

# Daniela Giorgi

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## About me

Since June 2018, I am a researcher at the [Visual Computing Lab](#) at [ISTI-CNR](#), in Pisa. My research interests include 3D shape analysis, computational geometry and topology, computer graphics, computer vision, healthcare applications.

## Employment history

Formerly, I was a researcher at the [Signal and Images Lab](#) at [ISTI-CNR](#) (Mar 2012 - May 2018), and a researcher at the [Shape and Semantics Modeling Group at IMATI-CNR](#), in Genoa (Mar 2006 - Feb 2012).

## Education

I got a PhD in Computational Mathematics from the [University of Padua](#) in 2006, and a Laurea Degree in Mathematics from the University of Bologna in 2002.

## News

### 2018

1. Our digital fabrication paper [Metamolds: Computational design of silicone molds](#) was presented at SIGGRAPH, Aug 2018
2. Invited lecture: *Geometry and Topology for 3D Data Analysis*, [Workshop on Computational Topology in Imaging](#), SIAM Summer School on Mathematics in Imaging Science, University of Bologna, May 2018
3. PhD course on [Shape Analysis and Geometry Processing](#), Dept. of Mathematics and Dept. of Computer Science, University of Pisa, Mar - Jun 2018

## Publications (selected)

1. T. Alderighi, L. Malomo, D. Giorgi, N. Pietroni, B. Bickel, P. Cignoni: [Metamolds: Computational design of silicone molds](#), ACM Transactions on Graphics 37(4), SIGGRAPH 2018
2. S. Colantonio, G. Coppini, D. Giorgi, M.A. Morales, M.A. Pascali: *Computer Vision for Ambient Assisted Living*, in: [Computer Vision for Assistive Healthcare, Elsevier Book](#), edited by M. Leo and G.M. Farinella, ISBN: 9780128134450, 2018
3. A. Danielis, D. Giorgi, M. Larsson, T. Stromberg, S. Colantonio, O. Salvetti: [Lip segmentation based on Lambertian shadings and morphological operators for hyper-spectral images](#), Pattern Recognition 63, pp. 355-370, 2017
4. D. Giorgi, M. A. Pascali, P. Henriquez, B. J. Matuszewski, S. Colantonio, O. Salvetti: [Persistent homology to analyse 3D faces and assess body weight gain](#), The Visual Computer 33(5), pp 549-563, 2017
5. P. Henriquez, B. J. Matuszewski, Y. Andreu-Cabedo, L. Bastiani, S. Colantonio, G. Coppini, M. D'Acunto, R. Favilla, D. Germanese, D. Giorgi, et al.: [Mirror mirror on the wall... an unobtrusive intelligent multisensory mirror for well-being status selfassessment and visualization](#), IEEE Transactions on Multimedia 19(7), pp. 1467 - 1481, IEEE, 2017
6. S. Biasotti, A. Cerri, M. Aono, A. Ben Hamza, V. Garro, A. Giachetti, D. Giorgi, et al.: [Retrieval and classification methods for textured 3D models: a comparative study](#), The Visual Computer 32(2), pp. 217-241, 2016
7. M. A. Pascali, D. Giorgi, L. Bastiani, E. Buzzigoli, P. Henriquez, B. J. Matuszewski, M.-A. Morales, S. Colantonio: [Face morphology: Can it tell us something about body weight and fat?](#), Computers in biology and medicine 76, pp. 238-249, 2016
8. Y. Andreu, F. Chiarugi, S. Colantonio, G. Giannakakis, D. Giorgi, et al.: [Wize Mirror - a smart, multisensory cardio-metabolic risk monitoring system](#), Computer Vision and Image Understanding 148, pp. 3-22, 2016
9. S. Colantonio, G. Coppini, D. Germanese, D. Giorgi, M. Magrini, P. Marraccini, M. Martinelli, M.-A. Morales, M. A. Pascali, G. Raccichini, M. Righi, O. Salvetti: [A smart mirror to promote a healthy lifestyle](#), Biosystems Engineering 138, pp. 33-43, 2015
10. S. Biasotti, B. Falcidieno, D. Giorgi, M. Spagnuolo: [Mathematical tools for shape analysis and description](#), Synthesis Lectures on Computer Graphics and Animation, Morgan & Claypool Publishers, ISBN: 9781627053631, 2014
11. S. Biasotti, A. Cerri, D. Giorgi, M. Spagnuolo: [PHOG: photometric and geometric functions for textured shape retrieval](#), Computer Graphics Forum 32(5), pp. 13-22, 2013
12. B. Bonev, F. Escolano, D. Giorgi, S. Biasotti: [Information-theoretic selection of high-dimensional spectral features for structural recognition](#), Computer Vision and Image Understanding 117(3), pp. 214-228, 2013
13. S. Biasotti, B. Falcidieno, D. Giorgi, M. Spagnuolo: [The Hitchhiker's guide to the galaxy of mathematical tools for shape analysis](#), Proceedings ACM SIGGRAPH 2013 Courses, article n. 17, 2013

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[for shape analysis](#), Proceedings ACM SIGGRAPH 2012 Courses, article n. 17, 2012

14. S. Biasotti, A. Cerri, P. Frosini, D. Giorgi: [A new algorithm for computing the 2-dimensional matching distance between size functions](#), Pattern Recognition Letters 32(14), 2011
15. D. Giorgi, P. Frosini, M. Spagnuolo, B. Falcidieno: [3D relevance feedback via multilevel relevance judgements](#), The Visual Computer 26(10), pp. 1321-1338, 2010
16. D. Giorgi, M. Mortara, M. Spagnuolo: [3D shape retrieval based on best view selection](#), Proceedings ACM 3DOR 2010 - ACM workshop on 3D object retrieval, pp. 9 - 14, 2010
17. M. Attene, D. Giorgi, M. Ferri, B. Falcidieno: [On converting sets of tetrahedra to combinatorial and PL manifolds](#), Computer Aided Geometric Design 26(8), 2009
18. M. Reuter, S. Biasotti, D. Giorgi, G. Patanè, M. Spagnuolo: [Discrete Laplace-Beltrami operators for shape analysis and segmentation](#), Computers & Graphics 33, pp. 381:390, 2009
19. S. Biasotti, L. De Floriani, B. Falcidieno, P. Frosini, D. Giorgi, C. Landi, L. Papaleo, M. Spagnuolo: [Describing shapes by geometrical-topological properties of real functions](#), ACM Computing Surveys 40(4), pp. 12:1-87, 2008
20. S. Biasotti, D. Giorgi, M. Spagnuolo, B. Falcidieno: [Reeb graphs for shape analysis and applications](#), Theoretical Computer Science 392(1-3), pp. 5-22, 2008
21. S. Biasotti, D. Giorgi, M. Spagnuolo, B. Falcidieno: [Size functions for comparing 3D models](#), Pattern Recognition 41(9), pp. 2855-2873, 2008
22. S. Biasotti, A. Cerri, P. Frosini, D. Giorgi, C. Landi: [Multidimensional size functions for shape comparison](#), Journal of Mathematical Imaging and Vision 32, pp. 161-179, 2008
23. S. Biasotti, B. Falcidieno, P. Frosini, D. Giorgi, C. Landi, S. Marini, G. Patanè, M. Spagnuolo: [3D shape description and matching based on properties of real functions](#), EUROGRAPHICS 2007 Tutorial Notes, pp. 1025-1074, The Eurographics Association, 2007
24. Cerri, M. Ferri, D. Giorgi: [Retrieval of trademark images by means of size functions](#), Graphical Models 68(5), pp. 451-471, 2006