CV Prof. Dr.-Ing. Tanja Schultz (February 2021)

Business Address:

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Cognitive Systems Lab	Language Technologies Institute
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Personal Data:

Born February 6, 1964 in Oldenburg i.O., Germany, German citizen

Professional Preparation and Appointments:

Since 4/2015: Full Professor (tenured), Chair for Cognitive Systems, University Bremen

2007-2015: Full Professur (tenured), Chair for Cognitive Systems, Department of Informatics, Karlsruhe Institute of Technology, Karlsruhe, Germany

Since 2007: Research Professor / Adjunct Research Professor (2014), Language Technologies Institute (LTI), Carnegie Mellon University, Pittsburgh, PA USA

2002-2007: Research Scientist, LTI, Carnegie Mellon University

2001-2002: Research Associate, LTI, Carnegie Mellon University

9-12/2000: Postdoc at the Interactive Systems Laboratories, Carnegie Mellon University

Until 6/2000: Doctoral Degree in Computer Science, University of Karlsruhe, Germany; Diploma degree in Computer Science (1995); Masters in Mathematics (1989), Sport, Physical Education and Educational Science (1989) Uni Heidelberg.

Current Positions:

since 2020 Member of the Board of Trustees of the Fraunhofer Institute for Digital Media Technology (IDMT)

since 2020 Chair of the Advisory Board of the UKRI Centre for Doctoral Training in Speech and Language Technologies, University of Sheffield, UK

since 2019 Member of the Board of Directors, Leibniz-Science Campus

since 2019 Spokesperson of high-profile area "Minds, Media, Machines" at University Bremen (with Michael Beetz)

since 2016 Member of the ISCA International Advisory Board

since 2007 Director of the Cognitive Systems lab

since 2003 Founder of XLingual LLC and Co-owner of XLingual GmbH & Co KG

Educational Awards and Honors:

2020 Google Faculty Research Award for the project on "EMG-to-Speech: End-to-End Silent Speech Conversion based on Electromyography"; IEEE Fellow (Multilingual Speech Recognition and Biosignal Processing)

2019 Best Student Paper Award BIODEVICES on "A Wearable Real-time Human Activity Recognition System using Biosensors Integrated into a Knee Bandage" with H. Liu

2018   BCI Award 3rd place with the contribution "Brain-to-Speech: Direct Synthesis of Speech from Intracranial Brain Activity Associated with Speech Production" with C. Herff, L. Diener, E. Mugler, M. Slutzky, D. Krusienski

2017   Elected member of the European Academy of Sciences and Arts

2016   ISCA Fellow (for contributions to Multilingual Speech Recognition and Biosignal Processing for Human-Machine Interaction); Frontiers "100 Articles in the Spotlight" for the publication "Brain-to-Text: Decoding spoken sentences from phone representations" (top-4 of 12.500 publications 2015)

2015   ICSA / EURASIP Best journal paper award Speech Communication Journal; Best Student Paper Award BIOSIGNALS with M. Georgi and C. Amma

2013   Otto Haxel Award together with C. Amma and M. Georgi; Google Faculty Research Award; Best Student Paper Award BIOSIGNALS with M. Wand, M. Janke and C. Schulte; 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; 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; Allen Newell Medal for Research Excellence, CMU

2001   FZI Award for an outstanding dissertation

Patents, Inventions:
2 patent (2011, 2015), 1 patents pending (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 Brain-to-Text, Silent Speech Interfaces, Intelligent Bandages, Airwriting.

- **Current Grants (as PI, Co-PI):** ADSPEED (2021-2023 BMBF/NSF), MMM (2020-2024, Federal State Bremen), Google Faculty Research Award (2020-2021, Google), SmartHelm (2019-2022, BMVi), ALMED (2019-2021, DFG), CRC 1320 EASE (2017-2021, DFG), GRK EDM (2017-2022, Klaus-Tschira Foundation), ASARob (2017-2020, BMBF), KD2Lab (since 2012, lab 91b DFG).

- **Past Projects Germany 2007–2018 (as PI, Co-PI):** Response (2017-2020 NSF-BMBF), Arthrokinemat (2016-2019, BMWi), I-CARE (BMBF, 2015-2018), MAPS (2013-2015, DFG), AKTIV (2013-2016, Ba-Württ Foundation), GonyTech (2013-2016, BMWi), RLAT (since 2004, various grants), 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), **as consultant/commission member**: EU ICT COST Action IC1206 „De-identification for privacy protection in multimedia content", (2013-2018, Commission Member Germany, CogniFit (2009-2011, Germany KIT- Charité Excellence Funding); Thinking Head (2007-2011, Australian Research Council), Verbmobil (1993-2000, BMBF).

- **Past Projects USA 2000-2011 (as PI, Co-PI)**: Accented Speech (2009-2011, RADC US), 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); **as key personnel**: Babylon (2002-2004, DARPA), Avenue (2001-2003, NSF), Nespole! (2000-2002, EU) C-Star, Lingwear (DARPA).

Evidence of External Reputation
Fellow of IEEE (2020), ECAS (2017), ISCA (2016)

- **President, Board Member:** Member of the Board of Trustees of the Fraunhofer Institute for Digital Media Technology (since 2020), Chair of the Advisory Board of the UKRI Centre for Doctoral Training in Speech and Language Technologies, University of Sheffield, UK (since 2020), Speaker of the high-profile area Minds, Media, Machines at University Bremen (since 2019), Member of the Board of Directors Leibniz Science Campus on Digital Public Health (since 2019), Member of the ISCA Fellow Committee (since 2017), International Advisory Council ISCA (since 2016, second term), Elected president of the International Speech Communication Association (ISCA, 2013-2015), Member of the ISCA Board (2006-2015), Founding member Institute for Future Technologies (2013, KIT) and Institute for Anthropomatics and Robotics (2010-2015), Steering Committee Anthropomatics and Robotics (2010-2015), Marsilius-Kolleg University Heidelberg (since 2015).
- **Consulting:** Various commercial and academic institutions for Multilingual Speech Processing, Biogsignals and Interfaces, web-based tutoring systems.
- **Invited Panels and Expert Groups:** German Ethics Council on ethical questions of the relationship between man and machine (2021), Multilingual Speech and Machine Translation supported by Meity, Government of India (2020), Exploratory Seminar at the Radcliffe Institute (2020); expert groups, round tables around (NSF, JSPS, DFG, BMBF, Zientzia Foroa, INSTICC, DoE, DARPA, ECRIM, EU).
- **Invited Talks:** more than 150 invited talks and keynotes. Biosignal Processing (CeTI Summer School, virtual 2021), Adaptive Cognitive Systems (Mindtalks, virtual 2020), Biosignal-based Spoken Communication (ICASSP-ETON, virtual 2020), Human-Machine Interaction based on Biosignals (Bremen.AI keynote, 2020), Biosignal-based Spoken Communication (ASRU, Singapore 2019), Modeling Human Everyday Activities (IROS, Macau 2019), Futuras Res, (Fraunhofer, Berlin 2019), Keynote at Interspeech (Graz, 2019), Keynote at PETRA (Rhodes, 2019), Invited speaker at HADF (Oldenburg, 2019), Invited demo at the Deutsche Ethikrat, (Berlin, 2019), Invited speaker at Nutzerkongress, (Düsseldorf, 2019), Invited speaker at CogSys, (Osnabrück, 2019).

External Professional Activities
- **Memberships:** Member of the Brain Computer Interface Society (BCI Society, since 2015), Member of the Association for Computational Linguistics (ACL, since 2001),

Institute of Electrical and Electronic Engineers (IEEE, Fellow since 2020, member since 2000), European Academy of Sciences and Arts (EASA, Fellow and member since 2017), International Speech Communication Association (ISCA, Fellow since 2016, member since 2000), European Language Resources Association (ELRA, 1993), Gesellschaft für Informatik (GI, since 1990).

- **Conference and Program Committees:** Chair/Co-Chair (Interspeech 2006), Program Chair ICMI (2019, 2023), Biosignals (2014), ASRU (2013), KI (2010), IWSLT (2008), HLT (2007); Technical Program Committee – Area Chair Interspeech (since 2008), ASRU (2009, 2019), SLTU (2010, 2018), SLT (2008), ISUC (2008), CogSys (2008), ICASSP (2004, 2003), HLT (2001), PhyCS (2016-2018), ICPRAM (2018), Biosignals (since 2015), SLSP (2019, 2018), ITG (2018), numerous conferences as reviewer.
- **Associate Editor und Reviewer for Journals:** Lead Guest Editor, Special Issue on Speech & Dementia, Computer Speech and Language (2019), Lead Guest Editor, Special Issue on Biosignal-based Spoken Communication, IEEE Transaction on Audio, Speech, and Language Processing (2016), 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, Special Issue on Resource-low languages, 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 for Frontiers (since 2015), Journal of Artificial Intelligence Research (since 2006), Computer, Speech and Language (since 2004), Iranian Journal of Electrical and Computer Engineering (since 2004), South-African Computer Journal (since 2004), Speech Communication (since 1999), IEEE Transactions on Speech and Audio Processing (since 1999).

Advising (Postdocs, PhDs, Master students):
Currently **13** PhD students at Bremen as main advisor, **3** Postdoc at University Bremen; As of August 2019, completed **15** PhD theses as first advisor, **14** PhD theses as second advisor, and **27** as external examiner, 6 Master degrees at CMU, about 80 Master-, Bachelor, and Diploma theses at KIT, about **80** Master- and Bachelor theses at University Bremen since 2016.

Publications
(Publications are online available at http://csl.uni-bremen.de, as copyrights permit. The table below summarizes the publication output of the last 5 years (as of January 2021):
- over 430 publications in books, journals, peer-reviewed conference proceedings
- over 12.300 citations (google scholar)
- h-index 59 (google scholar), 53 (semantic scholar), 38 (scopus)
- more than 570 highly influential citations (semantic scholar)
- ORCID 0000-0002-9809-7028

Publications	1992-2017	2018	2019	2020	Σ
Books/Chapters	22	1	1	1	25
Intern. Journals	33	1	4	2	40
Conferences (peer reviewed)	321	14	10	22	367
Total	376	16	15	25	432