Mark Colley

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RESEARCH INTERESTS

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

Ulm University, Ulm, Germany 04/2019 — Present
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)
Submitted; Expected Graduation Date: Spring 2024

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

PRIOR EXPERIENCE

Airbus Defence and Space GmbH Ulm, Germany
Software Engineer 09/2012 — 03/2019
I focused on developing realistic simulation environments 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 more than 20 years. Notably, in 2014, I spent **three 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.

TEACHING - all Ulm University

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)

Bachelor theses

- 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

- 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)

SERVICE AND VOLUNTEERING ACTIVITIES

- Associate Chair / Program Committee Member:
  - Full Paper - AutoUI '21'22'23, MobileHCI '23, MuC '22'23, **CHI 24**
  - Member of the **Best Paper Committee** for **CHI 24**
  - Late-Breaking Works (LBW) - CHI '22'23'24, TEI '23'24, ETRA '24
- **Organizing Committee**: AutoUI 2023 (Workshop Chair), AutoUI 2024 (Demo Chair)
- Peer Reviewing: **Over 240 peer-reviews completed** so far for CHI, MobileHCI, DIS, TEI, IUI, ISMAR, **TRF**, ETRA, AutoUI, CHI Play, ICMI, EICS, VRST, IEEE VR, **CSCW**, IJHCI, **ToCHI**
- Student Volunteer: UbiComp 2022
- GermanHCI Editorial Board Member
- 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** (since 2019) in 89155 Erbach-Donaurieden, Germany

LAST TWO INVITED TALKS AND SEMINARS

Talks

- UC Calgary at 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 22222 - Radical Innovation and Design for Connected and Automated Vehicles (May 29 – Jun 03, 2022)

MEMBERSHIPS, ACADEMIC AND INDUSTRIAL SUPPORT

- McKinsey Capstone Program
- 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 and member of AlumNode
- Regular exchange with the research division of Mercedes Benz AG
- Co-Founder and CEO of Zefwih since 01/2022, supported by the German Federal Ministry of Transport and Digital Infrastructure

AWARDS

Outstanding Reviewer Recognition: AutoUI '21, CHI '21, CHI '22, 3xCHI '24, IMWUT '23, MobileHCI '23, UIST '23
I have been honored with nine 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 MobileHCI'23 - DOI: 10.1145/3604275
I was honored to receive 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 AutoUI'23 - DOI: 10.1145/3581961.3609854
I was honored to receive the Best Paper 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
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
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. Our research included workshops with vision-impaired individuals and a virtual reality study, revealing that comprehensive communication from all relevant vehicles and detailed messaging significantly improves trust, 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 Human-Computer Interaction (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 (cond. accepted), ACM
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 (cond. accepted), ACM
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 (cond. accepted), ACM
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 (cond. accepted), ACM
5. P. Jansen, J. Britten, A. Häusele, T. Segschneider, **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, [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
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
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
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
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
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
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
    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

IMWUT

1. **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, [Video Link]
2. **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, *Joint First Authors
3. **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

4. 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
5. **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, [Video Link]
6. **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
7. **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

FURTHER PUBLICATIONS

Journal paper
Transportation Research Part F, with an impact factor of 4.60 (2022), is considered to be a top-tier journal in traffic psychology.

1. **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
2. **M. Colley**, B. Wankmüller, T. Mend, T. Väth, 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
3. **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
4. 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

Conference full paper

1. **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, *Joint First Authors
2. **M. Colley**, A. Stampf, W. Fischer and E. Rukzio, Effects of 3D Displays on Mental Workload, Situation Awareness, Trust, and Performance Assessment in Automated Vehicles
   In Proc. MUM 2023, ACM, doi: 10.1145/3626705.3627786
3. **M. Colley**, C. Evangelista, T. D. Rubiano and E. Rukzio, Effects of Urgency and Cognitive Load on Interaction in Highly Automated Vehicles
   In Proc. MobileHCI 2023, ACM, doi: 10.1145/3604254
4. 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
   In Proc. MobileHCI 2023, ACM, doi: 10.1145/3604275
   MobileHCI Honorable Mention Award for Best Paper (top 5%)
5. S. Suzuki, **M. Colley**, S. Li, I. Mandel, A. Stampf and W. Ju, AdVANcing Design: Customizing Spaces for Vanlife
   In Proc. AutoUI 2023, ACM, doi: 10.1145/3580585.3607175
6. M. Woide, L. Miller, **M. Colley**, N. Damm and M. Baumann, I've Got the Power: Exploring the Impact of Cooperative Systems on Driver-Initiated Takeovers and Trust in Automated Vehicles
   In Proc. AutoUI 2023, ACM, doi: 10.1145/3580585.3607165
7. **M. Colley**, J. O. Rixen, W. I. Pellegrino and E. Rukzio, (Eco-)Logical to Compare? - Utilizing Peer Comparison to Encourage Ecological Driving in Manual and Automated Driving
   In Proc. AutoUI 2022, ACM, doi: 10.1145/3543174.3545256
8. M. Woide, **M. Colley**, N. Damm and M. Baumann, Effect of System Capability Verification on Conflict, Trust, and Behavior in Automated Vehicles
   In Proc. AutoUI 2022, ACM, doi: 10.1145/3543174.3545253
9. A. Stampf, **M. Colley** and E. Rukzio, Towards Implicit Interaction in Highly Automated Vehicles - A Systematic Literature Review
   In Proc. MobileHCI 2022, ACM, doi: 10.1145/3546726
10. **M. Colley**, T. Fabian and E. Rukzio, Investigating the Effects of External Communication and Automation Behavior on Manual Drivers at Intersections
    In Proc. AutoUI 2022, ACM, doi: 10.1145/3546711
11. P. Hock*, **M. Colley***, A. Askari, T. Wagner, M. Baumann and E. Rukzio, Introducing VAMPIRE – Using Kinaesthetic Feedback in Virtual Reality for Automated Driving Experiments
    In Proc. AutoUI 2022, ACM, doi: 10.1145/3543174.3545252
12. **M. Colley**, J. Britten, S. Demharter, T. Hisir and E. Rukzio, Feedback Strategies for Crowded Intersections in Automated Traffic — A Desirable Future?
    In Proc. MobileHCI 2022, ACM, doi: 10.1145/3543174.3545255
13. M. Haimerl, **M. Colley** and A. Riener, Evaluation of Common External Communication Concepts of Automated Vehicles for People With Intellectual Disabilities
    In Proc. MobileHCI 2022, ACM, doi: 10.1145/3546717
14. T. Müller*, **M. Colley***, G. Dogru and E. Rukzio, AR4CAD: Creation and Exploration of a Taxonomy of Augmented Reality Visualization for Connected Automated Driving
    In Proc. MobileHCI 2022, ACM, doi: 10.1145/3546712

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

15. **M. Colley**, B. Wankmüller and E. Rukzio, A Systematic Evaluation of Solutions for the Final 100m Challenge of Highly Automated Vehicles
    In Proc. MobileHCI 2022, ACM, doi: 10.1145/3546713
16. **M. Colley**, J. H. Belz and E. Rukzio, Investigating the Effects of Feedback Communication of Autonomous Vehicles
    In Proc. AutoUI 2021, ACM, doi: 10.1145/3409118.3475133
17. **M. Colley**, A. Askari, M. Walch, M. Woide and E. Rukzio, ORIAS: On-The-Fly Object Identification and Action Selection for Highly Automated Vehicles
    In Proc. AutoUI 2021, ACM, doi: 10.1145/3409118.3475134
18. **M. Colley**, M. Lanzer, J. H. Belz, M. Walch and E. Rukzio, Evaluating the Impact of Decals on Driver Stereotype Perception and Exploration of Personalization of Automated Vehicles via Digital Decals
    In Proc. AutoUI 2021, ACM, doi: 10.1145/3409118.3475132
19. **M. Colley**, S. Li and E. Rukzio, Increasing Pedestrian Safety Using External Communication of Autonomous Vehicles for Signalling Hazards
    In Proc. MobileHCI 2021, ACM, doi: 10.1145/3447526.3472024
20. **M. Colley**, L. Gruler, M. Woide and E. Rukzio, Investigating the Design of Information Presentation in Take-Over Requests in Automated Vehicles
    In Proc. MobileHCI 2021, ACM, doi: 10.1145/3447526.3472025
21. **M. Colley** and E. Rukzio, A Design Space for External Communication of Autonomous Vehicles
    In Proc. AutoUI 2020, ACM, doi: 10.1145/3409120.3410646
22. **M. Colley**, C. Bräuner, M. Lanzer, M. Walch, M. Baumann and E. Rukzio, Effect of Visualization of Pedestrian Intention Recognition on Trust and Cognitive Load
    In Proc. AutoUI 2020, ACM, doi: 10.1145/3409120.3410648
23. **M. Colley**, S. Mytilineos, M. Walch, J. Gugenheimer and E. Rukzio, Evaluating Highly Automated Trucks as Signaling Lights
    In Proc. AutoUI 2020, ACM, doi: 10.1145/3409120.3410647

Workshops

1. S. Suzuki, **M. Colley**, S. Li, I. Mandel, A. Stampf and W. Ju, Design Methods for Mobility After Manual Driving: Prototyping Mobile Lifestyle
   In Proc. AutoUI EA 2023, ACM, doi: 10.1145/3581961.3609825
2. 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?
   In Proc. AutoUI EA 2023, ACM, doi: 10.1145/3581961.3609824
3. 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
   In Proc. AutoUI EA 2022, ACM, doi: 10.1145/3544999.3550223
4. A. Löcken, A. Matviienko, **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
   In Proc. AutoUI EA 2022, ACM, doi: 10.1145/3544999.3551347, [Website Link]
5. M. Haimerl, **M. Colley**, A. Löcken and A. Riener, Accessible Automated Automotive Workshop Series (A3WS): Focus External Human-Machine Interfaces (eHMIs)
   In Proc. MuC EA 2022, Gesellschaft für Informatik e.V., doi: 10.18420/muc2022-mci-ws09-116
6. H. Sahin, H. Müller, S. Sadeghian, D. Dey, A. Löcken, A. Matviienko, **M. Colley**, A. Habibovic and P. Wintersberger, Workshop on Prosocial Behavior in Future Mixed Traffic
   In Proc. AutoUI EA 2021, ACM, doi: 10.1145/3473682.3477438, [Website Link]
7. A. Löcken, **M. Colley**, A. Matviienko, K. Holländer, D. Dey, A. Habibovic, A. Kun, S. Boll and A. Riener, WeCARe: Workshop on Inclusive Communication between Automated Vehicles and Vulnerable Road Users
   In Proc. AutoUI MobileHCI 2021, ACM, doi: 10.1145/3406324.3424587, [Website Link]

Extended abstracts

1. 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
   In Proc. CHI EA 2023, ACM, doi: 10.1145/3544549.3585643, * Joint First Authors
2. **M. Colley**, T. Kränzle and E. Rukzio, Accessibility-Related Publication Distribution in HCI Based on a Meta-Analysis
   In Proc. CHI EA 2022, ACM, doi: 10.1145/3491101.3519701
3. **M. Colley**, D. Wolf, S. Böhm, T. Lahmann, L. Porta and E. Rukzio, Resync: Towards Transferring Somnolent Passengers to Consciousness
   In Proc. MobileHCI EA 2021, ACM, doi: 10.1145/3447527.3474847
4. **M. Colley**, M. Walch and E. Rukzio, Unveiling the Lack of Scalability in Research on External Communication of Autonomous Vehicles
   In Proc. CHI EA 2020, ACM, doi: 10.1145/3334480.3382865
5. **M. Colley** and E. Rukzio, Towards a Design Space for External Communication of Autonomous Vehicles
   In Proc. CHI EA 2020, ACM, doi: 10.1145/3334480.3382844
6. M. Walch, D. Lehr, **M. Colley** and M. Weber, Don't You See Them? Towards Gaze-Based Interaction Adaptation for Driver-Vehicle Cooperation
   In Proc. AutoUI EA 2019, ACM, doi: 10.1145/3349263.3351338
7. M. Walch, **M. Colley** and M. Weber, Driving-Task-Related Human-Machine Interaction in Automated Driving: Towards a Bigger Picture
   In Proc. AutoUI EA 2019, ACM, doi: 10.1145/3349263.3351527
8. **M. Colley**, M. Walch and E. Rukzio, For a Better (Simulated) World: Considerations for VR in External Communication Research
   In Proc. AutoUI EA 2019, ACM, doi: 10.1145/3349263.3351523
9. **M. Colley**, M. Walch, J. Gugenheimer and E. Rukzio, Including People with Impairments from the Start: External Communication of Autonomous Vehicles

In Proc. AutoUI EA 2019, ACM, doi: 10.1145/3349263.3351521
10. M. Walch, **M. Colley** and M. Weber, CooperationCaptcha: On-The-Fly Object Labeling for Highly Automated Vehicles
In Proc. CHI EA 2019, ACM, doi: 10.1145/3290607.3313022

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
In Proc. AutoUI EA 2023, ACM, doi: 10.1145/3581961.3610372, * Joint First Authors
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3. **M. Colley**, M. Walch and E. Rukzio, Towards Reducing Energy Waste through Usage of External Communication of Autonomous Vehicles at CHI 2020