

Marcelo Ferreira Siqueira

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Research Interests	Generation of provably good quality 2D and 3D meshes from biomedical imaging data; piecewise-linear approximation of the continuous analog of digital boundaries of binary and multicolor, segmented images; curve and surface interpolation and approximation; surface reconstruction from point cloud.	
Education	Doctor of Philosophy Department of Information and Computer Science University of Pennsylvania, Philadelphia, PA 19104-6389	February 2006
	Master of Science Institute of Mathematical Science of São Carlos University of São Paulo, São Carlos, Brazil	March 1994
	Bachelor of Science Department of Applied Mathematics and Informatics Federal University of Rio Grande do Norte, Natal-RN, Brazil	May 1992
Work Experience	Full Professor Department of Mathematics Federal University of Rio Grande do Norte	August 2013
	Assistant Professor Department of Informatics and Applied Mathematics Federal University of Rio Grande do Norte	January 2009 – July 2013
	Assistant Professor Department of Computer Science and Statistics Federal University of Mato Grosso do Sul, Campo Grande-MS, Brazil	March 2006 – December 2008
	Auxiliary Professor¹ Department of Computer Science and Statistics Federal University of Mato Grosso do Sul, Campo Grande-MS, Brazil	March 1995 – February 2006
	Lecturer Department of Information and Computer Science University of Pennsylvania CIT592 – Mathematical Foundations of Computer Science CIT596 – Theory of Computation CSE410 – Curves and Surfaces: Theory and Applications	Fall 2004 – Fall 2005
	Teaching Assistant Department of Information and Computer Science University of Pennsylvania CSE 121 – Programming Languages and Techniques II	Spring 2002

Teaching Assistant

Fall 2001

Department of Information and Computer Science
 University of Pennsylvania
 CSE 120 – Programming Language and Techniques I

Courses Taught	Data Structures and Algorithms I	1997-1998, 2006-2013
	Data Structures and Algorithms II	1995-1996, 2006-2013
	Computer Graphics	1996
	Introduction to Formal Languages and Automata	1995, 1998, 2000
	Theory of Computation	2005, 2006
	Discrete Mathematics	2004
	Numerical Methods	1997, 2009, 2013
	Object-Oriented Techniques	2000
	Compilers	2009
	Computational Geometry	2010
	Introduction to Computational Manifolds	2011
	Geometry Processing	2012
	Geometric Modeling	2005
	Calculus	2013, 2015
Linear Algebra for Computer Science	2013, 2014, 2015	

Dissertation	PhD	Mesh Generation from Imaging Data Advisor: Dr. Jean Gallier
	Masters	Modeling of Surfaces Based on Half-Spaces Advisor: Dr. Antônio Castelo Filho

Awards/Honors	August 2015–July 2016	CNPq fellowship Sabbatical year at the University of Florida.
	March 2010–July 2015	CNPq Productivity Research Award.
	May 2006	Morris and Dorothy Rubinoff Award 2006 for Best Dissertation of of the School of Engineering and Applied Science at the University of Pennsylvania.
	September 2000–August 2004	CNPq fellowship Ph.D. in Computer Science.
	September 1994	Graduated <i>magna cum laude</i> Outstanding Masters dissertation.
	August 1992-July 1994	CAPES fellowship MSc in Computer Science.

Programming Skills	C++, C, Java, Matlab, and Mathematica
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Member	Association for Computing Machinery Eurographics Society for Industrial and Applied Mathematics American Mathematical Society Brazilian Society for Applied and Computational Mathematics Brazilian Mathematics Society
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¹At the time, auxiliary professor was the designation (in Brazil) for faculty members without a doctoral degree.

References

- Prof. Jean Gallier
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- Prof. Jörg Peters
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- Prof. Longin Jan Latecki
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Selected Publications

1. [Ramaswami](#), S., **Siqueira, M.**, Sundaram, T., Gallier, J., Gee, J.
Constrained quadrilateral meshes of bounded size,
International Journal of Computational Geometry and Applications, 15(1), **2005**, p.55-98.
2. **Siqueira, M.**, Latecki, L. J., Tustison, N., Gallier, J., Gee, J.
Topological repairing of 3d digital images,
Journal of Mathematical Imaging and Vision, 30(3), **2008**, p.249-274.
3. **Siqueira, M.**, Xu, D., Nonato, L. G., Morera, D. M., Gallier, J., Velho, L.
A new construction of smooth surfaces from triangle meshes using parametric pseudo-manifolds,
Computer & Graphics, 33(3), **2009**, p. 331-340.
4. Daniels II, J., Lizier, M., **Siqueira, M.**, Silva, C. T., Nonato, L. G.
Template-Based Quadrilateral Meshing,
Computer & Graphics, 35(3), **2011**, p.471-482.
5. Gallier, J., Xu, D., **Siqueira, M.**
Parametric pseudo-manifolds,
Differential Geometry and Its Applications, 30(6), **2012**, p. 702-736.
6. Ramaswami, S., **Siqueira, M.**
A fast algorithm for computing irreducible triangulations of closed surfaces in \mathbb{E}^d
(*submitted*)
See a longer version at <http://arxiv.org/abs/1409.6015>