

CURRICULUM VITAE

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Since September 2015, I am a **professor for Human-Machine Interface and Virtual Reality** at Technische Hochschule Ingolstadt¹ (THI) and I am charter member of the **CARISSMA Institute of Automated Driving (CIAD)**². Since 2016, I am **heading the degree program User Experience Design (UXD, undergraduate)** and since 2020 the corresponding **international UXD master program**³. Furthermore I am **heading the Usability testing/user experience design (UXD) and driving simulator labs**. In October 2017, I was promoted to a **research professor** for “**Human Factors and Driving Ergonomics**” at THI (which goes along with a reduction in the teaching load from 18 to 9 SWS). At the same time, I founded the “**Human-Computer Interaction Group**”⁴ at THI. Before moving to Germany, I was Priv.-Doz. (tenure; equivalent to associate professor) at the University of Linz’s Institute of Pervasive Computing (headed by Prof. Alois Ferscha).

I graduated in computer science at the Johannes Kepler University Linz in 2001. After spending a couple of years in industry in varying positions (e. g., IT consultant 1999-2001, self-employed (IT services, trading, web design) (2001-2009; partially part-time), software developer mainframe PL/I, 2002-2004; detailed proof of activity available on request) I joined again JKU in 2005, enrolled in the PhD program in computer science and worked as assistant at the Institute for Pervasive Computing, headed by Prof. Alois Ferscha. I completed my PhD studies (with honors) in February 2009. From March 2006 to July 2009 I was co-employed at the Research Institute for Pervasive Computing (RIPE) in Hagenberg. From October 2009 to February 2014 I was holding a Postdoctoral research & teaching position (“Postdoc”) at the same institute. February 24, 2014 I was awarded the *venia docendi* in “applied computer science” from the University of Linz, Austria and promoted to an associate professor position. The title of my habilitation thesis is “Perceptual computer science - Human-centric and reality-based human-machine interaction” and **the habilitation project summarizes my experimental and hypothesis-driven research contributions within applied CS/HCI aiming at improving our understanding of the human individual and the role of emotion/cognition in user interfaces**. Most of my research was conducted in the transport domain and related to sophisticated driver-vehicle interaction and novel driver-vehicle interface concepts to give the driver greater awareness of the driving situation and to make driving safer and more pleasant. With it, I myself see the habilitation project as a **groundwork for the development of future pervasive/ubicomp technology and interaction concepts that include cognitive elements to reflect the uniqueness of its users**.

My current **research interests include implicit/multimodal human-computer interaction, pervasive/ubiquitous systems, explainable UIs, user experience design and usability evaluation, mixed-reality (AR/VR) applications, human factors, gamification/incentives for attention calibration** with special interest in **applications in the automotive domain**. My focus there in is **hypotheses-driven quasi-experimental research** in the area of driver and driving support systems at various levels (simulation, simulator studies, field operational tests, naturalistic driving studies). Particular research interests are in the **methodological investigation of human factors in driving** (driver state assessment from physiological measures: detection of stress, fatigue, cognitive overload, attention, and situation awareness) as well as in the areas of **trust in and acceptance of technology, responsibility, cooperative driving, XAI**, amongst others. Furthermore, my research interests include cyber-

¹translation: Ingolstadt University of Applied Sciences

²<https://www.thi.de/forschung/carissma/c-iad/>, retrieved April 17, 2021.

³<https://www.thi.de/en/computer-science/degree-programmes-i/>, retrieved April 17, 2021.

⁴<https://hcig.thi.de/>, retrieved April 17, 2021.

physical (automotive) systems, **AR/MR/VR applications and environments**, and **novel interaction concepts for automated driving** with the aim to **improve human-machine/driver-vehicle communication**.

My research has yielded more than **200 publications across various journals and conference proceedings** in the broader field of **usability/UX, (implicit) human-computer interaction, virtual/augmented/mixed reality, human vital state recognition, context-sensitive data processing, and sensor/actuator (embedded) systems**. The full, up-to-date list of publications is available on Google Scholar, <https://scholar.google.de/citations?hl=de&user=KOtuY20AAAAJ> (citation count: 2910, h-index: 28, i10-index: 83; as of April 17, 2021). I have presented my research findings in more than 50 conference talks, I was invited to teach courses at universities in Austria, Germany and US and to give keynote talks at several conferences. I was invited as expert, consultant and key contributor to workshops, like the Kapsch TrafficCom innovation workshop on “Smart City Solutions”. Furthermore, I have been engaged in several EU- (SOCIONICAL, OPPORTUNITY, COST CA16222 WISE-ACT), national (SAFIR IP1, SAFIR IIP1, MenschInBewegung, SAVe, SAVeNoW) and industrial funded (SIEMENS P2P, SIEMENS FACT, BMW statische Verkehrsdaten, Audi Überholassistentz, COBE Evaluation of Design Strategy, DB Evaluierung autonomer Shuttlebus, Kuratorium für Verkehrssicherheit (KFV) e-Scooter Evaluation, KFV Evaluation von Fahrerassistenzsystemen AEB, etc.) **research projects**, and **I have been long-time reviewer for conferences** (including PERVASIVE, UBICOMP, CHI, ISWC, AmI, EuroSSC) **and journals** (such as IEEE PCM, IEEE ITS, Springer PUC, iCom, MIT Presence, etc.) in the HCI/pervasive/ubiquitous/AR-VR/computer science domain. In June 2016, I was one of the co-organizers of the **Dagstuhl seminar 16262 on “Automotive User Interfaces in the Age of Automation”**⁵ and co-organizer of the follow-up **Dagstuhl seminar 19132 on “User interactions with tomorrow’s automated driving systems”** (March 24 to 29, 2019). Furthermore, I am co-organizing the upcoming **Dagstuhl seminars 21232 “Human-Computer Interaction to Support Work and Wellbeing in Mobile Environments”** (June 6 to 11, 2021) and **seminar 22222 “Radical Innovation and Design in the Age of Connected and Autonomous Vehicles”** (May 29 to June 3, 2022).

I am holding active **IEEE and ACM memberships** and I am a member of the **Austrian Computer Society (OCG)**, the **German Informatics Society** (Gesellschaft für Informatik e.V. (GI)) and the **Europe Chapter of Human Factors and Ergonomics Society (HFES Europe)**. **Researcher ID** user no. E-1353-2013. In addition, I am **steering committee co-chair of AutomotiveUI**, the international ACM conference on Automotive User Interfaces and Interactive Vehicular Applications⁶ and, since April 2020, **chair of the German ACM SIGCHI**. Further, I am **founding member of the section “User-centered Artificial Intelligence”** in the the **German Informatics Society** and, since February 2020, **member of the joint ethics committee of the Bavarian universities** (GEHBa) as a representative from THI.

I am general chair of the 2021 ACM conference “Mensch und Computer” (largest HCI conference in Germany with 800-1,000 participants in previous years).

In June 1999 I received an “**Excellence Scholarship**” from the technical and natural scientific faculty, JKU Linz, and in autumn 2008 I was awarded the “**Talent Funding Award for Science**” from the Upper Austrian Federal State Government as honor for my performance in research. 2009 I was the JKU nominee for the “**Vodafone-Stiftung für Forschung: Innovations- und Förderpreise 2010**” and 2010 I was nominated by the Johannes Kepler University for the **GI-Dissertationspreis** (awards the best German, Austrian, and Swiss PhD thesis in the field of Computer Science). August 2014, one of my supervised student projects (Master thesis “A new approach for dynamic carpooling: Qualitative design to increase on user acceptance”) investigating the potential of dynamic ride sharing to reduce traffic jams and CO₂ emissions was nominated for the “**Upper Austrian regionalism price 2014**” in the category mobility (3 nominees selected out of more than 200 submissions; Honorable Mention Award in the award ceremony on September 17, 2014). April 16, 2018 I was awarded the “**Preis für herausragende Lehre**”⁷ (Price for outstanding teaching) from the **Bavarian State Ministry of Education and Cultural Affairs**.

⁵<http://www.dagstuhl.de/16262/>, retrieved April 17, 2021.

⁶<https://www.auto-ui.org/conference-series/steering-committee/>, retrieved April 17, 2021.

⁷<https://www.diz-bayern.de/preis-fuer-herausragende-lehre/bisherige-preistraeger>, retrieved April 17, 2021.