

Position-based Methods for the Simulation of Solid Objects in Computer Graphics

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Biographies

Jan Bender Until 2002 Jan Bender studied computer science at the University of Karlsruhe with the majors computer graphics and software engineering. Afterwards, he started with his PhD studies at the Institute for Computer Graphics at the University of Karlsruhe. In the beginning of 2007 he received his doctoral degree with distinction. The topic of his thesis was the impulse-based dynamic simulation of multi-body systems in VR applications. In the following years Jan Bender researched in the area of driver assistance systems for Harman/Becker Automotive Systems. At the same time he continued his research in multibody systems and deformable bodies in cooperation with the University of Karlsruhe. Since 2010 he is employed as Assistant Professor at the Department of Computer Science, TU Darmstadt. He is also Principal Investigator of the Graduate School of Computational Engineering in Darmstadt which has been recognized as a center for top-level research by the highly competitive 'Excellence Initiative' of the German government. His current research areas include: interactive simulation of multibody systems, deformable solids and cloth, collision detection and resolution, fracture and motion synthesis. Since 2009 Jan Bender is conference chair of the Virtual Reality Interaction and Physical Simulation conference.

Matthias Müller Matthias Müller received his PhD in atomistic simulation of dense polymer systems in 1999 from ETH Zürich. During his post-doc with the MIT Computer Graphics Group (1999-2001), he changed fields to macroscopic physically based simulations. He has published papers on particle-based water simulation and visualization, finite element-based soft bodies, cloth simulation, and fracture simulation. The main focus of his research are unconditionally stable, fast and controllable simulation techniques for the use in computer games. Most relevant to this STAR, he

is one of the founders of the field of position based simulation methods.

In 2002, he co-founded the game middleware company NovodeX (acquired in 2004 by AGEIA), where he was head of research and responsible for extension of the physics simulation library PhysX by innovative new features. He has been head of the PhysX research team of NVIDIA since that company acquired AGEIA Technologies, Inc. in early 2008.

Miguel A. Otaduy Miguel A. Otaduy is an associate professor in the Department of Computer Science's Modeling and Virtual Reality Group (GMRV) at Universidad Rey Juan Carlos (URJC Madrid). His main research areas are physically based computer animation, haptic rendering, collision detection, virtual reality, and geometric algorithms. He obtained his BS (2000) on electrical engineering from Mondragón University, and MS (2003) and PhD (2004) on computer science from the University of North Carolina at Chapel Hill. From 2005 to 2008 he was a research associate at ETH Zurich, and then he joined URJC Madrid. He has published over 60 papers in computer graphics and haptics, and has recently co-chaired the program committees for the ACM SIGGRAPH / Eurographics Symposium on Computer Animation (2010) and the Spanish Computer Graphics Conference (2010).

Matthias Teschner Matthias Teschner is professor of Computer Science and head of the Computer Graphics group at the University of Freiburg. He received the PhD degree in Electrical Engineering from the University of Erlangen-Nuremberg in 2000. From 2001 to 2004, he was research associate at Stanford University and at the ETH Zurich. His research interests comprise physically-based simulation, rendering, computer animation, computational geometry, and human perception of motion with applications in robotics, medical simulation, and entertainment technology. He has

served on program committees of major graphics conferences including Eurographics, Pacific Graphics, IEEE Vis, and ACM Siggraph/Eurographics SCA. He serves as an associate editor for Computers & Graphics and Computer Graphics Forum.