

# Contents

<b>Introduction: The Automated Vehicles Symposium 2015</b> . . . . .	1
Steven E. Shladover, Jane Lappin and Robert P. Denaro	
<b>Part I Public Sector Activities</b>	
<b>A National Project in Japan: Innovation of Automated Driving for Universal Services</b> . . . . .	15
Hajime Amano and Takahiko Uchimura	
<b>Accessible Transportation Technologies Research Initiative (ATTRI)—Advancing Mobility Solutions for All</b> . . . . .	27
Mohammed Yousuf, Jeffrey Spencer, Robert Sheehan and Louis Armendariz	
<b>DOE SMART Mobility: Systems and Modeling for Accelerated Research in Transportation</b> . . . . .	39
Reuben Sarkar and Jacob Ward	
<b>Automated Driving Policy</b> . . . . .	53
Bryant Walker Smith	
<b>How Local Governments Can Plan for Autonomous Vehicles</b> . . . . .	59
Lauren Isaac	
<b>Part II Human Factors and Challenges</b>	
<b>Shifting Paradigms and Conceptual Frameworks for Automated Driving</b> . . . . .	73
Patrice Reilhac, Nick Millett and Katharina Hottelart	
<b>Truck Automation: Testing and Trusting the Virtual Driver</b> . . . . .	91
Steven Underwood, Daniel Bartz, Alex Kade and Mark Crawford	

<b>Automated Vehicles: Take-Over Request and System Prompt Evaluation . . . . .</b>	<b>111</b>
Myra Blanco, Jon Atwood, Holland M. Vasquez, Tammy E. Trimble, Vikki L. Fitchett, Joshua Radlbeck, Gregory M. Fitch and Sheldon M. Russell	
<b>Motion Sickness in Automated Vehicles: The Elephant in the Room . . . . .</b>	<b>121</b>
Cyriel Diels, Jelte E. Bos, Katharina Hottelart and Patrice Reilhac	
<b>Potential Solutions to Human Factors Challenges in Road Vehicle Automation . . . . .</b>	<b>131</b>
Bobbie D. Seppelt and Trent W. Victor	
<b>Part III Ethics, Energy and Technology Perspectives</b>	
<b>Connected Autonomous Vehicles: Travel Behavior and Energy Use . . . . .</b>	<b>151</b>
Jonathan Rubin	
<b>The Socio-Economic Impact of Urban Road Automation Scenarios: CityMobil2 Participatory Appraisal Exercise . . . . .</b>	<b>163</b>
Carlo Sessa, Adriano Alessandrini, Maxime Flament, Suzanne Hoadley, Francesca Pietroni and Daniele Stam	
<b>Synergies of Connectivity, Automation and Electrification of Road Vehicles. . . . .</b>	<b>187</b>
Gereon Meyer	
<b>Part IV Vehicle Systems and Technologies Development</b>	
<b>Connected Truck Automation . . . . .</b>	<b>195</b>
Joshua P. Switkes and Steve Boyd	
<b>Validation and Verification of Automated Road Vehicles . . . . .</b>	<b>201</b>
Venkatesh Agaram, Frank Barickman, Felix Fahrenkrog, Edward Griffor, Ibro Muharemovic, Huei Peng, Jeremy Salinger, Steven Shladover and William Shogren	
<b>Trustworthy Foundation for CAVs in an Uncertain World: From Wireless Networking, Sensing, and Control to Software-Defined Infrastructure. . . . .</b>	<b>211</b>
Hongwei Zhang, Le Yi Wang, George Yin, Shengbo Eben Li, Keqiang Li, Jing Hua, Yeuhua Wang, Chuan Li and Hai Jin	
<b>Enabling Technologies for Vehicle Automation. . . . .</b>	<b>225</b>
Mohammed Yousuf, Daniel J. Dailey, Sudharson Sundararajan and Ram Kandarpa	

<b>Technical Evaluation and Impact Assessment of Automated Driving. . . . .</b>	<b>237</b>
Felix Fahrenkrog, Christian Rösener, Adrian Zlocki and Lutz Eckstein	
 <b>Part V Transportation Infrastructure and Planning</b>	
<b>Integrated Traffic Flow Models and Analysis for Automated Vehicles. . . . .</b>	<b>249</b>
Bart van Arem, Montasir M. Abbas, Xiaopeng Li, Larry Head, Xuesong Zhou, Danjue Chen, Robert Bertini, Stephen P. Mattingly, Haizhong Wang and Gabor Orosz	
<b>Beyond Single Occupancy Vehicles: Automated Transit and Shared Mobility . . . . .</b>	<b>259</b>
Rongfang (Rachel) Liu, Daniel J. Fagnant and Wei-Bin Zhang	
<b>Vulnerable Road Users: How Can Automated Vehicle Systems Help to Keep Them Safe and Mobile?. . . . .</b>	<b>277</b>
Alma Siulagi, Jonathan F. Antin, Lisa J. Molnar, Sue Bai, Seleta Reynolds, Oliver Carsten and Ryan Greene-Roesel	
<b>Implications of Vehicle Automation for Planning . . . . .</b>	<b>287</b>
Sivaramakrishnan Srinivasan, Scott Smith and Dimitris Milakis	

Road Vehicle Automation 3

Meyer, G.; Beiker, S. (Eds.)

2016, IX, 295 p. 66 illus., 60 illus. in color., Hardcover

ISBN: 978-3-319-40502-5