

Mark Colley, FHEA

Lecturer, University College London, London, UK

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RESEARCH INTERESTS

My multidisciplinary research in Human-Computer Interaction (HCI), Accessibility, & Computational Methods is dedicated to tackling complex challenges and seizing opportunities within advanced mobility technologies. It involves designing, implementing, & testing novel simulators to study futuristic mobility scenarios. My work aims to address issues such as undertrust in automated vehicles and to enhance accessibility in urban (air) mobility, thereby supporting societal and industrial growth. A significant portion of my research focuses on evaluating innovative interaction paradigms between automated vehicles and vulnerable road users, utilizing empirical evidence alongside simulation-based approaches to analyze their broad-scale impacts.

EDUCATION

Ulm University 

Ulm, Germany 04/2019 — 26.04.2024

Doctor of Science (PhD) in Human–Computer Interaction

Thesis Title: *Calibrating Trust in Automated Vehicles-Theoretical, Design, & Empirical Insights into Effects of Visualizations on Trust*

Advisor: **Prof. Dr. Enrico Rukzio**

Committee: **Prof. Dr. Stephen Brewster** (University of Glasgow, UK), **Prof. Dr. Wendy Ju** (Cornell Tech, NYC, USA)

Cornell Tech 

New York, USA 01/2023 — 04/2023 & 07/2023 — 08/2023

Visiting Research Scholar with **Prof. Dr. Wendy Ju**

Note: supported by the German Academic Exchange Service (DAAD)

Ulm University 

Ulm, Germany 10/2015 — 11/2018

Overall Grade: 1.1 - A-equivalent

Master of Science in Computer Science

Grade: 1.0 - A-equivalent

Thesis Title: *Identification, Investigation and Classification of Use Cases for Cooperation in Highly Autonomous Driving and the Applicability thereof*

DHBW Ravensburg, Campus Friedrichshafen 

Friedrichshafen, Germany 09/2012 — 10/2015

Bachelor of Engineering: Information Technology

Note: cooperative degree as an employee of Airbus Defence and Space GmbH

JOB EXPERIENCE

Zefwih 

Neu-Ulm, Germany

01/2022 — present

Co-Founder & Research Lead

We are a startup specialising in Human–Computer Interaction, AI, XR, and immersive systems. Lead research-driven strategy and evaluation, overseeing user studies, prototyping, and human-centred design for industrial, cultural, and research partners. Bridge academic HCI expertise and applied product development to deliver accessible, usable, and innovative interactive systems and toolkits. Zefwih has won multiple national and international awards, including the Deutschland 4.0 Challenges with Gothaer (“inSURE”) and WDR (“Öffy”), the Innovate2030 SDG9 programs with Bosch and Capgemini, and jury recognition at CHI Play, **Deutscher Computerspielpreis**, **nextRealityContest**, and Games for Change.

University College London 

London, United Kingdom

Lecturer/Assistant Professor

10/2024 — present

As the coordinator of the UCLIC Research Seminar Series, I organize and manage a vibrant seminar program featuring leading researchers in HCI. The recorded seminars are accessible through the [UCLIC YouTube Channel](#). Through this, I also support the (re)presented initiative, supporting those who face travel limitations. I also lead two modules: PSYC0095 (Future Interfaces), which explores emerging technologies, & PSYC0097 (Interaction Design), focusing on design processes, theory, & practical application. In my lab management role, I maintain an active and collaborative research environment that facilitates cutting-edge HCI work at UCLIC.

University of Tokyo 

Tokyo, Japan

Visiting Professor

04/2025 — 06/2025 & 01/2026 — 02/2026

Supported by [Canon](#), I am a visiting Professor in the User Interface Research Group led by [Takeo Igarashi](#).

Technische Hochschule Ingolstadt 

Ingolstadt, Germany

11/2025 — 11/2025

Visiting Professor

Supported by [Technische Hochschule Ingolstadt](#), I am a visiting Professor in the Research Group led by [Andreas Riemer](#). I contributed to teaching in the modules *Design Principles 1, Data Visualization, AR/VR, Cognitive Evolution: The Impact of AI on Human Psychology, and Technology in HCI*.

TU Eindhoven 

Eindhoven, The Netherlands

12/2025 — 12/2025

Visiting Professor

Supported by [Eindhoven Artificial Intelligence Systems Institute](#) Visiting Professor Scholarship, I am a visiting Professor in the Research Group led by [Pavlo Bazilinskyi](#).

Ulm University 

Ulm, Germany

04/2019 — 09/2024

Research Associate & Post-Doc

I significantly contributed to research and teaching and played a key role in securing and implementing three externally funded

projects—INTUITIVER, SituWare, & [SEMULIN](#). Furthermore, I successfully championed novel topics related to accessibility and computational methods into the department's research scope. My work incorporates numerous research approaches such as experiments, interviews, focus groups, literature reviews, observation, usability testing, & dataset creation. It has led to over **30 peer-reviewed first-author full papers**. Between May and September 2024, I worked as a postdoctoral researcher.

Airbus Defence and Space GmbH

Software Engineer

Ulm, Germany
09/2012 — 03/2019

I developed realistic simulations for aviation use cases, ensuring they closely mirror real-world conditions. My work included thorough testing to guarantee software reliability and performance, coupled with a comprehensive analysis of project requirements to create efficient and client-focused solutions. Additionally, I deployed and integrated these solutions, ensuring a smooth transition and optimal functionality within a safety-critical system that has existed and is being enhanced for >20 years. In 2014, I spent **3 months at Airbus Group in Newport, Wales**, contributing to system engineering tasks.

Ulm University

Student Research Assistant

Ulm, Germany
01/2019 — 03/2019

Led comprehensive literature reviews and significantly contributed to developing both a theoretical and an empirical publication on human-vehicle cooperation. My role involved critically analyzing existing works, synthesizing key findings, & collaboratively shaping the direction of the publication. Additionally, I actively participated in internal review processes.

GRANTS

Received

- Visiting Grant from the [Technische Hochschule Ingolstadt](#) as a Visiting Professor 2025 (2.000€)
- Recipient of the [EAISI](#) Visiting Professors Fellowship 2025 (7.500€)
- Recipient of the [Canon Foundation Research Fellowship 2025](#) (7.500€)
- 2024 V&A Creative Experience Futures Lab (Co-Investigator, 10.000£)
- 2024 Cornell–UCL Global Strategic Collaboration Award: “Evaluating Cultural Differences in Mobility: Developing a Toolkit and Preliminary Investigations” (Co-Principal Investigator, 10.000\$)
- Google PaliGemma Academic Program (5.000\$)

Total amount received: 41.000€

Member of the Advisory Board

- RapidMobility: LLM-based rapid prototyping for evaluating novel mobility concepts (PI: [Patrick Ebel](#); value 60.000€; accepted)

Total amount: 60.000€

MEMBERSHIPS, ACADEMIC AND INDUSTRIAL SUPPORT

- Fellow of the Higher Education Academy (FHEA), Advance HE (since 11/2025)
- Recipient of the [Deutscher Akademischer Austauschdienst](#) (DAAD, German Academic Exchange Service) research stipend 2022 for my research visit at Cornell Tech
- Startup your career support (10.000€) by Ulm University
- Hardware support by [Leia Inc.](#), NextMind ([acquired by Snap](#)), and [Nokia Bell Labs](#)
- [Heidelberg Laureate Forum Foundation](#) alumnus, [AlumNode](#) & [HLFF Inspiring Minds](#) member, mentor: [Gabriele Kotsis](#)
- Co-Founder of [ZefwiH](#) since 01/2022, supported by the German Federal Ministry of Transport and Digital Infrastructure
- Affiliate member of the [United Kingdom Advising and Tutoring \(UKAT\) association](#) since 11/2024

SERVICE AND VOLUNTEERING ACTIVITIES

- Reviewing of Project Proposals:
 - Linz Institute of Technology (LIT) Seed Funding Program, JKU, Austria, 2024
 - NWO - [Open Competition Domain Science-M](#), 2024
 - Member of the [EPSRC Peer Review College](#), joined 11/2024
- Associate Chair / Program Committee Member:
 - Subcommittee Chair for the Full Paper track at AutoUI'25; Student Research Track selection committee for AutoUI'25
 - Associate Editor for [IMWUT](#) (since 02/24), [Behaviour & Information Technology](#) (since 12/24), [IJHCS](#) (since 12/24), & [IEEE Transactions on Human-Machine Systems](#) (since 08/25)
 - Full Paper - [CHI '24'25'26](#) (UX and Accessibility Subcommittees), [CSCW '24](#), AutoUI '21-'24, ETRA '24'25, MobileHCI '23'24'25'26, MuC '22-'25, CUI '24'25, CHIWORK'25, ISMAR'25
 - Member of the ACM Transactions on Computer Human Interaction (TOCHI) Distinguished Reviewer Board (since 01/2026)
 - Member of the [Best Paper Committee](#) for [CHI '24](#)
 - Late-Breaking Works (LBW) - CHI '22'25, TEI '23'24, CHI Play '24
 - Juror (reviewer), CHI 2026 Student Mentoring Program, Dissertation Research Roundtable, 2026
- **Organizing Committee:** [AutoUI 2023 \(Workshop Chair\)](#), [AutoUI 2024 \(Demo Chair\)](#), [AutoUI 2025 \(Workshop & Tutorial Chair\)](#), [AutoUI 2026 \(Open Data Chair\)](#), [MuC 2025 Workshop & Tutorial Chair](#), [ACII 2026 \(Demo Chair\)](#), [UbiComp 2026 \(Workshop Chair\)](#)

- Peer Reviewing: Over 600 peer reviews completed so far for **Nature Computational Science**, **CHI**, **TVCG**, **MobileHCI**, **UIST**, **CUI**, **DIS**, **TEI**, **IUI**, **ISMAR**, **IJHCS**, **TRF**, **ETRA**, **AutoUI**, **CHI Play**, **ICMI**, **EICS**, **VRST**, **IEEE VR**, **CSCW**, **IJHCI**, **IMWUT**, **ESWA**, **ToCHI**; Reviewer for project **ERROR**
- Examiner appointment (11/2024) University of Ulm in the courses: Media Informatics, Computer Science, Software Engineering, and AI - graded 5+ Master theses
- Student Volunteer: UbiComp 2022
- Participation in **ISO standardization process** regarding driving simulators
- **Main organizer** of the **Post-CHI Summer School On Automotive User Interfaces and Future Mobility**
- Co-Organizer of the **German Pre-CHI 2022** hosted in Ulm, Germany with more than 70 participants
- **Local council** (2019 — 2024) in **89155 Erbach-Donaurieden, Germany**
- Former Lifeguard with the **Deutsche Lebens-Rettungs-Gesellschaft e.V.** (DLRG; German Life Saving Association)

MEDIA COVERAGE (Selection)

- **Aerospace America (AIAA)**, “2025 simulations focus on emerging aircraft designs and crowded airspace” (January 2, 2026): mentions the Ingolstadt proof of concept added to **UAM-SUMO**.

TEACHING

Qualification: Fellow of the Higher Education Academy (FHEA) (Recognised 11/2025)

Interaction Design (PSYC0097)

Course Organizer: Main organizer of the interdisciplinary course, in which students gain knowledge of methods for eliciting and specifying requirements, techniques for producing effective designs, prototyping methodology, and user-centred evaluation approaches. Fall 2025

Future Interfaces (PSYC0095)

Course Organizer: Main organizer of the interdisciplinary course, emphasizing user-centered design and design thinking with an innovative approach to HCI. The course covered diverse topics, including AR/VR, personalization, Brain-computer interfaces, human-food interaction, and robotics. Spring 2025

Research Project in Human–Computer Interaction

Course Organizer: Co-organization of the interdisciplinary project, emphasizing user-centered design and design thinking, integrated with a year-long, research-driven group project that culminated in several publications. Fall 2019 — Fall 2023

Research Trends in Media Informatics

Course Organizer: Co-organization of the course, mentoring PhD students on course structure and content, & personally delivering in-depth, one-on-one instruction to over 15 students on conducting literature surveys using the **PRISMA** method, complemented by active involvement in student assessment and grading processes. Fall 2019 — Fall 2023

Automotive user interfaces and interactive vehicle applications

Course Organizer and Lecturer: Actively participated in the co-development of comprehensive course materials, aligning them with industry standards and academic requirements. Delivered an in-depth lecture focused on external communication of automated vehicles, a key component crucial for students' success in the final assessment. Contributed to the evaluation process by assisting in grading, ensuring a fair and thorough assessment of student performance. Fall 2022

PHD MENTORSHIP

I have the privilege of working with and mentoring 13 PhD students and candidates.

Active

Ulm University

- [Pascal Jansen](#) (since 2021)
- [Annika Stampf](#) (since 2021)
- [Luca-Maxim Meinhardt](#) (since 2022)
- [Max Rädler](#) (since 2024)
- [Markus Sasalovici](#) (since 2024)
- [Julian Britten](#) (since 2025)

TH Ingolstadt

- [Mathias Haimerl](#) (since 2021)

UCL

- [Lan Xiao](#) (since 2024)
- [Coral Zawadzki](#) (since 2025)
- [Ramneek Ahluwalia](#) (since 2025; primary supervisor)

University of Tokyo

- [Yotam Sechayk](#) (since 2025)
- [Xinyue Gui](#) (since 2025)
- [Ding Xia](#) (since 2025)

VISITING RESEARCHER

2025

- [Pascal Jansen](#) (January - March)
- [Carolin Stellmacher](#) (June - September)
- [Mengyang Ren](#) (October - February'26)
- [Marina Ricci](#) (supported by **Bando-STM (2500€)**; October - November)
- [Leon Hanschmann](#) (November - March'26)

THESIS SUPERVISION (Main Supervisor, Selection, Total>100)

Bachelor theses (all Ulm University unless noted)

- Simon Kopp (2024)
- Jonathan Westhauser (2023)
- Alexander Fassbender (2022)
- Julian Britten (2022; now PhD student at Ulm University)
- Elvedin Bajrovic (2021)
- Tim Fabian (2021)
- Max Rädler (2021)
- Svenja Krauß (2020)
- Jan Henry Belz (2020; now PhD student at Ulm University in collab. with Porsche AG)
- Stefanos Mytilineos (2020)
- Christian Bräuner (2019)

Master theses (multiple institutions)

- Ramneek Ahluwalia (2025) now PhD student at UCL)
- Shuai Yuai (2025)
- Marcel Giss (2025)
- Tim Fabian (2025)
- Julian Britten (2025; now PhD student at Ulm University)
- Svenja Krauß (2023)
- Max Rädler (2023; now PhD student at Ulm University)
- Bastian Wankmüller (2022)
- Cristina Evangelista (Ulm University and Cerence GmbH; 2022)
- Albin Zeqiri (2022; now PhD student at Ulm University)
- Annika Stampf (Ulm University and Mercedes Benz AG; 2021; now PhD student at Ulm University)
- Pascal Jansen (2021; now PhD student at Ulm University)
- Leon Dönch (University of Munich; 2020); co-supervised with Dr. Kai Holländer
- Gülemin Dogru (Ulm University and Bosch GmbH; 2019)

INVITED TALKS AND SEMINARS (Selection)

Presentations automatically accompanying published conference papers are not listed.

Talks

- University of Tokyo [User Interface Research Group](#) (27.01.2026): “Approaches to studying cross-cultural dimensions of mobility”; in-person
- Shonan Meeting [Building Trustworthy and Interactive Recommender Systems through Argumentation](#) : “Evaluation and Impact of Argument-Based Recommendations”; in-person invited talk
- [2025 Huawei User Experience Design Technology Conference \(UXTC\)](#) (24.11.2025): “HCI for mobility and beyond in the era of AI ”; in-person
- [World Usability Day 2025](#) (13.11.2025): “Shaping the Future of Mobility”; in-person
- [Miraikan – The National Museum of Emerging Science and Innovation](#) (16.05.2025); in-person
- University of Tokyo [User Interface Research Group](#) (09.05.2025): “Shaping the Future of Mobility”; in-person
- University of Cambridge [Department of Engineering](#) (31.03.2025); in-person
- Birmingham City University [Research Centre](#) (17.12.2024); in-person
- University of Sydney [Design Lab](#) (09.08.2024); in-person
- UC Calgary [iLab](#) (01.08.2023): “Automotive UI: The Intersection of Accessibility, Computational Methods, & Design”, online
- KIT at [Human-Centered Systems Lab](#) (01.12.2022): “Inclusive Interaction with Future Mobility”, in-person

Seminars

- [Dagstuhl Seminar - Computational Theories of Interactive Behavior](#) (Oct 19 – Oct 23, 2026)
- [Shonan Meeting - Building Trustworthy and Interactive Recommender Systems through Argumentation](#) (January 19-22, 2026)
- [Decision & Design Spring Retreat](#) (02.04.2025 - 04.04.2025; Guest speaker): “Shaping the Future of Mobility”; in-person
- [Heidelberg Laureate Forum](#) (23.09 - 30.09.2023)
- [Dagstuhl Seminar - Radical Innovation and Design for Connected and Automated Vehicles](#) (May 29 – Jun 03, 2022)

AWARDS

ACM SIGCHI Emerging Researcher Recognition 2025: I am honored to have been recognized by the ACM SIGCHI for early-career contributions to inclusive HCI research, extensive community building, and championing open science in automotive user interfaces.

UCL Computer Science Early Career Researcher of the Year 2025: I am honored to have been recognized by the Computer Science department of UCL as the Early Career Researcher of the Year 2025.

SaxFDM Open Data Award 2025: One of the winners for an open research data contribution demonstrating strong adherence to FAIR principles.

Outstanding Reviewer Recognition: AutoUI '21'25, CHI '21, CHI '22, 4xCHI '24, 2xCHI'25, CHI '26, IMWUT '23, MobileHCI '23'24 (3x), UIST'23'25, CHI Play '24 (3x)

I have been honored with twenty-one Outstanding Reviewer Awards and was named **Distinguished Reviewer** for MobileHCI'23, showing my commitment to excellence in academic review processes. These accolades reflect my deep understanding and critical analysis skills, contributing significantly to the advancement of scholarly discourse.

Honorable Mention Award at MUM'25 - DOI: [10.1145/3771882.3771888](https://doi.org/10.1145/3771882.3771888)

AirClick is a space-saving system that transforms rooms on demand using modular, interactive inflatables. By connecting detachable modules to

a floor-based air grid, users can instantly deploy furniture ranging from custom shelves to retail air mattresses. The system integrates seamlessly with traditional interiors, allowing users to rapidly reconfigure a space—such as turning a bedroom into an office—simply by clicking modules into place and activating them via touch or software.

Best Paper Award at **WISS'25**

To address the difficulties low-vision individuals face in maintaining context while using screen magnifiers, this study introduces *Graph Guide*, a semantic Focus+Context technique that dynamically projects out-of-view elements like axes and legends directly into the user's magnified view. Evaluation results indicate that *Graph Guide* significantly improves usability and reduces the navigational effort required for graph reading compared to standard magnification workflows and traditional overview maps.

Best Blue Sky Vision Paper Award at **ICMI'25** (1.000\$) - DOI: [10.1145/3716553.3750736](https://doi.org/10.1145/3716553.3750736)

This paper presents Edmund's Journey, a 2035 design fiction that surfaces trade-offs among four AI superpowers, extended perception, cognitive offloading, externalized memory, and enhanced presence, and argues for an evaluation that preserves human capabilities and authenticity. It proposes a *Human Flourishing and Authenticity Benchmark* with four dimensions, cognitive preservation, autonomy and agency, skill development, and relational authenticity, using calibrated multiple-choice items, expert review, cross-cultural reporting, and a longitudinal component to assess sustained effects beyond accuracy.

Best Paper Award at **AutoUI'25** - DOI: [10.1145/3744333.3747812](https://doi.org/10.1145/3744333.3747812)

This paper introduces SPAT (Situational Prosocial and Aggressive Behavior in Traffic Scale). SPAT is a situational 12-item semantic differential scale that quantifies perceived prosocial and aggressive behavior in traffic for both human and automated road users, organized into three dimensions, Socialness, Awareness, and Predictability, and validated with exploratory and confirmatory factor analyses. In external validation on a test track, an automated vehicle that displayed deceleration intent was rated higher on socialness and awareness, and both deceleration and acceleration displays increased perceived predictability, showing sensitivity to interaction design.

Honorable Mention Award at **CHI'25** - DOI: [10.1145/3706598.3713514](https://doi.org/10.1145/3706598.3713514)

This paper addressed the challenge in scalable automotive user interface design. We implemented *OptiCarVis*, a system integrating Human-in-the-Loop Bayesian Optimization. An online study (N=117) demonstrates OptiCarVis efficacy in significantly improving trust, acceptance, perceived safety, and predictability without increasing cognitive load.

Honorable Mention Award at **CHI'24** - DOI: [10.1145/3613904.3642341](https://doi.org/10.1145/3613904.3642341)

This paper addressed the challenge in automotive user interface design, where testing transitions from lab-based driving simulators to on-road studies to increase ecological validity faces difficulties in replicating studies. A platform-portable infrastructure named *Portobello* facilitates running identical studies in-lab and on-road. A proof-of-concept was demonstrated by integrating Portobello with the on-road simulator XR-OOM with 32 participants in both settings.

Honorable Mention Award at **MobileHCI'23** - DOI: [10.1145/3604275](https://doi.org/10.1145/3604275)

We delved into the impact of Infinite Scrolling on social media usage, particularly focusing on how it contributes to habitual and regretful use. Our study (N=46) defined and examined the 'loop' phenomenon that traps users in extended sessions and also emphasized the importance of considering the user's context in designing interventions, revealing that factors outside the app itself often influence breaks in social media usage.

Best Video Award at **AutoUI'23** - DOI: [10.1145/3581961.3609854](https://doi.org/10.1145/3581961.3609854)

I was honored to receive the Best Video Award, chosen by popular vote, for a video presentation in which we explored the nuanced distinctions between autonomous, automated, & highly automated vehicles. The video aimed to stimulate a balanced discussion on the potential impacts—positive, negative, & ambiguous—of truly autonomous vehicles that can act independently, possibly even against the wishes of their owners.

Honorable Mention Award at **MobileHCI'22** - DOI: [10.1145/3546712](https://doi.org/10.1145/3546712)

I was honored to receive an Honorable Mention Award for a full paper that developed a taxonomy of augmented reality visualizations for connected automated and manual driving, aiming to enhance trust in such systems. Our work, which included an evaluative driving simulator study, focused on how augmented reality can help drivers and passengers understand and trust the information provided by infrastructure-mounted sensors and onboard systems.

Honorable Mention Award at **CHI'20** - DOI: [10.1145/3313831.3376472](https://doi.org/10.1145/3313831.3376472)

We presented an inclusive user-centered design for vehicle-pedestrian communication to enhance the safety and experience of both vision-impaired and sighted pedestrians. Workshops with vision-impaired individuals and a virtual reality study revealed that communication from all relevant vehicles and detailed messaging significantly improve trust and understanding and reduce cognitive load.

SOFTWARE (Selection)

colleyRstats (CRAN package; DOI: [10.32614/CRAN.package.colleyRstats](https://doi.org/10.32614/CRAN.package.colleyRstats))

Functions to streamline reproducible statistical analysis, visualization, and APA-style reporting in R.

[CRAN](#) — [GitHub](#)

SKILLS

- Highly proficient in Leadership. Based on over 6 years in mentoring and leading Bachelor's, Master's, and PhD students, I am a highly effective and appreciated leader. In the academic year 25/26, I also advanced my skills through the competitive *Advancing PI Leadership Programme* at UCL.
- Coding: Programming in **R** (data analysis, visualization, web-scraping), Python (application of neural networks), Java (professionally at Airbus), & C# (especially with **Unity**)
- Research: **Quantitative Analysis** using R; experience with parametric and non-parametric data; linear regression and hierarchical models
- Research: **Qualitative Analysis** according to **Saldaña**
- Proficient in **open science practices**, encompassing transparency, reproducibility, & accessibility in research; experienced in sharing data (e.g. [here](#)) via open access platforms, utilizing open-source tools, contributing to community projects, & advocating for ethical research aligned with FAIR principles.
- Languages: German (native), English (proficient), French, Spanish (Intermediate), Latin
- Former Lifeguard with the **Deutsche Lebens-Rettungs-Gesellschaft e.V.** (DLRG; German Life Saving Association)

MAJOR PUBLICATIONS (CHI, IMWUT, UIST)

ACM **CHI**, **IMWUT**, and **UIST** are widely recognized as the premier venues for publishing research in the field of HCI. They are highly competitive, with acceptance rates typically ranging between 20-25%.

CHI

1. P. Jansen*, J. Britten* **M. Colley***, M. Sasalovici, & E. Rukzio, MIRAGE: Enabling Real-Time Automotive Mediated Reality
In Proc. of CHI 2026, conditionally accepted, ACM, doi: [10.1145/3772318.3791195](https://doi.org/10.1145/3772318.3791195), *Joint First Authors
2. S. Lämmer, **M. Colley**, & P. Ebel, GTA: Generative Traffic Agents for Simulating Realistic Mobility Behavior
In Proc. of CHI 2026, conditionally accepted, ACM, doi:
3. C. Stellmacher, L. Dratzidis, A. Zenner, I. Wald, J. Schöning, Y. Rogers, D. Degraen, & **M. Colley**, Understanding How Mobile Interactions Shape Grasp and Contact Patterns Beyond the Touchscreen
In Proc. of CHI 2026, conditionally accepted, ACM, doi: [10.1145/3772318.3790565](https://doi.org/10.1145/3772318.3790565)
4. J. Susak, Y. Liu, P. Jansen, & **M. Colley**, ProVoice: Designing Proactive Functionality for In-Vehicle Conversational Assistants using Multi-Objective Bayesian Optimization to Enhance Driver Experience
In Proc. of CHI 2026, conditionally accepted, ACM, doi: [10.1145/3772318.3791877](https://doi.org/10.1145/3772318.3791877)
5. X. Gui, D. Xia, **M. Colley**, ... & T. Igarashi, Peeking Ahead of the Field Study: Exploring VLM Personas as Support Tools for Embodied Studies in HCI
In Proc. of CHI 2026, conditionally accepted, ACM, doi: [10.1145/3772318.3790537](https://doi.org/10.1145/3772318.3790537)
6. Y. Sechayk, H. Rave, M. Rädler, **M. Colley**, Z. Zhou, A. Shamir, & T. Igarashi, Exploring Dynamic Visual Context to Support Low-vision Chart Exploration
In Proc. of CHI 2026, conditionally accepted, ACM, doi: [10.1145/3772318.3791165](https://doi.org/10.1145/3772318.3791165)
7. **M. Colley**, S. Kopp, D. Dey, P. Jansen & E. Rukzio, eHMI for All - Investigating the Effect of External Communication of Automated Vehicles on Pedestrians, Manual Drivers, and Cyclists in Virtual Reality
In Proc. of CHI 2026, conditionally accepted, ACM, doi: [10.1145/3772318.3790585](https://doi.org/10.1145/3772318.3790585)
8. W. Xu, F. Hajiseyedjavadi, T. T. M. Tran, & **M. Colley**, Exploring the Impacts of Background Noise on Auditory Stimuli of Audio-Visual eHMIs for Hearing, Deaf, and Hard-of-Hearing People
In Proc. of CHI 2026, conditionally accepted, ACM, doi:
9. W. Xu, F. Hajiseyedjavadi, K. Weir, C. Eze, & **M. Colley**, Towards Inclusive External Human-Machine Interface: Exploring the Effects of Visual and Auditory eHMI for Deaf and Hard-of-Hearing People
In Proc. of CHI 2026, conditionally accepted, ACM, doi:
10. P. Jansen*, **M. Colley***, S. Krauß, D. Hirschle, & E. Rukzio, OptCarVis: Improving Automated Vehicle Functionality Visualizations Using Bayesian Optimization to Enhance User Experience
In Proc. of CHI 2025, ACM, doi: [10.1145/3706598.3713514](https://doi.org/10.1145/3706598.3713514), *Joint First Authors

CHI Honorable Mention Award for Best Paper (top 5%)

11. **M. Colley***, P. Jansen*, M. Keskar, & E. Rukzio, Improving External Communication of Automated Vehicles Using Bayesian Optimization
In Proc. of CHI 2025, ACM, doi: [10.1145/3706598.3714187](https://doi.org/10.1145/3706598.3714187), *Joint First Authors
12. **M. Colley**, J. Westhauser, J. Andersson, A. G. Mirnig, & E. Rukzio, Introducing ROADS: A Systematic Comparison of Remote Control Interaction Concepts for Automated Vehicles at Road Works
In Proc. of CHI 2025, ACM, doi: [10.1145/3706598.3713476](https://doi.org/10.1145/3706598.3713476)
13. M. Sasalovici, A. Zegiri, R. C. Schramm, O. J. A. Nuñez, P. Jansen, J.P. Freiwald, **M. Colley**, C. Winkler, & E. Rukzio, Bumpy Ride? Understanding the Effects of External Forces on Spatial Interactions in Moving Vehicles
In Proc. of CHI 2025, ACM, doi: [10.1145/3706598.371407](https://doi.org/10.1145/3706598.371407)
14. L. Meinhardt, L. Wilke, M. Elhaidary, J. von Abel, P. Fink, M. Rietzler, **M. Colley**, & E. Rukzio, Light My Way: Developing and Exploring a Multimodal Interface to Assist People With Visual Impairments to Exit Highly Automated Vehicles
In Proc. of CHI 2025, ACM, doi: [10.1145/3706598.3713454](https://doi.org/10.1145/3706598.3713454)
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21. P. Jansen, J. Britten, A. Häusele, T. Segschneider, **M. Colley**, & E. Rukzio, AutoVis: Enabling Mixed-Immersive Analysis of Automotive User Interface Interaction Studies
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FURTHER PUBLICATIONS

Journal paper

Transportation Research Part F, with an impact factor of 4.60 (2022), and the *International Journal of Human-Computer Studies*, with an impact factor of 5.40 (2024), are considered to be top-tier journals in traffic psychology.

1. P. Jansen*, **M. Colley***, M. Rädler, J. Schwedler, & E. Rukzio, Longitudinal effects of visualizing uncertainty of situation detection and prediction of automated vehicles on user perceptions
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3. A. Stampf, A. Knuth, **M. Colley**, & E. Rukzio, Law and Order: Investigating the Effects of Conflictual Situations in Manual and Automated Driving in a German Sample
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1. Y. Sechayk and Y. Li and Hennes Rave and Arik Shamir and Takeo Igarashi, Graph Guide:低視力者支援のためのセマンティック Focus+Context グラフ表示 (translation: Graph Guide: Semantic Focus+Context Graph Display for Low Vision Support)
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WISS Best Paper Award
2. P. Jansen and B. Hölz and J. Britten and **M. Colley** and E. Rukzio, AirClick: Modularized Interactive Inflatables for On-Demand Room Transformation
In Proc. MUM 2025, ACM, doi: [10.1145/3771882.3771888](https://doi.org/10.1145/3771882.3771888)
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3. D. Xia and X. Gui and F. Gao and D. Li and **M. Colley** and T. Igarashi, Automating eHMI Action Design with LLMs for Automated Vehicle Communication
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5. S. Zepf and **M. Colley**, Human Authenticity and Flourishing in an AI-Driven World: Edmund's Journey and the Call for Mindfulness
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10. P. Fink, H. Milne, A. Caccese, M. Alsamsam, J. Loranger, **M. Colley**, N. Giudice, Accessible Maps for the Future of Inclusive Ridesharing
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20. S. Suzuki, **M. Colley**, S. Li, I. Mandel, A. Stampf and W. Ju, AdVANcing Design: Customizing Spaces for Vanlife
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Conference short paper

1. **M. Colley**, J. Czymmeck, P. Jansen, L.-M. Meinhardt, P. Ebel, & E. Rukzio, UAM-SUMO: Simulacra of Urban Air Mobility Using SUMO To Study Large-Scale Effects
In Proc. HRI 2025, ACM, doi: [10.5555/3721488.3721610](https://doi.org/10.5555/3721488.3721610), [GitHub Link](https://github.com/colley/MuC2025)
2. P. Jansen*, **M. Colley***, E. Wimmer, J. Maresch, & E. Rukzio, HUD-SUMO: Simulacra of In-Vehicle Head-Up Displays Using SUMO To Study Large-Scale Effects
In Proc. HRI 2025, ACM, doi: [10.5555/3721488.3721614](https://doi.org/10.5555/3721488.3721614), [GitHub Link](https://github.com/colley/MuC2025); * Joint First Authors
3. **M. Colley**, J. Czymmeck, M. Kücükkokac, P. Jansen, & E. Rukzio, PedSUMO: Simulacra of Automated Vehicle-Pedestrian Interaction Using SUMO To Study Large-Scale Effects
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Workshops

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