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Torsten Anders

Education

- 2008–2010 **Learning & Teaching in Higher Education**, *University of Plymouth, England*.
Postgraduate Certificate aligned with accreditation requirements of the UK's Higher Education Academy.
- 2002–2007 **PhD in Music (Music Technology)**, *Sonic Arts Research Centre (SARC), Queen's University Belfast, Northern Ireland*.
Thesis title: Composing Music by Composing Rules: Design and Usage of a Generic Music Constraint System.
Supervisors: Prof. Michael Alcorn, Dr. Christina Anagnostopoulou.
Examiners: Prof. Roger Dannenberg, Dr. Ian O'Neill.
- 2001–2002 **Composition, Research Studies (Aufbaustudium A)**, *Liszt School of Music Weimar, Germany*.
Supervisor: Prof. Robin Minard.
- 1994–2000 **Composition (2000 Diplom-Musiker, on a par with MA in Music)**, *Liszt School of Music Weimar*.
Supervisors: Prof. Wolfgang von Schweinitz, Prof. Michael Obst (instrumental composition); Prof. Hans Tutschku, Prof. Robin Minard (electroacoustic composition).
- 1991–1993 **Musicology and Theology**, *Humboldt-Universität zu Berlin, Germany*.

Employment

- 2010–... **Lecturer in Music Technology, Course Leader**, *Faculty of Creative Arts, Technologies and Science, University of Bedfordshire*.
Responsible for the degrees BA(Hons) Music Technology and BSc(Hons) Music Technology.
- 2007–2010 **Post-Doctoral Research Fellow In Artificial Intelligence And Music**, *Interdisciplinary Centre for Computer Music Research (ICCMR), University of Plymouth*.
Design and implementation of compositional applications that make use of brain imaging data (EEG, fMRI) and related research; Continued development of the constraint-based composition system Strasheela.
- 2000–2001 **Computer Programmer**, *'Music, Mind, Machine' research group, Nijmegen Institute for Cognition and Information (NICI), Netherlands*.
Design and implementation of several music software projects (e.g. automatic score transformation for music notation, visualisation of hierarchic musical structures, processing of the result data from rhythm perception experiments into an internet presentation).
- 1995–1999 **Studio and Teaching Assistant**, *Studio for Electroacoustic Music (SeaM), Liszt School of Music Weimar*.
Teaching 2nd-4th year students from multiple disciplines (Composition, Media Arts); providing studio assistance for individual students; studio maintenance.

Professional Memberships

- 2011–... Fellow of the Higher Education Academy.
- 2004–... Member of PRISMA, an international group conducting research into computer-aided composition.
- 1999–... Member of DEGEM, German association for electroacoustic music.
- 1999–... Member of GEMA, German society for musical performing rights, affiliated member (angeschlossenes Mitglied).

Refereed Publications

Journals

Journal publications are my intended main contribution to the next REF. The papers below are certainly no less than 3*; the one in ACM Computing Surveys is certainly a 4* rating. Also, please note the highly interdisciplinary nature of my research output, which has impacts both, in the humanities and sciences. Some details about the journals are given in parenthesis.

Anders, T., E. Miranda (2011). A Computational Model for Rule-Based Microtonal Music Theories and Composition. *Perspectives of New Music*. 48(2), pp. 47–77. (This is the second-oldest music theory journal now published in the United States, after Journal of Music Theory.)

Anders, T., E. Miranda (2011). Constraint Programming Systems for Modelling Music Theories and Composition. *ACM Computing Surveys*. 43(4), pp. 30:1–30:38. (ISI Impact Factor = 9.920; the highest in the field of Computer Science.)

Anders, T., E. Miranda (2010). Constraint Application with Higher-Order Programming for Modeling Music Theories. *Computer Music Journal*. 34(2), pp. 25–38. (ISI Impact Factor = 0.909; the highest for the field of Music Technology.)

Anders, T., E. Miranda (2009). Interfacing Manual and Machine Composition. *Contemporary Music Review*, 28(2), pp. 133–147. (This is rated as an “A” top journal by ERIH’s humanities journal ranking.)

Book Chapters

Anders, T. (2011). Variable Orderings for Solving Musical Constraint Satisfaction Problems. In G. Assayag, C. Truchet (Eds.): *Constraint Programming in Music*, pp. 25–54. Wiley.

Anders, T. (2009). A Model of Musical Motifs. In T. Klouche, T. Noll (Eds.): *Mathematics and Computation in Music 2007, MCM 2007*, CCIS 37, pp. 52–58. Springer.

Anders, T., C. Anagnostopoulou and M. Alcorn (2005). Strasheela: Design and Usage of a Music Composition Environment Based on the Oz Programming Model. In P. v. Roy (Ed.), *Multiparadigm Programming in Mozart/OZ: Second International Conference, MOZ 2004*, LNCS 3389, pp. 277–291. Springer.

Conference Proceedings

Anders, T., E. Miranda (2009). A Computational Model that Generalises Schoenberg’s Guidelines for Favourable Chord Progressions. In *6th Sound and Music Computing Conference*, Porto, Portugal.

Anders, T., E. Miranda (2008). Higher-Order Constraint Applicators for Music Constraint Programming. In *Proceedings of the 2008 International Computer Music Conference*, Belfast, UK.

Anders, T., E. Miranda (2008). Constraint-Based Composition in Realtime. In *Proceedings of the 2008 International Computer Music Conference*, Belfast, UK.

Percival, G., T. Anders, G. Tzanetakis (2008). Generating Targeted Rhythmic Exercises for Music Students with Constraint Satisfaction Programming. In *Proceedings of the 2008 International Computer Music Conference*, Belfast, UK.

Miranda, E., S. Durrant, T. Anders (2008). Towards Brain-Computer Music Interfaces: Progress and Challenges, In *Proceedings of International Symposium on Applied Sciences in Bio-Medical and Communication Technologies (ISABEL2008)*, Aalborg, Denmark.

Anders, T. (2007). A Model of Musical Motifs. In *Conference of Mathematics and Computation of Music 2007*, Berlin, Germany.

Anders, T. (2004). Strasheela: Design and Usage of a Music Composition Environment Based on the Oz Programming Model. In *Second International Mozart/Oz Conference (MOZ 2004)*, Charleroi, Belgium.

Anders, T. (2002). A Wizard's Aid: Efficient Music Constraint Programming with Oz. In *Proceedings of the 2002 International Computer Music Conference*, Göteborg, Schweden.

Anders, T. (2000). Arno: Constraints Programming in Common Music. In *Proceedings of the 2000 International Computer Music Conference*, Berlin, Germany.

Non-Refereed Texts

Anders, T. (2007). Composing Music by Composing Rules: Design and Usage of a Generic Music Constraint System. PhD thesis, Queen's University, Belfast.

Anders, T. (2002). Den Wald trotz aller Bäume sehen: Programmierparadigmen und -abstraktionen. In *Mitteilungen der Deutschen Gesellschaft für Elektroakustische Musik*. Nr. 42. Pfau-Verlag.

Compositions and Sound Installations

- 2011 **Tempziner Modulationen**, for 31-tone Fokker-organ and 96-tone Carrillo-piano, Commissioned by Huygens-Fokker Foundation (Netherlands).
Muziekgebouw aan 't IJ (Amsterdam, Netherlands): Ere Lievonen (Fokker-organ) and Maarten van Veen (Carrillo-piano).
- 2010 **Three Demos of MOTU's Instrument Ethno 2**, Commissioned by Mark of the Unicorn (MOTU) in collaboration with L'Atelier d'Exploration Harmonique (Le Thoronet, France).
- 2009 **Harmony Studies**, stereo fixed medium.
Peninsula Arts Contemporary Music Festival 2009 (Plymouth).
- 2003 **With Shifting Joints**, octophonic fixed medium, Commissioned by Thüringer Komponistenverband (Composers Society of Thuringia, Germany).
Conservatorio de Morelia (Morelia, Mexico); Soundings Festival 2004 Edinburgh; Sonorities Festival 2004 Belfast; Linux Audio Conference 2004 (ZKM, Karlsruhe, Germany); Kryptonale 10 (Berlin, Germany); Seoul International Computer Music Festival 2004 (Seoul, South Korea); University of Plymouth.
- 2001 **Echospiele**, sound installation, Commission by Förderband Kulturbüro Berlin.
Exhibition *Reservoir V – Aerotektura*. Grosser Wasserspeicher, Prenzlauer Berg (Berlin).
- 2000 **bohren. knappern. raspeln. lecken.**, sound installation, Commissioned by Stiftung Deutsches Gartenbaumuseum Erfurt, Germany.
Deutsches Gartenbaumuseum Erfurt (Erfurt, Germany), permanent exhibition.

- 1999 **Klavierkreisel**, *octophonic fixed medium*. Danish
 Institute of Electroacoustic Music (Copenhagen, Denmark); Manggah (Kraków, Poland); International Computer Music Conference 2000 (Berlin); Musiques & Recherches (Ohain, Belgium); MDR Figaro (Leipzig, Germany).
- 1999 **Farbklang**, *sound installation*, Commissioned by Design Zentrum Thüringen (Germany).
 Exhibition *Pfirschnblüt & Cyberblau: Goethe. Farbe. Raum*. Kornspeicher Weimar; Wilhelm Wagenfeld Haus Bremen; Internationales Design Zentrum Berlin (all Germany).
- 1999 **Piepser**, *sound installation*, Commissioned by Municipal Atelierhaus of Weimar City (Germany).
 Installed for the open day of the Atelierhaus.
- 1998 **Kunststoff. Fünf Variationen**, *octophonic fixed medium*.
 Liszt School of Music Weimar; MDR-Kultur (Leipzig, Germany); Electronic Music Studio TU Berlin; 'mon ami' Weimar.
- 1997 **Longing**, *sound installation*.
 Imaginata Jena; Atelierhaus Weimar (both Germany).
- 1998 **livelets**, *Radio sound installation (1999 octophonic concert version)*.
 'Radio Dario' of the Bauhaus-Universität Weimar, Liszt School of Music Weimar.
- 1996 **Das grosse C**, *stereo fixed medium*.
 Liszt School of Music Weimar.

Invited Talks

- February 2011 Music Constraint Programming with Strasheela. Invited lecture, Institute for Research in Applicable Computing, Department of Computing & Information Systems, University of Bedfordshire.
- July 2010 On Compositing Microtonal Music. Invited lecture, PRISMA, University of Plymouth.
- July 2008 Music Constraint Programming with Strasheela. International Music Computing Research Workshop, The Open University.
- July 2007 Addressing the Musical Form. Invited lecture, PRISMA, Ecole Nationale de Musique du Pays de Montbéliard, France.
- March 2007 Strasheela: Design and Usage of a Generic Music Constraint System. Invited lecture, Laboratoire d'Informatique Fondamentale d'Orléans, University of Orleans, France.
- January 2007 A Bagful of Harmonic Constraint Satisfaction Problems. Invited lecture, PRISMA, Ecole Nationale de Musique du Pays de Montbéliard, France.
- June 2006 Why is Strasheela a Generic Music Constraint System? Invited lecture, PRISMA, IRCAM, Paris, France.
- March 2005 Composing Music by Composing Rules. Invited lecture, Music Informatics Research Group, Edinburgh University, UK.
- June 2004 Constraint-Based Composition Systems: A Survey. Invited lecture, PRISMA, IRCAM, Paris.
- January 2004 The Score Description Language: A Tutorial. Invited lecture, PRISMA, Centro Tempo Reale, Florence, Italy.

Music Software Development

I designed and implemented various computer programs in several programming languages for musical purposes and research. A list of this software with further information and links to the source code is available on my website at <http://www.torsten-anders.de/> under the category *software*.

Teaching Experience

- 2011, 2010 **Music Making^o**
Composition with music technology & introduction to industry standard software. 1st year BA(Hons) Music Technology students.
- 2011, 2010 **Special Project^o**
Individual supervision of practice-based or theoretical student research projects. 3rd year BA(Hons) Music Technology students.
- 2011 **Critical Listening^o**
Training in recognising/describing sonic and musical features in isolation and in a musical context; listening to a wide range of musical styles and sonic art. 1st and 2nd year BA(Hons) Music Technology students.
- 2011 **Music Theory^o**
1st year BA(Hons) Music Technology students.
- 2011 **Algorithmic Composition^o**
Algorithmic composition techniques with SuperCollider. 3rd year BA(Hons) Music Technology students.
- 2010 **Music in Context^o**
Western music history & music theory. 1st year BA(Hons) Music Technology students.
- 2010 **Performance with Technology^o**
3rd year BA(Hons) Music Technology students.
- 2009 *Advanced Topics in Computer Music: Sound Synthesis Techniques**
Synthesis techniques introduced with Csound. MRes Computer Music students.
- 2008 *Negotiated Practice: SuperCollider Programming**
Master and PhD students from Digital Art & Technology and Computer Music.
- 2007, 2008 *Computer Science Workshop: Computer-Aided Composition**
General overview of computer-aided composition for non-musicians. 1st year Computer Science students.
- 2008 *Interactive Intelligent Systems Workshop: Constraint Programming**
Master students from multiple disciplines (Digital Art & Technology; Computer Science; Robotics).
- 2007 *Interactive Intelligent Systems Workshop: Music Constraint Programming**
Master students from multiple disciplines (Digital Art & Technology; Computer Science; Robotics).
- 2002, 2003 **Algorithmic Composition[†]**
Algorithmic composition techniques with Common Music. 3rd year BSc(Hons) Music Technology students. 2002 assisting Ludger Brümmer, 2003 with Simon Mawhinney.
- 2000 **Sound Programming in SuperCollider****
2nd-4th year students from multiple disciplines (Media Arts, Composition).
- 1999 **Music Programming in Common Lisp****
2nd-4th year students from multiple disciplines (Media Arts, Composition), assisting Andre Bartetzki.
- 1998 **Introduction to Studio Equipment and Electroacoustic Composition Techniques****
1999 (twice) 1st year Composition students.

^o University of Bedfordshire

* University of Plymouth

† Queen's University Belfast

** Liszt School of Music Weimar

Professional Service

- 2011 Peer reviewer of two bids for scientific projects submitted to the DIM (Domaine d'Intérêt Majeur) LSC (Logiciel et Systèmes Complexes) of the Ile-de-France Region.
Peer reviewer of article, *Journal of New Music Research*, Taylor & Francis.
Asked for peer review of an application to the Research Foundation Flanders – FWO (declined due to workload).
- 2010 Organisation of an international symposium: PRISMA meeting at the University of Plymouth.
Peer reviewer of article, *Constraints*, Springer.
- 2009 Peer reviewer of article, *Computer Music Journal*, MIT press.
Peer reviewer of two articles, *Contemporary Music Review*, Taylor & Francis.
Peer reviewer of article, *Constraints*, Springer.
Secondary reviewer of article, *Journal of New Music Research*, Taylor & Francis.
Peer review of book chapter from: Nick Collins (2009). *Introduction to Computer Music*. Wiley.
Peer reviewer of papers, *International Computer Music Conference (ICMC) 2009*, Montreal, Canada.
Peer reviewer of papers, *New Interfaces for Musical Expression (NIME)*, Pittsburgh, USA.
- 2008 Peer reviewer of a paper, *New Interfaces for Musical Expression (NIME)*, Genova, Italy.
- 2007 Peer reviewer of article, *Computer Music Journal*, MIT press.
- 1998 Chair, student's prize nominating committee for the international interpretation competition 'Concours Moderne', Weimar.

University Service

- 2010/11 Main author of course approval documentation for new course BA(Hons) Music Technology and revised course BSc(Hons) Music Technology; responsible as Music Technology course leader in successful approval process; University of Bedfordshire.
- 2011 Supervision as Music Technology course leader of design and construction of new music studio with control, live and machine room, with floated floor construction; University of Bedfordshire.
- 2011 Member, Appointing committee for Researcher/Demonstrator in Music Technology; University of Bedfordshire.
- 2011 Member, Appointing committee for Post Doctoral Research Fellow; University of Bedfordshire.
- 2009 Member, Appointing committee for Post Doctoral Research Assistant in Music Technology in Education; University of Plymouth.
- 2003–2004 Member, Staff Student Consultative Committee; Queen's University Belfast.
- 1999–2000 Member, Student Affairs Committee (Studienausschuss); Liszt School of Music Weimar.
- 1998 Member, Senate of the Music Academy (Senat); Liszt School of Music Weimar.
- 1998 Member, Students' Council (Studierendenrat); Liszt School of Music Weimar.
- 1996 Member, Appointing committee for the professorship electroacoustic composition; Liszt School of Music Weimar.

Awards and Commissions

- 2002–2005 Dissertation Studentship, Supportive Programme for University Research (SPUR), Queen's University Belfast.
- 2000 and 1999 Two Scholarships, Thüringer Komponistenverband (Composers Society of Thuringia, Germany).

References

Upon request.