

2016

- 2016.01 ***Application of CFD to Predict Brake Disc Contamination in Wet Conditions***, L. Schembri Puglisevich, A. Gaylard, M. Osborne, J. Jilesen, A. Gagliardi , SAE International Journal June 2016

2015

- 2015.01 ***Application of Real-World Wind Conditions for Assessing Aerodynamic Drag for On-Road Range Prediction***, A. D'Hooge, L. Rebbeck, R. Palin, Q. Murphy, J. Gargoloff, B. Duncan , SAE Paper No. 2015-01-1551
- 2015.02 ***Comparison of Computational Simulation of Automotive Spinning Wheel Flow Field with Full Width Moving Belt wind Tunnel Results*** M. Gleason, A. Guzman, J. Wlaser, B. Duncan, Y Cho SAE paper 2015-01-1556
- 2015.03 ***Advances in Modeling A-Pillar Water Overflow*** J. Jilesen, A. Gaylard, I. Spruss, T. Kuthada, J. Wiedemann SAE paper 2015-01-1549
- 2015.04 ***Uncompromised Design: Changing the Vehicle Development Process to Meet Rising Design and Engineering Requirements*** S. Remondi, B. Duncan FKFS Symposium
- 2015.05 ***Aerodynamic Drag and Engine Cooling Effects on Class 8 Trucks in Platooning Configurations***, M. Ellis, J. Gargoloff, R. Sengupta, SAE Commercial Vehicle Engineering Congress 2016
- 2015.06 ***Aerodynamics Comparison of Tractor Trailer Platooning and A-Train Configuration***, R. Mihelic, J. Smith, M. Ellis, SAE Commercial Vehicle Engineering Congress 2016
- 2015.07 ***Aerodynamic Impact of Tractor-Trailer in Drafting Configuration***, J. Smith, R. Mihelic, B. Gifford, M. Ellis, SAE Commercial Vehicle Engineering Congress 2016
- 2015.08 ***Ramifications of Test Track Curves on Aerodynamics Prediction for Tractor-Trailer Vehicles***, R. Mihelic, M. Ellis, SAE Commercial Vehicle Engineering Congress 2016

2014

- 2014.01 ***Evaluation of Non-Uniform Upstream Flow Effects on Vehicle Aerodynamics***, A. Gaylard, N. Oettle, B. Duncan, J. Gargoloff , SAE Paper No. 2014-01-0614
- 2014.02 ***On-Road Aerodynamic Efficiency under Realistic Transient Wind Conditions***, B. Duncan, J. Gargoloff, A. Alajbegovic, 14th Stuttgart International Symposium on Automotive and Engine Technology, March 18-19, 2014

2013

- 2014.03 ***Alternative Simulation Methods for Assessing Aerodynamic Drag in Realistic Crosswind***, A. D'Hooge, R. Palin, L. Rebbbeck, J. Gargoloff, B. Duncan, SAE Paper No. 2014-01-0599
- 2014.04 ***Insights into Rear Surface Contamination Using Simulation of Road Spray and Aerodynamics***, A. Gaylard, J. Pitman, J. Jilesen, A. Gagliardi, B. Duncan, J. Wanderer, A. Konstantinov, SAE Paper No. 2014-01-0610
- 2014.05 ***Optimization of the Underbody Layout of a Small Van for Better Aerodynamics Using Digital Simulation***, W. Yang, X. Zhou, J. Peng, B. Li, et al., SAE Paper 2014-01-0574
- 2014.06 ***Insights into Rear Surface Contamination Using Simulation of Road Spray and Aerodynamics***, A. Gaylard, J. Pitman, J. Jilesen, A. Gagliardi, B. Duncan, J. Wanderer, A. Konstantinov, SAE Paper No. 2014-01-0610
- 2014.07 ***Development and Application of Virtual Wind-Tunnel by Computational Fluid Dynamics (CFD)*** M. Kiyono, K. Akasaka, Y. Ishihara, H. Shiozawa, Paper No. 20145357, JSAE Annual Congress, May 21-23, 2014.
- 2014.08 ***Effect of Realistic Wind Conditions on Vehicle Design for Water Management***, J. Jilesen, B. Duncan, K. Kritikos, A. Lohwasser, Haus der Technik 11th Conference on Vehicle Aerodynamics, Munich, 2014
- 2014.09 ***Assessment of Class 8 Tractor-Trailer Aerodynamics in On-Road Wind Conditions Using Constant Speed Testing and CFD*** K. Golsch, J. Beck, C. Czapinski, B. Duncan, K. Horrigan, J. Gargoloff SAE Commercial Vehicles 2014
- 2014.10 ***Characterization of Vehicle Front-End Design with Active Grille Shutters using Coupled Aerodynamic and Thermal Simulations*** Y. Cho, S. Kandasamy, B. Duncan, J Han, A. Shestopalov, J. Zvonek JSAE Annual Congress May 2014
- 
- 2013.01 ***Improved CFD Methodology for Class 8 Tractor-Trailer Coastdown Correlation***, K. Golsch, K. Horrigan, S. Kandasamy, B. Duncan, SAE Paper No. 2013-01-2412
- 2013.02 ***Effect of Non-uniform Flow Conditions on Vehicle Aerodynamic Performance***, A. Gaylard, N. Oettle, B. Duncan, J. Gargoloff, Progress in Vehicle Aerodynamics and Thermal Management, Proceedings of the 9th FKFS Conference, October 1-2, 2013, pp. 63-78, 2013
- 2013.03 ***Simulation of Rear and Body Side Vehicle Soiling by Road Sprays Using Transient Particle Tracking***, J. Jilesen, A. Gaylard, B. Duncan, J. Wanderer, A. Konstantinov, SAE Paper No. 2013-01-1256.

- 2013.04 ***Multi-Disciplinary Design Applications of Unsteady Aerodynamics and Water Sprays on Road Vehicles***, J. Jilesen, B. Duncan, 6th Graz Symposium Virtuelles Fahrzeug (GSVF) Gratz, Austria, May 14-15, 2013
- 2013.05 ***Vehicle Soiling and Water Management: Current Approaches and Future Prospects***, A. Gaylard, IQPC 2nd International Forum Future Automotive Aerodynamics, 02-04 December, 2013, Berlin, Germany, 2013

## 2012

- 2012.01 ***The Aerodynamic Development of the Tesla Model S- Part 1: Overview***, R. Palin, V. Johnston, S. Johnson, A. D'Hooge, B. Duncan, J. Gargoloff, SAE Paper 2012-01-0177
- 2012.02 ***The Aerodynamic Development of the Tesla Model S- Part 2: Wheel Design Optimization***, A. D'Hooge, R. Palin, S. Johnson, B. Duncan, J. Gargoloff, SAE Paper 2012-01-0178
- 2012.03 ***Aerodynamic Performance Assessment of BMW Validation Models using Computational Fluid Dynamics***, B. Duncan, S. Kandasamy, H. Gau, F. Maroy, A. Belanger, N. Gruen, S. Schäufele, S., SAE Paper 2012-01-0297
- 2012.04 ***Modelling A-Pillar Water Overflow: Developing CFD and Experimental Methods***, A. Gaylard, M. Fagg, M. Bannister, B. Duncan, J. Gargoloff, J. Jilesen, SAE Paper 2012-01-0588
- 2012.05 ***Experimental and Numerical Investigation of Wheel Housing Aerodynamics of Heavy Trucks***, D. Söderblom, P. Elofsson, L. Hjelm, L. Lofdhal, SAE Paper 2012-01-0106
- 2012.06 ***Numerical Comparison of Rolling Road Systems***, A. Henning, N. Widdecke, T. Kuthada, J. Wiedemann, SAE Paper 2012-01-0017
- 2012.07 ***CFD Analysis of Various Automotive Bodies in Linear Static Pressure Gradients***, M. Gleason, SAE Paper 2012-01-0298
- 2012.08 ***Tire & Wheel Modeling: Influence on Drag and Lift***, Q. Gallas, IPQC International Forum Future Automotive Aerodynamics, Berlin, Germany
- 2012.09 ***CO2 Reduction Through Aerodynamic Optimization of Commercial Vehicles***, M. Ganis, IPQC International Forum Future Automotive Aerodynamics, Berlin, Germany
- 2012.10 ***Improving Aerodynamic Characteristics: Challenges and Opportunities***, A. Gaylard, IPQC International Forum Future Automotive Aerodynamics, Berlin, Germany
- 2012.11 ***Use of Aerodynamics, Thermal, and Aeroacoustic Simulations in Vehicle Design***, S. Jelic, SAE Brazil Congress 2012

- 2012.12 ***Impact of Wheel Rotation on Aerodynamic Drag and Lift***, S. Kandasamy, B. Duncan, H. Gau, F. Maroy, A. Belanger, N. Gruen, and S. Schaeufele, S., 12th Stuttgart International Symposium on Automotive and Engine Technology, Stuttgart, March 13-14, 2012
- 2012.13 ***Modeling the S2A Wind Tunnel using Computational Fluid Dynamics***, B. Kelley, R. Vigneron, C. Bourdassol, A. Bélanger, 47th International Symposium of Applied Aerodynamics, Paris, March 26-28, 2012.

## 2011

- 2011.01 ***Accurate Reproduction of Wind-Tunnel Results with CFD***, S. Cyr, L. Ih, S. Park, SAE Paper 2011-01-0158
- 2011.02 ***Evaluation and Optimization of Aerodynamic and Aero-Acoustic Performance of a Heavy Truck using Digital Simulation***, M. Jiang, H. Wu, M. Kim, S. Senthoran, H. Friz, Y. Zhang, SAE Paper 2011-01-0162
- 2011.03 ***Simulation of Rear Glass and Body Side Vehicle Soiling by Road Sprays***, A. Gaylard, B. Duncan, SAE Paper 2011-01-0173
- 2011.04 ***The Bandwidth of Transient Yaw Effects on Vehicle Aerodynamics***, O. Mankowski, D. Sims-Williams, R. Dominy, B. Duncan, J. Gargoloff, SAE Paper 2011-01-0160
- 2011.05 ***CFD Analysis of Submerged Air Inlets for Automotive Application***, T. Schuetz, Progress in Vehicle Aerodynamics and Thermal Management, FKFS Conference 2011, Stuttgart, Germany
- 2011.06 ***Spray Pattern of a Free Rotating Wheel: CFD Simulation and Validation***, I. Spruss, T. Kuthada, J. Wiedemann, S. Cyr, B. Duncan, Progress in Vehicle Aerodynamics and Thermal Management, FKFS Conference 2011, Stuttgart, Germany
- 2011.07 ***Effects of Unsteadiness on Heavy Truck Aerodynamics***, P. Elofsson, G. Mercier, Progress in Vehicle Aerodynamics and Thermal Management, FKFS Conference 2011, Stuttgart, Germany
- 2011.08 ***Development of a Digital Wind Tunnel for Implementing the Ground Simulation***, S-H Park, K. D. Ih, S. Cyr, Progress in Vehicle Aerodynamics and Thermal Management, FKFS Conference 2011, Stuttgart, Germany
- 2011.09 ***The Aerodynamics of the New 911 Carrera***, T. Lemke, T. Wiegand, Progress in Vehicle Aerodynamics and Thermal Management, FKFS Conference 2011, Stuttgart, Germany
- 2011.10 ***Combined Analysis of Cooling Airflow and Aerodynamic Drag for a Class 8 Tractor Trailer Combination***, R. Sengupta, J. Beedy, K. Horrigan, SAE Paper 2011-01-2288.

2011.11 ***Axial Fan Performance Predictions in CFD, Comparison of MRF and Sliding Mesh with Experiments***, P. Gullberg, R. Sengupta, R., SAE Paper 2011-01-0652

2011.12. ***Numerical Comparison of Rolling Road Systems***, A. Hennig, N. Widdecke, T. Kuthada, J. Wiedemann, SAE Paper 2011-37-0017.

2010

2010.01 ***Aerodynamics Study of a Production Tractor Trailer Combination using Simulation and Wind Tunnel Methods***, M. Heinecke, J. Beedy, K. Horrigan, R. Sengupta, SAE Paper 2010-01-2040

2010.02 ***CFD Approach to Evaluate Wind Tunnel and Model Setup Effects on Aerodynamic Drag and Lift for Detailed Vehicles***, O. Fischer, T. Kuthada, E. Mercker, J. Wiedemann, SAE Paper 2010-01-0760

2010.03 ***Validation of Lattice-Boltzmann Aerodynamics Simulation for Vehicle Lift Prediction***, B. Duncan, A. Fischer, S. Kandasamy, Paper FEDSM2010-ICNMM2010, ASME 2010 3rd Joint US-European Fluids Engineering Summer Meeting

2010.04 ***Further CFD Studies for Detailed Tires using Aerodynamics Simulation with Rolling Road Conditions***, B. Duncan, S. Kandasamy, K. Sbeih, T. Lounsberry, M. Gleason, SAE Paper 2010-01-0756

2010.05 ***CFD-based Modeling of Flow Conditions Capable of Inducing Hood Flutter***, A. Gaylard, M. Beckett, J. Gargaloff, B. Duncan, SAE Paper 2010-01-1011

2010.06 ***The Simulation of Brake Dust Deposition***, A. Gaylard, D. Lynch, J. Amodeo, R. Amunagama, 8th MIRA International Vehicle Aerodynamics Conference, Oxfordshire, UK

2010.07 ***Optimization of Aerodynamics and Engine Cooling Performance of a JMC Mid-Size Truck using Simulation***, L. Lu, L. Zhang, S. Liu, E. Le Loc'h, H. Friz, SAE Paper 2010-01-2032

2010.08 ***Integrated Numerical and Experimental Approach to Determine the Cooling Air Mass Flow in Different Vehicle Development Stages***, S. Wille, T. Kuthada, N. Widdecke, H. Maier, A. Koller, SAE Paper 2010-01-0287

2010.09 ***Effect Of Transient Aerodynamics On Uncertainty In Drag Predictions Using Aerodynamics Simulations For A Heavy Truck In Yaw Flow***, P. Elofsson, G. Mercier, B. Duncan, S. Boissinot, Proceedings of the ECI Conference on Aerodynamics of Heavy Vehicles III: Trucks, Buses and Trains, Potsdam, Germany, September 12-17, 2010.

2010.10 ***Aerodynamic Optimization of a 4-Man Bobsled for the 2010 Olympics using Lattice Boltzmann Simulation***, B. Duncan, Haus der Technik 9th Conference on Vehicle Aerodynamics, Munich, 2010.



## 2009

- 2009.01 ***The Lattice-Boltzmann-VLES Method for Automotive Fluid Dynamics Simulation***, R. Kotapati, A. Keating, S. Kandasamy, B. Duncan, R. Shock and H. Chen, A Review, SAE Paper No. 2009-26-057
- 2009.02 ***The Effects of Detailed Tire Geometry on Automobile Aerodynamics – a CFD Correlation Study in Static Conditions***, T. Lounsberry, M. E. Gleason, S. Kandasamy, K. Sbeih, R. Mann, B. D. Duncan, SAE Paper 2009-01-0777
- 2009.03 ***The Appropriate Use of CFD in the Automotive Design Process***, A. Gaylard, SAE Paper 2009-01-1162
- 2009.04 ***Response of a Prototype Truck Hood to Transient Aerodynamic Loading***, A. Gupta, J. Gargoloff, B. Duncan, SAE Paper 2009-01-1156
- 2009.05 ***The Lattice-Boltzmann VLES Method for Automotive Fluid Dynamics Simulation***, R. Kotapati, A. Keating, S. Kandasamy, B. Duncan, R. Shock, H. Chen, A Review, SAE Paper 2009-01-0057
- 2009.06 ***CFD Validation Project on Vehicle Scale Models under the Constraint of an Open Jet Wind Tunnel***, O. Fischer, T. Kuthada, J. Wiedemann, EUROMECH Colloquium 509 Vehicle Aerodynamics, Berlin, 2009.

## 2008

- 2008.01 ***Aerodynamic Simulations of a Generic Tractor-Trailer: Validation and Analysis of Unsteady Aerodynamics***, K. Horrigan, B. Duncan, A. Keating, A. Gupta, J. Gargoloff, SAE Paper 2008-01-2612
- 2008.02 ***CFD Validation Study for a Sedan Scale Model in an Open Jet Wind Tunnel***, O. Fischer, T. Kuthada, J. Wiedemann, P. Dethioux, R. Mann, B. Duncan, SAE Paper 2008-01-0325
- 2008.03 ***Lattice-Boltzmann Simulations of the Unsteady Flow Behind the Ahmed Body***, A. Keating, R. Shock, H. Chen, SAE Paper 2008-01-0740

## 2007

- 2007.01 ***Aerodynamic Simulations of a Class 8 Heavy Truck: Comparison to Wind Tunnel Results and Investigation of Blockage Influences***, K. Horrigan, B. Duncan, P. Sivakumar, A. Gupta, A. Wong, SAE Paper 2007-01-4295
- 2007.02 ***Multi-Disciplinary Aerodynamics Analysis for Vehicles: Application of External Flow Simulations to Aerodynamics, Aeroacoustics and Thermal Management of a Pickup Truck***, B.D. Duncan, S. Senthoran, D. Hendriana, P. Sivakumar, D. Freed, M.E. Gleason, D.C. Hall, SAE Paper 2007-01-0100

- 2007.03 ***CFD Investigations of Wind Tunnel Interference Effects***, O. Fischer, T. Kuthada, N. Widdecke, J. Wiedemann, SAE Paper 2007-01-1045
- 2007.04 ***Unsteady Flow Analysis of a Formula Type Open Wheel Race Car in Cornering***, C. Albukrek, P. Doddegowda, A. Ivaldi, J. Amodeo, et al., SAE Paper 2006-01-3661

## 2006

- 2006.01 ***Unsteady Flow Analysis of a Formula Type Open Wheel Race Car in Cornering***, C. Albukrek, P. Doddegowda, A. Ivaldi, J. Amodeo, SAE Paper 2006-01-3661
- 2006.02 ***Prediction of Wall Pressure Fluctuations on an Automobile Side-glass using a Lattice-Boltzmann Method***, S. Senthoooran, B. Crouse, B., D. Freed, G. Balasubramanian, S. Noelting, B. Duncan, R. Powell, AIAA 2006-2559
- 2006.03 ***Cooling Airflow Simulation for Passenger Cars using Detailed Geometry***, A. Alajbegovic, R. Sengupta, W. Jansen, SAE 2006-01-3478
- 2006.04 ***Grid Refinement in Lattice Boltzmann Methods Based on Volumetric Formulation***, H. Chen, O. Filippova, J. Hoch, K. Molvig, R. Shock, C. Teixeira, R. Zhang, Physica A 362
- 2006.05 ***Unsteady Flow Simulation of the Ahmed Reference Body using a Lattice Boltzmann Approach***, *Computers & Fluids*, Fares, E., Volume 35, Issues 8-9, Proceedings of the First International Conference for Mesoscopic Methods in Engineering and Science, 2006.

## 2005

- 2005.01 ***Application of a Lattice-Boltzmann Code in Automobile and Motorcycle***