

Name, Position, Academic Department**GABRIEL TAUBIN**

Professor of Engineering, Professor of Computer Science
School of Engineering

Education

1. Ph.D. Electrical Engineering, Brown University, Providence, RI, May 1991. Thesis title: Recognition and Positioning of Rigid Objects using Algebraic and Moment Invariants. Advisor: David B. Cooper.
2. Licenciado en Ciencias Matemáticas (equivalent to a B.Sc. plus M.Sc. in Mathematics), University of Buenos Aires, Argentina, March 1981. Thesis title: Analytic Rings. Advisor: Eduardo J. Dubuc.

Professional Appointments

1. March 1st 2017 - , Professor of Computer Science, Brown University.
2. January 1st 2017 - , Professor of Engineering, Brown University.
3. September 1st 2003 – December 2016, Associate Professor of Engineering and Computer Science, Brown University.
4. October 2014 – Visiting Professor of Engineering, Universidad Nacional del Sur, Buenos Aires, Argentina.
5. April 2013 – Visiting Professor of Computer Science, School of Exact and Natural Sciences, University of Buenos Aires, Argentina.
6. January 2010 – August 2010, Visiting Associate Professor of Media Arts and Sciences, MIT Media Laboratory.
7. September 2002-August 2003: Research Staff Member, Pervasive Computing Solutions, IBM T. J. Watson Research Center.
8. September 2001– August 2002: Research Staff Member, Visual Technologies, IBM T. J. Watson Research Center.
9. September 2000 – August 2001: Visiting Professor of Electrical Engineering, California Institute of Technology.
10. July 1996 – August 2000: Manager, Visual and Geometric Computing, IBM T. J. Watson Research Center.
11. July 1995 - July 1996: Research Staff Member, Visualization, Interactions, and Graphics, IBM T. J. Watson Research Center.
12. September 1992 - July 1995: Research Staff Member, Exploratory Computer Vision, IBM T. J. Watson Research Center.
13. September 1990 - September 1992: Visiting Scientist (Post-Doc), Exploratory Computer Vision Group, IBM T. J. Watson Research Center.
14. September 1988 - August 1990: Research Assistant, Laboratory For Engineering Man-Machine Systems (LEMS), Division of Engineering, Brown University.
15. June 1988 - August 1988: Summer Intern, Exploratory Computer Vision, IBM T. J. Watson Research Center.
16. September 1988 - August 1990: Teaching Assistant, Division of Engineering, Brown University.
17. June 1987 - August 1987: Summer Intern, AI Systems, IBM T. J. Watson Research Center.
18. November 1981 - August 1986: Manager Partner, Pulsars S.R.L, Argentina (a company that I started and owned).
19. March 1981 - August 1984: Lecturer, Department of Mathematics, School of Exact and Natural Sciences, University of Buenos Aires, Argentina.
20. September 1979 - February 1981: Undergraduate Teaching Assistant, Department of Mathematics, School of Exact and Natural Sciences, University of Buenos Aires, Argentina.

Honors

1. The PRIME team named "UnSync" was selected as a finalist in the RI Business Plan Competition 2015, based on technology developed by Taubin's group. Taubin served as a mentor for this group during the Spring 2015 semester.
2. Wallace Casaca was granted the 2nd prize in the CAPES PhD Thesis Competition in the area of Computer Science in 2015, co-advised by Profs. Gustavo Nonato (University of Sao Paulo, Sao Carlos) and Gabriel Taubin (Brown University). The CAPES PhD Thesis Award is a national completion in Brazil in all areas of science and technology.
3. J. William Fulbright Foreign Scholarship Board (FFSB), U.S. Department of State's Bureau of Education and Cultural Affairs (ECA), and Council for International Exchange of Scholars. **Fulbright Specialist Grant** to visit Universidad Nacional del Sur, Bahia Blanca, Buenos Aires Argentina. October 2014.
4. J. William Fulbright Foreign Scholarship Board (FFSB), U.S. Department of State's Bureau of Education and Cultural Affairs (ECA), and Council for International Exchange of Scholars. **Member of the Fulbright Specialist Roaster.**
5. Jornadas de Definición Estratégica en Big Data, organized by the Ministerio de Ciencia, Tecnología e Innovación Productiva and the Fundación Sadosky, Buenos Aires, Argentina, Agosto 2013 (<http://www.fundacionsadosky.org.ar/jornadas-de-definicion-estrategica-en-big-data>), **Keynote Speaker.**
6. Conference on Graphics, Patterns and Images, XXVI SIBGRAPI, August 2013, Arequipa, Peru. **Best paper award in the Graphics and Visualization category.**
7. 17th Ibero-American Congress on Pattern Recognition, CIARP 2012, Buenos Aires, Argentina, Sep 3-6 2012, **Keynote Speaker.**
8. 4th. International Conference on Imaging for Crime Detection and Prevention (ICDP-2011), **Best Poster Award**, November 2011.
9. **Editor In Chief, IEEE Computer Graphics and Applications**, from January 2010 to December 2013.
10. Eurographics 2002 Günter Enderle **Best Paper Award**, September 2002.
11. **IEEE Fellow**, "For contributions to the development of three-dimensional geometry compression technology and multimedia standards," January 2001.
12. **IBM Master Inventor**, August 2001. Award granted each year to IBM Research inventors having top scores based on the value to IBM of their United States patents that issued during the last three years.
13. IBM Research Invention Achievement Award, Top 5% Value, July 2001. Award granted each year to particular patents based on their estimated licensing value.
14. IBM Research Invention Achievement Award, Fourth Plateau, May 2000.
15. IBM Research Division 1999 Accomplishment, Software, "HotMedia."
16. IBM Research Division Award "MPEG-4 3D Mesh Coding", 1999.
17. IBM Research Division Award "3D Scanning Michelangelo's Pieta", 1999.
18. IBM Research 1998 Best Computer Science Paper Award, August 1999.
19. IBM Research Invention Achievement Award, Third Plateau, May 1999.
20. IBM Research Division 1998 Accomplishment, Solutions, "3D Capturing and Presenting of Michelangelo's Pieta."
21. IBM Research Division 1998 Accomplishment, Science and Exploratory, "MPEG-4 Standard."
22. IBM Research Invention Achievement Award, Second Plateau, March 1998.
23. IBM Research Invention Achievement Award, First Plateau, September 1996.
24. IBM Research Division Award "for developing and implementing key shape-matching algorithms for QBIC", 1994.

25. IBM First Patent Application Invention Achievement Award for "Produce Recognition System", 1994.
26. IBM Research Accomplishment Award, 1993.
27. IBM Computer Science pre-doctoral fellowship, 1989-1990.
28. IBM Manufacturing Research pre-doctoral fellowship, 1988-1989.
29. Teaching and Research Assistantship, Division of Engineering, Brown University, 1987-1988.
30. Brown University Fellowship, 1986-1987.
31. Travel Award, Fulbright Foundation, 1986.
32. Initiation Fellowship, National Council of Scientific and Technological Research, Argentina, 1986.
33. Travel Award, Cambridge Summer Meeting in Category Theory, Cambridge, England, 1981.

Publications

a) BOOKS

1. Image and Geometry Processing for 3-D Cinematography: An Introduction, by Remi Ronfard and Gabriel Taubin (eds.), Springer-Verlag, 2010, ISBN: 978-3-642-12391-7.

b) BOOK CHAPTERS

1. SSD-C: Smooth Signed Distance Colored Surface Reconstruction, by F. Calakli and G. Taubin, in State-of-the-Art Volume on Computer Graphics, Visualization, Visual Analytics, VR and HCI Dedicated to the memory of Jim Thomas, edited by J. Dill, R. Earnshaw, D. Kasik, J. Vince, and P.-C. Wong, 2012.
2. Real-Time Stereo on GPGPU Using Progressive Multi-Resolution Adaptive Windows, by Y. Zhao and G. Taubin, in GPU Computing Gems, Morgan Kaufmann, January 2011.
3. Shape from Depth Discontinuities, by D. Crispell, D. Lanman, P. G. Sibley, Y. Zhao, and G. Taubin, in Emerging Trends in Visual Computing, Lecture Notes in Computer Science, Vol. 5416, 2009.
4. New Results in Signal Processing and Compression of Polygon Meshes, in Geometric Modeling for Scientific Visualization, Guido Brunnett, Bernd Hamann, and Heinrich Mueller (eds.), Springer Verlag 2004.
5. The Development of the Virtual Model of Michelangelo's Florence Pieta, by F. Bernardini, H. Rushmeier, I. Martin, J. Mittleman, and G. Taubin, in Michelangelo's Florence Pieta, by J. Wasserman, Princeton University Press, 2003.
6. Constructing Hamiltonian Triangle Strips on Quadrilateral Meshes, in Visualizations and Mathematics III, Hans-Christian Hege and Konrad Polthier (eds.), Springer Verlag, 2003.
7. Algebraic Curves and Surfaces in 3D Computer Vision, by G. Taubin. In The Mathematics of Surfaces V, R. Fisher, ed., Oxford University Press, 1994.
8. Representations and Algorithms for 3D Curved Object Recognition, by J. Ponce, D.J. Kriegman, S. Petitjean, S. Sullivan, G. Taubin, and B. Vijayakumar. In Techniques for 3D Object Recognition, A. Jain and P. Flynn, (eds.). Elsevier Press, 1993.
9. Object Recognition Based on Moment (or Algebraic) Invariants, by G. Taubin and D.B. Cooper. In Geometric Invariance in Computer Vision, J. Mundy and A. Zisserman, (eds.), MIT Press, 1992.
10. 2D and 3D Object Recognition and Positioning with Algebraic Invariants and Covariants, by G. Taubin and D.B. Cooper. In Symbolic and Numerical Computation for Artificial Intelligence, B. Donald, D. Kapur, and J. Mundy, (eds.), Academic Press, 1992.

c) JOURNAL ARTICLES

1. Differential 3D Scanning, by Ammar Hattab, Ian Gonsler, Daniel Moreno, and Gabriel Taubin. IEEE Computer Graphics and Applications. Volume 37, Issue 3, pp. 43, 2017. DOI: 10.1109/MCG.2017.39
2. On the Graph Laplacian for Spectral Image Segmentation and Energy Minimization on Graphs, by Wallace Casaca, Luis Gustavo Nonato, and Gabriel Taubin. Proceeding Series of the Brazilian Society of Computational and Applied Mathematics. Volume 5, Issue 1, 2017. DOI: 10.5540/03.2017.005.01.0573

3. PSQP: Puzzle Solving by Quadratic Programming, by F. Andalo, G. Taubin, and S. Goldenstein. IEEE Transactions on Pattern Analysis and Machine Intelligence. Volume 39, Issue 2, pp. 385, 2017. DOI: 10.1109/TPAMI.2016.2547394
4. Automatic Reconstruction of Ancient Portuguese Tile Panels, by F. Andalo, G. Carneiro, G. Taubin, S. Goldenstein, and L. Velho. IEEE Computer Graphics and Application Magazine. July 2016.
5. Dealing with Multiple Requirements in Geometric Arrangements, by E. Gomez-Nieto, W. Casaca, D. Motta, I. Hartmann, G. Taubin, and L.G. Nonato. IEEE Transactions on Visualization and Computer Graphics. Volume 22, Issue 3, Pages 1223-1235, 2016. DOI: 10.1109/TVCG.2015.2489660
6. Falling with Style: Bats Perform Complex Aerial Rotations by Adjusting Wing Inertia, by Attila J Bergou, Sharon Miriam Swartz, Hamid Vejdani, Dan Riskin, Lauren Reimnitz, Gabriel Taubin, and Kenneth S Breuer. PLOS Biology, 13,(11):E1002297, November 2015. DOI: 10.1371/journal.pbio.1002297
7. Unsynchronized Structured Light, by Daniel Moreno, Fatih Calakli, and Gabriel Taubin. ACM Transactions on Graphics (TOG), Volume 34 Issue 6, Article No. 178, November 2015. DOI 10.1145/2816795.2818062
8. Efficient Height Measurements in Single Images Based on the Detection of Vanishing Points, by F. Andalo, G. Taubin, and S. Goldenstein. Computer Vision and Image Understanding (CVIU). September 2015, pages 51-60. DOI:10.1016/j.cviu.2015.03.017
9. Color Adjustment in Image-Based Texture Maps, by R. Pang and G. Taubin. Graphical Models. May 2015. Pages 39-48. DOI:10.1016/j.gmod.2015.04.002
10. Automatic Segmentation of Point Clouds from Multi-View Reconstruction using Graph-Cut, by R. Pan and G. Taubin. The Visual Computer, April 2015. DOI 10.1007/s00371-015-1076-0
11. Hamiltonian Cycle Art: Surface Covering Wire Sculptures and Duotone Surfaces, by E. Aklemana, Q. Xinga, P. Garigipatia, G. Taubin, J. Chena, and S. Hua; Computers & Graphics, Volume 37, Issue 5, Pages 316-332, August 2013. One of three papers from the Symposium on Computational Aesthetics 2012 invited to submit an extended version for publication in a special issue of Computers & Graphics.
12. A Benchmark for Surface Reconstruction, by M. Berger, J. Levine, L. Nonato, C. Silva, and G. Taubin, ACM Transactions on Graphics. Volume 32 Issue 2, Pages 20:1-20:17, April 2013. Presented at Siggraph 2013.
13. A Variable Resolution Probabilistic 3-D Model for Change Detection, By D. Crispell, J. Mundy, and G. Taubin, IEEE Transactions on Geoscience and Remote Sensing, special issue on Semantics in High Resolution Earth Observation Imagery, Volume 50, Issue 2, Pages 489-500, 2012. DOI:10.1109/TGRS.2011.2158439
14. SSD: Smooth Signed Distance Surface Reconstruction, by F. Calakli, and G. Taubin, Computer Graphics Forum, vol. 30, no. 7, 2011.
15. Real-Time High-Definition Stereo on GPGPU using Progressive Multi-Resolution Adaptive Windows, by Y. Zhao, and G. Taubin, Image and Vision Computing, Volume 29 Issue 6, May, 2011.
16. Surround Structured Lighting: 3-D Scanning with Orthographic Illumination, by Douglas Lanman, Daniel Crispell and Gabriel Taubin, Computer Vision and Image Understanding (CVIU), Volume 113, Issue 11, November 2009, Pages 1107-1117, Special issue on New Advances in 3D Imaging and Modeling.
17. 3D Slit Scanning with Planar Constraints, by M. Leotta, A. Vandergon, and G. Taubin, Computer Graphics Forum, Volume 27, Number 8, pp. 2066-2080, December 2008.
18. Shield Fields: Modeling and Capturing 3D Occluders, by D. Lanman, R. Raskar, A. Agrawal, and G. Taubin, ACM Transactions on Graphics (TOG), Vol 27, Issue 5, December 2008.
19. Introducing 3D Cinematography, by R. Ronfard and G. Taubin, IEEE Computer Graphics and Applications, May-June 2007, pp. 18-20.
20. Dual Mesh Resampling, by G. Taubin, Graphical Models, vol. 64, no. 2, pp. 94-113, 2002.
21. Detecting and Reconstructing Subdivision Connectivity by G. Taubin, The Visual Computer, Special Issue on Subdivision, edited by A. Nasri, July 2002.
22. Building a Digital Model of Michelangelo's Florentine Pieta', by F. Bernardini, I. Martin, J. Mittleman, H.

- Rushmeier, and G. Taubin, *IEEE Computer Graphics & Applications*, January/February 2002.
23. Cutting and Stitching: Converting Sets of Polygons to Manifold Surfaces, by A. Gueziec, G. Taubin, F. Lazarus, and W. Horn, *IEEE Transactions on Visualization and Computer Graphics*, Vol. 7, No. 2, April-June 2001, pp. 136-151.
 24. 3D Mesh Geometry Filtering Algorithms for Progressive Transmission Schemes, by R. Balan and G. Taubin, *Computer-Aided Design* 32 (2000) 825-846, Special Issue on Multi-Resolution Geometric Models.
 25. Multi-resolution Modeling and 3D Geometry Compression, by A. Gueziec, and G. Taubin, *Computational Geometry: Theory and Applications*, special issue on 3D Model Coding, Editing, and Transmission, Vol. 14, Issue 1-3, 30 November 1999, pp. 1-3.
 26. Efficient Compression of Non-Manifold Polygonal Meshes, by A. Gueziec, F. Bossen, G. Taubin, and C. Silva, *Computational Geometry: Theory and Applications*, special issue on 3D Model Coding, Editing, and Transmission, Vol. 14, Issue 1-3, 30 November 1999, pp. 137-166.
 27. The Ball-Pivoting Algorithm for Surface Reconstruction, by F. Bernardini, J. Mittleman, H. Rushmeier, C. Silva, and G. Taubin, *IEEE Transactions on Visualization and Computer Graphics*, Vol. 5, No. 4, October/December 1999, pp. 349-359.
 28. A Framework for Streaming Geometry in VRML, by A. Gueziec, G. Taubin, F. Lazarus, and B. Horn, *IEEE Computer Graphics & Applications*, special issue on VRML, Vol. 19, No. 2, March/April 1999.
 29. Geometric Coding and VRML, by G. Taubin, W.P. Horn, F. Lazarus, and J. Rossignac, *Proceedings of the IEEE*, Special issue on multimedia signal processing, 1998 (invited).
 30. Geometric Compression through Topological Surgery (IBM Research 1998 Best Computer Science Paper Award), by G. Taubin and J. Rossignac, *ACM Transactions on Graphics*, Vol. 17, No. 2, 1998.
 31. Implicit Simplicial Models I: Adaptive Curve Reconstruction, by G. Taubin and R. Ronfard, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, No. 3, March 1996.
 32. An Accurate Algorithm for Rasterizing Algebraic Curves and Surfaces, by G. Taubin. *IEEE Computer Graphics & Applications*, March 1994.
 33. Parameterized Families of Polynomials for Bounded Algebraic Curve And Surface Fitting, by G. Taubin, F. Cukierman, S. Sullivan, J. Ponce, and D.J. Kriegman. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, March 1994.
 34. Distance approximations for Rasterizing Implicit Curves, by G. Taubin. *ACM Transactions on Graphics*, January 1994.
 35. Estimation Of Planar Curves, Surfaces And Nonplanar Space Curves Defined By Implicit Equations, With Applications To Edge And Range Image Segmentation, by G. Taubin. In *IEEE Transactions on Pattern Analysis and Machine Intelligence*, November 1991.
 36. Analytic Rings, by E.J. Dubuc and G. Taubin. *Cahiers de Topologie et Geometrie Differentielle*, Vol. XXIV-3, 1983.

d) NON-REFEREED JOURNAL ARTICLES

1. Introduction to Geometry Processing Through Optimization, by G. Taubin, *IEEE Computer Graphics and Applications*, Volume 32, Issue 4, Pages 88-94, 2012. DOI: 10.1109/MCG.2012.80
2. 3D Rotations, by G. Taubin, *IEEE Computer Graphics and Applications*, Volume 31, Issue 6, Pages 84-89, 2011. DOI: 10.1109/MCG.2011.92

e) REFEREED CONFERENCE PAPERS

1. Interactive Fabrication of CSG Models with Assisted Carving, by Ammar Hattab and Gabriel Taubin, 13th International Conference on Tangible, Embedded, and Embodied Interactions (TEI), Tempe, Arizona, March 2019.
2. 3D Rigid Registration of CAD Point-Clouds, by Ammar Hattab and Gabriel Taubin, International Conference on Computing Sciences and Engineering (ICCSE), Kuwait City, Kuwait, March 2018.
3. The Two Lines Light Source (TLLS), by Wook Yeon Hwang and Gabriel Taubin. International Conference on 3D Vision, Qingdao, China, October 2017.

4. Rapid Hand Shape Reconstruction with Chebyshev Phase Shifting, by Daniel Moreno, Wookyeon Hwang, and Gabriel Taubin. International Conference on 3D Vision, Stanford University, October 2016
5. Unsynchronized Structured Light, by Daniel Moreno, Fatih Calakli, and Gabriel Taubin. Proceedings of ACM SIGGRAPH Asia 2015, November 2015.
6. A User-Friendly Interactive inpainting Framework via Laplacian Coordinates, by W. Casaca, D. Motta, G. Taubin, and L.G. Nonato. IEEE International Conference on Image Processing (ICIP), pages 862-866, September 2015. DOI:10.1109/ICIP.2015.7350922
7. 3D Modeling by Scanning Physical Modifications, by A. Hattab, and G. Taubin. 28th Conference on Graphics, Patterns and Images (SIBGRAPI 2015), Salvador, Brazil, pages 384-391, August 2015. DOI:10.1109/SIBGRAPI.2015.8
8. Embedded Phase Shifting: Robust Phase Shifting with Embedded Signals, by D. Moreno, K. Son, and G. Taubin. Conference on Computer Vision and Pattern Recognition (CVPR'15), Boston, MA, June 2015.
9. Laplacian Coordinates for Seeded Image Segmentation, by W. Casaca, L.G. Nonato, and G. Taubin, Conference on Computer Vision and Pattern Recognition (CVPR'14), Columbus, OH, pages 384-391, 2014. DOI:10.1109/CVPR.2014.56
10. Non-Convex Hull Surfaces, by G. Taubin, Proceeding of SIGGRAPH Asia 2013 Technical Briefs Article No. 2, Hong Kong, November 2013. DOI:10.1145/2542355.2542358.
11. Mixed Integer Optimization for Layout Arrangement, by E. Gomez-Nieto, W. Casaca, L. G. Nonato, and G. Taubin; Conference on Graphics, Patterns and Images, XXVI SIBGRAPI, Arequipa, Peru (oral presentation & best paper award, Graphics and Visualization category). Pages 115-122, 2013. DOI:10.1109/SIBGRAPI.2013.25
12. Using Unsupervised Learning for Graph Construction in Semi-Supervised Learning with Graphs, by D. Chavez Escalante, G. Taubin, L. Nonato, and S. Goldenstein; Conference on Graphics, Patterns and Images, XXVI SIBGRAPI, August 2013, Arequipa, Peru (oral presentation).
13. CrowdCam: Instantaneous Navigation of Crowd Images Using Angled Graph, by A. Arpa, L. Ballan, R. Sukthankar, G. Taubin, M. Pollefeys, and R. Raskar; International Conference on 3D Vision (3DV 2013), Seattle, WA, June 2013. DOI:10.1109/3DV.2013.62
14. High Resolution Surface Reconstruction from Multi-view Aerial Imagery, by F. Calakli, A. O. Ulusoy, M. I. Restrepo, G. Taubin, and J. Mundy, 3DIMPVT 2012, Zurich, Switzerland, October 2012 (oral presentation).
15. Simple, Accurate, and Robust Projector-Camera Calibration, by D. Moreno and G. Taubin, 3DIMPVT 2012, Zurich, Switzerland, October 2012 (poster).
16. Solving Image Puzzles with a Quadratic Programming Formulation, by F. Andalo, G. Taubin, and S. Goldenstein, XXV Conference on Graphics, Patterns and Images, SIBGRAPI 2012, Ouro Preto, Brazil (oral presentation).
17. Smooth Signed Distance Surface Reconstruction and Applications, by G. Taubin; 17th Iberoamerican Congress on Pattern Recognition, CIARP 2012, Buenos Aires, Argentina, September 2012. Springer Verlag Lecture Notes in Computer Science, Volume 7441. DOI:10.1007/978-3-642-33275-3_4
18. Personal to Shared Moments with Angled Graphs of Pictures, by Aydin Arpa, Otkrist Gupta, Gabriel Taubin, Rahul Sukthankar, and Ramesh Raskar, Workshop on Computational Cameras and Displays, CVPR 2012, Providence, Rhode Island, June 2012 (poster).
19. Surface Covering Curves, by Q. Xing, E. Akleman, G. Taubin and J. Chen, Symposium on Computational Aesthetics 2012, Vancouver, Annecy, France, June 2012 (oral presentation).
20. 3D Reconstruction of Bat Flight Kinematics from Sparse Multiple Views, by A. Bergou, S. Swartz, and G. Taubin, and K. Breuer, Proceedings of the 1st IEEE International Workshop on Dynamic Shape Capture and Analysis (4DMOD), Barcelona, Spain, November 2011.
21. Accurate 3D Footwear Impression Recovery from Photographs, by F. A. Andalo, F. Calakli, G. Taubin, and S. Goldenstein, Proceedings of the 4th. International Conference on Imaging for Crime Detection and Prevention (ICDP-2011), Kington Upon Thames, London, UK, November 2011. Received the Best Poster Award.

22. 3D Reconstruction and Analysis of Bat Flight Maneuvers from Sparse Multiple View Video, by A. Bergou, S. Swartz, S. K. Breuer, G. Taubin, Proceedings of the 1st IEEE Symposium on Biological Data Visualization, Providence, RI, October 2011.
23. Smooth Signed Distance Surface Reconstruction, by F. Calakli, and G. Taubin, Pacific Graphics 2011, September 2011.
24. Surface Covering Curves, by Q. Xing, E. Akleman, G. Taubin and J. Chen, Symposium on Computational Aesthetics 2011, Vancouver, BC, Canada, August 2011
25. Inertial and Fluid Forces during Bat Flight Maneuvers, by A. Bergou, J. Franck, G. Taubin, S. Swartz, and K. Breuer, Bulletin of the American Physical Society, Vol. 56, 2011.
26. Falling with Style: The Role of Wing Inertia in Bat Flight Maneuvers, by A.J. Bergou, D.K. Riskin, G. Taubin, S.M. Swartz, and K. Breuer, The Society for Integrative & Comparative Biology 2011 Meeting, Salt Lake City, UT, Jan. 3-7, 2011.
27. Falling with Style-Bat Flight Maneuvers, by A. Bergou, D. Riskin, G. Taubin, S. Swartz, and K. Breuer, Bulletin of the American Physical Society, Vol. 55, 2010.
28. Detecting Vanishing Points by Segment Clustering on the Projective Plane for Single-view Photogrammetry, by F. A. Andaló, G. Taubin, and S. Goldenstein. IEEE Workshop on Information Forensics and Security (WIFS '10), Seattle, WA, USA, December, 2010. Pages 1-6. DOI:10.1109/WIFS.2010.5711453
29. Vanishing Point Detection by Segment Clustering on the Projective Space, by F. A. Andaló, G. Taubin, and S. Goldenstein. Workshop on Reconstruction and Modeling of Large-scale 3D Virtual Environments, 11th European Conference on Computer Vision (RMLE/ECCV '10), Hersonissos, Greece, September, 2010.
30. REVEAL Intermediate Report, by E. Gay, B. Kimia, D.B. Cooper, G. Taubin, D. Sanders, K. Galor, and A. Willis, in Second Workshop on Applications of Computer Vision in Archaeology (ACVA 2010), San Francisco, June 2010. DOI:10.1109/CVPRW.2010.5543548
31. Robust One-Shot 3D Scanning Using Loopy Belief Propagation, by F. Calakli, A. Ulusoy, and G. Taubin, in Second Workshop on Applications of Computer Vision in Archaeology (ACVA 2010), San Francisco, June 2010.
32. Surface Deformations Driven by Vector-Valued 1-Forms, by G. Taubin, and C. Demiralp, IEEE International Conference on Shape Modeling and Applications (SMI) 2010.
33. Semi-Automated Data Capture and Image Processing: New Routes to Interactive 3D Models, by K. Galor, D.H. Sanders, A. Willis, D. Cooper, B. Kimia, G. Taubin, and O. Tal; Space, Time, Place: Third International Conference on Remote Sensing in Archaeology, Tiruchirappalli, Tamil Nadu, India, August 2009. Published by British Archaeological Reports (BAR).
34. Shape From Depth Discontinuities under Orthographic Projection, by D. Lanman, D. Cabrini Hauagge, and G. Taubin, IEEE International Workshop on 3-D Digital Imaging and Modeling (3DIM'09), October 3-4, 2009, Kyoto, Japan
35. One Shot Scanning Using DeBruijn Spaced Grids, by A. Osman Ulusoy, F. Calakli, and G. Taubin, IEEE International Workshop on 3-D Digital Imaging and Modeling (3DIM'09), October 3-4, 2009, Kyoto, Japan
36. Real-Time High Definition Stereo on GPGPU using Progressive Multi-Resolution Adaptive Windows, by Y. Zhao, and G. Taubin, NVIDIA Research Summit 2009, NVIDIA GPU Technology Conference, October 2009.
37. Shield Fields: Modeling and Capturing 3D Occluders, by D. Lanman, R. Raskar, A. Agrawal, and G. Taubin, Proceedings of ACM Siggraph Asia 2008, December 2008 Siggraph Asia Proceedings.
38. Parallax-Free Aerial Video Registration, by D. Crispell, J. Mundy, and G. Taubin, British Machine Vision Conference 2008, BMVC'08.
39. Data-Centric Visual Sensor Networks for 3D Sensing, by M. Akdere, U. Centintemel, D. Crispell, J. Jannottii, J. Mao, and G. Taubin, Second International Conference on GeoSensor Networks 2006, GSN 2006, Lecture Notes in Computer Sciences (LNCS), Vol 4540, pp. 131-150, 2008.

40. Surround Structured Lighting for Full Object Scanning, by D. Lanman, D. Crispell, and G. Taubin, Sixth International Conference on 3-D Digital Imaging and Modeling, 2007. 3DIM '07.
41. Interactive 3D Scanning Without Tracking, L. Matthew, A. Vandergon, and G. Taubin, 20th. Brazilian Symposium on Computer Graphics and Image Processing (Sibgrapi 2007), Belo Horizonte, MG, Brazil, September 2007.
42. Extracting Boolean Isosurfaces From Tetrahedral Meshes, by G. Taubin and P. Sibley, Siggraph 2006, Sketches Session, August 2006.
43. Beyond Silhouettes: Surface Reconstruction using Multi-Flash Photography, by Daniel Crispell, Douglas Lanman, Peter G. Sibley, Yong Zhao and Gabriel Taubin, Third International Symposium on 3D Data Processing, Visualization and Transmission, 3DPVT 2006, University of North Carolina, Chapel Hill, USA, June 2006.
44. Spherical Catadioptric Array: Construction, Geometry, and Calibration, by D. Lanman, D. Crispell, M. Wachs, and G. Taubin, Third International Symposium on 3D Data Processing, Visualization and Transmission, 3DPVT 2006, University of North Carolina, Chapel Hill, USA, June 2006.
45. Reconstructing a 3D Line from a Single Catadioptric Image, by D. Lanman, M. Wachs, G. Taubin, and F. Cukierman, Third International Symposium on 3D Data Processing, Visualization and Transmission, 3DPVT 2006, University of North Carolina, Chapel Hill, USA, June 2006.
46. Real-Time Median Filtering for Embedded Smart Cameras, by Y. Zhao and G. Taubin, IEEE International Conference on Computer Vision Systems, St. Johns University, Manhattan, New York City, January 2006
47. Vectorfield Isosurface-Based Reconstruction From Oriented Points, by P. G. Sibley and G. Taubin, Siggraph 2005, Sketches Session, August 2005.
48. Hierarchical G1 Smooth Surface Interpolation With Local Control, by G. Taubin, and W. Klug, Siggraph 2005, Poster Session, August 2005.
49. Image-Based Rug Patterns, by D. Crispell, and G. Taubin, Siggraph 2005, Poster Session, August 2005.
50. Calibrating a Catadioptric Light-Field Array, by M. Wachs, D. Crispell, and G. Taubin, Siggraph 2005, Poster Session, August 2005.
51. Atlas Aware Laplacian Smoothing, by P. G. Sibley and G. Taubin, IEEE Visualization 2004, Poster Session, October 2004.
52. Image-Based Object Editing, by H. Rushmeier, J. Gomes, L. Balmelli, F. Bernardini, and G. Taubin, 4th International Conference on 3D Digital Imaging and Modeling, 3DIM 2003, October 2003.
53. Estimating the in/out function of a surface represented by points, by V. Mello, L. Velho, G. Taubin, Proceedings of the 8th ACM Symposium on Solid Modeling and Applications, Seattle, WA, June 2003.
54. BLIC: Bi-Level Isosurface Compression, by G. Taubin, Proceedings of IEEE Visualization 2002, Boston, October 2002.
55. Volume Warping for Adaptive Isosurface Extraction, by L. Balmelli, C. Morris, G. Taubin, and F. Bernardini, Proceedings of IEEE Visualization 2002, Boston, October 2002.
56. Space-Optimized Texture maps, by L. Balmelli, G. Taubin, and F. Bernardini, in Proceedings of Eurographics 2002, Germany, October 2002 (Günter Enderle Best Paper Award).
57. Constructing Hamiltonian Triangle Strips on Quadrilateral Meshes, by G. Taubin, International Workshop on Visualization and Mathematics 2002, Berlin-Dahlem, Germany, May 2002.
58. Dual Mesh Resampling, by G. Taubin, in Proceedings of Pacific Graphics 2001, Tokyo, Japan, October 2001.
59. Is This A Quadrisectioned Mesh?, by G. Taubin, Sixth ACM Symposium on Solid Modeling and Applications, Solid Modeling 2001, Ann Arbor, Michigan, June 2001.

60. Efficient Compression of Non-Manifold Polygonal Meshes, by A. Gueziec, F. Bossen, G. Taubin, and C. Silva, IEEE Visualization'99, 1999.
61. A Digital Model of Michelangelo's Florentine Pietà, by F. Bernardini, J. Mittleman, H. Rushmeier, G. Taubin, in 4th Int.l Conf. on Cultural Heritage Networks Hypermedia. Milan, Italy, September 1999.
62. Scanning Michelangelo's Florentine Pietà: Making the Results Usable, by F. Bernardini, J. Mittleman, H. Rushmeier, G. Taubin, in Eurographics 99, short papers and demos. Milan, Italy, September 1999.
63. Converting Sets of Polygons to Manifold Surfaces by Cutting and Stitching, by A. Gueziec, G. Taubin, F. Lazarus, and W. Horn, IEEE Visualization'98, 1998. Also presented as a Technical Sketch, Siggraph'98, Orlando, FL, July 1998.
64. A Framework for Memory-Efficient Levels of Detail, by A. Gueziec, and G. Taubin, Tenth Canadian Conference on Computational Geometry, Montreal, Canada, August 1998.
65. Progressive Forest Split Compression, by G. Taubin, A. Gueziec, W. Horn, and F. Lazarus, Siggraph'98, Orlando, FL, July 1998.
66. Acquiring Input For Rendering at Appropriate Levels of Detail: Digitizing a Pieta, by H. Rushmeier, F. Bernardini, J. Mittleman, and G. Taubin, Ninth Eurographics Rendering Workshop, June 1998.
67. Surface Partitions for Progressive Loading and Display and Dynamic Simplification of Polygonal Surfaces, by A. Gueziec, F. Lazarus, and G. Taubin, VRML'98, Monterrey, CA, February 1998.
68. VeggieVision: A Produce Recognition System, by R. Bolle, J. Connell, N. Haas, R. Mohan, and G. Taubin, IEEE Workshop on Automatic Identification Advanced Technologies (WAIAT-97), Stony Brook, New York, November 1997.
69. Applying Shape from Lighting Variation to Bump Map Capture, by H. Rushmeier, G. Taubin, and A. Gueziec, Eighth Eurographics Rendering Workshop, June 1997.
70. VeggieVision: A Produce Recognition System, by R. Bolle, J. Connell, N. Haas, R. Mohan, and G. Taubin, Third IEEE Workshop on Applications of Computer Vision (WACV-96), Sarasota, Florida, December 1996.
71. Optimal Surface Smoothing as Filter Design, by G. Taubin, T. Zhang, and G. Golub, Fourth European Conference on Computer Vision (ECCV'96).
72. Computer Integrated Revision Total Hip Replacement Surgery: Preliminary Results, by L. Joskowicz, R.H. Taylor, B. Williamson, R. Kane, A. Kalvin, A. Gueziec, G. Taubin, J. Funda, S. Gomory, L. Brown, and J. McCarthy, Second Int. Symposium on Medical Robotics and Computer-Assisted Surgery (MRCAS '95), Baltimore, Nov. 5-7, 1995
73. A Signal Processing Approach to Fair Surface Design, by G. Taubin, Siggraph'95.
74. Curve and Surface Smoothing Without Shrinkage, by G. Taubin, Fifth International Conference on Computer Vision (ICCV'95).
75. Estimating the Tensor of Curvature of a Surface from a Polyhedral Approximation, by G. Taubin, Fifth International Conference on Computer Vision (ICCV'95).
76. An Accurate Algorithm for Rasterizing Algebraic Curves, by G. Taubin. Second ACM/IEEE Symposium on Solid Modeling and Applications, Montreal, Canada, May 1993.
77. An Improved Algorithm for Algebraic Curve and Surface Fitting, by G. Taubin. Fourth International Conference on Computer Vision (ICCV'93), Berlin, Germany, May 1993.
78. Constrained Implicit Function Fitting, by G. Taubin, B. Vemuri, and R.M. Bolle. 11th. International Conference on Pattern Recognition (ICPR'92), The Hague, Holland, September 1992.
79. Parameterizing and Fitting Bounded Algebraic Curves and Surfaces, by G. Taubin, F. Cukierman, S. Sullivan, J. Ponce, and D.J. Kriegman. IEEE Conference on Computer Vision and Pattern Recognition (CVPR'92), Champaign, IL, June 1992.

80. Representing And Comparing Shapes Using Shape Polynomials, by G. Taubin, R.M. Bolle, and D.B. Cooper. Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR'89), San Diego, CA, June 1989.
81. A New Model-Based Stereo Approach For 3D Surface Reconstruction Using Contours On The Surface Pattern, by D.B. Cooper, Y.P. Hung, and G. Taubin. Proceedings, International Conference on Computer Vision (ICCV'88), Tampa, Florida, December 1988.
82. Nonplanar Curve And Surface Estimation In 3-Space, by G. Taubin. Proceedings, IEEE Conference on Robotics and Automation (R&A'88), Philadelphia, Pennsylvania, 1988.

f) NON-REFEREED CONFERENCE PAPERS AND TECHNICAL REPORTS

1. Image Puzzle Methods Applied to the Automatic Reconstruction of Ancient Portuguese Tile Panels, by F.A. Andalo, G. Carneiro, S. Goldenstein, G. Taubin, L. Velho; Technical Report TR-13-04, Instituto de Matematica Pura e Aplicada (IMPA), Rio de Janeiro, Brazil, September 2013.
2. Using stereo vision to detect, track and identify people, by Y. Zhao and G. Taubin, IEEE Communications Society, Multimedia Communications Technical Committee E-Letter, June 2011.
3. The Digital Capture and Virtual Exhibit of Michelangelo's Pieta, BIRS 2006 Workshop on Mathematical Methods in Computer Vision, Banff International Research Station, Alberta, Canada, September 2006.
4. Multi-Flash 3D Photography, BIRS 2006 Workshop on Mathematical Methods in Computer Vision, Banff International Research Station, Alberta, Canada, September 2006.
5. Towards Real-Time Massive Geometry Signal Processing, by G. Taubin, BIRS Workshop on Mathematical Foundations of Scientific Visualization, Computer Graphics, and Massive Data Exploration, Banff International Research Station, Canada, May 2004 (invited).
6. Linear Anisotropic Mesh Filters, by G. Taubin, IBM Research Technical Report RC-22213, October 2001
7. Curvature-based Estimation of Surface Sampling, by C. Silva and G. Taubin, SIAM Conference on Geometric Design, Albuquerque, NM, November 1999
8. Implicit Simplicial Models for Adaptive Curve and Surface Reconstruction, SIAM Conference on Geometric Design, by G. Taubin and R. Ronfard, Tempe, AZ, November 1993.
9. An Accurate Algorithm for Rasterizing 2D Projections of 3D Algebraic Curves, by G. Taubin, SIAM Conference on Geometric Design, Tempe, AZ, November 1993.
10. The QBIC Project: Querying Images by Content Using Color, Texture, and Shape, by W. Niblack, R. Barber, W. Equitz, M. Flickner, E. Glasman, D. Petkovic, P. Yanker, and G. Taubin, Conference on Storage and Retrieval for Image and Video Databases, SPIE/SPSE Symposium on Electronic Imaging, February 1993.
11. Algebraic Curves And Surfaces In 3D Computer Vision, by G. Taubin, IMA Conference on Mathematics of Surfaces V, Edinburgh, Scotland, September 1992.
12. Bounded and Unbounded Implicit Polynomial Curves and Surfaces, Mahalanobis Distances, and Geometric Invariants, for Robust Object Recognition, by D. Keren, J. Subrahmonia, D.B. Cooper G. Taubin, Proceedings, DARPA Image Understanding Workshop, January 1992.
13. Object Recognition Based on Moment (or Algebraic) Invariants by G. Taubin and D.B. Cooper, IBM Technical Report RC-17387, October 1991.
14. Recognition and Positioning of Rigid Objects Using Algebraic Moment Invariants, by G. Taubin and D.B. Cooper, Proceedings, Conference on Geometric Methods in Computer Vision, SPIE's 36th. Annual International Symposium on Optical and Optoelectronic Applied Science and Engineering, July 1991.
15. Toward a 2D and 3D Object Recognition and Positioning System Based on Moment Invariants, by G. Taubin and D.B. Cooper, Proceedings, First DARPA-ESPRIT Workshop on Invariance, Reykhavik, Iceland, March 1991.
16. Recognition and Positioning of Piecewise Algebraic Objects, by G. Taubin and D.B. Cooper, Proceedings, DARPA Image Understanding Workshop, September 1990.

17. Classification and Positioning of Algebraic Curves and Surfaces, by G. Taubin and D.B. Cooper, Proceedings, 5th. IEEE International Symposium on Intelligent Control, September 1990.
18. Recognition and Positioning of 3D piecewise Algebraic Objects Using Euclidean Invariants, by G. Taubin and D.B. Cooper, Workshop on The Integration of Numerical and Symbolic Computing Methods, and IBM Technical Report RC-16211, October 1990.

g) INVITED CONFERENCE PRESENTATIONS AND PAPERS

1. Keynote Speaker, Conference on Scientific, Academic, and Industrial Applications of Python, SciPyCon Argentina 2014, Bahia Blanca, Buenos Aires, Argentina, October 20-24, 2014.
2. Invited Speaker, Minisymposium on Geometry, Imaging, and Computing; SIAM Imaging Conference, Hong Kong, May 2014.
3. Invited Speaker, Workshop on Early Chinese Art and New Visualization Technology, Harvard University, Cambridge, Massachusetts, November 2013.
4. Keynote Speaker, Jornadas de Definición Estratégica en Big Data, organized by Ministerio de Ciencia, Tecnología e Innovación Productiva, and Fundación Sadosky, Buenos Aires, Argentina, Agosto 2013 (<http://www.fundacionsadosky.org.ar/jornadas-de-definicion-estrategica-en-big-data>).
5. Invited Speaker, Workshop on Algebraic Geometry and Geometric Modeling, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), Banff, Canada, January 2013.
6. Keynote Speaker, 17th Iberoamerican Congress on Pattern Recognition, CIARP 2012, Buenos Aires, Argentina, Sep 3-6 2012.
7. Invited Speaker, Trimester Program on Computational Manifolds and Applications, Instituto Nacional de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil, October 2011, <http://www.visgrafimpa.br/cma2011>.
8. Invited Speaker, LIX Fall Colloquium on Emerging Trends in Visual Computing, Ecole Polytechnique, Palaiseau (Paris), France, November 2008.
9. Invited Speaker, Mini-Symposium on Interaction Between Shape Modeling and Modern Geometry and Topology, in IEEE International Conference on Shape Modeling and Applications, Stony Brook University, June 2008.
10. Invited Speaker, BIRS 2006 Workshop on Mathematical Methods in Computer Vision, Banff International Research Station, Alberta, Canada, September 2006.
11. Keynote Speaker, International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision, University of West Bohemia, Plzen, Czech Republic, January 2006
12. Keynote Speaker, 1st Ibero-American Symposium on Computer Graphics, Guimarães, Portugal, June 2002
13. Keynote Speaker, 1st Symposium on 3D Data Processing, Visualization, and Transmission, Padova, Italy, June 2002
14. Plenary Speaker, Instituto de Matemática Pura e Aplicada (IMPA) – 50 Years, Rio de Janeiro, Brazil, June 2002
15. Keynote Speaker, 3rd International Workshop on Visualization and Mathematics, VisMath'2002, Berlin, Germany, May 2002
16. Keynote Speaker, Workshop on Geometric Modeling, Computing, and Visualization 2001, University of Aizu, Japan, October 2001.
17. Keynote Speaker, Pacific Graphics 2001, Tokyo, Japan, October 2001.
18. Invited Speaker, Institute for Mathematics and its Applications, University of Minnesota, Workshop on Computer Graphics, 2000-2001 Program on Mathematics in Multimedia, May 2001.
19. Discrete Surface Signal Processing, NSF/ARPA Workshop on Object Representation in Computer Vision, New York City, December 1994.
20. Object Representation and Recognition with Algebraic Curves and Surfaces, Summer School of Algebraic Geometry and Computer Vision, Domaine des Courmettes, France, June 1993.

21. Estimation of Surfaces Defined by Implicit Equations, Annual Meeting of the American Statistical Association, Boston, Massachusetts, August 1992.
22. The Role of Algebraic Geometry in Computer Vision, SPIE Conference on Curves and Surfaces in Computer Vision and Graphics III, Boston, Massachusetts, November 1992.

h) INVITED LECTURES

1. Universidade de São Paulo - Campus de São Carlos (USP São Carlos), Instituto de Ciências Matemáticas e de Computação (ICMC), São Carlos, São Paulo, Brazil, June 2016.
2. Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Department of Computer Science, Rio de Janeiro, Brazil, March 2013.
3. University of Buenos Aires, School of Natural and Exact Sciences, Department of Mathematics, Argentina, September 2012.
4. Universidade Federal do Rio Grande do Sul (UFRGS), Department of Computer Science, Porto Alegre, Rio Grande do Sul, Brazil, August 2012.
5. Universidade de São Paulo - Campus de São Carlos (USP São Carlos), Department of Computer Science, São Carlos, São Paulo, Brazil, August 2012.
6. Universidade Estadual de Campinas (UNICAMP), Department of Computer Science, Campinas, São Paulo, Brazil, August 2012.
7. Adobe, Cambridge, MA, August 2010
8. MIT Graphics Group, May 2010
9. University of Utah, SCI Distinguished Lecture, February 2010
10. Tel-Aviv University, June 2009.
11. École Normale Supérieure, Paris, France, November 2008.
12. CMU, March 2008.
13. UIUC, ECE Seminar Series, November 2006.
14. INRIA Rhone-Alpes, Grenoble, France, June 2005.
15. Yale University, New Haven, CT, April 2005.
16. Ohio State University, Distinguished Lecture Series in Computer Science, November 2002.
17. Columbia University, Distinguished Lecture Series in Computer Science, November 2002.
18. University of Toronto, 2002
19. Michigan State University, Distinguished Lecture Series, November 2001.
20. University of Utah, E&S Distinguished Lecture Series, November 2000.
21. University of California at Los Angeles (UCLA), 2000
22. NASA Jet Propulsion Laboratory (JPL), 2000
23. University of North Carolina (UNC), 2000
24. Johns Hopkins University (JHU), Baltimore, MD, 2000
25. New York University, NY, 1999
26. IMA University of Minnesota, Minneapolis, MN, 1997
27. SIAM Annual Meeting, Palo Alto, CA, 1997
28. Austin Software Council, Austin, TX, 1997
29. Purdue University, West Lafayette, IN, 1997
30. World Movers VRML Developers Conference, San Francisco, CA, 1997
31. Stanford University, Palo Alto, CA, 1996
32. Yale University, New Haven, CT, 1994

33. Stanford University, Palo Alto, CA, 1994
34. Brown University, Providence, RI, 1994
35. McGill University, Montreal, Canada, 1993
36. Harvard University, Cambridge, MA, 1993
37. IBM Banking Division, Charlotte, NC, 1993
38. SRI International, Mountain View, CA, 1992
39. Xerox PARC, Palo Alto, CA. 1992: Stanford University, Palo Alto, CA, 1992
40. University of Kansas, Lawrence, KS, 1992
41. University of Illinois, Urbana-Champaign, IL, 1991
42. MIT, Cambridge, MA, 1991
43. Harvard University, Cambridge, MA, 1990
44. IBM T.J. Watson Research Center, Yorktown Heights, NY, 1988
45. Drexel University, Philadelphia, PA, 1988

k) TUTORIALS, COURSES, LECTURE NOTES

1. Short Course on 3D Photography, Department of Electrical Engineering, Universidad Nacional del Sur, Buenos Aires, Argentina, October 27-31, 2014.
2. Siggraph 2014 Course: 3D Scanning for Personal 3D Printing: Build Your Own 3D Scanner, by D. Moreno, and G. Taubin, Vancouver, Canada, August 2014
3. Short Course on 3D Photography, Department of Computer Science, School of Exact and Natural Sciences, University of Buenos Aires, Buenos Aires, Argentina, April 3-12 2013.
4. Siggraph Asia 2009 Course: Build Your Own 3D Scanner: 3D Photography for Beginners, by D. Lanman, and G. Taubin, Yokohama, Japan, December 2009
5. Siggraph 2009 Course: Build Your Own 3D Scanner: 3D Photography for Beginners, by D. Lanman, and G. Taubin, New Orleans, Los Angeles, August 2009
6. Siggraph'2002 Course on MPEG-4, speaker, San Antonio, Texas, July 2002.
7. Course on 3D Photography, 1st Symposium on 3D Data Processing, Visualization, and Transmission, speaker, Padova, Italy, June 2002.
8. Siggraph'2001 Course on Geometric Signal Processing on Large Polygonal Meshes, G. Taubin, and L. Kobbelt (organizers and speakers) Siggraph'2001, Los Angeles, California, August 2001.
9. ACM Solid Modeling '2001 Course on 3D Geometry Compression, organizer and speaker, Ann Arbor, Michigan, June 2001.
10. Geometric Signal Processing on Polygonal Meshes, Eurographics State of the Art Report, August 2000.
11. Siggraph'2000 Course on 3D Geometry Compression, G. Taubin and J. Rossignac (organizers) Siggraph'2000, New Orleans, Louisiana, July 2000.
12. 3D Geometry Compression and Progressive Transmission, Eurographics State of the Art Report, September 1999.
13. Siggraph'99 Course on 3D Geometry Compression, G. Taubin and J. Rossignac (organizers) Siggraph'99, Los Angeles, CA, August 1999.
14. Siggraph'98 Course on 3D Geometry Compression, G. Taubin and J. Rossignac (organizers) Siggraph'98, Orlando, FL, July 1998.
15. 3D Geometry Compression in MPEG-4, speaker, in Course on 3D Geometry Compression, Siggraph'2000, New Orleans, Louisiana, July 2000.
16. 3D Geometry Compression in MPEG-4, speaker, in Course on 3D Geometry Compression, Siggraph'99, Los Angeles, CA, August 1999.

17. 3D Geometry Compression Based on Topological Surgery, speaker, in Course on 3D Geometry Compression, Siggraph'98, Orlando, FL, July 1998.
18. The VRML Compressed Binary Format, G. Taubin, W.P. Horn and F. Lazarus (organizers and speakers), VRML'97, Monterey, CA, February 1997.
19. Object Recognition with Algebraic Geometry, Invariants, and Bayesian Methods, by G. Taubin and D. B. Cooper, IEEE Conference on Computer Vision and Pattern Recognition (CVPR'93), New York, June 1993.

I) SOFTWARE

1. Projector-Camera Calibration and 3D Scanning, <http://mesh.brown.edu/calibration>, 2013.
2. Smooth Signed Distance Surface Reconstruction, <http://mesh.brown.edu/ssd>, 2012.
3. REVEAL archaeological database browser and analysis thick client, <http://www.vizin.org/projects/reveal/solution.html>, <http://sourceforge.net/projects/revealanalyze>, 2012.

PRODUCTS AND SOFTWARE DEVELOPMENT AT IBM RESEARCH 1990-2003

1. Project leader, Smart Cameras project, 2002-2003.
2. Support for 3D objects in IBM HotMedia. HotMedia is a Java-based solution for incorporating rich media effects into Web applications. Responsible for development and implementation based on MPEG-4 3D Mesh Coding technology. Project leader and co-developer. First product incorporating MPEG-4 3D Mesh Coding technology. PC Expo 2000 Best of Show Award in Software category. 1999-2000.
3. MPEG-4 3D Mesh Coding Reference Software. Integral part of ISO/IEC 14496-5 (Reference Software). Project leader and co-developer. 1998-2000.
4. VRML Compressed Binary Format Proposal, reference implementation and 3D model optimizer software. Project leader and co-developer. 1996-1997. IBM Panoramix, image-based rendering panoramic viewer. Project manager. 1997-1998.

Patents

US / PENDING

1. A SYSTEM AND METHOD TO CALIBRATE AN UNCOLLIMATED LASER DIODE FOR 3D IMAGING APPLICATIONS, by G. Taubin and W.Y. Hwang. Provisional patent application filed October 2017. Utility patent application filed October 2018. Pending.
2. SYSTEM AND METHOD FOR SHAPE MEASUREMENT USING HIGH FREQUENCY SINUSOIDAL PATTERNS, by D. Moreno and G. Taubin. Provisional patent application filed September 2017. Utility patent application filed September 2018. Pending.
3. SYSTEM AND METHOD FOR SHAPE MEASUREMENT USING DUAL FREQUENCY FRINGE PATTERNS, by D. Moreno and G. Taubin. Provisional patent application filed September 2014. Utility patent application filed September 2015. Pending.
4. METHOD AND SYSTEM FOR UNSYNCHRONIZED STRUCTURED LIGHTING, by Fatih Calakli, Daniel Moreno, and Gabriel Taubin. Provisional patent application filed March 2014. Utility patent application filed March 2015. International patent application number WO2015134961A1. Pending.
5. NON-CONVEX HULL SURFACES, by Gabriel Taubin. Provisional patent application filed October 2013. Utility patent application US20150120260A1 filed October 2014. Pending.
6. VIRTUAL REALITY METHOD AND SYSTEMS, by Michael Fitzgerald, Stéphane Bonneaud, William Warren, and Gabriel Taubin. Utility patent application US20150116316A1 filed October 2014. International patent application number WO2015066037. Pending.
7. METHOD TO RECONSTRUCT A SURFACE FROM ORIENTED POINTS, by Fatih Calakli and Gabriel Taubin. Provisional patent application filed September 2012 as Geometry Character Recognition System. Utility patent application US20140172377A1 filed September 2013. Pending.
8. MULTI-CAMERA VIDEO CONFERENCING METHODS AND APPARATUS, by Gabriel Taubin. Provisional patent

application filed April 2012. Utility patent application US20130307919A1 filed April 2013. Abandoned.

9. SURROUND STRUCTURED LIGHTING FOR RECOVERING 3D OBJECT SHAPE AND APPARANCE, by D. Crispell, D. Lanman, G. Taubin. Utility patent application WO2010021972A1 filed, August 2009.
10. METHOD AND APPARATUS FOR SURFACE RECONSTRUCTION USING MULTI-FLASH PHOTOGRAPHY, by D. Crispell, D. Lanman, P. G. Sibley, Y. Zhao, and G. Taubin. Utility patent application filled by Brown University, June 2008.

US / ISSUED

1. US10008007B2, METHOD FOR GENERATING AN ARRAY OF 3D POINTS, by Daniel Moreno and Gabriel Taubin. Issued on 6/26/2018.
2. US07847799 BI-LEVEL ISOSURFACE COMPRESSION, issued 12/07/2010
3. US07623992, VOLUME WARPING FOR ADAPTIVE ISOSURFACE EXTRACTION, issued 11/24/2009.
4. US07230616, BI-LEVEL ISOSURFACE COMPRESSION, issued 06/12/2007.
5. US07174050, SPACE-OPTIMIZED TEXTURE MAPS, issued 02/06/2007.
6. US07167173, METHOD AND STRUCTURE FOR IMAGE-BASED OBJECT EDITING, issued 01/23/2007.
7. US7136077, SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR SHADING COMPUTER GRAPHICS, issued 11/14/2006.
8. US6987511, LINEAR ANISOTROPIC MESH FILTERING, issued 01/17/2006
9. US6968299, METHOD AND APPARATUS FOR RECONSTRUCTING A SURFACE USING A BALL-PIVOTING ALGORITHM, issued 11/22/2005.
10. US6943790, DUAL MESH RESAMPLING, issued 09/13/2005.
11. US06455835, SYSTEM, METHOD, AND PROGRAM PRODUCT FOR ACQUIRING OBJECT SILHOUETTES FOR SHAPE RECOVERY, issued 09/24/2002
12. US06452596, METHOD AND APPARATUS FOR THE EFFICIENT COMPRESSION OF NON-MANIFOLD POLYGONAL MESHES, issued 09/17/2002
13. US06445389, COMPRESSION OF POLYGONAL MODELS WITH LOW LATENCY DECOMPRESSION, issued 09/03/2002
14. US06356262, SYSTEM AND METHOD FOR FAST POLYHEDRAL CELL SORTING, issued 03/12/2002
15. US06307551, METHOD FOR GENERATING AND APPLYING CHANGES IN THE LEVEL OF DETAIL OF A POLYGONAL SURFACE, issued 10/23/2001
16. US06184897, COMPRESSED REPRESENTATION OF CHANGING MESHES AND METHOD TO DECOMPRESS, issued 02/06/2001
17. US06031548 PROGRESSIVE MULTI-LEVEL TRANSMISSION AND DISPLAY OF TRIANGULAR MESHES, issued 02/29/2000
18. US06016153, METHOD TO CONVERT NON-MANIFOLD POLYHEDRAL SURFACES INTO MANIFOLD SURFACES, issued 01/18/2000
19. US06009435, PROGRESSIVE COMPRESSION OF CLUSTERED MULTI-RESOLUTION POLYGONAL MODELS, issued 12/28/1999
20. US05974168, ACQUIRING BUMP MAPS FROM CURVED OBJECTS, issued 10/26/1999
21. US05905507, COMPRESSION OF GEOMETRIC MODELS USING SPANNING TREES, issued 05/18/1999
22. US05825369, COMPRESSION OF SIMPLE GEOMETRIC MODELS USING SPANNING TREES, issued 10/20/1998
23. US05631976, OBJECT IMAGING SYSTEM, issued 05/20/1997
24. US05506947, CURVE AND SURFACE SMOOTHING WITHOUT SHRINKAGE, issued 04/09/1996
25. US05546475, PRODUCE RECOGNITION SYSTEM, issued 08/13/1996

CANADA

- 26. CA02144404C, PRODUCE RECOGNITION SYSTEM, issued 04/16/2002
- 27. CA02144404AA, PRODUCE RECOGNITION SYSTEM, issued 10/30/1995

EUROPE

- 28. EP1479034A1, SPACE OPTIMIZED TEXTURE MAPS, (Germany), issued 11/24/2004
- 29. DE69518947T2, PRODUKTERKENNUNGSSYSTEM, (Germany), issued 03/22/2001
- 30. ES02151000T3, SISTEMA DE RECONOCIMIENTO DE PRODUCTOS, (Spain), issued 12/16/2000
- 31. DE69518947C0, PRODUKTERKENNUNGSSYSTEM, (Germany), issued 11/02/2000
- 32. AT00196695E, PRODUKTERKENNUNGSSYSTEM, (Austria), issued 10/15/2000
- 33. EP00685814B1, PRODUCE RECOGNITION SYSTEM, issued 09/27/2000
- 34. EP00685814A3, PRODUCE RECOGNITION SYSTEM, issued 03/05/1997
- 35. EP00703547A2, CURVE AND SURFACE SMOOTHING WITHOUT SHRINKAGE, issued 03/27/1996
- 36. EP00685814A2, PRODUCE RECOGNITION SYSTEM, issued 12/06/1995
- 37. EP00680205A2, IMAGING SYSTEM FOR OBJECT SEGMENTATION, issued 11/02/1995

JAPAN

- 38. JP10079049A2, METHOD AND SYSTEM FOR COMPRESSING AND DECOMPRESSING GEOMETRIC MODEL, AND DATA STRUCTURE, issued 03/24/98
- 39. JP08096147A2, METHOD FOR SMOOTHING CURVE AND CURVED SURFACE HAVING NO DEGRADATION, issued 04/12/1996
- 40. JP07302343A2, SYSTEM FOR RECOGNIZING OBJECT AND ITS METHOD, issued 11/14/1995
- 41. JP07302339A2, OBJECT PICTURE PROCESSING SYSTEM AND ITS METHOD, issued 11/14/1995

SOUTH KOREA

- 42. KR00190737B1, PRODUCE RECOGNITION SYSTEM, issued 06/01/1999
- 43. KR0233972B1, COMPRESSION OF SIMPLE GEOMETRIC MODELS USING SPANNING TREES, issued 12/15/1999

AUSTRALIA

- 44. AU00685904B2, PRODUCE RECOGNITION SYSTEM, issued 01/29/1998
- 45. AU01503495A1, PRODUCE RECOGNITION SYSTEM, issued 11/09/1995

CHINA

- 46. CN01123940A, PRODUCE RECOGNITION SYSTEM, issued 06/05/96

INDIA

- 47. IN0190627A, A DEVICE FOR RECOGNIZING OBJECTS, issued 08/09/2003

WIPO

- 48. WO03069543A1, SPACE-OPTIMIZED TEXTURE MAPS, issued 08/21/2003

ARGENTINA

- 49. AR228982, TRANSCUTANEOUS ELECTRONIC NERVE STIMULATOR, issued 1980

Service

UNIVERSITY

1. Graduate Representative, Electrical Sciences and Computer Engineering Group, School of Engineering, September 2015 – August 2018.
2. Hosted Visiting Professor Luis Gustavo Nonato, from the University of Sao Paulo, Brazil, January 2016.
3. Hosted Visiting Professor Rongjiang Pan, from Shandong University, China, from February 2014 to February 2015.
4. Member of the Engineering Honors Thesis Committee, since 2013.
5. Member of the Engineering Corporate Development Committee, since August 2013.
6. Member of the Engineering Executive Committee, January 2011 – August 2012.
7. Freshmen Adviser, several years, including 2011-2012.
8. Sophomore Adviser, several years, including 2011-2012.
9. Member of the OSP Faculty Advisory Committee, since January 2011.
10. Hosted Visiting Associate Professor Siome Klein Goldenstein, from UNICAMP, Brazil, 2008-2011.
11. Member of Faculty Executive Committee, from September 2007 to December 2010.
12. Division of Engineering Graduate Representative for Electrical Sciences and Computer Engineering, from September 2006 to December 2010.
13. Member of Computer Graphics Hiring Committee, Computer Science Department, 2006-2007 academic year.
14. Member of Computer Graphics Hiring Committee, Computer Science Department, 2005-2006 academic year.
15. Member of Computer Engineering Hiring Committee, Division of Engineering, 2003-2004 academic year.
16. Chair, Division of Engineering Honor Thesis Committee, 2004, 2005, and 2006.

IBM RESEARCH COMMITTEES

1. Chair, Graphics and Visualization Professional Interest Community, 1999-2000; responsible for establishing long-term relationships and joint projects with academia, negotiating conference sponsorships, and organizing the lecture series.
2. Member, IBM Student Fellowship committee, 1999.
3. Member, IBM Student Fellowship committee, 2000.

PROFESSIONAL MEMBERSHIPS

1. IEEE & Computer Society, student member 1986, member 1990, senior member 1995, **Fellow 2001**.
2. SIAM, student member 1987, member 1990.
3. ACM & Siggraph, member 1992.
4. Eurographics, member 1999.

PROFESSIONAL ACTIVITIES / EDITORIAL

1. Member of the Steering Committee, Bogota ACM Siggraph 2016.
2. Member of the Advisory Council, IEEE Computer Graphics and Applications, since December 2013.
3. Member of the Editorial Board, IEEE Computer Graphics and Applications, December 2013 – July 2014.

4. Editor In Chief, IEEE Computer Graphics and Applications, January 2010 - December 2013.
5. Guest Editor, Computer Vision and Image Understanding (CVIU), Special Issue on "New Advances In 3-D Imaging And Modeling;" Volume 113, Issue 11, November 2009.
6. Guest Editor, IEEE Computer Graphics & Applications, Special Issue on 3D Cinematography, May-June 2007.
7. Associate Editor, IEEE Transactions on Visualization and Computer Graphics, from March 2006 to December 2010.
8. Associate Editor, The International Journal of Image and Graphics (IJIG), from November 2005 to December 2007.
9. Member of the Editorial Board, Graphical Models, since August 2002.
10. Guest Editor, Graphical Models, special issue on Processing of Large Polygonal Meshes, vol. 64, no. 3-4, May-July 2003.
11. Guest Editor, Computational Geometry: Theory and Applications, special issue on 3D Model Coding, Editing, and Transmission, Volume 14, Issue 1-3, 30 November 1999

PROFESSIONAL ACTIVITIES / CONFERENCES

1. Co-chair, Workshop on 3D Cinematography, Conference on Computer Vision and Pattern Recognition, CVPR'12, Providence, RI, June 16, 2012.
2. Local Arrangements Chair, 2nd Workshop on Applications of Computer Vision in Archaeology (ACVA'2010), June 2010
3. Steering Committee Member, 5th International Symposium on 3D Data Processing, Visualization, and Transmission, 2010.
4. Co-Chair, BIRS Workshop on "Multi-View Image and Geometry Processing for 3D Cinematography," held at the Banff International Research Station, Alberta, Canada, July 13-18, 2008.
5. Steering Committee Member, 4th International Symposium on 3D Data Processing, Visualization, and Transmission, 2008.
6. Program Co-Chair, 6th International Conference on 3-D Digital Imaging and Modeling (3DIM 2007), held in Montreal, Quebec, Canada, August 21-23, 2007.
7. Co-Chair, 1st Workshop on 3D Cinematography, held jointly with the IEEE Conference on Computer Vision and Pattern Recognition 2006, New York City, June 2006.
8. Steering Committee Member, 3rd International Symposium on 3D Data Processing, Visualization, and Transmission, 2006.
9. General Co-Chair, 2nd International Symposium on 3D Data Processing, Visualization, and Transmission, 2004.
10. Program Co-Chair, 9th ACM Symposium on Solid Modeling and Applications, 2004.
11. Organizer and Co-Chair, Special Session on Encoding of 3D Models for Efficient Delivery, IEEE International Conference on Multimedia and Expo (ICME 2002), August 26-29, 2002, Lausanne, Switzerland.
12. Session Chair, Siggraph'2002, July 2002.
13. Organizer and Chair, session on 3D Geometry Compression, 1st Symposium on 3D Data Processing, Visualization, and Transmission (3DPVT), Padova, Italy, June 2002.
14. Session Chair, Siggraph'2001, August 2001.
15. Organizer, Course on 3D Geometry Compression, Siggraph'2000, July 2000.
16. Organizer, Course on 3D Geometry Compression, Siggraph'99.
17. Organizer, Workshop on Multi-Resolution Representation of 3D Geometry for Progressive Transmission, IEEE Visualization'98.

18. Organizer, Course on 3D Geometry Compression, Siggraph'98.
19. Organizer, Course on VRML Compressed Binary Format, VRML'97, February 1997.
20. Co-chair, Conference on Geometric Methods in Computer Vision, SPIE's International Symposium on Optical and Optoelectronic Applied Science and Engineering, July 1991.

PROFESSIONAL ACTIVITIES / COMMITTEES

1. Program Committee Member, XL Conferencia Latinoamericana en Informática (CLEI 2014), Montevideo, Uruguay, September 2014.
2. Program Committee Member, International Conference on Computer Graphics Theory and Applications (GRAPP 2014), January 2014.
3. Program Committee Member, International Conference on Computer-Aided Design and Computer Graphics (CAD/CG), Hong Kong, November 2013.
4. Program Committee Member, 26th Conference on Graphics, Patterns and Images (SIBGRAPI 2013), Arequipa, Peru, August 2013.
5. Tutorials Program Committee Member, of the 25th Conference on Graphics, Patterns and Images (SIBGRAPI 2012), Ouro Preto, MG, Brazil, August 2012.
6. Program Committee Member, of the 25th Conference on Graphics, Patterns and Images (SIBGRAPI 2012), Ouro Preto, MG, Brazil, August 2012.
7. Program Committee Member, International Conference on 3D Imaging (IC3D), Liege, Belgium, December 2012.
8. Program Committee Member, Conference on 3D Imaging, Modeling, Processing, Visualization and Transmission (3DIMPVT 2012), ETH Zurich, Switzerland, October 2012.
9. Program Committee Member, Shape Modeling International (SMI), College Station, TX, May 2012.
10. Program Committee Member, International Conference on 3D Imaging (IC3D), Liege, Belgium, December 2011.
11. Program Committee Member, Conference on 3D Imaging, Modeling, Processing, Visualization and Transmission (3DIMPVT 2011), Hangzhou, China, May 2011.
12. Program Committee Member, Symposium on Geometry Processing (SGP 2011), Lausanne, Switzerland, July 2011.
13. Program Committee Member, Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI 2011), Maceio, Brazil, August 2011.
14. Program Committee Member, 2nd ACM Workshop on eHeritage and Digital Art Preservation (eHeritage 2010), Florence, Italy, October 2010.
15. Program Committee Member, 5th International Symposium on 3D Data Processing, Visualization, and Transmission (3DPVT'10), Paris, France, May 17-20, 2010.
16. Program Committee Member, Shape Modeling International (SMI), Aix-en-Provence, France, June 21-23, 2010.
17. Program Committee Member, Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI 2008), Campo Grande, Mato Grosso do Sul, Brazil, October 12-15, 2008.
18. Program Committee Member, 6th Symposium on Geometry Processing (SGP 2008), Copenhagen, Denmark, July, 2008.
19. Program Committee Member, 4th International Symposium on 3D Data Processing, Visualization, and Transmission (3DPVT'08) Georgia Institute of Technology, Atlanta, June 2008.
20. Program Committee Member, Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI 2007), Bello Horizonte, Brazil, October 7-10 2007.

21. Member, Program Committee, 5th Symposium on Geometry Processing (SGP 2007), Barcelona, Spain, June, 2006.
22. Program Committee Member, CVPR 2007 Workshop: "Beyond Multiview Geometry: Robust Estimation and Organization of Shapes from Multiple Cues."
23. Program Committee Member, 9th European Conference on Computer Vision (ECCV 2006)
24. Program Committee Member, Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI 2006), Manaus, Amazonas, Brazil, October 8-11 2006.
25. Member, Program Committee, 4th Symposium on Geometry Processing (SGP 2006), Cagliari, Sardinia June, 2006.
26. Member, Program Committee, IEEE International Conference on Computer Vision and Pattern Recognition (CVPR 2006), New York City, June 2006.
27. Member, International Program Committee, 14th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG 2006), Czech Republic, January 2006.
28. Member, Program Committee, 2nd Symposium on Geometry Processing (SGP 2005), July 2005, Vienna, Austria.
29. Member, International Program Committee, 23rd Computer Graphics International Conference (CGI 2005), June 2005.
30. Member, Program Committee, IEEE International Conference on Computer Vision and Pattern Recognition, San Diego, June 2005.
31. Member, Program Committee, 5th International Conference on 3-D Digital Imaging and Modeling (3DIM'05), Ottawa, Canada, June 2005.
32. Member, International Program Committee, 13-th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, Czech Republic, January 2005.
33. Member, Program Committee, Pacific Graphics 2004, Seoul, Korea, October 2004.
34. Member, Program Committee, 2nd Symposium on Geometry Processing (SGP 2004), July 2004, Nice, France.
35. Member, Program Committee, Geometric Modeling and Processing (GMP 2004), Beijing, China, April 2004.
36. Member, Program Committee, 1st Symposium on Geometry Processing (SGP 2003), June 2003, Aachen, Germany.
37. Member, Program Committee, 8th ACM Symposium on Solid Modeling and Applications 2003, June 16 - June 20, 2003, Seattle, WA.
38. Member, Program Committee, 8th International Conference on 3D Web Technology (Web3D 2003), March 9 - March 12, 2003, Saint Malo, France.
39. Member, International Program Committee, 11-th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG'2003), February 3 - 7, 2003, Prague, Czech Republic.
40. Member, Program Committee, Geometric Modeling and Processing (GMP 2002), July 10-12 2002, Riken, Japan.
41. Member, Papers Program Committee, Siggraph'2002, July 2002.
42. Member, Organizing Committee, 3rd Workshop and Exhibition on MPEG-4, June 2002.
43. Member, Program Committee, Conference on Cyberworlds, sub conference on Geometric Modeling and Computer Graphics, Japan, 2002
44. Member, Program Committee, 1st Ibero-American Symposium in Computer Graphics (SIACG), Portugal, July 2002
45. Member, Program Committee, Geometric Modeling and Processing 2002, Japan, July 2002
46. Member, Program Committee, 10th. International Conference in Central Europe on Member, Program Committee, Computer Graphics, Visualization, and Computer Vision (WSCG'2002), February 2002.

47. Member, Program Committee, Pacific Graphics 2001, October 2001.
48. Member, Program Committee, 14th Brazilian Symposium on Computer Graphics and Image Processing SIBGRAPI 2001, Florianópolis, Brazil, October 2001.
49. Member, Papers Program Committee, Siggraph'2001, August 2001.
50. Member, Organizing Committee, 2nd Workshop and Exhibition on MPEG-4, June 2001.
51. Member, Program Committee, 9th. International Conference in Central Europe on Member, Program Committee, Computer Graphics, Visualization, and Computer Vision (WSCG'2001), February 2001.
52. Member, Program Committee, PACIFIC GRAPHICS 2000, October 2000.
53. Member of the Industry Advisory Board, NSF Center for Neuromorphic Systems Engineering at CalTech, 2000-2001.
54. Member, Best Paper Award Committee, EUROGRAPHICS'2000, August 2000.
55. Member, Program Committee, MPEG-4 Workshop and Exhibition at ISCAS 2000, Geneva, Switzerland, May 2000.
56. Member, Program Committee, 8th. International Conference in Central Europe on Computer Graphics, Visualization, and Computer Vision (WSCG'2000), February 2000.
57. Member, Applications Sketches Committee, Siggraph'98.
58. Member, Best Paper Award Committee, Eurographics'97.
59. Member, Program Committee, IEEE Conference on Computer Vision and Pattern Recognition, 1996.

PROFESSIONAL ACTIVITIES / REFEREEING (incomplete list)

1. ACM SIGGRAPH
2. ACM SIGGRAPH Asia
3. ACM Transactions on Graphics
4. Computer Vision Graphics and Image Processing
5. IEEE Conference on Computer Vision and Pattern Recognition
6. IEEE Conference on Robotics and Automation
7. IEEE Transactions on Pattern Analysis and Machine Intelligence
8. IEEE Transactions on Systems Man and Cybernetics
9. IEEE Transactions on Visualization and Computer Graphics
10. IEEE Transactions on Circuits and Systems for Video Technology
11. International Conference on Computer Vision
12. International Conference on 3D Vision
13. International Journal of Computer Vision
14. International Journal of Image and Vision Computing
15. Symposium on Solid Modeling and Applications
16. Computer-Aided Design
17. Computational Geometry Theory and Applications
18. Eurographics Workshop on Rendering
19. Graphical Models and Image Processing
20. Journal of Image Communication and Image Representation
21. Machine Vision and Applications
22. Pacific Graphics

23. International Conference in Central Europe on Computer Graphics Visualization and Computer Vision
24. ASME Design Automation Conference
25. Symposium on Interactive 3D Graphics
26. NSF Program, 2000
27. NSF Panels, 2002, 2004, 2006, 2008, 2009, 2009, 2010, 2014, 2015, 2016, 2017(3).
28. NSF Reviewer 2011.

PROFESSIONAL ACTIVITIES / STANDARDS

1. Co-editor, MPEG-4 3D Mesh Coding Specification. Integral part of ISO/IEC 14496-2 (Coding of Visual Objects), 1998-2000.
2. Director, Virtual Reality Modeling Language (VRML) Consortium, February 1997-1998.
3. Co-editor, MPEG-4 3D Mesh Coding Call for proposals, 1996.
4. Co-editor, VRML Compressed Binary Format Proposal, specification, 1996-1997.

Teaching

ACADEMIC

1. Brown University, ENGN 2912B, "3D Photography," Spring 2018.
2. Brown University, ENGN 1931M, "Industrial Machine Vision," Spring 2018.
3. Brown University, ENGN 2912B, "Scientific Programming in C++," Fall 2017.
4. Brown University, ENGN2501, "Digital Geometry Processing," Fall 2016.
5. Brown University, ENGN 2502, "3D Photography," Spring 2016.
6. Brown University, ENGN 2912B, "Scientific Programming in C++," Fall 2015.
7. Brown University, ENGN 0520, "Electrical Circuits and Systems," Spring 2015.
8. Universidad Nacional del Sur, "Introduccion al la fotografia 3D," October 22-29, 2014.
9. Brown University, ENGN 0520, "Electrical Circuits and Systems," Spring 2014.
10. Brown University, ENGN 2502, "3D Photography," Fall 2013.
11. University of Buenos Aires, "Introduccion al la fotografia 3D," April 3-12, 2013.
12. Brown University, ENGN 2912B, "Scientific Programming in C++," Fall 2012.
13. Brown University, ENGN 1601, "Image Understanding," Fall 2012.
14. Brown University, ENGN2502, "3D Photography," Spring 2012.
15. Brown University, ENGN1570, "Linear System Analysis," Fall 2011.
16. Brown University, ENGN2501, "Digital Geometry Processing," Fall 2010.
17. Brown University, ENGN1570, "Linear System Analysis," Fall 2010.
18. Brown University, ENGN1610, "Image Understanding," Fall 2009.
19. Brown University, ENGN29211I, "3D Photography and Geometry Processing," Spring 2009.
20. Brown University, ENGN1570, "Linear System Analysis," Fall 2008.
21. Brown University, ENGN29211I, "3D Photography and Geometry Processing," Spring 2008.
22. Brown University, ENGN1570, "Linear System Analysis," Fall 2007.
23. Brown University, EN292s34/CS220, "3D Photography and Geometry Processing," Spring 2007.
24. Brown University, EN0157, "Linear System Analysis," Fall 2006.
25. Brown University, EN0052, "Electrical Circuits and Systems," Spring 2006.

26. Brown University, EN0157, "Linear System Analysis," Fall 2005.
27. Brown University, EN0052, "Electrical Circuits and Systems," Spring 2005.
28. Brown University, EN0193s05, "High-Performance Sensors and Multimedia," Fall 2004.
29. Brown University, EN0052, "Electrical Circuits and Systems," Spring 2004.
30. Brown University, EN0193s08 "3D Photography," Fall 2003.
31. California Institute of Technology, EE-148 "3D Photography," 2000-2001 academic year, instructor. Enrollment: 25.
32. California Institute of Technology, EE-191 "Smart Appliances with Sensory Systems," 2000-2001 academic year, instructor. Enrollment: 5.
33. Brown University, EN0051 "Electricity and Magnetism," 1987-1988 academic year, teaching assistant.
34. Brown University, EN0257 "Applied Stochastic Processes," 1987-1988 academic year, teaching assistant.
35. University of Buenos Aires, Calculus I (one variable), Calculus II (several variables), Calculus III (complex variables and differential equations), 1981-1983 academic years, Lecturer.
36. University of Buenos Aires, Algebra I, Geometry I, 1979-1981 academic years, teaching assistant.

AT CONFERENCES

1. Studio Course: 3D Scanning for Personal 3D Printing, Siggraph 2014, Vancouver, Canada, August 2014.
2. Course: Build Your Own 3D Scanner: 3D Photography for Beginners, Siggraph Asia 2009, Yokohama, Japan, December 2009, speaker and organizer. Attendance: 150-200.
3. Course: Build Your Own 3D Scanner: 3D Photography for Beginners, Siggraph 2009, New Orleans, Los Angeles, August 2009, speaker and organizer. Attendance: 200-300.
4. Course on the MPEG-4 Standard, Siggraph'2002, speaker. Attendance: 200-300.
5. Course on 3D Photography, 1st Symposium on 3D Data Processing, Visualization, and Transmission, Padova, Italy, June 2002, speaker. Enrollment: 50.
6. Course on Geometric Signal Processing on Large Polygonal Meshes, Siggraph'2001, organizer and speaker. Enrollment: 150-200.
7. Course on 3D Geometry Compression, ACM Solid Modeling 2001, organizer and speaker. Enrollment: 25-30.
8. Course on 3D Geometry Compression, Siggraph'2000, organizer and speaker. Enrollment: 80-120.
9. Course on 3D Geometry Compression, Siggraph'1999, organizer and speaker. Enrollment: 150-200.
10. Course on 3D Geometry Compression, Siggraph'1998, organizer and speaker. Enrollment: 200-300.
11. Course on VRML Compressed Binary Format, VRML'97, organizer and speaker. Enrollment: 40-60.
12. Course on Object Recognition with Algebraic Geometry, Invariants, and Bayesian Methods, IEEE Conference on Computer Vision and Pattern Recognition (CVPR'93), New York, June 1993, organizer and speaker.

Advising

Ph.D THESES DIRECTED

1. Daniel Crispell, "A Continuous Probabilistic Scene Model for Aerial Imagery," Engineering, September 2009.
2. Yong Zhao, "Detection, Tracking, and Identification of Humans using Stereo Vision," Engineering, June 2010.
1. Douglas Lanman, "Mask-based Light Field Capture and Display," Engineering, July 2010.
2. Daniel Moreno, "Structured Light 3D Scanning Technologies," October 2016.

CURRENT Ph.D STUDENTS

1. Ammar Hattab, 5th year Engineering Ph.D student, since Fall 2014.
2. Peter Walecki, 3rd year Engineering Ph.D student, since Fall 2016

MASTER STUDENTS

1. Ammar Hattab, September 2012 – May 2013.
2. Emanuel Zraggen, Computer Science (jointly with Andy van Dam), January 2010 – May 2011.
3. Bin Ji, Engineering, September 2009 – December 2010.
4. Emel Erbas, Engineering, September 2008 – December 2009.
5. Scott Daniel, Computer Science, May 2008 - January 2009.
6. William Doutre, Computer Science, February 2009 - August 2009.

HONOR THESES

1. Max Liberman, 2013.
2. Justin Kim, 2012.
3. Austin Vandergon, 2007.

VISITING SCIENTISTS

1. Francisco Roberto Gomez Fernandez, visiting Postdoc, University of Buenos Aires, Argentina, January 2018 – March 2018.
2. Dalia Melissa Bonilla Correa, visiting Postdoc, University of Sao Paulo at Sao Carlos, Brazil, November 2015 – December 2015.
3. Wallace Casaca, visiting PhD student, University of Sao Paulo at Sao Carlos, Brazil, December 2012 – November 2013.
4. Fernanda Andaló, visiting PhD student, UNICAMP, Brazil, December 2010 – November 2011.
5. Daniel Cabrini Hauagge, visiting PhD student, UNICAMP, Brazil, November 2008 – August 2009.

POSTDOCTORAL FELLOWS SUPERVISED

1. Francisco R. Gomez-Fernandez, was awarded a Postdoc Fellowship by CONICET (Argentina's NSF), to work at the University of Buenos Aires, School of Sciences, Department of Computer Science, under my supervision on "Reconstrucción de mallas dinámicas de alta resolución para estimación de movimiento de alta precisión." Started April 2016.
2. Sebastian Ubalde, was awarded a Postdoc Fellowship by CONICET (Argentina's NSF), to work at the University of Buenos Aires, School of Sciences, Department of Computer Science, under my supervision on "Detección, seguimiento e interpretación de gestos para la interacción de grupos de personas con display walls." April 2016 – March 2017.
3. Dalia Melissa Bonilla Correa, based at the University of Sao Paulo at Sao Carlos (USP-SC), Brazil, supervised jointly with Prof. Luis Gustavo Nonato from USP-SC, July 2015 – June 2017.
4. Attila Bergou, Ph.D. Cornell, Physics, 2009, supervised jointly with K. Breuer (Engineering) and S. Swartz (Ecology and Evolutionary Biology), January 2010 – December 2012.
5. Radu Balan (Adviser: Ingrid Daubechies), Ph.D. Princeton, Applied Math, 1998; IBM & University of Minnesota IMA Industrial Postdoctoral Fellow 1998-1999.

SUMMER INTERNS SUPERVISED

1. Keshav Vemuri, Brown UTRA summer intern 2015. Developed new algorithms for polygon mesh optimization.
2. Angelo Nakos (undergraduate), Brown summer intern 2014. Developed algorithms for the Raspberry PI to calibrate a camera track turntable motion.
3. Christopher Muñoz (undergraduate), Brown summer intern 2014. Developed algorithms for the Raspberry PI to track 6DOF motion.
4. Brennan MacInnes (undergraduate), Brown summer intern 2014. Implemented an incremental handheld 3D laser scanning system.
5. Evan Finkle (undergraduate), Brown summer intern 2014. Conceptual design for desktop 3D scanner.
6. Monika Tomar (undergraduate), Brown summer intern 2014. Developed prototype low cost pattern generator for structured lighting.
7. Max Liberman (undergraduate), Brown summer intern 2012; DiMase award. Designed and constructed a microscopic 3D scanner, including all the operating software, and a iOS 3D viewer.
8. Justin Kim (undergraduate), Brown summer inter 2011; hand-held immersive VR system for Archaeology, video wall software, incremental 3D scanner.
9. Austin Vandergon (undergraduate), Brown summer intern 2006; Smart multi-view camera.
10. Megan Wachs (undergraduate), Brown summer intern 2004; DiMase award. Designed, optimized, and constructed a catadioptric system for gathering data for image based rendering.
11. Joseph Essien (undergraduate), Brown summer intern 2004. Designed and constructed 3D scanning station with integrated computer controlled turntable.
12. Andrew Homyk (undergraduate), CalTech summer intern 2001. Implementation of 3D photography system based on space carving in the Kodak DC290 digital camera. Continuation of his final project in my 3D Photography class. Currently graduate student at CalTech.
13. Silvio Savarese (Adviser: Pietro Perona), IBM summer intern 1999, IBM summer intern 2000, currently PhD student at CalTech (3D Scanning, space carving, shadow carving, specular surfaces).
14. Hening Bierman (Adviser: Denis Zorin), IBM summer intern 2000, former PhD student at NYU (geometric modeling and subdivision surfaces).
15. Frank Bossen (Adviser: Murat Kunt), IBM summer intern 1998, IBM co-op student academic year 1998-1999, PhD EPFL 1999).
16. Jijad El-Sana (Adviser: Amitab Varshney), IBM summer intern 1998, PhD SUNY Stony Brook 1999.

INDEPENDENT STUDIES PROJECTS (UNDERGRADS)

1. Angelo Nakos, Spring 2015; Implemented algorithms to calibrate a camera track turntable motion.
2. Max Liberman, Fall 2012 & Spring 2013; Fast microscopic 3D scanner.
3. Justin Kim, Fall 2011 & Spring 2012; Incremental handheld 3D scanner.
4. Elliot Creager, Justin Kim, Stefan Angelevski, Wichinpong Sinchaisri, Kristina Leung, Karthikeyan Harith, Fall 2010. Various tasks related to the construction of an immersive video wall funded by OVPR.
5. Ben Herila, 2010. Development of a handheld immersive virtual reality system for Archaeology.
6. Paul Sastrasin, 2010. Development of a handheld immersive virtual reality system for Archaeology.
7. Austin Vandergon, Fall 2006. Development of real-time projector-camera segmentation system
8. Zachary Auger, Fall 2006. Development of a handheld infrared multi-flash video camera for shape capture.

9. Zachary Augenfeld, Fall 2006. Initial studies to support development of handheld retinoscope to diagnose Shaken Baby Syndrome.
10. Megan Wachs, Fall 2004. Developed a calibration procedure a line reconstruction algorithm for catadioptric system constructed during summer.
11. Joseph Essien, Fall 2004. Completed construction of 3D scanning station with integrated computer controlled turntable. Designed printed circuit board for non-photorealistic rendering camera.
12. Wei Guo, graduate student, informal independent studies project during Fall 2003.

MEMBER OF PhD EXAMINING COMMITTEES

1. Anil Usumezbas, "Dense and Accurate Multiview Stereo Reconstruction Using Differential Geometry of Curves/Surfaces, Lofting and Occlusion Reasoning," Engineering, Brown, November 2016. Adviser: B. Kimia.
2. Kilho Son, "Solving Computational Puzzles with Geometric Constraints and Applications," Engineering, Brown, September 2015. Adviser: D. Cooper.
3. Eyal Bar-Kohba, "Three-Dimensional Kinematic Measurements of Nonlinear Deformation in Cellular Biology," Engineering, Brown, May 2015. Adviser: C. Frank.
4. Brandon Asher Mayer, "Duration Dependent Hidden Markov Models and Change Point Geometry for Video Surveillance," Engineering, Brown, April 2015. Adviser: J. Mundy.
5. Octavian Biris, "Compression of 2-d and 3-d Dynamic Scenes," Engineering, Brown, April 2015.
6. Ali Osman Ulusoy, "Grain Probabilistic and Volumetric Reconstruction of Time-Varying 3-d Scenes from Multi-view Images," Engineering, Brown, April 2014. Adviser: J. Mundy.
7. Peng Guang, "2D/3D Human Body Shape and Pose Estimation," CS, Brown, September 2012. Adviser: Michael Black.
8. Matt Berger, "Shape Analysis for Meshing and Reconstruction," CS, University of Utah, August 2012. Adviser: C. Silva.
9. Avram Levy, "Two Novel Algorithms for Microphone Arrays: Detecting Facial Orientation Using a Surrounding Array and Phase-Based Binary Time-Frequency Masking using Two Microphones," Engineering, Brown, June 2011. Adviser: H. Silverman.
10. Hoang Do, "Robust Cross-Correlation-Based Methods for Sound-Source Localization and Separation using a Large-Aperture Microphone Array," Engineering, Brown, February 2011. Adviser: H. Silverman.
11. Shubao Liu, "Statistical Inverse Ray Tracing for Image-Based 3D Modeling," Engineering, Brown, January 2011. Adviser: D. Cooper.
12. Chen Xu, "Acquiring the Shape and Appearance of Physical Shapes," CS, Yale, November 2010. Adviser: H. Rushmeier.
13. Ricardo Fabbri, "Multiview Differential Geometry in Application to Computer Vision," Engineering, Brown, July 2010. Adviser: B. Kimia.
14. Douglas Lanman, "Mask-based Light Field Capture and Display," Engineering, Brown, July 2010. Adviser: G. Taubin.
15. Yong Zhao, "Detection, Tracking, and Identification of Humans using Stereo Vision," Engineering, Brown, June 2010. Adviser: G. Taubin.
16. Ozge Can Ozcanli Ozbaym, "Recognition of Vehicles as Changes in Satellite Imagery," Engineering, Brown, May 2010. Adviser: J. Mundy.
17. Nhon H. Trinh, "Skeleton Based Generative Model of Shape and its Applications to Object Recognition and Segmentation," Engineering, Brown, May 2010. Adviser: B. Kimia.
18. Alexandru Balan, "Detailed Human Shape and Pose from Images," CS, Brown, January 2010. Adviser: M. Black.
19. Daniel Crispell, "A Continuous Probabilistic Scene Model for Aerial Imagery," Engineering, September 2009. Adviser: G. Taubin.
20. Matthew Leotta, "3-D Reconstruction of Vehicles in Video Using Deformable Mesh Models," Engineering,

September 2009. Adviser: J. Mundy.

21. Desta Tadesse, "Mathematical Methods to Improve Microprocessor Speed Debug," Engineering,
22. Vishal jain, "Motion Segmentation Using Differential Geometry of Dynamic Curves," Engineering, February 2009. Adviser: B. Kimia.
23. Ming-Ching Chang, "The Medial Scaffold for 3D Shape Modeling and Recognition," Engineering, September 2008. Adviser: B. Kimia.
24. Ranjith Unnikrishnan, "Statistical Approaches to Multi-scale Point Cloud Processing," CMU, Robotics Institute. April 2008. Adviser: Martial Hebert.
25. Olga Karpenko, "Algorithms and Interfaces for Sketch-Based 3D Modeling," CS, Brown, April 2007. Adviser: J. Hughes.
26. Ying He, "Manifold Splines," Computer Science, SUNY at Stony Brook, NY, May 2006. Adviser: Hong Qin.
27. Andrew Willis, "Stochastic 3D Geometric Models for Classification, Deformation, and Estimation," Engineering, Brown, April 2004. Adviser: David Cooper.
28. Kongbin Kan, "3D Free Form Surface Reconstruction from Occluding Contours in a Sequence of Images or Video," April 2004. Adviser: David Cooper.
29. Haixia Du, "Interactive Shape Design Using PDEs, Computer Science," SUNY at Stony Brook, NY, March 2004. Adviser: Hong Qin.
30. Diego Santa Cruz, "Parametric 3D Model Compression," Signal Processing Laboratory, EPFL, Switzerland, 2003. Adviser: Touradj Ebrahimi.
31. Koji Ashida, "Adaptive Construction of Manifold Meshes," Computer Science, University of Pennsylvania, 2003. Adviser: Norm Badler.
32. Hao (Richard) Zhang, "Signal Processing and Eigenvalue Decomposition of Polygonal Meshes and Applications," Computer Science, University of Toronto, Canada, 2002. Adviser: Eugene Fiume.
33. Frank Bossen, "On The Art Of Compressing Three-Dimensional Polygonal Meshes And Their Associated Properties," EPFL, Lausanne, Switzerland, June 1999. Adviser: Murat Kunt.
34. Jijad El-Sana, "Multiresolution Hierarchies for Multimodal Interaction in Virtual Environments," SUNY at Stony Brook, NY, 1999. Adviser: Amitabh Varshney