

# Mark Colley

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## RESEARCH INTERESTS

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My multidisciplinary research in Human-Computer Interaction (HCI), Accessibility, and Computational Methods is dedicated to tackling complex challenges and seizing opportunities within advanced mobility technologies. It involves designing, implementing, and 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

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**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, and 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  
Master of Science in Computer Science Overall Grade: 1.1 - A-equivalent  
Thesis Title: *Identification, Investigation and Classification of Use Cases for Cooperation in Highly Autonomous Driving and the Applicability thereof* Grade: 1.0 - A-equivalent

**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

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**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](#). I also lead two modules: PSYC0095 (Future Interfaces), which explores emerging technologies, and PSYC0097 (Interaction Design), focusing on design processes, theory, and practical application. In my lab management role, I maintain an active and collaborative research environment that facilitates cutting-edge HCI work at UCLIC.

**Ulm University** Ulm, Germany  
*Research Associate* 04/2019 — 09/2024  
I significantly contributed to research and teaching and played a key role in securing and implementing three externally funded projects—INTUITIVER, SituWare, and 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, and dataset creation. It has led to over **30 peer-reviewed first-author full papers**. Since May 2024, I have been working as a postdoctoral researcher.

**Airbus Defence and Space GmbH** Ulm, Germany  
*Software Engineer* 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** Ulm, Germany

*Student Research Assistant*

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, and collaboratively shaping the direction of the publication. Additionally, I actively participated in internal review processes.

**GRANTS**

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- 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\$)

**MEMBERSHIPS, ACADEMIC AND INDUSTRIAL SUPPORT**

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- Recipient of the [Canon Foundation Research Fellowship 2025](#) (7.500€)
- 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.](#) and NextMind ([acquired by Snap](#))
- [Heidelberg Laureate Forum Foundation](#) alumnus, member of [AlumNode](#) and [HLFF Inspiring Minds](#), 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**

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- 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:
  - Associate Editor for [IMWUT](#), [Behaviour & Information Technology](#), and [IJHCS](#)
  - Full Paper - [CHI '24'25](#), [CSCW '24](#), AutoUI '21-'24, ETRA '24'25, MobileHCI '23'24'25, MuC '22'23'24, CUI '24, [CHIWORK'25](#)
  - Member of the [Best Paper Committee](#) for [CHI '24](#)
  - Late-Breaking Works (LBW) - [CHI '22'23'24](#), [TEI '23'24](#), [CHI Play '24](#)
- **Organizing Committee:** [AutoUI 2023 \(Workshop Chair\)](#), [AutoUI 2024 \(Demo Chair\)](#), [AutoUI 2023 \(Workshop & Tutorial Chair\)](#), [MuC 2025 Workshop & Tutorial Chair](#)
- Peer Reviewing: **Over 400 peer-reviews completed** so far for [CHI](#), [TVCG](#), [MobileHCI](#), [DIS](#), [TEI](#), [IUI](#), [ISMAR](#), [TRF](#), [ETRA](#), [AutoUI](#), [CHI Play](#), [ICMI](#), [EICS](#), [VRST](#), [IEEE VR](#), [CSCW](#), [IJHCI](#), [IMWUT](#), [ESWA](#), [ToCHI](#); Reviewer for project [ERROR](#)
- 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](#)

**TEACHING**

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**Future Interfaces (PSYC0095)**

*Course Organizer:* Co-organization of the interdisciplinary course, emphasizing user-centered design and design thinking with an innovative approach to HCI. 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, and 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

## THESIS SUPERVISION (Main Supervisor, Selection, Total=50)

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### Bachelor theses

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

### Master theses

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

## INVITED TALKS AND SEMINARS (Selection)

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### Talks

- University of Sydney [Design Lab](#) (09.08.2024): “Shaping the Future of Mobility”; in-person
- UC Calgary [iLab](#) (01.08.2023): “Automotive UI: The Intersection of Accessibility, Computational Methods, and Design”
- KIT at [Human-Centered Systems Lab](#) (01.12.2022): “Inclusive Interaction with Future Mobility”

### Seminars

- [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

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

I have been honored with eighteen Outstanding Reviewer Awards and was named **Distinguished Reviewer** for Mobile-HCI'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 [CHI'24](#) - DOI: [10.1145/3613904.3642341](https://doi.org/10.1145/3613904.3642341)

A full paper that 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 received an Honorable Mention Award. A platform-portable infrastructure named *Portobello* was developed to facilitate running identical studies in both in-lab and on-road environments. 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)**

I received recognition for a full paper that 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) not only defined and examined the 'loop' phenomenon that traps users in extended sessions but also emphasized the importance of considering the user's context in designing interventions, revealing that breaks in social media usage are often influenced by factors outside the app itself.

**Best Video Award at AutoUT'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, and highly automated vehicles. The video aimed to stimulate a balanced discussion on the potential impacts—positive, negative, and 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)**

I was thrilled to receive an Honorable Mention Award for a full paper that presented an inclusive user-centered design for vehicle-pedestrian communication, aimed at enhancing 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 improves trust and understanding and reduces cognitive load for pedestrians.

**SKILLS**

- Coding: Programming in **R** (data analysis, visualization, web-scraping), Python (application of neural networks), Java (professionally at Airbus), and 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, and accessibility in research; experienced in sharing data (e.g., [here](#)) via open access platforms, utilizing open-source tools, contributing to community projects, and 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)**

ACM [CHI/IMWUT](#) 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. **M. Colley**, O. Rajabi, and E. Rukzio, Investigating the Effects of External Communication and Platoon Behavior on Manual Drivers at Highway Access  
*In Proc. of CHI 2024*, ACM, doi: [10.1145/3613904.3642365](https://doi.org/10.1145/3613904.3642365)
2. **M. Colley**, B. Wanner, M. Rädler, M. Rötzer, J. Frommel, T. Hirzle, P. Jansen, and E. Rukzio, Effects of a Gaze-Based 2D Platform Game on User Enjoyment, Perceived Competence, and Digital Eye Strain  
*In Proc. of CHI 2024*, ACM, doi: [10.1145/3613904.3641909](https://doi.org/10.1145/3613904.3641909)
3. D. Dey, T. Senan, B. Hengeveld, **M. Colley**, A. Habibovic, and W. Ju, Multi-Modal eHMIs: The Relative Impact of Light and Sound in AV-Pedestrian Interaction  
*In Proc. of CHI 2024*, ACM, doi: [10.1145/3613904.3642031](https://doi.org/10.1145/3613904.3642031)
4. F. Bu, S. Li, D. Goedicke, **M. Colley**, G. Sharma, and W. Ju, Portobello: Extending Driving Simulation from the Lab to the Road  
*In Proc. of CHI 2024*, ACM, doi: [10.1145/3613904.3642341](https://doi.org/10.1145/3613904.3642341)  
**CHI Honorable Mention Award for Best Paper (top 5%)**
5. P. Jansen, J. Britten, A. Häusele, T. Segsneider, **M. Colley** and E. Rukzio, AutoVis: Enabling Mixed-Immersive Analysis of Automotive User Interface Interaction Studies  
*In Proc. of CHI 2023*, ACM, doi: [10.1145/3544548.3580760](https://doi.org/10.1145/3544548.3580760), [[Website Link](#)]
6. M. Lanzer, I. Koniakowsky, **M. Colley** and M. Baumann, Interaction Effects of Pedestrian Behavior, Smartphone Distraction and External Communication of Automated Vehicles on Crossing and Gaze Behavior  
*In Proc. of CHI 2023*, ACM, doi: [10.1145/3544548.3581303](https://doi.org/10.1145/3544548.3581303)
7. J. O. Rixen, **M. Colley**, A. Askari, J. Gugenheimer and E. Rukzio, Consent in the Age of AR: Investigating The Comfort With Displaying Personal Information in Augmented Reality  
*In Proc. CHI 2021*, ACM, doi: [10.1145/3491102.3502140](https://doi.org/10.1145/3491102.3502140)

8. **M. Colley**, E. Bajrovic and E. Rukzio, Effects of Pedestrian Behavior, Time Pressure, and Repeated Exposure on Crossing Decisions in Front of Automated Vehicles Equipped with External Communication  
*In Proc. CHI 2022*, ACM, doi: [10.1145/3491102.3517571](https://doi.org/10.1145/3491102.3517571)
9. J. O. Rixen, T. Hirzle, **M. Colley**, Y. Etzel, E. Rukzio and J. Gugenheimer, Exploring Augmented Visual Alterations in Interpersonal Communication  
*In Proc. CHI 2021*, ACM, doi: [10.1145/3411764.3445597](https://doi.org/10.1145/3411764.3445597)
10. **M. Colley**, B. Eder, J. O. Rixen and E. Rukzio, Effects of Semantic Segmentation Visualization on Trust, Situation Awareness, and Cognitive Load in Highly Automated Vehicles  
*In Proc. CHI 2021*, ACM, doi: [10.1145/3411764.3445351](https://doi.org/10.1145/3411764.3445351)
11. K. Holländer\*, **M. Colley**\*, E. Rukzio and A. Butz, A Taxonomy of Vulnerable Road Users for HCI Based On A Systematic Literature Review  
*In Proc. CHI 2021*, ACM, doi: [10.1145/3411764.3445480](https://doi.org/10.1145/3411764.3445480)
12. **M. Colley**, M. Walch, J. Gugenheimer, A. Askari and E. Rukzio, Towards Inclusive External Communication of Autonomous Vehicles for Pedestrians with Vision Impairments  
*In Proc. CHI 2020*, ACM, doi: [10.1145/3313831.3376472](https://doi.org/10.1145/3313831.3376472)  
**CHI Honorable Mention Award for Best Paper (top 5%)**
13. K. Rogers, **M. Colley**, D. Lehr, J. Frommel, M. Walch, L. E. Nacke and M. Weber, KickAR: Exploring Game Balancing Through Boosts and Handicaps in Augmented Reality Table Football  
*In Proc. CHI 2018*, ACM, doi: [10.1145/3173574.3173740](https://doi.org/10.1145/3173574.3173740)

## IMWUT

1. **M. Colley**\*, S. Hartwig\*, A. Zeqiri, T. Ropinski and E. Rukzio, AutoTherm: A Dataset and Benchmark for Thermal Comfort Estimation Indoors and in Vehicles  
*In Proc. IMWUT 2024*, ACM, \*Joint First Authors, doi: [10.1145/3678503](https://doi.org/10.1145/3678503)
2. A. Stampf, **M. Colley**, A. Knuth, C. Tasci and E. Rukzio, Examining Psychological Conflict-Handling Strategies for Highly Automated Vehicles to Resolve Legal User-Vehicle Conflicts  
*In Proc. IMWUT 2024*, ACM, doi: [10.1145/3678511](https://doi.org/10.1145/3678511)
3. A. Stampf, M. Sasalovici, L. Meinhardt, **M. Colley**, M. Giss and E. Rukzio, Move, Connect, Interact: Introducing a Design Space for Cross-Traffic Interaction  
*In Proc. IMWUT 2024*, ACM, doi: [10.1145/3678580](https://doi.org/10.1145/3678580)
4. L. Meinhardt, M. Rück, J. Zähnlé, M. Elhaidary, **M. Colley**, M. Rietzler and E. Rukzio, Hey, What's Going On? Conveying Traffic Information to People with Visual Impairments in Highly Automated Vehicles: Introducing OnBoard  
*In Proc. IMWUT 2024*, ACM, doi: [10.1145/3659618](https://doi.org/10.1145/3659618)
5. **M. Colley**, O. Speidel, J. Strohbeck, J. O. Rixen, J. H. Belz and E. Rukzio, Effects of Uncertain Trajectory Prediction Visualization in Highly Automated Vehicles on Trust, Situation Awareness, and Cognitive Load  
*In Proc. IMWUT 2023*, ACM, doi: [10.1145/3631408](https://doi.org/10.1145/3631408), [\[Video Link\]](#)
6. **M. Colley**\*, L. Meinhardt\*, A. Fassbender, M. Rietzler and E. Rukzio, Come Fly With Me - Investigating the Effects of Path Visualizations in Automated Urban Air Mobility  
*In Proc. IMWUT 2023*, ACM, doi: [10.1145/3596249](https://doi.org/10.1145/3596249), \*Joint First Authors
7. **M. Colley**, J. Britten and E. Rukzio, Scalability in External Communication of Automated Vehicles: Evaluation and Recommendations  
*In Proc. IMWUT 2023*, ACM, doi: [10.1145/3596248](https://doi.org/10.1145/3596248)
8. P. Jansen, **M. Colley** and E. Rukzio, A Design Space for Human Sensor and Actuator Focused In-Vehicle Interaction Based on a Systematic Literature Review  
*In Proc. IMWUT 2022*, ACM, doi: [10.1145/3534617](https://doi.org/10.1145/3534617)
9. **M. Colley**, M. Rädler, J. Glimmann and E. Rukzio, Effects of Scene Detection, Scene Prediction, and Maneuver Planning Visualizations on Trust, Situation Awareness, and Cognitive Load in Highly Automated Vehicles  
*In Proc. IMWUT 2022*, ACM, doi: [10.1145/3534609](https://doi.org/10.1145/3534609), [\[Video Link\]](#)
10. **M. Colley**, P. Jansen, E. Rukzio and J. Gugenheimer, SwiVR-Car-Seat: Exploring Vehicle Motion Effects on Interaction Quality in Virtual Reality Automated Driving Using a Motorized Swivel Seat  
*In Proc. IMWUT 2021*, ACM, doi: [10.1145/3494968](https://doi.org/10.1145/3494968)
11. **M. Colley**, S. Krauß, M. Lanzer and E. Rukzio, How Should Automated Vehicles Communicate Critical Situations? A Comparative Analysis of Visualization Concepts  
*In Proc. IMWUT 2021*, ACM, doi: [10.1145/3478111](https://doi.org/10.1145/3478111)

## 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**\*, T. Pfeifer, and E. Rukzio, Visualizing Imperfect Situation Detection and Prediction in Automated Vehicles: Understanding Users  
*In Transportation Research Part F: Traffic Psychology and Behaviour 2024*, Elsevier, \*Joint First Authors, doi: [10.1016/j.trf.2024.05.015](https://doi.org/10.1016/j.trf.2024.05.015)
2. A. Stampf, A. Knuth, **M. Colley**, and E. Rukzio, Law and Order: Investigating the Effects of Conflictual Situations in Manual and Automated Driving in a German Sample  
*In International Journal of Human-Computer Studies 2024*, Elsevier, doi: [10.1016/j.ijhcs.2024.103260](https://doi.org/10.1016/j.ijhcs.2024.103260)
3. **M. Colley**, B. Wankmüller, T. Mend, T. Väh, E. Rukzio and J. Gugenheimer, User Gesticulation Inside an Autonomous Vehicle with External Communication can Cause Confusion in Pedestrians and a Lower Willingness to Cross  
*In Transportation Research Part F: Traffic Psychology and Behaviour 2022*, Elsevier, doi: [10.1016/j.trf.2022.03.011](https://doi.org/10.1016/j.trf.2022.03.011)
4. **M. Colley**, C. Hummler and E. Rukzio, Effects of Mode Distinction, User Visibility, and Vehicle Appearance on Mode Confusion When Interacting With Highly Automated Vehicles  
*In Transportation Research Part F: Traffic Psychology and Behaviour 2022*, Elsevier, doi: [10.1016/j.trf.2022.06.020](https://doi.org/10.1016/j.trf.2022.06.020)
5. **M. Colley**, S. Mytilineos, M. Walch, E. Rukzio and J. Gugenheimer, Requirements for the Interaction With Highly Automated Construction Site Delivery Trucks  
*In Proc. Frontiers 2022*, Frontiers, doi: [10.3389/fhumd.2022.794890](https://doi.org/10.3389/fhumd.2022.794890)

6. M. Lanzer, T. Stoll, **M. Colley** and M. Baumann, Intelligent Mobility in the City: The Influence of System and Context Factors on Drivers' Takeover Willingness and Trust in Automated Vehicles  
*In Proc. Frontiers 2021*, Frontiers, doi: [10.3389/fhumd.2021.676667](https://doi.org/10.3389/fhumd.2021.676667)

### Conference full paper

1. P. Fink, H. Milne, A. Caccese, M. Alsamsam, J. Loranger, **M. Colley**, N. Giudice, Accessible Maps for the Future of Inclusive Ridesharing  
*In Proc. AutoUI 2024*, ACM, doi: [10.1145/3640792.3675736](https://doi.org/10.1145/3640792.3675736)
2. A. Asha, **M. Colley**, S. Sultana, E. Sharlin, Introducing AV-Sketch: An Immersive Participatory Design Tool for Automated Vehicle — Passenger Interaction  
*In Proc. AutoUI 2024*, ACM, doi: [10.1145/3640792.3675705](https://doi.org/10.1145/3640792.3675705)
3. P. Ebel, P. Bazilinskyy, **M. Colley**, C. Goodridge, P. Hock, C. Janssen, H. Sandhaus, A. Srinivasanm, P. Wintersberger, Changing Lanes Toward Open Science: Openness and Transparency in Automotive User Research  
*In Proc. AutoUI 2024*, ACM, doi: [10.1145/3640792.3675730](https://doi.org/10.1145/3640792.3675730)
4. A. Stampf, **M. Colley**, B. Girst, E. Rukzio, Exploring Passenger-Automated Vehicle Negotiation Utilizing Large Language Models for Natural Interaction  
*In Proc. AutoUI 2024*, ACM, doi: [10.1145/3640792.3675725](https://doi.org/10.1145/3640792.3675725)
5. A. Stampf\* and **M. Colley\***, Deriving Non-Driving-Related Activities in Highly Automated Driving via an Autoethnographic Approach by Traveling Canada in a Recreational Vehicle  
*In Proc. MuC 2024*, \*Joint First Authors, doi: [10.1145/3670653.3670663](https://doi.org/10.1145/3670653.3670663)
6. T. Wagner\*, **M. Colley\***, D. Breckel, M. Kösel, and E. Rukzio, UnitEye: Introducing a User-Friendly Plugin to Democratize Eye Tracking Technology in Unity Environments  
*In Proc. MuC 2024*, \*Joint First Authors, doi: [10.1145/3670653.3670655](https://doi.org/10.1145/3670653.3670655),
7. **M. Colley\***, P. Jansen\*, J. J. Matthiesen\*, H. Hoberg, C. Reger and I. Thiermann, How Much Home Office is Ideal? A Multi-Perspective Algorithm  
*In Proc. CHIWORK 2023*, ACM, doi: [10.1145/3596671.3596672](https://doi.org/10.1145/3596671.3596672), \*Joint First Authors
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10. J. O. Rixen, L. Meinhardt, M. Glöckler, A. Schlothauer, M. Ziegenbein, **M. Colley**, J. Gugenheimer and E. Rukzio, The Loop and Reasons to Break It: Investigating Infinite Scrolling Behaviour in Social Media Applications and Reasons to Stop  
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**MobileHCI Honorable Mention Award for Best Paper (top 5%)**
11. S. Suzuki, **M. Colley**, S. Li, I. Mandel, A. Stampf and W. Ju, AdVANCing Design: Customizing Spaces for Vanlife  
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15. A. Stampf, **M. Colley** and E. Rukzio, Towards Implicit Interaction in Highly Automated Vehicles - A Systematic Literature Review  
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20. T. Müller\*, **M. Colley\***, G. Dogru and E. Rukzio, AR4CAD: Creation and Exploration of a Taxonomy of Augmented Reality Visualization for Connected Automated Driving  
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21. **M. Colley**, B. Wankmüller and E. Rukzio, A Systematic Evaluation of Solutions for the Final 100m Challenge of Highly Automated Vehicles  
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### Conference short paper

1. **M. Colley**, J. Czymmeck, P. Jansen, L.-M. Meinhardt, P. Ebel and E. Rukzio, UAM-SUMO: Simulacra of Urban Air Mobility Using SUMO To Study Large-Scale Effects  
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2. P. Jansen\*, **M. Colley**\*, E. Wimmer, J. Maresch and E. Rukzio, HUD-SUMO: Simulacra of In-Vehicle Head-Up Displays Using SUMO To Study Large-Scale Effects  
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3. **M. Colley**, J. Czymmeck, M. Küçükocak, P. Jansen and E. Rukzio, PedSUMO: Simulacra of Automated Vehicle-Pedestrian Interaction Using SUMO To Study Large-Scale Effects  
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### Workshops

1. C. Parker, S. Yoo, J. Fredericks, T.T.M. Tran, **M. Colley**, Y. Lee, K. Le, S. Stannus, W. Woo, M. Billingham, The Third Workshop on Building an Inclusive and Accessible Metaverse for All  
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2. S. Suzuki, **M. Colley**, S. Li, I. Mandel, A. Stampf and W. Ju, Design Methods for Mobility After Manual Driving: Prototyping Mobile Lifestyle  
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3. Y. W. Kim, Y. G. Ji, S. H. Yoon, **M. Colley** and L. Meinhardt, The 3rd Workshop on User Experience in Mobility: What Could We Learn From AutomotiveUI?  
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4. Y. W. Kim, C. Lim, Y. G. Ji, S. H. Yoon, **M. Colley** and L. Meinhardt, The 2nd Workshop on User Experience in Urban Air Mobility: From Ground to Aerial Transportation  
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5. A. Löcken, A. Matvienko, **M. Colley**, D. Dey, A. Habibovic, Y. M. Lee and A. Riener, Accessible Automated Automotive Workshop Series (A3WS): International Perspective on Inclusive External Human-Machine Interfaces  
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### Extended abstracts

1. F. Bu, A. Bremers, **M. Colley**, and W. Ju, Field Notes on Deploying Research Robots in Public Spaces  
*In Proc. CHI EA 2024*, ACM, doi: [10.1145/3613905.3651044](https://doi.org/10.1145/3613905.3651044),
2. L. Meinhardt\*, **M. Colley**\*, A. Fassbender, M. Rietzler and E. Rukzio, Up, Up and Away - Investigating Information Needs for Helicopter Pilots in Future Urban Air Mobility  
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#### Demos

- L. Meinhardt\*, **M. Colley**\*, A. Fassbender, and E. Rukzio, Stairway to Heaven: A Demonstration of Different Trajectories and Weather Conditions in Automated Urban Air Mobility  
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- P. Jansen, J. Britten, A. Häusele, T. Segsneider, **M. Colley** and E. Rukzio, A Demonstration of AutoVis: Enabling Mixed-Immersive Analysis of Automotive User Interface Interaction Studies  
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#### Videos

- R. Bernhaupt, **M. Colley**, D. Goedicke, A. Meschtscherjakov, B. Pfleging, A. Riener, and S. Sadeghian, A Critical Perspective on Radically Innovating Personal Mobility  
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- **M. Colley**, S. Li, B. P. V. Samsom, and D. Sogemeier, What If Automated Vehicles Became AUTONOMOUS? A Critical Perspective  
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**AutoUI Best Video Award (People's Choice)**

#### Workshop position papers

1. **M. Colley** and E. Rukzio, Challenges of Explainability, Cooperation, and External Communication of Automated Vehicles at CHI 2022
2. M. Walch, **M. Colley**, P. Hock, E. Rukzio and M. Weber, Turn Drivers Into Users and Keep Them Out-Of-The-Loop to Save Energy at CHI 2020
3. **M. Colley**, M. Walch and E. Rukzio, Towards Reducing Energy Waste through Usage of External Communication of Autonomous Vehicles at CHI 2020