DMITRY VLASENKO

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Institute of Mobile Systems (IMS)
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Education

Doctor of Philosophy, Otto-von-Guericke-University Magdeburg , Germany (January 2006)
Master of Science, Mathematics, St. Petersburg State University, Russia (July 2000)
Bachelor of Science, Mathematics, Novosibirsk State University, Russia (July 1998)

Research Experience

Assistant Professor, *Institute of Mobile Systems***,** *Otto-von-Guericke-University Magdeburg*, *Germany*, 2009-present
Modeling and simulation of mobile systems, simulation of dynamics of mechanical systems

Research engineer, *Institute of Mobile Systems***,** *Otto-von-Guericke-University Magdeburg*, *Germany*, 2006-2009
Component-oriented modeling and simulation of mechatronical systems

Research Assistant. *Institute of Mechatronics and Drives***,** *Otto-von-Guericke-University Magdeburg*, *Germany*, 2001-2006
Doctoral thesis research conducted with Prof. R. Kasper. Component-Oriented method for simulation of multibody dynamics. Grade: magna cum laude.

*Department of Theoretical and Applied Mechanics***,** *St. Petersburg State University*, Russia, 1998-2001
Master thesis research conducted with Dr. V. Bykov. Development of a tool for simulation of constrained multibody dynamics, investigation of the oscillation of double pendulum.

Awards and Scholarships

Certificate of Merit for the 2008 International Conference of Mechanical Engineering (ICME 08)
Method of Transformation from Inertial to Reference Frame Formulation of Flexible Multibody Systems.

Doctoral Scholarship, *Otto-von-Guericke-University Magdeburg*, 2002 – 2004

Third place award of the International Scientific Students Conference (ISSC 97)
Arithmetic progressions of Thue-Morse sequence.

Research Interests

My primary research interests are associated with modeling and simulation of dynamics of rigid and flexible multibody systems. They include theoretical algorithms solving DAE associated with the dynamics of multibody systems and the development of object-oriented simulation software. My work is focused on the modeling and simulation of industrial robots and radio-controlled cars.

Professional Activities

Session chairman at the *International Conference of Mechanical Engineering (ICME 08)*, London, UK, 2-4 July, 2008.

Session chairman at the conference *8-th Magdeburg Days of Mechanical Engineering*, Magdeburg, Germany, 10-11 October, 2007.

Teaching Experience

Institute of Mobile Systems, *Otto-von-Guericke-University Magdeburg*, Germany, 2008-present
Lecturer in *Dynamics of Robotic Systems.*
Student advising in the development and simulation of multibody systems (radio-controlled cars, robots, etc.).

Institute of Mechatronics and Drives, *Otto-von-Guericke-University Magdeburg*, Germany, 2005
Student advising in the development and simulation of car models.

Department of Theoretical and Applied Mechanics, *St. Petersburg State University*, Russia, 2000
Teaching Assistant for the data base course.

Publications

D. Vlasenko, R. Kasper (2009): *Modelling and simulation of multibodies in mechatronic systems*, in: Kasper, Roland u.a. (Hrsg.), Forschung in Bewegung. 9. Magdeburger Maschinenbau-Tage, 30.09.-01.10.2009, Magdeburg 2009, S. 218–223.

Y. Chumachenko, **D. Vlasenko,** R. Kasper (2009): *Modellierung und Simulation von Mehrkörpersystemen mit ANSYS*, In: Forschung in Bewegung . - Magdeburg : Univ., ISBN 978-3-940961-36-5, S. 153-159, 2009, Kongress: Magdeburger Maschinenbau-Tage; 9 (Magdeburg) : 2009.09.30-10.01

D. Vlasenko, R. Kasper (2009): *Implementation of consequent stabilization method for simulation of multibodies described in absolute coordinates.* Multibody System Dynamics, vol. 22, no. 3, pages 297-319, October 2009.

D. Vlasenko, R. Kasper (2009): *Successive Projection Method for the Simulation of Spatial Dynamics of Multibodies.* Proceedings of Multibody Dynamics 2009 (ECCOMAS Thematic Conference), Warsaw, Poland, June 29 - July 2, 2009.

D. Vlasenko, R. Kasper (2009): *Spatial Kinematics of Gears in Absolute Coordinates*. Proceedings of Industrial Simulation Conference (ISC) 2009, Loughborough, UK, June 1–3, 2009.

D. Vlasenko, R. Kasper (2009): *Stabilization Methods for Simulation of Multibody Dynamics.* Proceedings of International Conference on Mechanics "Fifth Polyakhov's Reading", St.-Peterburg, Russia, February 3–6, 2009.

D. Vlasenko, R. Kasper (2008): *Generation of Equations of Motion in Reference Frame Formulation for FEM Models*, Engineering Letters, Volume 16, Issue 4, pp. 537-544.

D. Vlasenko, R. Kasper (2008): *Method of Transformation from Inertial to Reference Frame Formulation of Flexible Multibody Systems* Proceedings of 2008 International Conference of Mechanical Engineering (ICME 08), London, UK, 2-4 July, 2008.

D. Vlasenko, R. Kasper (2008): *Implementation of the Symbolic Simplification for the Calculation of Accelerations of Multibodies*. Proceedings of Industrial Simulation Conference 2008, Lyon, France, 9-11 June, 2008.

R. Kasper, **D. Vlasenko,** G. Sintotskiy (2007): *A Component Oriented Approach to Multidisciplinary Simulation of Mechatronic Systems*. Proceedings of the EUROSIM Congress on Modelling and Simulation (EUROSIM 2007), Ljubljana, Slovenia, September 9-13, 2007.

D. Vlasenko, R. Kasper (2007): *Integration Method of CAD Systems*. Proceedings of the ASME 2007 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC/CIE 2007 September 4-7, 2007, Las Vegas, Nevada, USA.

D. Vlasenko, R. Kasper (2007): *Sparse Matrix Method for Component-Oriented Dynamic Simulation of Multibodies in VSD Software*. Proceedings of Multibody Dynamics 2007 (ECCOMAS Thematic Conference), Milan, Italy, June 25-28 June, 2007.

D. Vlasenko, R. Kasper (2007): *A New Software Approach for the Simulation of Multibody Dynamics*. ASME Journal of Computational and Nonlinear Dynamics, Volume 2, Issue 3, 2007, pp. 274-278.

D. Vlasenko, R. Kasper (2006): *Algorithm for Component Based Simulation of Multibody Dynamics*. Technische Mechanik, Band 26, Heft 2, 2006, pp. 92-105.

D. Vlasenko, R. Kasper (2006): *Comparison of Simulation of Constrained Multibody Dynamics Using Relative and Absolute Coordinates.* Proceedings of International Conference on Mechanics "Fourth Polyakhov's Reading", St.-Peterburg, Russia, February 7–10, 2006.

R. Kasper, **D. Vlasenko** (2005): *Component Based Virtual Models of Mechanical Parts of Mechatronic Systems*. Proceedings of 7. Magdeburger Maschinenbau-Tage, Otto-von-Guericke-University Magdeburg, Germany, October 11-12 2005.

D. Vlasenko, R. Kasper (2005): *Modular Forward Dynamic Simulation of Constrained Mechanical Systems*. Proceedings of ECCOMAS Thematic Conference on Advances in Computational Multibody Dynamics, Madrid, Spain, June 21-24, 2005.

R. Kasper, **D. Vlasenko** (2004): *Method for Distributed Forward Dynamic Simulation of Constrained Mechanical Systems*. 5th EUROSIM Congress on Modelling and Simulation. 6.-10.9.2004, S. 28, Paris. EUROSIM-FRANCOSIM-ARGESIM, Volume I, ISBN 3-901608-28-1 (Book of Abstracts); Volume II, ISBN 3-901608-28 (Full Papers CD Volume).

R. Kasper, **D. Vlasenko** (2003): *Method for Distributed Forward Dynamic Simulation of Constrained Mechanical Systems*, Proceedings of 6. Magdeburger Maschinenbau-Tage, Otto-von-Guericke-University Magdeburg, Germany, September 24-26 2003.

D. Vlasenko (2003): *Building the Mathematical Model of the Hybrid Manipulator*, Proceedings of International Conference on Mechanics " Third Polyakhov's Reading", St.-Peterburg, Russia, February 4–6 2003.

D. Vlasenko (1998): *Arithmetic progressions of morphisms*, Proceedings of Siberian Conference on Operation Research (SCOR'98), Novosibirsk, Russia, June 22-27 1998.

D. Vlasenko (1997): *Arithmetic progressions of Thue-Morse sequence*, Proceedings of International Scientific Students Conference (ISSC), Novosibirsk, Russia, April 22-24 1997.

Training

Simpack Basics and Automotive+ Training, INTEC GmbH, Wessling, Germany.

Skills

Software: ANSYS, Simpack, Dymola. Autodesk Inventor, SimMechanics, Mathematica, Maple, Matlab/Simulink,

Programming Languages: Visual Basic, Visual Basic for Applications, Autodesk Inventor API, Progress, PHP

Languages: English (very good), German (very good), Russian (native).