

Tanja Schultz  
Curriculum Vitae  
September 26<sup>th</sup> 2016

**Business Address:**

**In Germany:**

Cognitive Systems Lab  
Department of Informatics / Mathematics  
University Bremen  
Enrique-Schmidt-Str. 5  
28359 Bremen, Germany

Phone: +49 421 218 64270  
Fax: +49 421 218 98 64270  
Email: [tanja.schultz@uni-bremen.de](mailto:tanja.schultz@uni-bremen.de)  
Web: <http://csl.uni-bremen.de>



**In the US:**

Language Technologies Institute  
Carnegie Mellon University  
5000 Forbes Avenue  
Pittsburgh, PA 15213-3890

Phone: +1 412 268 4278  
Fax: +1 412 268 5578  
Email: [tanja@cs.cmu.edu](mailto:tanja@cs.cmu.edu)  
Web: <http://www.cs.cmu.edu/~tanja>

**Home Address:**

Schwachhauser Heerstr. 251  
D-28211 Bremen  
Phone: +49 421 330 78755

**Personal Data:**

Birth Date: February 6, 1964  
Birthplace: Oldenburg i.O., Germany  
Citizenship: German

**Professional Preparation and Appointments:**

- Since 04/2015:** Full Professor, Chair for Cognitive Systems, University Bremen, Germany;  
Director of the Cognitive Systems Laboratory (CSL)
- 06/2013:** Founding member of the Institute for Future Technologies (ITZ), KIT
- 06/2010 – 03/2015:** Member of Steering Committee KIT-Focus Anthropomatics&Robotics,  
Founding member of the Institute for Anthropomatics and Robotics, KIT
- 05/2007 – 03/2015:** Full Professur, Chair for Cognitive Systems, Department of Informatics,  
KIT; Director of the Cognitive Systems Laboratory (CSL) at KIT
- Since 07/2002:** Research Scientist / Research Professor, Language Technologies Institute,  
Carnegie Mellon University, Pittsburgh, Pennsylvania USA
- 01/2001 – 06/2002:** Research Associate, Language Technologies Institute, Interactive Systems  
Lab, Carnegie Mellon University, Pittsburgh, Pennsylvania USA

- 09-12/2000:** Postdoctoral Fellowship at the Interactive Systems Laboratories, Carnegie Mellon University, Pittsburgh, Pennsylvania USA
- 06/2000:** Doctoral Degree in Computer Science (Dr.-Ing.) at the University of Karlsruhe, Dissertation on Multilingual Speech Recognition entitled *Multilinguale Speech Recognition nnung – Combination of Acoustic Models for Rapid Portation to new Languages*; Advisor: Prof. A. Waibel (Uni KA) , Co-Advisor: Prof. D. van Compernelle (Katholicke Universiteit Leuven)
- 1995 – 2000:** Graduate Research Assistant / PhD Student at University of Karlsruhe
- 1990 – 1995:** Diploma degree in Computer Science at University of Karlsruhe, Germany
- 1983 – 1989:** Masters in Mathematics (07/1989), Sport, Physical Education and Educational Science (11/1989), University Heidelberg, Germany
- 1974 – 1983:** High School, “Abitur”, Helmholtz Gymnasium, Gymnasium Wiesloch
- 1970 – 1974:** Elementary School, Waldschule Boxberg, Heidelberg

### **Educational Awards and Honors:**

- 2016 ISCA Fellow (for contributions to Multilingual Speech Recognition and Biosignal Processing for Human-Machine Interaction)
- 2015 ICSA / EURASIP Best paper award Speech Communication Journal
- 2015 Best Student Paper Award BIOSIGNALS with M. Georgi and C. Amma
- 2013 Otto Haxel Award together with C. Amma and M. Georgi
- 2013 Google Faculty Research Award
- 2013 Best Student Paper Award BIOSIGNALS with M. Wand, M. Janke and C. Schulte
- 2013 Geographic Finalist Europe IEEE Engineering in Medicine and Biology Society with D. Heger, F. Putze und C. Herff
- 2012 Research Award Technical Communication 2012 from Alcatel-Lucent Stiftung
- 2012 Best Paper Award Wearable Computing, with C. Amma and M. Georgi
- 2011 PLUX Wireless Biosignals Award with C. Amma and D. Gehrig
- 2010 Best Student Paper Finalist, Social Robotics with D. Heger and F. Putze
- 2009 Best selected Papers BIOSTEC with M. Wand
- 2008 Best selected Papers BIOSTEC with S-C. Jou
- 2006 ISCA Best Demo Award at Interspeech 2006
- 2005 Carnegie Mellon Language Technologies Institute Junior Faculty Chair
- 2002 ICSA Best paper award Speech Communication Journal
- 2002 Allen Newell Medal for Research Excellence, CMU
- 2001 FZI Award for an outstanding disseration

**Patents, Inventions:** 1 patent (2011), 2 patents pending (2013, 2014), 3 inventions (2001, 2012, 2013), various data and software licenses (since 2001)

### **Professional Work and Project Experience:**

Intuitive and adaptive man-machine interfaces, machine learning, methods and algorithms for real-time processing, recognition, and interpretation of biosignals such as speech, motion, as well as muscle and brain activity (EMG, EEG, fNIRS, EcoG), multilingual speech processing, real-time demonstrators such as Airwriting and Silent Speech Interfaces.

**Current Projects in Germany:** Response (NSF-BMBF, 2016-2019), DINCO (DFG, 2016-2019), Arthrokinemat (BMW, 2016-2019), I-CARE (BMBF, 2015-2019), IC 1206 (since 2013, ICT COST Action EU), MAPS (2013-2016, DFG), AKTIV (2013-2016, Baden-Württemberg Stiftung), GonyTech (2013-2016, BMW), KD2Lab (since 2012, lab 91b DFG), RLAT (since 2004, various grants).

**Germany 2007–2013:** HEiKA 1+2 (2012-2013, Research bridge HD-KIT), Wearable Computing (2013, Google Award), Silent Speech (2012-2013 Industry Cooperations), KIT International Excellence Fund BCI (2012-2013, KIT), QUAERO (2008-2013, German-French Research Project, OSEO), DFG SFB 588 “Humanoide Robots” (2008-2012, DFG TP Leader), Code-Switch Speech Recognition (2010-2012, Temasec, Singapore), CogniFit (2009-2011 KIT-Charité, Exzellenz Funding).

**USA since 2011:** Accented Speech (2009-2011, RADCS US), Thinking Head (2007-2011, Australian NHMRC), GALE (2005-2010, Co-PI, DARPA), FarSID (2007-2009, PI, ITIC IARPA), Multilingual Speech (2006-2008, CSIT, Singapore), SPICE (2004-2008, PI NSF), TransTac-I+II (2004-2006, DARPA) Co-PI, NineOneOne (NSF) Co-PI, Laser ACTD I + II (2003-2006, DARPA) Co-PI, CHIL (2003-2006, EU), Str-Dust (2003-2006, NSF) Co-PI, Dolphins (2002-2003, Wild Dolphins Foundation), CHENGO (2002-2004, Department of Education, US); also key personal: Babylon (2002-2004, DARPA), Avenue (2001-2003, NSF), Nespole! (2000-2002, EU) C-Star, Lingwear (DARPA), Verbmobil (1993-2000, BMBF).

**Advising:** Currently 6 PhD students and 2 Postdocs at University Bremen, as of September 2016: 13 PhD theses as first advisor and 26 PhD theses as second or external advisor, 6 Master degrees at CMU, about 80 Master-, Bachelor, and Diploma theses at KIT.

**Consulting** various commercial and academic institutions for Multilingual Speech Processing, Biosignals and Interfaces, web-based tutoring systems (since 2002); expert groups, round tables around the world (NSF, JSPS, DFG, BMBF, Zientzia Foroa, INSTICC, DoE, DARPA, ECRIM); more than 100 invited talks and keynotes.

**Memberships:** Member of the Association for Computational Linguistics (ACL, since 2001), Institute of Electrical and Electronic Engineers (IEEE, since 2000), International Speech Communication Association (ISCA, since 2000), European Language Resources Association (ELRA, 1993), Gesellschaft für Informatik (GI, since 1990).

**President, Board Member:** elected president of the International Speech Communication Association (2013-2015), Member of the Board (2006-2015), International Advisory Council (since 2016).

**Conference and Program Committees:** General Co-Chair (Interspeech 2006), Program Chair (Biosignals 2015), Technical Program Chair (Biosignals 2014, ASRU 2013, KI 2010, IWSLT 2008, HLT 2007), Technical Program Committee - Area Chair (Interspeech 2014, 2013, 2012, 2011, 2010, 2009, 2008, ASRU 2009, SLTU 2010, SLT 2008, ISUC 2008, CogSys 2008, ICASSP 2004, 2003, HLT 2001), more than 50 conferences as reviewer.

**Associate Editor und Reviewer for Journals:** Associate Editor of ACM Transactions on Asian Language Information Processing (since 2010), Editorial Board Member for Speech Communication, Elsevier (since 2004), Associate Editor for IEEE Transactions on Speech and Audio Processing (2002-2004), Guest Editor, IEEE Special Issue on Biosignal-based Spoken Communication (2016), Special Issue on Resource-low languages (2014), Speech Communication, Elsevier (2012), Special Issue on Speech Translation, Computer, Speech and Language Journal, Elsevier (2010), Special Issue on Silent Speech Interfaces, Speech Communication, Elsevier (2009), Morphological Rich Languages, IEEE Transaction on Audio, Speech, and Language Processing (2009); Reviewer since 1999 for many journals such as Artificial Intelligence Research, Computer, Speech & Language, Iranian Journal of Electrical and

Computer Engineering, South-African Computer Journal, Speech Communication, IEEE Transactions on Speech and Audio Processing (since 1999).

### Publications

As of 05/2016 about 300 publications in books, book chapters, journals and peer-reviewed conferences, h-index 42, 7000 citations (scholar.google.de); (publications are online available at CSL publication server <http://csl.uni-bremen.de>, as copyrights permit)

Publications	1995-2010	2011	2012	2013	2014	2015	05/2016	$\Sigma$
Books/Chapter	12	4	1	1	3	-	-	21
Intern. Journals	10	1	2	3	5	4	3	28
Conferences	170	15	22	25	27	13	5	277
Total	192	20	25	29	35	17	8	326

### Seleted publications:

- 2015 Christian Herff, Dominic Heger, Adriana de Pestors, Dominic Telaar, Peter Brunner, Gerwin Schalk, Tanja Schultz, Brain-to-text: Decoding spoken phrases from phone representations in the brain, In *Frontiers in Neuroscience*, volume 9, 2015.
- 2014 Laurent Besacier, Etienne Barnard, Alexey Karpov, Tanja Schultz (2014): Automatic Speech Recognition for under-resourced Languages: A Survey, *Speech Communication*, pp. 2-17, August, 2014.
- 2013 Christoph Amma, Marcus Georgi, Tanja Schultz (2013), Airwriting: A wearable handwriting recognition system. *Personal and Ubiquitous Computing*, DOI 10.1007/s00779-013-0637-3, 2013.
- 2012 Jean-Claude Martin and Tanja Schultz (2011). Multimodal and Speech Technology, In: Alexander Mehler and Laurent Romary (Ed.) *Handbook of Technical Communication (HAL)*, Band 8, Mouton de Gruyter.
- 2011 Dominic Heger, Felix Putze, Tanja Schultz (2011), An EEG Adaptive Information System for an Empathic Robot, *International Journal of Social Robotics*, Special Issue Towards an Effective Design of Social Robot, Volume 3, Number 4 (2011), pp. 415-425.
- 2010 Bruce Denby, Tanja Schultz, Kiyoshi Honda, Thomas Hueber, Jim M Gilbert, Jonathan S. Brumberg (2010), *Silent Speech Interfaces*, *Speech Communication*, Special Issue on Silent Speech Interfaces, Vol. 52, Issue 4, April 2010.
- 2010 Tanja Schultz and Michael Wand (2010), *Modeling Coarticulation in Large Vocabulary EMG-based Speech Recognition*, *Speech Communication*, Special Issue on Silent Speech Interfaces, Vol. 52, Issue 4, April 2010.
- 2008 Pascale Fung, Tanja Schultz (2008), *Multilingual Spoken Language Processing*, *IEEE Signal Processing Magazine* [89] May 2008.
- 2007 Qin Jin, Tanja Schultz and Alex Waibel (2006), *Robust Speaker Recognition*, Special Issue in Speaker Recognition, *IEEE Transactions of Speech and Audio Processing*, October 2007.
- 2006 Tanja Schultz, Alan W Black, Stephan Vogel, and Monika Woszczyna (2006), *Flexible Speech-to-Speech Translation Systems*, *IEEE Transactions on Audio, Speech, and Language Processing*, Vol 14(2), Special Issue in Speech Translation, March 2006.
- 2006 Tanja Schultz and Katrin Kirchhoff (Eds.), *Multilingual Speech Processing*, Elsevier, 2006.
- 2001 Tanja Schultz and Alex Waibel (2001), *Language Independent and Language Adaptive Acoustic Modeling*, *Speech Communication*, Best Journal Paper, Volume 35, Issue 1-2, pp 31-51, August 2001.