

Dr.-Ing. · **summa cum laude (with distinction)**
Major: Geometric Modeling and Flow Visualization
Thesis: *Shapes in Vector Fields -
Methods for Continuous Deformations and Surface-based Flow Visualizations*
Advisor: Prof. Dr. H. Theisel
Referees: Prof. Dr. H. Theisel, Prof. Dr. M. Botsch, and Prof. Dr. M. Wardetzky
Supported by **Excellence Ph.D. Scholarship** — German National Academic Foundation

Diploma ·
Computer Science

04/2004–03/2008 University of Bielefeld
Dipl.-Inform. (M.Sc.) · GPA: 4.0/4.0 (**with distinction**)
Major: Computer Science in the Natural Sciences and Robotics
Thesis: *Surface–Optimization using Aligned Characteristic Surface Curves*
Advisor: Prof. Dr. H. Theisel
Supported by **Excellence Scholarship** — German National Academic Foundation

High School
Diploma

1996–06/2003 Immanuel Kant Gymnasium, Bad Oeynhausen
Abitur · GPA: 3.28/4.0 (German Grade: 1.9)
Advanced Courses: Mathematics and Physics

DISTINCTIONS

10/2014 **Best Paper Award** - Wang et al. [6]
19th International Workshop on Vision, Modeling and Visualization, Darmstadt

12/2013 **Best German Ph.D. Thesis in Computer Science 2013
Award Nomination - German Informatics Society**
Otto–von–Guericke University, Magdeburg

05/2010–04/2012 **Excellence Ph.D. Scholarship**
German National Academic Foundation (“Studienstiftung des deutschen Volkes”)

11/2008 **Best Student of the Year in Computer Science Award**
Technical Faculty, University of Bielefeld

06/2006–03/2008 **Excellence Scholarship**
German National Academic Foundation (“Studienstiftung des deutschen Volkes”)

06/2003 **Excellence Scholar Award**
German Physics Society

INVITED TALKS

05/2014 GI Best German Ph.D. Thesis 2013 Colloquium
Schloss Dagstuhl - Leibniz Center for Informatics
Topic: *Geometrische Formen in Vektorfeldern*

02/2013 Feature-Based Data Analysis Group
Max Planck Institute for Informatics, Saarbrücken, Prof. Dr. T. Weinkauff
Topic: *Interactive and Automatic Surface-based Flow Visualization*

PUBLICATIONS (PEER-REVIEWED)

- [1] T. Günther, M. Schulze, **J. Martínez Esturo**, C. Rössl, and H. Theisel. “Opacity Optimization for Surfaces”. In: *Comput. Graph. Forum (Proc. EuroVis)* 33.3 (2014), pp. 11–20.
- [2] Y. Kozlov, **J. Martínez Esturo**, H.-P. Seidel, and T. Weinkauff. “Regularized Harmonic Surface Deformation”. In: *CoRR* 1408.3326 (2014).
- [3] **J. Martínez Esturo**. “Geometrische Formen in Vektorfeldern”. In: *Ausgezeichnete Informatikdissertationen 2013 (German)*. Vol. D-14. LNI - Dissertations. GI, 2014, pp. 131–141.
- [4] **J. Martínez Esturo**, C. Rössl, and H. Theisel. “Smoothed Quadratic Energies on Meshes”. In: *ACM Trans. Graph.* 34.1 (2014), 2:1–2:12.
- [5] M. Schulze, **J. Martínez Esturo**, T. Günther, C. Rössl, H.-P. Seidel, T. Weinkauff, and H. Theisel. “Sets of Globally Optimal Stream Surfaces for Flow Visualization”. In: *Comput. Graph. Forum (Proc. EuroVis)* 33.3 (2014), pp. 1–10.
- [6] Z. Wang, **J. Martínez Esturo**, H.-P. Seidel, and T. Weinkauff. “Pattern Search in Flows based on Similarity of Stream Line Segments”. In: *Proc. VMV. (Best Paper Award)*. EG, 2014, (to appear).
- [7] **J. Martínez Esturo**. “Shapes in Vector Fields”. PhD thesis. University of Magdeburg, 2013.
- [8] **J. Martínez Esturo**, C. Rössl, and H. Theisel. “Generalized Metric Energies for Continuous Shape Deformation”. In: *Springer LNCS (Proc. Curves and Surfaces 2012)* 8177.1 (2013), pp. 135–157.
- [9] **J. Martínez Esturo**, M. Schulze, C. Rössl, and H. Theisel. “Global Selection of Stream Surfaces”. In: *Comput. Graph. Forum (Proc. Eurographics)* 32.2 (2013), pp. 113–122.
- [10] **J. Martínez Esturo**, M. Schulze, C. Rössl, and H. Theisel. “Poisson-based Tools for Flow Visualization”. In: *Proc. PacificVis. IEEE*, 2013, pp. 241–248.
- [11] **J. Martínez Esturo**, C. Rössl, and H. Theisel. “Continuous Deformations by Isometry Preserving Shape Integration”. In: *Springer LNCS (Proc. Curves and Surfaces 2010)* 6920.1 (2012), pp. 456–472.
- [12] **J. Martínez Esturo**, C. Rössl, S. Fröhlich, M. Botsch, and H. Theisel. “Pose Correction by Space-Time Integration”. In: *Proc. VMV. EG*, 2011, pp. 33–40.
- [13] **J. Martínez Esturo**, C. Rössl, and H. Theisel. “Continuous Deformations of Implicit Surfaces”. In: *Proc. VMV. EG*, 2010, pp. 219–226.
- [14] **J. Martínez Esturo**, C. Rössl, and H. Theisel. “Multiple Aligned Characteristic Curves for Surface Fairing”. In: *Springer LNCS (Proc. International Symposium on Visual Computing)* 5358.1 (2008), pp. 1157–1166.

PARTICIPATIONS AND PRESENTATIONS

Conferences	04/2016	NVIDIA GTC 2016, San Jose
	08/2015	42nd SIGGRAPH 2015, Los Angeles Paper and Talk: <i>Smoothed Quadratic Energies on Meshes</i>
	06/2014	16th EuroVis 2014, Swansea
	06/2013	15th EuroVis 2013, Leipzig
	05/2013	34th Eurographics 2013, Girona Paper and Talk: <i>Global Selection of Stream Surfaces</i>
	03/2013	Sixth PacificVis 2013, Sydney Paper and Talk: <i>Poisson-based Tools for Flow Visualization</i>
	11/2012	17th VMV 2012, Magdeburg Poster: <i>Continuous Shape Deformation by Generalized Metric Energies</i>
	06/2012	Eights Curves and Surfaces 2012, Oslo Paper and Talk: <i>Generalized Metric Energies for Continuous Shape Deformation</i>
	10/2011	16th VMV 2011, Berlin Paper and Talk: <i>Pose Correction by Space-Time Integration</i>
	11/2010	15th VMV 2010, Siegen Paper and Talk: <i>Continuous Deformations of Implicit Surfaces</i>
	06/2010	Seventh Curves and Surfaces 2010, Avignon Paper and Talk: <i>Isometry-Preserving Shape Integration</i>
	11/2009	14th VMV 2009, Braunschweig
	07/2009	Seventh SGP 2009, Berlin
	12/2008	Fourth ISVC 2008, Las Vegas Paper and Talk: <i>Multiple Aligned Characteristic Curves for Surface Fairing</i>
	09/2008	Fifth GI VR/AR Workshop, Magdeburg
	06/2008	Sixth SGP 2008, Copenhagen Poster: <i>Aligned Characteristic Curves on Surfaces</i>
	02/2008	19th SimVis 2008, Magdeburg
Workshops	05/2014	GI Best German Ph.D. Thesis 2013 Colloquium, Dagstuhl Talk: <i>Geometrische Formen in Vektorfeldern</i>
	09/2011	German National Academic Foundation Summer School AG "Planning in Multi-Agent Systems", Guidel Talk: <i>Planning Graph Techniques</i>
	02/2011	FIN Day of Doctorate Candidates, Magdeburg Talk: <i>Continuous Shape and Volume Deformations</i>
	08/2010	German National Academic Foundation Summer School AG "The Book of Proofs", Salem Talk: <i>Touching Simplices</i>
	06/2008	Geometric Modeling Based on Polygonal Meshes SGP 2008 Course, Prof. Dr. L. Kobbelt & Prof. Dr. M. Botsch, Copenhagen

09/2007 German National Academic Foundation Summer School
AG Approximation–Algorithms, Görlitz
Talk: *Scheduling and Linear Programming*

08/2006 German National Academic Foundation Summer School
AG Cryptography, Neubeuern
Talk: *Cryptography in Theory and Practice: The Case of Encryption in IPsec*

TEACHING AND SUPERVISION

Saarland University

Teaching Assistant Spring 2014 Geometric Modeling
(Dr. K. Hildebrandt and Prof. Dr. T. Weinkauff)

Instructor Fall 2013 Visualization and Data Analysis (with Prof. Dr. T. Weinkauff)

Otto-von-Guericke University Magdeburg

Teaching Assistant Spring 2013 Computer Graphics (Prof. Dr. H. Theisel)

Fall 2012 Computer Aided Geometric Design (Prof. Dr. H. Theisel)

Spring 2012 Computer Graphics (Jun.-Prof. Dr. T. Grosch)

Fall 2011 Introduction to Computer Science (Prof. Dr. H. Theisel)

Spring 2011 Algorithms and Datastructures (Prof. Dr. H. Theisel)

Fall 2009 Computer Aided Geometric Design (Prof. Dr. H. Theisel)

Spring 2009 Computer Graphics (Prof. Dr. H. Theisel)

Fall 2008 Computer Aided Geometric Design (Prof. Dr. H. Theisel)

Fall 2008 Algorithms and Datastructures (Prof. Dr. D. Rösner)

Spring 2008 Computer Graphics (Prof. Dr. H. Theisel)

Seminars Fall 2012 Hot Topic in Computer Graphics (with Prof. Dr. H. Theisel)

Fall 2009 Hot Topic in Computer Graphics (with Prof. Dr. H. Theisel)

Thesis Advisor 2013 Y. Kozlov (Master Thesis)

2012 H. Krist (Bachelor Thesis)

2010 K. Rohmer (Bachelor Thesis)

TECHNICAL SKILLS

Languages Modern C++, Python, CUDA, Rust, Matlab, \LaTeX , Bazel, CMake, GLSL, Haskell

Methods Robust Nonlinear Optimization, Lie Groups, Differential Geometry, Factor Graphs and Probabilistic Filtering, Linear Algebra

Libraries OpenGL, Eigen, ceres, IMGUI, Boost, Suitesparse, Qt, CGAL, TBB, OpenMP, BLAS/LAPACK

Applications git, Blender, sublime-text, vscode, docker, Inkscape, Maya, Gimp, Meshlab

FURTHER INFORMATION

Languages

GERMAN · Mother tongue

ENGLISH · Professional (fluent in written and spoken form)

SPANISH · Second mother tongue (conversationally fluent)

References

Prof. Dr. H. Theisel · Full Professor · theisel@ovgu.de

Head of the Visual Computing Group - Otto-von-Guericke University

Prof. Dr. T. Weinkauff · Full Professor · weinkauff@kth.se

Head of the Visualization Group - KTH Royal Institute of Technology

G. Takacs, Ph.D · Senior Research Scientist · gabriel.takacs@microsoft.com

Analog.Science Group - Microsoft Corp.

Dr. A. Tevs · Director of Engineering · atevs@nvidia.com

AV Calibration & Egomotion - NVIDIA

Dr. C. Rössl · Senior Research Scientist · roessler@isg.cs.ovgu.de

Visual Computing Group - Otto-von-Guericke University

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