

Curriculum Vitae



Name | Dr.-Ing. Sebastian Stober
Position | Junior Research Group Leader
Affiliation | Machine Learning in Cognitive Science Lab
University of Potsdam
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Education

2011 | Dr.-Ing. (summa cum laude)
Otto-von-Guericke-University, Magdeburg, Germany
2005 | Dipl.-Inform. (with distinction, overall average grade 1.0)
Otto-von-Guericke-University, Magdeburg, Germany
2000 | Advanced level degree (Mittelstufe II) in Drums (with distinction)
Kreismusikschule Halberstadt, Germany
1999 | A Levels (with distinction, overall average grade 1.0)
Gymnasium "Martineum", Halberstadt, Germany

Grants, Honors & Scholarships

2017 | German Academic Exchange Service (DAAD) – Travel Grant
2016 | NVIDIA – Hardware Grant
2014–2015 | German Academic Exchange Service (DAAD) – Postdoc Fellowship
2015 | Cognitively based Music Informatics Research (CogMIR) – Best Presentation Award
2015 | Highlighting Audio and Music Researchathon (HAMR), Cornell University – Best Code Award
2012 | Gesellschaft für Informatik e.V. – Nomination for the Best Dissertation Award
2012 | Otto-von-Guericke-University – Best Dissertation Award
2012 | Faculty of Computer Science, Otto-von-Guericke-University – Best Dissertation Award
2011 | International Conference on Novel Gaze-Controlled Applications – Best Paper Award
2010 | International Society for Music Information Retrieval (ISMIR) – Student Travel Grant
2007–2010 | German National Academic Foundation – Graduate Scholarship
2006 | Faculty of Computer Science, Otto-von-Guericke-University – Best Graduate Award
2001–2005 | German National Academic Foundation – Scholarship
1998–2000 | State Saxony-Anhalt – Scholarship for Extended Music Education

Work Experience

since 2016 | Head of junior research group "Machine Learning in Cognitive Science"
Research Focus Cognitive Sciences, University of Potsdam, Germany
2013–2015 | Post-doctoral fellow at the Owen Lab
Brain and Mind Institute, University of Western Ontario, Canada
2006–2013 | Graduate / post-doctoral researcher at the Data & Knowledge Engineering Group
Faculty of Computer Science, Otto-von-Guericke-University, Magdeburg, Germany
2004–2005 | Research assistant at the Information Retrieval Group (part-time)
Otto-von-Guericke-University, Magdeburg, Germany
2003–2004 | Research intern at the Mechatronics Research Group
University of Melbourne, Australia
2001–2003 | Research assistant at the Information Retrieval Group (part-time)
Software developer at the University Language Center (part-time)
Otto-von-Guericke-University, Magdeburg, Germany
1999–2000 | Alternative military service
Municipal administration of Pabstorf, Germany

Selected Invited Talks

- 29.06.2016 | *Deep Feature Learning for EEG Recordings*
Organization for Human Brain Mapping (OHBM), Geneva, Switzerland
- 04.04.2016 | *Pre-Training Deep Nets to Decode Brain Activity*
Berlin Machine Learning Meetup, Berlin, Germany
- 31.08.2015 | *Similarity & Feature Learning for EEG Recordings of Music Perception and Imagination*
Center for Computer Research in Music and Acoustics, Stanford University, CA, USA
- 07.05.2015 | *Decoding EEG of Music Perception and Imagination*
Institut de Recherche et Coordination Acoustique/Musique (IRCAM), Paris, France
- 31.01.2013 | *Adaptive Music Retrieval and Beyond*
AES Students Section – Fraunhofer IDMT, Ilmenau, Germany
- 13.09.2011 | *From User-Adaptive Organization of Music Collections to Bisociative Music Discovery*
Music Technology Group, Universitat Pompeu Fabra, Barcelona, Spain
- 23.07.2011 | *Adaptive Distance Measures for Exploration and Structuring of Music Collections*
Keynote at AES 42nd Conference on Semantic Audio, Ilmenau, Germany

Teaching Experience

- Summer 2017 | Applied Deep Representation Learning (lecture)
- Summer 2017 | Learning – Cognitive Science Perspectives (ring lecture)
- 02.2016 – 02.2017 | Senior Teaching Professionals Program (certified training)
Potsdam Graduate School, University of Potsdam, Germany
- Winter 2016/2017 | Representation Learning (lecture)
- 07.08.2016 | “Introduction to EEG Decoding for Music Information Retrieval Research” (tutorial)
17th International Society for Music Information Retrieval Conference, New York, USA
- Summer 2016 | Deep Learning for Natural Language Processing (lecture)
- 11 – 13.12.2013 | Instructional Skills Workshop (certified training)
Teaching Support Center, University of Western Ontario, Canada
- 16 – 20.09.2013 | “Adaptivity in Audio and Music Retrieval” (lecture)
7th Russian Summer School in Information Retrieval, Kazan, Russia
- Winter 2012/2013 | Data & Knowledge Engineering Research Seminar
- 11.07.2012 | “Learning Similarity Measures for Music” (full-day tutorial)
9th Sound and Music Computing Conference, Copenhagen, Denmark
- Summer 2012 | Data & Knowledge Engineering Research Seminar
- Winter 2011/2012 | Machine Learning (lecture)
- Summer 2011 | Bioinformatics (tutorial lecture)
- Winter 2010/2011 | Machine Learning (tutorial)
- Winter 2010/2011 | Seminar for IT Projects in Data & Knowledge Engineering
- Summer 2010 | Computer Music (seminar)
- Winter 2009/2010 | Concepts for Adaptive Interaction with Multimedia (seminar)
- Summer 2009 | Computer Music (seminar)
- Summer 2008 | Bioinformatics (tutorial lecture)
- Winter 2007/2008 | Multimedia Retrieval (tutorial)
- Summer 2007 | Multimedia-Retrieval: Focus Audio (seminar)
- Winter 2006/2007 | Concepts of Information Retrieval (tutorial)
- Summer 2006 | Machine Learning (tutorial in English)
- Winter 2004/2005 | Introduction to Intelligent Systems (undergraduate tutorial)
- Winter 2002/2003 | Mathematics for Computer Scientists (undergraduate tutorial)
- 2006 – 2013¹ | (co-)supervision of 14 bachelor, master and diploma theses, 7 undergraduate IT projects with groups of 2–5 students, 1 undergraduate part-time lab intern for 1 semester, 1 full-time intern for 6 month, 3 school interns, and 15 research assistants in several projects

¹Full details can be found at <http://www.sebastianstober.de/teaching/>

Active Memberships

	University of Potsdam Research Focus Cognitive Sciences (executive committee member)
PoGS	Potsdam Graduate School (postdoc representative)
ISMIR	International Society for Music Information Retrieval (founding member & WiMIR mentor)
	Bernstein Association for Computational Neuroscience e.V.
SMPC	Society for Music Perception & Cognition
eLeMeNTe	Landesverein Sachsen-Anhalt zur Förderung mathematisch, naturwissenschaftlich und technisch interessierter und talentierter Schülerinnen, Schüler und Studierender e.V. (founding member)

Scientific Services

Workshops	<i>International Workshop on Adaptive Multimedia Retrieval (AMR)</i> (co-organizer and technical chair) <ul style="list-style-type: none">• 2012 – 10th AMR, Copenhagen, Denmark• 2011 – 9th AMR, Barcelona, Spain• 2010 – 8th AMR, Linz, Austria• 2009 – 7th AMR, Madrid, Spain• 2008 – 6th AMR, Berlin, Germany• 2007 – 5th AMR, Paris, France <i>International Workshop on Learning Semantics of Audio Signals (LSAS)</i> (initiator and main organizer) <ul style="list-style-type: none">• 2009 – 3rd LSAS, Graz, Austria• 2008 – 2nd LSAS, IRCAM, Paris, France• 2006 – 1st LSAS, Athens, Greece <i>Workshop on Learning, Knowledge and Adaptivity (LWA)</i> (co-organizer) <ul style="list-style-type: none">• 2011 – Magdeburg, Germany
Reviewing (selected)	Nature Scientific Reports; Biomedical Engineering; Psychomusicology: Music, Mind, and Brain; J. of Intelligent Information Systems; IEEE Trans. on Systems, Man and Cybernetics; IEEE Trans. on Knowledge and Data Engineering; IEEE Trans. on Biomedical Engineering; IEEE Trans. on Affective Computing; ACM Trans. on Intelligent Systems and Technology; National Science Foundation (NSF); NIPS; ISMIR; OHBM
Mentoring	Women in MIR (WiMIR, since 2016) UniMentor (2004–2006)
Other	Staff representative in the faculty research commission (2007–2013)

Science Outreach

2016	Science & the City, Wissenschaftsetage (WIS), Potsdam
2013	3MR – 3-Minute Research Talk, University of Western Ontario
2012	Participation at the Science Communication Workshop Klaus Tschira Foundation, Heidelberg, Germany
2012	Competition for the Klaus Tschira Award for Intelligible Science
2012	Press material and interviews for “Pressreise Sachsen-Anhalt”
2008–2013	Research Presentation at the annual Campus Days Otto-von-Guericke-University, Magdeburg, Germany
2008–2013	Research Presentation at the annual Long Night of the Sciences Otto-von-Guericke-University, Magdeburg, Germany
2005–2013	Research Presentation at the annual CeBIT Fair, Hannover, Germany

Social Activities & Volunteering

2013–2014	Member of the University of Western Ontario Salsa Team
2011–2013	Volunteer Salsa teacher at the University Sports Center
2004–2013	Founding member of the Otto-von-Guericke-University Big Band (Drums & Percussion)

Skills & Competences

Languages	German (native speaker), English (proficient, professional working language), French, Spanish, Latin (basics)
IT skills	Python, Java, Js/CSS/HTML, Matlab/Octave (active projects) Processing, C/C++, PHP, Maple, Toolbook, Prolog, Pascal, Basic Mac OS X, Linux (Ubuntu/Debian), Solaris, Windows (98/2000/XP/7)
Driver licences	EU driver's licence (classes BE, C1E, ML) Ontario driver's licence (G) Sports boats driver licence (sea)
Artistic skills	Drums, percussion, audio recording engineering (several past projects) Digital photography & image-editing (Adobe Lightroom & Photoshop)
Sports	Qigong, Taijiquan, Wushu, Yoga, Salsa dancing (regularly) Inline skating, alpine skiing, swimming, sailing, kayaking (seasonal)

Selected Publications²

Journal Articles

- [1] S. Stober and A. Nürnberger. "Adaptive Music Retrieval - A State of the Art". In: *Multimedia Tools and Applications* 65.3 (2013), pp. 467–494.
- [2] S. Stober and A. Nürnberger. "User-Adaptive Music Information Retrieval". In: *KI* 23.2 (2009), pp. 54–57.

Book Chapters

- [3] S. Stober. "Similarity-based Organization of Music Collections". In: *Music Data Analysis: Foundations and Applications*. Ed. by C. Weihs, D. Jannach, I. Vatolkin, and G. Rudolph. Chapman & Hall / CRC Press, 2016.
- [4] S. Stober and A. Nürnberger. "MusicGalaxy: A Multi-focus Zoomable Interface for Multi-facet Exploration of Music Collections". In: *Exploring Music Contents*. Ed. by S. Ystad, M. Aramaki, R. Kronland-Martinet, and K. Jensen. Vol. 6684. LNCS. Berlin / Heidelberg: Springer Verlag, 2011, pp. 273–302.

Publications in Conference Proceedings (peer-reviewed full papers)

- [5] S. Stober. "Learning Discriminative Features from Electroencephalography Recordings by Encoding Similarity Constraints". In: *Proceedings of 42nd IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'17)*. 2017, pp. 6175–6179.
- [6] S. Stober, T. Prätzlich, and M. Müller. "Brain Beats: Tempo Extraction from EEG Data". In: *17th International Society for Music Information Retrieval Conference (ISMIR'16)*. 2016.
- [7] S. Stober, A. Sternin, A. M. Owen, and J. A. Grahn. "Towards Music Imagery Information Retrieval: Introducing the OpenMIIR Dataset of EEG Recordings from Music Perception and Imagination". In: *16th International Society for Music Information Retrieval Conference (ISMIR'15)*. 2015, pp. 763–769.
- [8] S. Stober, D. J. Cameron, and J. A. Grahn. "Using Convolutional Neural Networks to Recognize Rhythm Stimuli from Electroencephalography Recordings". In: *Advances in Neural Information Processing Systems 27 (NIPS'14)*. 2014, pp. 1449–1457.
- [9] D. Wolff, S. Stober, A. Nürnberger, and T. Weyde. "A Systematic Comparison of Music Similarity Adaptation Approaches". In: *13th International Conference on Music Information Retrieval (ISMIR'12)*. 2012, pp. 103–108. (shared 1st authorship with D.W.)
- [10] S. Stober. "Adaptive Distance Measures for Exploration and Structuring of Music Collections". In: *Proceedings of AES 42nd Conference on Semantic Audio*. 2011, pp. 275–284.

Other Publications

- [11] S. Stober, A. Sternin, A. M. Owen, and J. A. Grahn. "Deep Feature Learning for EEG Recordings". In: *arXiv preprint arXiv:1511.04306* (2015).

²A full list of publication is available at <http://bib.sebastianstober.de>