Florian Thalmann
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Education

2009-2014	University of Minnesota **PhD Music Theory** Supervisors: Guerino Mazzola, Michael Cherlin PhD thesis: "Gestural Composition with Arbitrary Musical Objects and Dynamic Transformation Networks"
2011-2014	University of Minnesota **MA Art History** Supervisors: Gabriel Weisberg, Stephen Ostrow Plan B Papers: "Raoul Larche Table Lamps: Art Nouveau à l'Ancienne?" "Irony, Ambiguity, and Musical Experience in Caravaggio's Musical Paintings"
2000-2007	University of Bern, University of Zurich, Switzerland **MSc Computer Science** Supervisors: Guerino Mazzola, Oscar Nierstrasz MSc thesis: "Musical Composition with Grid Diagrams of Transformations" BSc thesis: "Jam Tomorrow: Collaborative Music Generation in Croquet Using OpenAL". Minors: Mathematics, Biology

Awards

Fellowship for Prospective Researchers, Swiss National Science Foundation, January-December 2013

Research Grant, School of Music, University of Minnesota, September 2012

Graduate Research Partnership Program Award of the University of Minnesota for the project "Musical Composition with Compound Multi-Touch Gestures", May 2010

Grant for a PhD in Music Theory at the University of Minnesota, Hasler Stiftung Bern, October 2008

Grant for the presentation of "The BigBang Rubette: Gestural Music Composition with Rubato Composer" at ICMC in Belfast, Hasler Stiftung Bern, July 2008

Grant for the project "Programming and perception of complex rhythms in music" at the University of Minnesota, Hasler Stiftung Bern, July 2007

Research and Professional Experience

Fall 2014	Research in computer music and development of interactive music applications, independent music production, composition, and recording for various groups, and extensive performance as electronic and acoustic musician.
June – October 2008	Software-Engineer for PostFinance as an external employee of Puzzle ITC. Further development of a software for internal task management (J2EE/Struts/Hibernate)
2008	Independent research in collaboration with the University of Minnesota, miscellaneous musical activities with numerous concerts, self-study of the Japanese language
August – November 2007	Research Fellow at the School of Music, University of Minnesota, Minneapolis/St. Paul, USA. Development of a prototype for visualization and interactive geometric manipulation of musical structures for the music composition software Rubato (Java)
2001 – 2007	Independent software developer for the Federal Office of Metrology METAS Development of a software product for the statistical evaluation of measurements (Java)
2003 – 2004	Research associate, Computer Vision and Artificial Intelligence Group, Institute of Computer Science and Applied Mathematics, University of Berne Development of a tool for evaluating different methods for the recovery of missing information in graph sequences (Java)
August – December 2004	Software developer at the Federal Office of Metrology METAS Development of an internet database for hardware management (J2EE/JSF/PostgreSQL)
2001 – 2003	Working student at Siemens Switzerland IT support and software development (VBA)

August – October 2000	Research Internship at the Federal Office of Metrology METAS Conceptualizing of a statistical test and evaluation using numerical simulation (MS Excel)

Teaching Experience and Student Supervision

2013-2014	Supervising and advising of research and composition projects of various students including Daniel Tormoen (project on gestural composition with Leap Motion), Benjamin Klein, Jason Cress, Sarit Ghildayal (programming and/or composition with Rubato Composer)
2009-2013	Teaching Assistant in Music Theory and Analysis, Ear-Training, Music Technology, and Music Informatics at the School of Music of the University of Minnesota
	Courses taught:
	Theory and Analysis of Tonal Music I-III (main lecture or TA sections)
	Ear-Training and Sight-Singing I-III (TA sections)
	Intensive Theory and Analysis of 20th-Century Music (TA sections)
	Ear-Training and Sight-Singing for 20th-Century Music (TA sections)
	Introduction to Music Information Technology (co-taught)
	Music Informatics Seminar (co-taught)
	Seminar on Composing with Rubato Composer and the Big Bang Rubette (co-taught)
	Various guest lectures and substitution in courses on music, mathematics, and technology
June 2010	"Komponieren mit Rubato — Algorithmik und Kreativität", co-taught with Guerino Mazzola. Workshop at the Institute of Computer Science, University of Zurich.

Review-board Publications

Florian Thalmann, Daniel Tormoen, and Guerino Mazzola: "The Composing Hand: Musical Creation with Leap Motion and the BigBang Rubette". In: *Proceedings of 14th International Conference on New Interfaces for Musical Expression (NIME)*. London, 2014.

Florian Thalmann and Guerino Mazzola. "Using the Creative Process for Sound Design based on Generic Sound Forms". In: *MUME 2013 proceedings*. Boston: AAAI Press, 2013.

Guerino Mazzola and Florian Thalmann. "Theory and Software for Tracing Musical Creativity in Composition." *Proceedings of the Conference on Tracking the Creative Process in Music (TCPM)*, University of Montreal, 2013.

Florian Thalmann and Guerino Mazzola. "Visualization and Transformation in General Musical and Music-Theoretical Spaces". In: *Proceedings of the Music Encoding Conference 2013*. Mainz: MEI, 2013.

Florian Thalmann and Guerino Mazzola. "Poietical Music Scores: Facts, Processes, and Gestures". In: *Second International Symposium on Music and Sonic Art – MuSA 2011, Baden-Baden,* August 2011.

Guerino Mazzola and Florian Thalmann. "Musical Composition and Gestural Diagrams". In: *Proceedings of the third MCM conference, IRCAM, Paris*, 2011.

Florian Thalmann and Guerino Mazzola. "Affine Musical Transformations Using Multi-Touch Gestures". In: *Ninad-journal of ITC SRA*, 2010.

Florian Thalmann and Guerino Mazzola. "Gestural Shaping and Transformation in a Universal Space of Structure and Sound". In: *Proceedings of the 2010 International Computer Music Conference, New York City*, 2010.

Guerino Mazzola, Catherine Losada, Florian Thalmann, and Schuyler Tsuda. "A Boulezian Creative Analysis of Boulez's *structures*". In: *Somashekhar Naimpally, Giuseppe Di Maio (eds.): Quaderni di Matematica, Theory And Applications of Proximity, Nearness and Uniformity*, vol 22, 2008.

Florian Thalmann and Guerino Mazzola. "The BigBang Rubette: Gestural Music Composition with Rubato Composer". In: *Proceedings of the 2008 International Computer Music Conference,* Belfast, 2008.

Guerino Mazzola and Florian Thalmann. "Grid Diagrams for Ornaments and Morphing". In: *Proceedings of the First International Conference of the Society for Mathematics and Computation in Music,* State Institute of Music Research, Berlin, 2007.

Guerino Mazzola, Gérard Milmeister, Karim Morsy, and Florian Thalmann. "Functors for Music: The Rubato Composer System". In: *Digital Art Weeks Proceedings*, ETH, Zurich, 2006.

Florian Thalmann and Markus Gaelli. "Jam Tomorrow: Collaborative Music Generation in Croquet Using OpenAL". In: *Proceedings of the Fourth International Conference on Creating, Connecting and Collaborating through Computing,* University of California, Berkeley, 2006.

Books and Book Chapters

Guerino Mazzola, René Guitart, Jocelyn Ho, Alex Lubet, Maria Mannone, Matt Rahaim, and Florian Thalmann: The Musical Multiverse of Gestures. Springer Series Computational Music Science, Heidelberg et al., forthcoming.

Guerino Mazzola, Joomi Park, and Florian Thalmann. "Musical Creativity—Strategies and Tools in Composition and Improvisation". Springer Series Computational Music Science, Heidelberg et al. 2011.

Guerino Mazzola, Florian Thalmann, et al.. "Musical Performance: A Comprehensive Approach: Theory, Analytical Tools, and Case Studies". Springer Series Computational Music Science, Heidelberg et al., 2010.

Gérard Milmeister, Florian Thalmann and Guerino Mazzola. "The Rubato Composer Music Software: Component-Based Implementation of a Functorial Concept Architecture". Springer Series Computational Music Science, Heidelberg et al. 2009.

Guerino Mazzola, Gérard Milmeister, Karim Morsy, and Florian Thalmann: "Functors for Music: The Rubato Composer System". In: *Randy Adams, S. Gibson, S. Muller Arisona (eds.): Transdisciplinary Digital Art: Sound, Vision and the New Screen*. Springer CCIS, Heidelberg et al. 2008.

Presentations and Invited Talks

July 2014: "The Composing Hand: Musical Creation with Leap Motion and the BigBang Rubette". *14th International Conference on New Interfaces for Musical Expression (NIME),* London.

April 2014: "Creativity and design as it applies to music and how new technologies are changing music." with Guerino Mazzola. Guest lecture in Technology, Design, & Society, College of Design, University of Minnesota.

October 2013: "Using the Creative Process for Sound Design based on Generic Sound Forms". with Guerino Mazzola. *MUME 2013,* Boston.

October 2013: "Theory and Software for Tracing Musical Creativity in Composition." with Guerino Mazzola. *Conference on Tracking the Creative Process in Music (TCPM)*, Montreal.

May 2013: "Visualization and Transformation in a General Musical and Music-Theoretical Spaces". *Music Encoding Conference 2013,* Mainz.

August 2011: "Poietical Music Scores, facts, Processes, and Gestures". *Second International Symposium on Music and Sonic Art – MuSA 2011,* Baden-Baden.

June 2010: "Komponieren mit Rubato — Algorithmik und Kreativität", with Guerino Mazzola. Guest seminar at the Institute of Computer Science, University of Zurich.

June 2010: "Gestural Shaping and Transformation in a Universal Space of Structure and Sound". with Guerino Mazzola. *International Computer Music Conference,* New York City/Stony Brook.

February 2010: "Concepts and Software for Gestural Musical Realtime Composition". with Guerino Mazzola, *Computer Science & Engineering Colloquium*, University of Minnesota.

December 2009: "Gestural Realtime Manipulation of Denotators for Music Composition". *Séminaire MaMuX,* IRCAM, Paris.

December 2008: "Gestural Music Composition with Rubato Composer". *Swiss Open Systems User Group OBL*, Bern.

August 2008: "The BigBang Rubette: Gestural Music Composition with Rubato Composer". *International Computer Music Conference,* Belfast.

July 2006: "Functors for Music: The Rubato Composer System". *w*ith Guerino Mazzola, Gérard Milmeister, Karim Morsy, *Digital Art Weeks,* ETH, Zurich.

Musical Activities

Instruments: electronics, trumpet, Akai EWI, saxophones, piano
Composition: electronic music and numerous jazz and popular music compositions and arrangements
Performance: 600+ concerts in 14 countries, member of different groups in the domain of improvised, electronic, and popular music
Recordings: appearance on 10+ commercial records as a musician and composer
Production: production, recording, and mixing of various bands

Technological Skills

Programming: Java, Javascript, Android, iOS, Smalltalk, C, JSP/JSF, PHP, VBA, SQL, OpenGL, Processing
Publishing: Latex, MetaPost, HTML5, Bootstrap, XML, UML
Music: Max/MSP, Pd, Lilypond, MIDI, CSound, OpenAL, Web Audio API, JSyn, Ableton Live, Sibelius
Production: Recording acoustic instruments, synthesizer programming, mixing, mastering

Languages
German: native
French: 2nd native
English: fluent
Spanish: good knowledge
Italian: basic knowledge
Japanese: basic knowledge

References
Prof. Dr. Guerino Mazzola, School of Music, University of Minnesota, mazzola@umn.edu
Prof. Dr. Alex Lubet, School of Music, University of Minnesota, lubet001@umn.edu
Prof. Dr. Michael Cherlin, School of Music, University of Minnesota, cherlin001@umn.edu
Prof. Dr. Gabriel Weisberg, Department of Art History, University of Minnesota, weisb001@umn.edu