foundation Grant

Audio Engineering Society, New York, USA 2008 - 2010

- Awarded to exceptional graduate students worldwide in audio engineering

Provost Fellowship

McGill University, Montreal, Canada 2008

- Awarded to recruit high-calibre students entering McGill graduate studies.

Maurice Pollack Foundation Fellowship

Schulich School of Music, McGill University 2008

- Awarded to outstanding students for graduate studies at Schulich School of Music.

John R. E. Bradley Fellowship

Schulich School of Music, McGill University 2008

- Awarded to outstanding graduate students in Sound Recording Program at Schulich School of Music.

Schulich Scholarship

Schulich School of Music, McGill University 2007

- Awarded to talented students in undergraduate and graduate program at Schulich School of Music.

AWARDS

Juno Award Nomination, *New Orford String Quartet, Bridge Records*

Classical Album of the Year, Solo or Chamber Ensemble 2012

- Recording and mixing engineer

Juno Award Nomination, *The Virtual Haydn, Naxos*

Music DVD of the Year 2011

- Mixing and mastering engineer, virtual acoustics preparation

- The 30th “Downbeat” Student Music Award, USA** 2007
Outstanding Performance, Engineered Live Recording
- Recording and mixing engineer
- The 123rd Audio Engineering Society Convention Student Recording Competition, USA** 2007
1st Prize, Folk and World Music Category
- Recording and mixing engineer
- The 121st Audio Engineering Society Convention Student Recording Competition, USA** 2006
1st Prize, Classical Stereo Category
- Recording and mixing engineer
- Cannes Film Festival, Cannes, France** 2004
Junior Jury Award
- Foley recoding and sound design for animated film “Oseam”.
- Annecy International Animated Film Festival, Annecy, France** 2004
The Cristal for Best Feature
- Foley recoding and sound design for animated film “Oseam”.

CHRISTIAN COMMUNITY INVOLVEMENT

FOH Engineer

Global Korean Young Mission (GKYM) Festival, Rochester, USA December 2009, 2011 & 2013

- Front house mixing for more than 3,500 young adult Christians in a mission festival that focuses on raising the next generation as a missional generation that dreams Jesus’ dream of world mission vision.

Worship Leader & Media Producer

Montreal Korean Methodist Church, Montreal, Canada September, 2005 - 2013

- Oversaw all the musical, audio, and visual aspects of the worship services, as well as looked to develop the musical/worship aspects of the ministry.

FOH Engineer

Montreal Conference for Francophone Africa Mission, Montreal, Canada 2009 & 2012

- Live sound engineering for a mission conference where more than 50 invited missionaries from west Africa and 500 Christians gathered to encourage each other and share the experience and wisdom from mission fields.

Lecturer: Sound Engineering

Living Worship Conference, Toronto, Canada August, 2005

- Taught basics of live sound reinforcement and sound recording techniques for church sound engineers and worship musicians.

FOH Engineer

Youth Korean Students in America (KOSTA) Conference, Toronto, Canada 2004 & 2005

- Live mixing for a conference that provides for young Christian students to challenge the gospel and salvation, the country and the nation, the integration of science and faith, and the dreams and vision for the world.

Journal Publications

- W. Woszczyk, D. Ko, and B. Leonard, "Virtual Acoustics at the Service of Music Performance and Recording," *Archives of Acoustics*, pp. 1-5, Mar. 2012.

Conference Publications (peer reviewed)

- S. Kim, D. Ko, and W. Woszczyk, "Rendering an immersive sound field using a virtual height loudspeaker: Effect of height-related room impulse responses," *The 2nd IEEE Global Conference on Consumer Electronics*, Oct. 2013.
- D. Ko, W. Woszczyk, and S. H. Chon, "Evaluation of a New Active Acoustics System in Performances of Five String Quartets," *The 132nd Audio Engineering Society Convention*, Apr. 2012.
- A. Olmos, P. Rushka, D. Ko, G. Foote, and W. Woszczyk, "Where do you want your ears? Comparing performance quality as a function of listening position in a virtual jazz band" *The 8th Sound and Music Computing Conference*, Jul. 2011.
- W. Woszczyk, D. Ko, D. Benson, and B. Leonard, "The Effect of Processing Two Overhead Channels on the Spatial Impression of Virtual Rooms Rendered in Eight-Channel Surround Sound," *The 40th Audio Engineering Society International Conference*, Oct. 2010.
- W. Woszczyk, B. Leonard, and D. Ko, "Space Builder: An Impulse Response Based Tool for Immersive 22.2 Channel Ambiance Design," *The 40th Audio Engineering Society International Conference*, Oct. 2010.

Conference Publications

- S. Kim, D. Ko, N. Aparna, and W. Woszczyk, "Subjective Evaluation of Multichannel Sound with Surround-Height Channels," presented at the 135th Audio Engineering Society Convention, NYC, USA, 2013.
- D. Ko and W. Woszczyk, J. Hong, and S. Levine, "Augmented Stage Support in Ensemble Performance Using Virtual Acoustics Technology" presented at the 21st International Congress on Acoustics, Joint meeting of the Acoustical Society of America and Canadian Acoustical Association, Montreal, Canada, 2013.*
- J. S. Abel, W. Woszczyk, D. Ko, S. Levine, J. Hong, and T. Skare, "Recreation of the acoustics of Hagia Sophia in Stanford's Bing Concert Hall for the concert performance and recording of Cappella Romana," presented at the International Symposium on Room Acoustics, Toronto, Canada, 2013.
- W. Woszczyk, D. Ko, and B. Leonard, "A Convolution-Based System for Virtual Acoustic Support of Performing Musicians," presented at the 129th Audio Engineering Society Convention, San Francisco, USA, 2011.
- W. Woszczyk, D. Ko, and J. Hong, "A New Active Acoustics System for Enhancing Musician's Environment on Concert and Recording Stages," presented at the 162nd Acoustical Society of America Meeting, San Diego, USA, 2011.*

- W. Woszczyk, B. Leonard, and D. Ko, “Evaluation of Late Reverberant Fields in Loudspeaker Rendered Virtual Rooms,” presented at the 128th Audio Engineering Society Convention, London, UK, 2010.
- W. Woszczyk, D. Ko, and B. Leonard, “Virtual Stage Acoustics: a flexible tool for providing useful sounds for musicians,” presented at the International Symposium on Room Acoustics, Melbourne, Australia, 2010.
- W. Woszczyk, T. Beghin, M. de Francisco, and D. Ko, “Recording Multichannel Sound within Virtual Acoustics,” presented at the 127th Audio Engineering Society Convention, NYC, USA, 2009.
- W. Woszczyk, D. Ko, and B. Leonard, “Convolution-Based Virtual Concert Hall Acoustics Using Aural Segmentation and Selection of Multichannel Impulse Responses,” presented at Inter-Noise, Ottawa, Canada, 2009.*
- W. Woszczyk, D. Ko, B. Leonard, and D. Benson, “Selection and Preparation of Multi-Channel Room Impulse Responses for Interactive Low-Latency Rendering of Virtual Rooms,” presented at the 16th International Congress on Sound and Vibration, Krakow, Poland, 2009.*
- W. Woszczyk, T. Beghin, M. de Francisco, and D. Ko, “Development of Virtual Acoustic Environments for Music Performance and Recording,” presented at the 25th Tonmeistertagung-VDT International Convention, Leipzig, Germany, 2008.
- W. Woszczyk, D. Ko, T. Beghin, M. de Francisco, J. Tusz, and R. Miller, “Virtual Acoustic Environments for Music Performance, Rehearsal, and Recording,” presented at the Acoustics, Joint Meeting of the Acoustical Society of America, EAA, SFA, Euro-Noise, Paris, France, 2008.
- T. Beghin, M. de Francisco, D. Ko, W. Woszczyk, E. Helyard, R. Miller, and J. Tusz, “Virtual Acoustics and The Recording of Joseph Haydn’s Keyboard Music,” presented at the American Musicological Society, Quebec city, Canada, 2007.

INVITED WORKSHOPS (*LECTURE)

- “Towards a Systematic Ear Training Curriculum Effective and Efficient Learning in Audio Education: questions and answers,” The 50th Audio Engineering Society Conference. Murfreesboro, USA, Jul.-2013.
- “Ear Training for Audio Engineers and Students: a new approach using a database-driven web application,” Technoblitz. Montreal, Canada, Jun.-2013.*
- “Listen Professionally or Train Your Ear!,” The 132nd Audio Engineering Society Convention. Budapest, Hungary, Apr.-2012.
- “Active Acoustics Today: Challenges, Solutions, Applications,” The 132nd Audio Engineering Society Convention. Budapest, Hungary, Apr.-2012.
- “A New Active Acoustics System for Enhancing Musicians’s Performance on Concert and Recording Stages,” Technoblitz. Montreal, Canada, Nov.-2011.*
- “Space Builder: A Comprehensive Production Tool for 22.2 Channel Sound Design,” The 40th Audio Engineering Society International Conference. Tokyo, Japan, Oct.-2010.
- “Virtual Haydn: Recording and Performing in Virtual Acoustics,” The 127th Audio Engineering Society Convention. New York, USA, Oct.-2009.

DISCOGRAPHY

- New Orford String Quartet (Schubert and Beethoven)**, New Orford String Quartet
CD, Bridge Records 2011
- Recording and mixing engineer
- The Virtual Haydn (Haydn)**, Tom Beghin
12 CD and 1 DVD box set, Naxos 2011
- Mixing and mastering engineer and virtual acoustics preparation
- J.S. Bach - Organ Works (Bach)**, Nicolas-Alexandre Marcotte
CD, XXI-21 Productions 2010
- Recording, editing, mixing and mastering engineer
- The Virtual Haydn (Haydn)**, Tom Beghin
4 Blu-ray box set, Naxos 2009
- Mixing and mastering engineer and virtual acoustics preparation
- “AKOKA” - Quartet for the End of Time (Messiaen)**, David Krakauer, Matt Haimovitz and friends
CD to be released fall 2013, Oxingale Records 2008
- Recording engineer
- String Quartets No 3 - 5 (Cherney)**, The Lloyd Carr-Harris Quartet
CD, McGill Records 2008
- Recording engineer
- The Complete Ligeti Concertos (Ligeti)**, McGill Contemporary Music Ensemble and soloists,
CD box set, McGill Records 2008
- Recording engineer
- The 1st Canadian International Organ Competition, Montreal** 2008
- Chief live and broadcast recording engineer

LIVE MUSIC PRODUCTION

- The Virtual Salon: The associated concert for International Congress of Acoustics (ICA)**,
McGill University, Montreal
Matt Haimovitz and Tom Beghin June 2013
- Virtual acoustics system engineer and chief recording engineer
- Special Virtual Acoustics Concert, “From Constantinople to California”**,
Bing Concert Hall, Stanford University, USA
Cappella Romana February 2013
- Virtual acoustics system engineer and chief recording engineer
- The Virtual Salon: Chamber Music of Haydn and Schubert**,
McGill University, Montreal
Tom Beghin, Sanford Sylvan and guests February 2012

- Virtual acoustics system engineer and chief recording engineer

Special Live Concert with Virtual Acoustics, “Earthy Music in Heavenly Spheres”,

McGill University, Montreal

Andrew Culver, John Heward and Lori Freedman

September 2010

- Virtual acoustics system engineer and chief recording engineer

The Virtual Haydn: Four Keyboards, Three Pianos,

McGill University, Montreal

Tom Beghin

September 2009

- Virtual acoustics system engineer and chief recording engineer

International Conference on Auditory Display (ICAD) Concert,

McGill University, Montreal

Live networked electro-acoustic concert between South Korea, USA and Montreal

2007

- Chief recording engineer

SOFTWARE DEVELOPMENT

22.2 Channel Sound Design Tool “Space Builder”

2012

- Planned and implemented system structure, audio signal processing scheme, audio up-mixing algorithm and graphical user interface.
- Exclusively used as an official sound design tool by BBC and NHK for London 2012 Olympic’s Ultra High Definition Television (UHDTV) public broadcasting.
- Currently being tested at Skywalker Sound (CA, USA) for an ambient sound mixing engine of major feature films.

Technical Ear Training Course Management System

2011

- Co-developed for technical ear training courses at McGill University, Sound Recording program. Officially adapted as a course software for six universities in the USA and Canada.

MEMBERSHIP

- Audio Engineering Society (AES)
- Acoustical Society of America (ASA)
- Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT)