Bruce Mehler

List of Publications by Year
in descending order

104 papers	3,096 citations	201674 27 h-index	197818 49 g-index
107 all docs	107 docs citations	107 times ranked	2246 citing authors

#	Article	IF	Citations
1	Impact of Incremental Increases in Cognitive Workload on Physiological Arousal and Performance in Young Adult Drivers. Transportation Research Record, 2009, 2138, 6-12.	1.9	268
2	Sensitivity of Physiological Measures for Detecting Systematic Variations in Cognitive Demand From a Working Memory Task. Human Factors, 2012, 54, 396-412.	3.5	215
3	The impact of cognitive workload on physiological arousal in young adult drivers: a field study and simulation validation. Ergonomics, 2011, 54, 932-942.	2.1	148
4	The validity of driving simulation for assessing differences between in-vehicle informational interfaces: A comparison with field testing. Ergonomics, 2010, 53, 404-420.	2.1	134
5	MIT Advanced Vehicle Technology Study: Large-Scale Naturalistic Driving Study of Driver Behavior and Interaction With Automation. IEEE Access, 2019, 7, 102021-102038.	4.2	130
6	Classifying driver workload using physiological and driving performance data. , 2014, , .		121
7	The sensitivity of different methodologies for characterizing driversâ€™ gaze concentration under increased cognitive demand. Transportation Research Part F: Traffic Psychology and Behaviour, 2014, 26, 227-237.	3.7	113
8	A Field Study on the Impact of Variations in Short-Term Memory Demands on Driversâ€™ Visual Attention and Driving Performance Across Three Age Groups. Human Factors, 2012, 54, 454-468.	3.5	111
9	The impact of distractions on young adult drivers with attention deficit hyperactivity disorder (ADHD). Accident Analysis and Prevention, 2010, 42, 842-851.	5.7	86
10	Monitoring, managing, and motivating driver safety and well-being. IEEE Pervasive Computing, 2011, 10, 14-21.	1.3	86
11	Cognitive Load Estimation in the Wild. , 2018, , .		86
12	An investigation of the relationship between the driving behavior questionnaire and objective measures of highway driving behavior. Transportation Research Part F: Traffic Psychology and Behaviour, 2012, 15, 676-685.	3.7	84
13	Brief Report: Examining Driving Behavior in Young Adults with High Functioning Autism Spectrum Disorders: A Pilot Study Using a Driving Simulation Paradigm. Journal of Autism and Developmental Disorders, 2013, 43, 2211-2217.	2.7	72
14	Self-reported and observed risky driving behaviors among frequent and infrequent cell phone users. Accident Analysis and Prevention, 2013, 61, 71-77.	5.7	71
15	The impact of a naturalistic hands-free cellular phone task on heart rate and simulated driving performance in two age groups. Transportation Research Part F: Traffic Psychology and Behaviour, 2011, 14, 13-25.	3.7	70
16	Multi-modal assessment of on-road demand of voice and manual phone calling and voice navigation entry across two embedded vehicle systems. Ergonomics, 2016, 59, 344-367.	2.1	55
17	The effects of lisdexamfetamine dimesylate on the driving performance of young adults with ADHD: A randomized, double-blind, placebo-controlled study using a validated driving simulator paradigm. Journal of Psychiatric Research, 2012, 46, 484-491.	3.1	51
18	Glass half-full: On-road glance metrics differentiate crashes from near-crashes in the 100-Car data. Accident Analysis and Prevention, 2017, 107, 48-62.	5.7	49

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19	Impact of age and cognitive demand on lane choice and changing under actual highway conditions. Accident Analysis and Prevention, 2013, 52, 125-132.	5.7	43
20	What's in a Name. , 2017, , .		42
21	Case Study of Todayâ€™s Automotive Dealerships: Introduction and Delivery of Advanced Driver Assistance Systems. Transportation Research Record, 2017, 2660, 7-14.	1.9	42
22	An on-road assessment of the impact of cognitive workload on physiological arousal in young adult drivers. , 2009, , .		39
23	What Can Be Predicted from Six Seconds of Driver Glances?. , 2017, , .		36
24	The relative impact of smartwatch and smartphone use while driving on workload, attention, and driving performance. Applied Ergonomics, 2019, 75, 8-16.	3.1	36
25	Age and cross-cultural comparison of driversâ€™ cognitive workload and performance in simulated urban driving. International Journal of Automotive Technology, 2010, 11, 533-539.	1.4	35
26	Multi-modal demands of a smartphone used to place calls and enter addresses during highway driving relative to two embedded systems. Ergonomics, 2016, 59, 1565-1585.	2.1	34
27	Assessing the impact of typeface design in a text-rich automotive user interface. Ergonomics, 2014, 57, 1643-1658.	2.1	33
28	A study of young adults examining phone dialing while driving using a touchscreen vs. a button style flip-phone. Transportation Research Part F: Traffic Psychology and Behaviour, 2014, 23, 57-68.	3.7	33
29	The Impact of Systematic Variation of Cognitive Demand on Drivers' Visual Attention across Multiple Age Groups. Proceedings of the Human Factors and Ergonomics Society, 2010, 54, 2052-2055.	0.3	31
30	Utilising psychophysical techniques to investigate the effects of age, typeface design, size and display polarity on glance legibility. Ergonomics, 2016, 59, 1377-1391.	2.1	31
31	Rapid holistic perception and evasion of road hazards.. Journal of Experimental Psychology: General, 2020, 149, 490-500.	2.1	31
32	Effects of an 'Expert Mode' Voice Command System on Task Performance, Glance Behavior & Driver Physiology. , 2014, , .		30
33	Distinguishing patterns in driversâ€™ visual attention allocation using Hidden Markov Models. Transportation Research Part F: Traffic Psychology and Behaviour, 2016, 43, 90-103.	3.7	30
34	A field study on the effects of digital billboards on glance behavior during highway driving. Accident Analysis and Prevention, 2016, 88, 88-96.	5.7	29
35	Acceptance of Vehicle Automation: Effects of Demographic Traits, Technology Experience and Media Exposure. Proceedings of the Human Factors and Ergonomics Society, 2019, 63, 2066-2070.	0.3	27
36	Reductions in self-reported stress and anticipatory heart rate with the use of a semi-automated parallel parking system. Applied Ergonomics, 2016, 52, 120-127.	3.1	23

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37	Learning to Use In-Vehicle Technologies: Consumer Preferences and Effects on Understanding. Proceedings of the Human Factors and Ergonomics Society, 2018, 62, 1589-1593.	0.3	22
38	The Effects of Lisdexamfetamine Dimesylate on Driving Behaviors in Young Adults With ADHD Assessed With the Manchester Driving Behavior Questionnaire. Journal of Adolescent Health, 2012, 51, 601-607.	2.5	21
39	Behavioral Impact of Drivers' Roles in Automated Driving. , 2016, , .		21
40	Comparing the demands of destination entry using Google Glass and the Samsung Galaxy S4 during simulated driving. Applied Ergonomics, 2017, 58, 25-34.	3.1	20
41	Drivers' and non-drivers' performance in a change detection task with static driving scenes: is there a benefit of experience?. Ergonomics, 2014, 57, 998-1007.	2.1	19
42	A model for naturalistic glance behavior around Tesla Autopilot disengagements. Accident Analysis and Prevention, 2021, 161, 106348.	5.7	19
43	Disengagement from driving when using automation during a 4-week field trial. Transportation Research Part F: Traffic Psychology and Behaviour, 2021, 82, 400-411.	3.7	17
44	Driver-initiated Tesla Autopilot Disengagements in Naturalistic Driving. , 2020, , .		17
45	Eye Contact between Pedestrians and Drivers. , 0, , .		16
46	Physiological Reactivity to Graded Levels of Cognitive Workload across Three Age Groups: An On-Road Evaluation. Proceedings of the Human Factors and Ergonomics Society, 2010, 54, 2062-2066.	0.3	15
47	Comparing the Demands of Destination Entry using Google Glass and the Samsung Galaxy S4. Proceedings of the Human Factors and Ergonomics Society, 2014, 58, 2156-2160.	0.3	15
48	Driver behavior and the use of automation in real-world driving. Accident Analysis and Prevention, 2021, 158, 106217.	5.7	15
49	Predicting road scenes from brief views of driving video. Journal of Vision, 2019, 19, 8.	0.3	13
50	Itâ€™s All in the Timing: Using the Attend Algorithm to Assess Texting in the Nest Naturalistic Driving Database. , 2017, , .		13
51	Visual attention and steering wheel control: From engagement to disengagement of Tesla Autopilot. Proceedings of the Human Factors and Ergonomics Society, 2021, 65, 1390-1394.	0.3	12
52	Speeding behavior while using adaptive cruise control and lane centering in free flow traffic. Traffic Injury Prevention, 2022, 23, 85-90.	1.4	12
53	Advanced Driver Assistance Systems (ADAS): A Consideration of Driver Perceptions on Training, Usage & Implementation. Proceedings of the Human Factors and Ergonomics Society, 2017, 61, 1954-1958.	0.3	11
54	Influences of anatomical differences on gender-specific book-carrying behavior. Bulletin of the Psychonomic Society, 1978, 11, 17-20.	0.2	10

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55	City browser. , 2009, , .		10
56	Defining workload in the context of driver state detection and HMI evaluation. , 2012, , .		10
57	Comparing the Relative Impact of Smartwatch and Smartphone Use While Driving on Workload, Attention, and Driving Performance. Proceedings of the Human Factors and Ergonomics Society, 2015, 59, 1602-1606.	0.3	10
58	User Perceptions Toward In-Vehicle Technologies: Relationships to Age, Health, Preconceptions, and Hands-On Experience. International Journal of Human-Computer Interaction, 2015, 31, 667-681.	4.8	10
59	Assessing Driving Simulator Validity: A Comparison of Multi-Modal Smartphone Interactions across Simulated and Field Environments. Transportation Research Record, 2018, 2672, 164-171.	1.9	10
60	Unsupervised fNIRS feature extraction with CAE and ESN autoencoder for driver cognitive load classification. Journal of Neural Engineering, 2021, 18, 036002.	3.5	10
61	The MIT AgeLab n-back. , 2014, , .		9
62	Interdependence in Vehicle-Pedestrian Encounters and its Implications for Vehicle Automation. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 4122-4134.	8.0	9
63	Dynamics of Pedestrian Crossing Decisions Based on Vehicle Trajectories in Large-Scale Simulated and Real-World Data. , 0, , .		9
64	A Simulation Study Examining Smartphone Destination Entry while Driving. , 2014, , .		8
65	Sensation Seeking and Driversâ€™ Glance Behavior while Engaging in a Secondary Task. Proceedings of the Human Factors and Ergonomics Society, 2016, 60, 1864-1868.	0.3	7
66	Linking the Detection Response Task and the AttenD Algorithm Through Assessment of Humanâ€“Machine Interface Workload. Transportation Research Record, 2017, 2663, 82-89.	1.9	7
67	Investigating the correspondence between driver head position and glance location. PeerJ Computer Science, 2018, 4, e146.	4.5	7
68	MIT-AVT Clustered Driving Scene Dataset: Evaluating Perception Systems in Real-World Naturalistic Driving Scenarios. , 2020, , .		7
69	Driver-Pedestrian Perceptual Models Demonstrate Coupling: Implications for Vehicle Automation. IEEE Transactions on Human-Machine Systems, 2022, 52, 557-566.	3.5	7
70	A Comparison of the Effect of a Low to Moderately Demanding Cognitive Task on Simulated Driving Performance and Heart Rate in Middle Aged and Young Adult Drivers. , 2008, , .		6
71	An on-road study involving two vehicles. , 2015, , .		6
72	Considering visual-manual tasks performed during highway driving in the context of two different sets of guidelines for embedded in-vehicle electronic systems. Transportation Research Part F: Traffic Psychology and Behaviour, 2017, 47, 23-33.	3.7	6

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73	A Field Study Assessing Driving Performance, Visual Attention, Heart Rate and Subjective Ratings in Response to Two Types of Cognitive Workload. , 2013, , .		6
74	Evaluating the Associations between Forward Collision Warning Severity and Driving Context. Safety, 2022, 8, 5.	1.7	6
75	Exploring differences in the impact of auditory and visual demands on driver behavior. , 2012, , .		5
76	A Driving Simulator Study Examining Phone Dialing with an iPhone vs. a Button Style Flip-Phone. Proceedings of the Human Factors and Ergonomics Society, 2012, 56, 2191-2195.	0.3	5
77	Effects of a Voice Interface on Mirror Check Decrements in Older and Younger Multitasking Drivers. Proceedings of the Human Factors and Ergonomics Society, 2016, 60, 16-20.	0.3	5
78	Differentiating Cognitive Load Using a Modified Version of AttenD. , 2017, , .		5
79	Changes in driver glance behavior when using a system that automates steering to perform a low-speed parallel parking maneuver. Transportation Research Part F: Traffic Psychology and Behaviour, 2018, 58, 629-639.	3.7	5
80	Analysis of Drivers' Head and Eye Movement Correspondence: Predicting Drivers' Glance Location Using Head Rotation Data. , 2015, , .		5
81	A Pilot Study Measuring the Relative Legibility of Five Simplified Chinese Typefaces Using Psychophysical Methods. , 2014, , .		4
82	Impact of Repeated Exposure to a Multilevel Working Memory Task on Physiological Arousal and Driving Performance. Transportation Research Record, 2015, 2518, 46-53.	1.9	4
83	Exploring new qualitative methods to support a quantitative analysis of glance behavior. , 2015, , .		4
84	The Influence of Driverâ€™s Age on Glance Allocations during Single-Task Driving and Voice vs. Visual-Manual Radio Tuning. , 0, , .		4
85	Exploring Generalizability of Field Experiment Radio Tasks with Naturalistic Driving Data. , 2016, , .		4
86	Driving Simulator Validation for In-Vehicle Human Machine Interface Assessment. Proceedings of the Human Factors and Ergonomics Society, 2019, 63, 2104-2108.	0.3	4
87	The effects of age, interface modality, and system design on driversâ€™ attentional demand when making phone calls while driving on a limited-access highway. Transportation Research Part F: Traffic Psychology and Behaviour, 2019, 60, 536-548.	3.7	4
88	An exploratory study on the impact of typeface design in a text rich user interface on off-road glance behavior. , 2012, , .		3
89	Effects of age and smartphone experience on driver behavior during address entry. , 2015, , .		3
90	Observed Differences in Lane Departure Warning Responses during Single-Task and Dual-Task Driving: A Secondary Analysis of Field Driving Data. , 0, , .		3

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91	Glanceable, legible typography over complex backgrounds. Ergonomics, 2020, 63, 864-883.	2.1	3
92	Patterns in transitions of visual attention during baseline driving and during interaction with visualâ€“manual and voice-based interfaces. Ergonomics, 2021, 64, 1429-1451.	2.1	3
93	Does order matter? Investigating the effect of sequence on glance duration during on-road driving. PLoS ONE, 2017, 12, e0171730.	2.5	3
94	Evaluating Demands Associated with the Use of Voice-Based In-Vehicle Interfaces. Proceedings of the Human Factors and Ergonomics Society, 2016, 60, 2083-2087.	0.3	2
95	Additional Findings on the Multi-Modal Demands of â€œVoice-Commandâ€•Interfaces. , 0, , .		2
96	Relationships Between Older Driversâ€™ Cognitive Abilities as Assessed on the MoCA and Glance Patterns During Visual-Manual Radio Tuning While Driving. Journals of Gerontology - Series B Psychological Sciences and Social Sciences, 2016, 73, gbw131.	3.9	2
97	Editorial: Psychophysiological Contributions to Traffic Safety. Frontiers in Human Neuroscience, 2019, 13, 410.	2.0	2
98	Characterizing driver speeding behavior when using partial-automation in real-world driving. Traffic Injury Prevention, 2022, 23, S167-S173.	1.4	2
99	Are drivers aware of their behavior changes when using In-Vehicle systems. , 2012, , .		1
100	Relationship between Drivers' Self-Reported Health and Technology Perceptions Across the Lifespan. , 2014, , .		1
101	Revisiting Radio Tuning: A Secondary Analysis Comparing Glance Behavior Across Five Vehicles. Proceedings of the Human Factors and Ergonomics Society, 2017, 61, 1924-1928.	0.3	1
102	A Pilot Investigation of the Impact of Cognitive Demand on Turn Signal Use during Lane Changes in Actual Highway Conditions across Multiple Age Groups. Proceedings of the Human Factors and Ergonomics Society, 2011, 55, 1874-1878.	0.3	0
103	An Applied Driving Evaluation of Electrodermal Potential as a Measurement of Attentional State. , 2018, , 321.		0
104	Non-Driving-Related Task Engagement: The Role of Speed. Safety, 2022, 8, 34.	1.7	0