

## Dmitry B. Goldgof

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### EDUCATION

Ph.D. Dept of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 1989.  
M.S. Dept. of Electrical, Computer, Systems Engineering, Rensselaer Polytechnic Institute, Troy, N.Y., 1985.  
B.S. Dept. of Computer Science, Moscow Forest Engineering Institute, Moscow, Russia, 1979.

### PROFESSIONAL EXPERIENCE

1/17 - Vice Chair, Department of Computer Science & Engineering, University of South Florida  
8/00 - Professor, Department of Computer Science & Engineering, University of South Florida  
8/99 - Member, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL  
3/13 - Professor, Department of Oncological Sciences, USF Health  
5/03 - 8/15 Associate Chair, Department of Computer Science & Engineering, University of South Florida  
7/02 - 5/03 Professor, Cancer Control, Bioinformatics, H. Lee Moffitt Cancer Center, Tampa, FL  
7/99 - 5/02 Director of Graduate Studies, Computer Science and Engineering, USF  
5/99 - 5/03 Professor, Department of Psychology, University of South Florida  
8/94 - 7/00 Associate Professor, Department of Computer Science & Engineering, USF  
4/96 - 5/96 Visiting Associate Professor, Computer Science, University of Bern, Bern, Switzerland  
9/95 - 3/96 Visiting Associate Professor, Computer Science, University of California at Santa Barbara  
8/89 - 7/94 Assistant Professor, Computer Science and Engineering, USF  
8/81 - 8/83 Systems Engineer, McGuinness and Associates, Inc., Schenectady, NY

### INTERESTS

Medical Image Analysis, Image and Video Processing, Computer Vision and Pattern Recognition, Ethics and Computing, Bioinformatics and Bioengineering

### HONORS

- Elected to College of Fellows, American Institute for Medical and Biological Engineering (AIMBE), 2017.
- Awarded Fellow status by American Association for the Advancement of Science (AAAS) "for distinguished contribution to the fields of computer vision, pattern recognition and biomedical applications, particularly in biomedical image analysis", 2016.
- Member-at-Large (elected by SMC members), Board of Governors, IEEE Systems, Man and Cybernetics Society, 2010-2011, 2007, 2015-2017
- Invited Talk, "Image Analysis in Radiomics: Challenges and Opportunities", IEEE International Symposium on Multimedia, Miami, FL, 12/2015
- Keynote Talk, "Radiomics, Big Data and Cloud Computing", 2015 International Workshop on Complex Systems and their Modeling, Control, Scheduling and Security Management, Macau, China, 10/2015
- Invited Talk, "Radiomics, Big Data and Cloud Computing", University of Macau, Macau, China, 10/2015
- Invited Talk, UCR IGERT Retreat on Video Bioinformatics, Lake Arrowhead, CA, 10/2014
- Invited Talk, "Image Analysis and Data Mining in support of Radiomics", Institute of Automation, Chinese Academy of Sciences, Beijing, China, 5/2013
- IEEE Transactions on Intelligent Transportation Systems, Best Papers 2010-2012: Best Survey Paper: Understanding Transit Scenes: A Survey on Human Behavior-Recognition Algorithms", vol. 11(1), 2010.
- Awarded Fellow status by International Association for Pattern Recognition (IAPR) "for contributions to computer vision, pattern recognition, and biomedical engineering", 2010.
- USF Academy of Inventors, Charter Member, USF, 2009
- Theodore and Venette Askounes-Ashford Distinguished Scholar Award, USF, 2008
- Elevated to the Fellow status by the Institute of Electrical and Electronics Engineers (IEEE) "for contributions to computer vision and biomedical applications" effective January 2007
- IEEE Distinguished Visitor Program (DVP), 2004-2006

- Keynote Speaker, Mexican International Conference on Computer Science, Puebla, Mexico, 9/2005
- Keynote Speaker, Intern. Symposium on the 3-D Analysis of Human Movement, Tampa, FL, 4/2004
- Together with two of his recent doctoral students Professor Goldgof was honored by USF Outstanding Dissertation Awards in 1999 (Dr. Leonid Tsap) and 2002 (Dr. Min Shin).
- Paper "Matching point features under small nonrigid motion", *Pattern Recognition*, 34(12), pp. 2353-2365, 2001, received Honorable Mention Award by the Pattern Recognition Society in 2002.
- Selected a *Favorite Professor* by USF chapter of the National Society of Collegiate Scholars in 2001.
- Paper "Automatic tumor segmentation using knowledge-based techniques" selected by International Medical Informatics Association for 2000 IMIA Yearbook containing "the best of medical informatics".
- Nineteenth Annual Pattern Recognition Society Award, 1993.
- University of South Florida, College of Engineering *Outstanding Young Investigator Award*, 1992-1993.

## PATENTS, APPLICATIONS, LICENSING

- Details are confidential, but my research group has worked with USF Patents and Licensing to license IP.
- J. Ligatti, D. Goldgof, C. Cetin, J. Subils, System and Methods for Authentication using Multiple Devices, US Patent 9,659,160, granted 5/23/2017.
- J. Ligatti, D. Goldgof, C. Cetin, J. Subils, Systems and Methods for Anonymous Authentication using Multiple Devices, US Patent 9,380,058, granted 6/28/2016.
- K. Kramer, P. Mouton, L. Hall, Goldgof, D. Elozory, O. Bonam, B. Chaudhury, "Software for Automatic Analysis of Biological Tissue using the Stereologer System", US Patent 9,297,995, granted 3/29/2016.
- L. Tsap, D. Goldgof, S. Sarkar, Computer Vision-Based Technique for Objective Assessment of Material Properties in Non-Rigid Objects", US patent 6,594,381, granted 7/15/2003.
- J. Ligatti, C. Cetin, S. Engram, D. Goldgof, "Systems and Methods for Generating Symmetric Cryptographic Keys", US Provisional Patent Application 62/529,715, filed 7/7/2017.
- J. Ligatti, D. Goldgof, "Systems and Methods for Authentication using Authentication Votes", Application 15/598,974 filed 5/18/2017.
- R. Gillies, D. Goldgof, L. Hall, Systems and Methods for Diagnosing Tumors in a Subject By Performing a Quantitative Analysis of Texture-Based Features of a Tumor Object in a Radiological Image, US Patent Application 15/028,857, filed 4/12/2016
- G. Alzamzmi, D. Goldgof, Y. Sun, R. Kasturi, T. Ashmeade, Machine-Based Infants Pain Assessment Tool, US Patent Application 14/989,500 filed 1/6/2016
- P. Mouton, B. Chaudhury, D. Goldgof, L. Hall, System and Method for Automated Stereology of Cancer, International Patent Application, PCT/US2015/046550, filed 8/24/2015.
- R. Gillies, R. Gatenby, M. Raghunand, J. Arrington, O. Stringfield, Y. Balagurunathan, D. Goldgof, L. Hall, Radiologically Identified Tumor Habitats, International Patent Application PCT/US2015/01594, filed 3/10/2015.

## EDITORIAL BOARDS AND COMMITTEES

- *ICPR Liaison Standing Committee*, International Association of Pattern Recognition (IAPR), 2017-2019.
- *IEEE Press Editorial Board*, 2012-2014, and 2015-2017 terms
- Board of Governors, IEEE Systems, Man and Cybernetics Society, Publication Committee, 2015-2017
- Associate Editor - *IEEE Transactions on Cybernetics* (2001 - present)
- Associate Editor - *International Journal of Pattern Recognition and Artificial Intelligence* (2008 - present)
- NIH, Quantitative Imaging Network (QIN), Image Analysis & Performance Metrics Working Group (IAPMWG), member 2010 - present, Co-Chair 2011-2013, Pet/CT Working Group, Co-Chair 2016-2017, Chair 2017-2018
- Member of IEEE SMC Society Fellows Evaluation Committee, 2014-2017
- ANVUR - National Agency for the Evaluation of the University and Research Systems, Italy, international reviewer, 2016.
- Managing Guest Editor, *Pattern Recog. Letters*, Special Issue: Depth Image Analysis, 12/2014
- RSNA, Quantitative Imaging Biomarkers Alliance (QIBA), Algorithm Comparison Group, 2012 - 2013.
- Member of IEEE Computer Society Fellows Evaluation Committee, 2008, 2009, 2011-13
- North American Editor - *Image and Vision Computing*, 1998 - 2007
- *Image and Vision Computing*, Special Issue on Articulated and Non-rigid motion, Edited by Dimitris Metaxas, Chandra Kambhampettu and Dmitry Goldgof, 25(3), 2007.

- Founding Member - *Translational Bioinformatics Focused Interaction Group* at H. Lee Moffitt Cancer Center and Research Institute (2003 - 2005)
- Provost Academic Review Team for the Department of Computer and Information Sciences, University of Delaware (2002 -2003)
- International Association of Pattern Recognition Education Committee (2000 - 2002)
- Associate Editor - *PATTERN RECOGNITION* (1990 - 2001)
- Associate Editor - *IEEE Transactions on Image Processing* (1996 - 1998)

## GRANTS

- Radiomics of Non-Small Cell Lung Cancer, National Institute of Health (NCI/NIH), 08/15/2016 07/31/2021, Moffitt Cancer Center PIs, B. Gilles, M. Schabath, \$2,896,812, USF investigators, D. Goldgof, L. Hall.
- An Automated Pressure Ulcer Monitory System to Improve Pressure Ulcer Health Outcomes in Veterans with SCI, DOD CDMR Spinal Cord Injury Research Program, 9/30/2016 - 9/29/2019, Veterans Administration (VA) PI M. Peterson, \$593,094, USF subcontract \$177,248, USF D. Goldgof (PI), Y. Sun (co-PI), S. Sarkar (co-PI).
- Informatics Tools for Optimized Imaging Biomarkers for Cancer Research and Discovery, *National Institute of Health (NCI/NIH)*, 9/1/2014 - 6/30/19, Massachusetts General Hospital, PI: B. Rosen, J. Kalpathy-Cramer, Moffitt/USF subcontract \$746,389 (Moffitt PI: R. Gillies, D. Goldgof).
- Analysis of Cryptographic Primitives and Protocols, *CBT Holdings*, 5/9/16 - 5/8/17, \$56,649 + \$56,649 matching from the Florida High Tech Corridor, J. Ligatti (PI), Y. Liu (co-PI), D. Goldgof (co-PI).
- BEST: Electro-Optical Infrared Sensor Systems Streaming and Contrast Tracking, Phase III, *CAE USA*, 8/3/2015 - 8/2/2016, \$25,000, PI
- II-New: A Research Platform for Heterogeneous, Massive Parallel Computing, *National Science Foundation, Program: Computing Research Infrastructure*, 7/1/2015 - 6/30/2018, \$679,798, USF PI Yicheng Tu, role: Senior Personnel
- BEST: Electro-Optical Infrared Sensor Systems Streaming and Contrast Tracking, *CAE USA*, 8/4/2014 8/3/2015, \$25,000, PI
- Radiomics of Lung Cancer Screening, *James and Esther King Biomedical Research Program* , 7/1/2011 - 6/30/2014, Moffitt Cancer Center PI, B. Gilles, \$1,275,045, USF Subcontract \$276,818 (USF co-PI L. Hall).
- Radiomics of Non-Small Cell Lung Cancer, National Institute of Health (NCI/NIH), 3/9/2010 - 2/28/2015, Moffitt Cancer Center PIs, B. Gilles, B. Gatenby, 2,984,045, *USF Sub475,000*, (USF co-PI, L. Hall).
- BEST: Electro-Optical Infrared Sensor Systems Streaming, *CAE USA*, 9/1/2013 8/31/2014, \$25,000, PI
- A Fully Automatic System for Verified Computerized Stereoanalysis, Stereology Research Center, *National Institute of Health (NIMH/NIH/SBIR)*, 10/1/2009 - 9/31/2013, SRC PI, P. Mouton, \$799,812, USF Subcontract \$309,842, (USF co-PI, L. Hall). Florida High Tech Corridor Matching Grant Program \$143,201.
- Performance Evaluation of Automated Tracking Systems for Airborne Video (PEATS), *SET Corporation, an SAIC Company / DARPA*, 8/1/2011 - 6/30/2012, \$80,000 (co-PI R. Kasturi).
- Mathematical and Physical Aspects of the Elliptic Growth, *USF Office of research and Innovations*, 11/1/2011 - 10/31/2012, \$24,600 (co-PIs D. Khavinson (PI), R. Teodorescu).
- Early Warning 4-D Remote Sensing System to Assess Synoptic Threats to Coastal Ecosystems of Florida and of Adjacent States and Nations, *BP/FIO - Gulf Oil Spill Prevention, Response and Recovery Grants Program*, 9/1/2010 - 8/31/2012, \$877,796 (lead-PI F. Muller-Karger, co-PIs L. Hall, C. Hu, subcontracts U Miami, FIT, NOAA/AOML, USM).
- Baseline for Impact Assessment of Zooplankton and Imaging Oil Droplet Detection on West Florida Shelf, *BP/FIO - Gulf Oil Spill Prevention, Response and Recovery Grants Program*, 9/1/2010 - 8/31/2012, \$377,310 (co-PIs, J. Cohen, K. Daly, L. Hall, R. Kasturi).
- Collaborations in Fluid Flow and Elliptic Growth Phenomena: Imaging and Modeling, *USF COE Interdisciplinary Scholarship Program*, 8/31/2009 - 3/31/2010, \$25,000 (co-PI, D. Khavinson, G Sisoev).
- BPC-DP: CSTEP: Computer Science TransfEr Programs, *National Science Foundation*, 10/15/2007 - 9/31/2011, \$592,715 (co-PI's M. Labrador, R. Perez, S. Kadamani).
- Graduate Student Support in Bioinformatics, *H. Lee Moffitt Cancer Center & Research Institute*, 8/7/2008 - 8/6/2009, \$94,800 (co-PI L. Hall).
- Accurate 3D Modeling of Breast Deformation for Temporal Mammogram Registration, *DoD Breast Cancer Research Program Concept Award*, 9/1/2007 - 8/31/2009, \$105,164.
- Evaluation of Smart Video for Transit Event Pattern Detection, *Federal Department of Transportation (FDOT-NCTR)*, 1/1/2008 8/31/2009, \$145,000, (co-PI D. Sapper).
- Transfer of USF Evaluation Algorithms into NIST Codebase, *National Institute of Standards and Technology (NIST)*, 5/8/2008 - 3/30/2009, \$65,026.

- Marine Security: Towards Maritime Sentry System, Graduate Education and Research in Pattern Recognition (USF), 2007-2009, \$60,000, (co-PI's Lembke, Sampson).
- Computational Fluid Dynamics of Pharmaceuticals Processing, Graduate Education and Research in Pattern Recognition (USF), 2007-2009, \$60,000, (co-PI's Sunol, Khavinson).
- A Computer Science and Engineering REU Site, *National Science Foundation*, 01/01/2008 - 12/31/2010, \$308,056, (co-investigator, PIs M. Labrador, R. Perez).
- Performance Evaluation for VACE Phase II, *Department of Defense, Advanced Research and Development Activity (ARDA)*, 9/23/2004 - 9/30/2007, \$1,960,411 (co-PI, PI R. Kasturi).
- Increasing the Accrual to Clinical Trials, *National Institutes of Health*, 6/01/05 - 11/30/07, \$310,000 (co-PIs L. Hall, K. Fields).
- A Computer Science and Engineering REU Site for Florida, Puerto Rico, Latin America, *National Science Foundation*, 02/01/2005 - 1/31/2008, \$299,368, (co-investigator, PIs M. Labrador, R. Perez).
- Effects of HYD1 on melphalan sensitivity in a SCID-Hu in-vivo multiple myeloma model, *Multiple Myeloma Research Foundation*, 1/01/06 - 12/31/06, \$100,000 (co-investigator, PI L. Hazlehurst).
- Development of Automated Image Analysis Software for Suspended Marine Particle Classification, *Office of Naval Research, DOD*, 1/1/2002 - 12/31/2002, \$290,809 (co-PI's S. Samson, T. Hopkins). 7/1/2002 - 4/30/2004, \$263,695, 5/1/2004 - 4/30/2007, \$273,962 (co-PI's S. Samson, T. Hopkins, L. Hall).
- Bioengineering Research Partnership for MR imaging spectroscopic data processing, *National Institutes of Health*, 7/1/02-6/30/07, \$480,000 (co-inv, PI L. Hall, with UCSF, U Miami, UCLA, total funds \$4.9M)
- Vision-based on-board collision avoidance system, *National Science Foundation I/UCRC*, 1/01/05 - 12/31/06, \$140,000, (co-PI, PI R. Kasturi, co-PIs S. Sarkar, H. Jeanty).
- Outdoor Biometrics at a Distance for Video Surveillance, *National Science Foundation I/UCRC*, 1/01/05 - 12/31/06, \$140,000, (co-PI, PI S. Sarkar, co-PI R. Kasturi).
- Film Flow in a Spinning Disk Reactor: Image Based Techniques, Collaboration in Basic Science and Engineering (COBASE), *The National Academies, National Research Council*, 1/1 - 12/31/2004, \$7,800.
- CISE Research Resources: A Compute-Intensive Sensor-Based Environment for Research in Computer Vision and Artificial Intelligence, *National Science Foundation*, 9/15/2001 - 8/31/2003, \$141,213 (\$213,213 with USF matching), (CO-PI's S. Sarkar, L. Hall, E. Fink).
- Automated Quantification of Melanoma, US Army Advanced Detection Center, Moffit Cancer Center, USF, 7/1/2001 - 9/31/2003, \$80,779 (co-PI's S. Sarkar, W. Cruse, D. Reintgen).
- Improved Breast Cancer Research through Automated Matching of Patients to Clinical Trials, *U.S. Army Medical Research Office - CDMRP*, 7/1/2000 - 6/31/2004, \$307,702 (co-PI L. Hall, J. Krischer).
- Enhancing Undergraduate Computer Science Curriculum Through Image Computations, *National Science Foundation*, Course, Curriculum, and Laboratory Improvement (CCLI), 1/1/2000 - 12/31/2001, \$75,205 (co-Pi's S. Sarkar, K. Bowyer).
- Nonrigid Motion and Structure Recovery from 2D Views, *National Science Foundation*, Robotics & Intelligent Systems, 5/1/97 - 3/31/2001, \$299,468 (\$320,468 with USF matching).
- Segmentation and Combination of Range Data using Color-Texture Information, *Sandia Laboratories*, 7/8/98 - 8/31/99, \$27,902 (co-PI's S. Sarkar).
- Quantitative Evaluation of Facial Reconstruction, *The Whitaker Foundation*, 04/01/96 to 04/30/2000, \$268,241 (consultant, PI S. Sarkar)
- Acquisition of a Compute Server for Image Analysis Research that Emphasizes Empirical Performance Characterization, *National Science Foundation*, CISE Instrumentation Program, 1/01/98 - 12/31/98, \$59,232 (\$88,848 with USF matching) (co-PI's K. Bowyer, S. Sarkar, L. Hall).
- Acquisition of a Cyberware 3D Scanner to Facilitate State of the Art Research in Computer Vision, *National Science Foundation*, Major Research Instrumentation (MRI) Program, 9/15/97 - 9/14/98, \$115,000 (\$164,286 with USF matching) (co-PI's S. Sarkar, K. Bowyer, L. Piegl).
- A Qualitative Reasoning Expert System for Assigning Patients into Clinical Trials, *H. Lee Moffitt Cancer Center & Research Institute*, 4/1/97 - 6/31/99, \$37,700.
- Space Grant Fellowship Program, *Florida Space Grant Consortium* 8/1/94 - 7/31/97, \$36,000.
- Support of the Research Activities of a Marine Engineering Institute at USF, *Department of Defense, Office of Naval Research*, 6/1/94 - 5/31/96, \$31,026.
- MRI Segmentation for Tumor Volume Measurements, *National Cancer Institute (NIH)* 3/1/93 - 2/28/96, \$390,327 (multiple co-investigators, co-PI's L. Clarke and L. Hall).
- Cardiac Segmentation, *Hewlett-Packard Company*, 4/1/95 - 6/1/95, \$2,500.
- Analysis of Cardiac Tagged MR Images, *Siemens Medical Systems Inc.*, 7/1/94 - 6/31/95, \$12,500.
- 3D Image Segmentation and Cardiac 3D Motion Analysis from MR data *Siemens Medical Systems Inc.*, (co-PI with L. Clarke), 11/1/91 - 10/31/93, \$50,000.

- Three-Dimensional Nonrigid Motion Analysis, *National Science Foundation*, Robotics & Intelligent Systems, Research Initiation Award, 7/15/90 - 6/30/93, \$67,564 (\$97,772 with USF matching funds). REU - supplement to IRI-9010357, 7/15/91 - 6/30/92, \$8,000 (\$11,000 with USF matching funds).
- Center for Engineering and Medical Image Analysis, *Sun Microsystems Inc.*, Hardware Grant. (Co-PI with L. Clarke) 5/1/91 - 4/31/92, \$131,600 (\$161,600 with USF matching funds).
- Techniques for the Left Ventricle Wall Motion Analysis, *The Whitaker Foundation*, Biomedical Engineering Research Grants, 11/01/90-12/31/92, \$102,549 (\$112,549 with USF matching), 1/1/93-12/31/93, \$52,449.
- Three-Dimensional Motion Analysis and its Biomedical Applications, *State of Florida High Technology and Industry Council*, Applied Research Grant Program, 1/1/90 - 1/31/90, \$19,872.

## AFFILIATIONS

Fellow of AIMBE, Fellow of AAAS, Fellow of IEEE, Fellow of IAPR, member of IEEE Computer Society, IEEE Systems, Man and Cybernetics Society, IEEE SMC Technical Committee on Medical Informatics, IEEE Engineering in Medicine and Biology Society Member of SPIE - The International Society for Optical Engineering; past member of American Society of Engineering Education, OSA, Optical Society of America, Member of Pattern Recognition Society, Member of Phi Kappa Phi, The National Interdisciplinary Honor Society, Tau Beta Pi, The National Engineering Honor Society, Sigma Xi, The Scientific Research Society

## RECENT CONFERENCES CHAIR/COMMITTEES

- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2020), 10/2020, Toronto, Canada, Publication Co-Chair.
- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2019), 10/2019, Bari, Italy, Program Chair.
- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2017), 10/2017, Banff, Canada, Late Breaking Papers Co-Chair.
- *International Conference on Pattern Recognition* (23th ICPR), 12/2016, Cancun, Mexico, Publicity and Sponsorship Co-Chair and Program Committee member.
- *The IEEE International Symposium on Biomedical Imaging (ISBI'16)*, 4/2016, Prague, Czech Republic, Program Committee, Associate Editor.
- *International Conference on Pattern Recognition* (22th ICPR), 8/2014, Stockholm, Sweden, Program Committee, Area Chair (Pattern Recognition and Machine Learning)
- *26th International Symposium on Computer-Based Medical Systems (CBMS 2013, IEEE/ACM)*, 6/2013, Porto, Portugal, Program Committee
- *Big Data Computer Vision 2013, First IEEE Workshop on Large Scale Computer Vision*, 6/2013, Portland, Oregon, Program Committee
- *IEEE Workshop on the Applications of Computer Vision (WACV 2013)*, 1/2013, Clearwater Beach, FL, Local Arrangements
- *International Workshop on Depth Image Analysis (WDIA)*, 11/2012, Tsukuba, Japan, Workshop Chair
- *International Conference on Pattern Recognition* (21th ICPR), 11/2012, Tsukuba, Japan, Program Committee, Area Chair (Pattern Recognition & Applications)
- *25rd SIBGRAPI Conference on Graphics, Patterns, Images*, 8/2012, Brazil, Program Committee
- *25th International Symposium on Computer-Based Medical Systems (CBMS 2012, IEEE/ACM)*, 6/2012, Rome, Italy, Program Committee
- *24rd SIBGRAPI Conference on Graphics, Patterns, Images*, 8/2011, Macei, Brazil, Program Committee
- *International Conference on Computer Analysis of Images and Patterns (CAIP 2011)*, 8/2011, Seville, Spain, Program Committee
- *23rd SIBGRAPI Conference on Graphics, Patterns, Images*, 9/2010, Gramado, Brazil, Program Committee
- *International Conf on Pattern Recognition* (20th ICPR), 8/2010, Istanbul, Turkey, Program Committee
- *The First IEEE International Conference on Biometrics, Identity and Security (BIDS)*, 9/2009, Tampa, FL, Program Committee
- *International Conference on Computer Analysis of Images and Patterns (CAIP 2009)*, 9/2009, Munster, Germany, Program Committee
- *IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA 2009)*, 7/2009, Miami, FL, Program Committee

- *IEEE International Conference on Systems, Man, and Cybernetics (SMC 2008)*, 10/2008, Singapore, Program Committee
- *International Conference on Pattern Recognition (19th ICPR)*, 12/2008, Tampa, Florida, Local Arrangement Chair
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2007, Minneapolis, MN, Demos Chair
- *IEEE Workshop on Motion and Video Computing*, 2/2007 in Austin, Texas, Program Committee
- *International Conference on Pattern Recognition (18th ICPR)*, 8/2006, Hong Kong, Program Committee, Session Chair
- *European Conference on Computer Vision (ECCV 2006)*, 5/2006, Graz, Austria, Program Committee
- *2nd International Workshop on Computer Vision Approaches to Medical Image Analysis (CVAMIA 2006)*, 5/2006, Graz, Austria, Program Committee
- *Asian Conference on Computer Vision (ACCV 2006)*, 1/2006, Hyderabad, India, Program Committee
- *IEEE Signal Processing Society International Workshop on Multimedia Signal Processing (MMSP 2005)* 10/2005, Shanghai, China, Publications Chair
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2005, San Diego, CA, Program Committee
- Third International Conference on Image and Graphics, 12/2004, Hong Kong, Program Committee
- International Conference on Bioinformatics and its Applications (ICBA 2004), 12/2004, Fort Lauderdale, FL, Program Committee
- *International Conference on Pattern Recognition (17th ICPR)*, 8/2004, Cambridge, England, Program Committee
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2004, Washington, DC, Program Committee
- *IEEE Workshop on Articulated and Nonrigid Motion*, 6/2004, Washington, DC, General Co-Chair
- *Computer Vision Approaches to Medical Image Analysis Workshop (CVAMIA)*, 5/2004, Prague, Czech Republic, Program Committee
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2003, Madison, WI, Program Committee
- *IEEE Workshop on Motion and Video Computing*, 12/2002, Orlando, FL, Program Committee
- *International Conference on Pattern Recognition (16th ICPR)*, 8/2002, Quebec City, Canada, Program Committee
- *IEEE Workshop, Math. Methods in Biomedical Image Analysis*, 12/2001, Hawaii, Program Committee
- *IEEE Workshop on Human Motion*, 12/2000, Austin, TX, Program Committee
- *IEEE Workshop on Applications of Comp. Vision*, 12/2000, Palm Springs, CA, Program Committee

#### RECENT UNIVERSITY COMMITTEES (selected)

USF ResearchOne Funding Review Committee (2011-)  
 USF BME Graduate Program Steering Committee (2011-2017)  
 USF Distinguished University Professor Discipline Committee, Chair (2011)  
 USF Sabbatical Committee (2008-2010)  
 USF Engineering Dean Search Committee (2006-2007)  
 USF College of Engineering Executive Taskforce (2006-2007)  
 USF Provost Ad Hoc Committee (2006)  
 USF Council on Technologies for Instruction and Research (2005-2006)  
 USF College of Engineering Governance Committee (2005-2008)  
 Distinguished University Professor Committee (2003-2004)  
 Department Faculty Search Committee (2014) Department Graduate Committee (1990 - present)  
 Department Undergraduate Curriculum and Advising Committee (1997 - 1998, 2010-present)  
 Department Faculty Evaluation Committee (1997-1998,2004-2005, 2008-2009,2012-2014), Chairman (1997,2009,2013)  
 Department Promotion and Tenure Committee (1995 - present)  
 Department Infrastructure Committee, Chair (2003-2005)  
 College of Engineering CS&E Chair Search Committee (2002-2003)  
 USF Bioengineering Institute, Member of the Steering Committee (1999 - 2002)

## STUDENT SUPERVISION

### Ph.D. Dissertation Guidance as Major Professor

1. Wen-Chen Huang, "Physically-Based Modeling in Nonrigid Motion Analysis", May 1994.
2. Chandra Kambhamettu, "Nonrigid Motion Analysis under Small Deformations", August 1994.
3. Senthil Kumar, "Nonrigid Shape Modeling Schemes", December 1995.
4. Adam Hoover, "The Space Envelope Representation for 3D Scenes", August 1996 (with K. Bowyer).
5. Mathew Clark, "Knowledge-Based Processing of MRI of the Brain", December 1997 (with L. Hall).
6. Mingrui Zhang, "Generic Knowledge-Guided Image Segmentation and Labeling with Applications", December 1998 (with L. Hall).
7. Leonid V. Tsap, "Finite Element Modeling of Biological Tissues", May 1999 (with S. Sarkar). Recipient of USF Graduate Council Outstanding Dissertation Prize for 2000.
8. Rampresad Balasubramanian, "Nonrigid Motion Tracking and Structure Reconstruction with Application to MPEG-4", December 1999.
9. Min Shin, "Nonrigid Motion Analysis and Reconstruction from 2D sequences", August 2001. Recipient of USF Graduate Council Outstanding Dissertation Prize for 2002.
10. Jaesik Min, "Improvement of Range Image Segmentation by Utilizing a Performance Evaluation Framework", August 2002 (with K. Bowyer).
11. Tong Luo, "Scaling Up Support Vector Machines with Application to Plankton Recognition", May 2005 (with L. Hall).
12. Yong Zhang, "Robust Algorithms for Property Recovery in Motion Modeling, Medical Imaging and Biometrics", August 2005 (with S. Sarkar).
13. Yuhua Gu, "Ant Clustering with Consensus", May 2009 (with L. Hall).
14. Yan Qiu, "Temporal Registration of Mammograms by Finite Element Simulation of MR Breast Volume Deformation", May 2009.
15. Joshua Candamo, "Boundary Profile Representation for Objects and Their Surroundings in Outdoor Videos", August 2009 (with R. Kasturi).
16. Vasant Manohar, "Facial Skin Motion Properties from Video: Modeling and Applications", December 2009 (with S. Sarkar).
17. Valentina Korzhova, "Motion Analysis of Fluid Flow in a Spinning Disk Reactor", August 2010.
18. Vidya Kamath, "Enhancing gene expression signatures in cancer prediction models: Understanding and managing classification complexity", December 2010 (with S. Eschrich).
19. Kurt Kramer, "System for Identifying Plankton from the SIPPER Instrument Platform", December 2010 (with L. Hall).
20. Jing Zhang, "Extraction of Text Objects in Image and Video Documents", May 2012 (with R. Kasturi)
21. Sergiy Fefilatye, "Algorithms for Visual Marine Surveillance with Rapidly Moving Camera", May 2012
22. Matthew Shreve, "Facial Expression Spotting and Applications", August 2013
23. Mu Zhou, "Knowledge Discovery and Predictive Modeling from Brain Tumor MRIs", May 2015 (with L. Hall)
24. Baishali Chaudhuri, "The Use of Textural Kinetics to Mine Diagnostic Information from DCE MR Images of Breast Tumors", May 2015 (with L. Hall)
25. Hady Ahmady Phoulady, "Adaptive Region-based Approaches for Cellular Segmentation of Bright-Field Microscopy Images", August 2017 (with L. Hall)
26. Rajmadhan Ekambaram, "Active Cleaning of Label Noise Using Support Vector Machines". August 2017 (with L. Hall)
27. Samuel Hawkins, "Lung CT Radiomics: An Overview of Using Images as Data", December 2017 (with L. Hall)

### M.S. Thesis Guidance as Major Professor

1. Sanjoy K. Mishra, "Nonrigid Motion Estimation from Point and Line Correspondences", 4/91.
2. Hongpin Li, "3D Model Construction from Multiple Unknown Range Views", 4/91 (with K. Bowyer).
3. Chandra Kambhamettu, "Curvature-Based Approach to Point Correspondence Recovery in Nonrigid Motion", 12/91.
4. Chin-Tzay Lin, "Motion Estimation from Scaled Orthographic Projections without Corresp.", 12/91.
5. Senthil Kumar, "Automatic Tracking of SPAMM Grid in Cardiac MR Images and the Estimation of Deformation Parameters", 12/92.
6. Art Matheny, "The Use of Three- and Four-Dimensional Surface Harmonics for Rigid and Non-Rigid Shape Recovery and Representation", 12/92.

7. Chunlin Li, "Knowledge Based Classification and Tissue Labeling of Magnetic Resonance Images of the Brain", 12/92 (with L. Hall).
8. Hsiao-Kun Tu, "Left Ventricular Boundary Detection From Spatio-Temporal Volumetric Computed Tomography Images", 8/93.
9. Song Han, "Modeling and Reconstruction of Nonrigid Shapes using Hyperquadrics", 8/93.
10. Adam Hoover, "Creating a boundary representation from a range image", 12/93 (with K. Bowyer).
11. Mathew Clark, "Segmentation of Brain MRI with Knowledge-Based Clustering", 8/94 (with L. Hall).
12. Bruce E. Montrose, "Object Correspondence and Motion estimation using Maximal Matching Techniques on OPUS Data", December 1994.
13. Leonid V. Tsap, "Efficient Utilization of Nonlinear FEM for Nonrigid Motion Analysis", 8/95.
14. Mingrui Zhang, "Knowledge-based Classification of CZCS Images and Monitoring of Phytoplankton Blooms off the West Florida Shelf", 8/96 (with L. Hall).
15. Min C. Shin, "An Objective Comparison of Edge Detection Algo. for Structure from Motion Task", 5/98.
16. Wensheng Yao, "Knowledge-based Classification of SeaWiFS Satellite Images for Monitoring Phytoplankton Blooms Off West Florida", 8/99 (with L. Hall).
17. Jungwei Ke, "Fast Accurate Fuzzy Clustering Through Reduced Precision", 9/99 (with L. Hall).
18. Li Zhou, "Computer Aided Image Analysis of Skin Histology Images", 12/00 (with S. Sarkar).
19. Jamie Freeman, "Compression techniques for microarray images", 8/00.
20. Yong Zhang, "An FEM based Motion Recovery Algorithms and it Application in Computer Vision and Imaging", 12/00 (with S. Sarkar).
21. Jing Lin, "Theory and Algorithms for 3D Tracking of Objects under Affine Motion", 12/01.
22. Yelena Mukomel, "Analysis of lesions in Three-dimensional Skin Images", 12/02 (with S. Sarkar).
23. Haiying Zhang, "Detecting Red Tides off West Florida Shelf by Classification of SeaWIFS Sattelite Imagery", 12/02 (with L. Hall).
24. Sorin Anton, "A Finite Element Based Approach in Computer Vision and its Applications for Nonrigid Registration and Biometrics", 12/02.
25. Mugdha Tembey, "Computer-Aided Diagnosis for Mammographic Microcalcification Clusters", 12/03 (with M. Kallergi).
26. Krassimir Ivanov, "Automatic Location and Segmentation of Skin Lesions Using 3D Range Scanner", 12/03 (with S. Sarkar)
27. Yan Qiu, "3D Deformation Model for Lesion Correspondence in Breast Imaging", 12/03 (with L. Li)
28. Bhavesh Goswami, "Optimizing Cost and Data Entry for Assignment of Patients to Clinical Trials Using Analytical and Probabilistic Web-Based Agents", 12/03 (with L. Hall)
29. Sangeeta Kundu, "Facial Strain Maps as a Biometric Source", 8/05 (with S. Sarkar).
30. Kurt Kramer, "Identifying Plankton from Grayscale Silhouette Images", 12/05.
31. Vidya Kamath, "Use of Random Subspaces Ensembles on Gene Expression Profiles to Enhance the Accuracy of Survival Prediction for Colon Cancer Patients", 12/05 (with R. Kasturi).
32. Li Chen, "Ranking-based Methods for Gene Selection", 4/06 (with L. Li).
33. Valentina Korzhova, "Tracking Fluid Flow in a Spinning Disk Reactor", 4/06
34. Vasant Manohar, "Video-based Person Identification using Facial Strain Maps as a Biometric", 4/06
35. Tim V. Ivanovskiy, "Mining Medical Data in a Clinical Environment", 7/06 (with L. Hall)
36. Chintan Thakkar, "Ventricle Slice Detection In MR Images Using Hough Transform and Object Matching Techniques", 12/06 (with L. Hall)
37. Sergiy Fefilatyev, "Detection of Marine Vehicles in Images and Video of Open Sea", 6/08
38. Weijian Cheng, "Automatic Red Tide Detection Using MODIS Satellite Images", 4/09 (with L. Hall)
39. Sridhar Godavorthy, "Microexpression Spotting in Video using Optical Strain", 8/10
40. Om Pavithra Bonam, "Automated Quantification of Biological Microstructures Using Unbiased Stereology", 6/11 (with L. Hall)
41. Daniel Toby Elozory, "Using a Focus Measure to Automate the Location of Biological Tissue Surfaces in Brightfield Microscopy", 6/11 (with L. Hall)
42. Joshua Kidd, "Detecting Surface Oil using Unsupervised Learning Techniques on MODIS Satellite Data, 5/12 (with L. Hall)
43. Owen Watson, "Full 3D Reconstruction from Multiple RGB-D Cameras", 5/13 (with S. Sarkar)
44. Chih-Yun Pai, "Automatic Pain Assessment from Infant's Crying Sounds", 12/16



**PUBLICATIONS** (citations impact: h-index 50, g-index 90)**Journal:**

1. G. Zamzmi, R. Kasturi, D. Goldgof, R. Zhi, T. Ashmeade, Y. Sun, "A Survey on Automated Pain Assessment for Infants: Features, Classification Tasks, and Databases", *IEEE Reviews in Biomedical Engineering*, (accepted for publication).
2. M. Zhou, J. Scott, B. Chaudhury, L. Hall, D. Goldgof, K. Yeom, M. Iv, Y. Ou, J. Kalpathy-Cramer, S. Napel, R. Gillies, O. Gevaert, R. Gatenby, "Radiomics in Brain Tumor: Image Assessment, Quantitative Feature Descriptors and Machine-learning Approaches", *American Journal of Neuroradiology*, October 2017, DOI: <https://doi.org/10.3174/ajnr.A5391>.
3. H. Phoulady, D. Goldgof, L. Hall, P. Mouton, "A Framework for Nucleus and Overlapping Cytoplasm Segmentation in Cervical Cytology Extended Depth of Field and Volume Images", *Computerized Medical Imaging and Graphics*, 2017, (accepted for publication).
4. M. Shafiq-ul-Hassan, G. Zhang, K. Latifi, G. Ullah, D. C. Hunt, Y. Balagurunathan, M. A. Abdullah, M.B. Schabath, D. G. Goldgof, D. Mackin, L. E. Court, R. J. Gillies, E. G. Moros, "Intrinsic dependencies of CT radiomic features on voxel size and number of gray levels", *Medical Physics*, 2017 (accepted for publication).
5. P. Mouton, H. Phoulady, D. Goldgof, L. Hall, M. Gordon, D. Morgan, "Unbiased Estimation of Cell Number Using the Automatic Optical Fractionator", *Journal of Chemical Neuroanatomy*, v80 (A1-A8), 2017.
6. R. Beichel, B. Smith, J. Ulrich, C. Bauer, P. Ahmadvand, M. Budzevich, R. Gillies, D. Goldgof, M. Grkovski, G. Hamarneh, Q. Huang, P. Kinahan, C. Laymon, E. Moros, J. Mountz, J. Muzi, M. Muzi, S. Nehmeh, M. Oborski, Y. Tan, B. Zhao, J. Sunderland, J. Buatti, "Multi-site Quality and Variability Analysis of 3D FDG PET Segmentations based on Phantom and Clinical Image Data", *Journal of Magnetic Resonance Imaging*, 2016 (accepted for publication). **Editor's Choice Article - 2017**.
7. J. Kalpathy-Cramer, A. Mamomov, B. Zhao, L. Lu, D. Cherezov, S. Napel, S. Echegaray, M. McNitt-Gray, P. Lo, J.C. Sieren, J. Uthoff, S.K.N. Dilger, B. Driscoll, I. Yeung, L. Hadjiiski, K. Cha, Y. Balagurunathan, R. Gillies, D. Goldgof, "Radiomics of lung nodules: a multi-institutional study of robustness and agreement of quantitative imaging features", *Tomography Journal*, Special QIN Issue, V.2(4), pp. 430-437, 2016, DOI: 10.18383/j.tom.2016.00235.
8. R. Paul, S. Hawkins, Y. Balagurunathan, M. Schabath, R. Gillies, L. Hall, D. Goldgof, "Deep Feature Transfer Learning in Combination with Traditional Features Predicts Survival among Patients with Lung Adenocarcinoma", *Tomography Journal*, Special QIN Issue, 2016, v.2(4), pp. 388-395, 2016, DOI: 10.18383/j.tom.2016.00211
9. M. Zhou, B. Chaudhury, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "Identifying Spatial Imaging Biomarkers of Glioblastoma Multiforme for Survival Group Prediction", *Journal of Magnetic Resonance Imaging*, 2016, Online: 28 September 2016, DOI: 10.1002/jmri.25497.
10. S. Hawkins, H. Wang, Y. Liu, A. Garcia, O. Stringeld, H. Krewer, Q. Li, D. Cherezov, R. Gatenby, Y. Balagurunathan, D. Goldgof, M. Schabath, L. Hall, R. Gillies, "Predicting malignant nodules from screening CTs", *Journal of Thoracic Oncology*, 2016, DOI: 10.1016/j.jtho.2016.07.002. **Editor's Choice Article - 2017**.
11. J. Kalpathy-Cramer, B. Zhao, D. Goldgof, Y. Gu, X. Wang, H. Yang, Y. Tan, R. Gillies, S. Napel, "A Comparison of Lung Nodule Segmentation Algorithms: Methods and Results from a Multi-institutional Study", *Journal of Digital Imaging*, (2016) 29: 476-486, Online: 03 February 2016, DOI 10.1007/s10278-016-9859-z.
12. R. Ekambaram, S. Fefilatyeve, K. Kramer, M. Shreve, L. Hall, D. Goldgof, R. Kasturi, "Active Cleaning of Label Noise", *Pattern Recognition*, v 51(C), pp. 463-480, 2016, doi:10.1016/j.patcog.2015.09.020.
13. B. Lin, Y. Sun, X. Qian, D. Goldgof, R. Gitlin, Y. You, "Video Based 3D Reconstruction, Laparoscope Localization, and Deformation Recovery for Abdominal Minimally Invasive Surgery: A Survey", *The International Journal of Medical Robotics and Computer Assisted Surgery*, 2015, DOI: 10.1002/rcs.1661.
14. I. Soto, J. Cannizzaro, F. Muller-Karger, C. Hu, J. Wolny, D. Goldgof, "Evaluation and Optimization of Remote Sensing Techniques for Detection of *Karenia brevis* blooms on the West Florida Shelf", *Remote Sensing of Environment*, vol. 170, pp. 239-254, 2015
15. B. Chaudhury, M. Zhou, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, B. Patel, R. Weinfurter, J. Drukteinis, "Heterogeneity in intratumoral regions with rapid gadolinium washout correlates with ER status and nodal metastasis" *Journal of Magnetic Resonance Imaging*, vol. 42(5), pp. 1421-1430, 2015.

16. N. Obuchowski, A. Reeves, E. Huang, X. Wang, A. Buckler, H. Kim, H. Barnhart, E. Jackson, M. Giger, G. Pennello, A. Toledano, J. Kalpathy-Cramer, T. Apanasovich, P. Kinahan, K. Myers, D. Goldgof, Daniel P. Barboriak, R. Gillies, L. Schwartz, D. Sullivan, "Quantitative Imaging Biomarkers: A Review of Statistical Methods for Computer Algorithm Comparisons", *Statistical Methods in Medical Research*, vol. 24(1), pp. 68-106, 2015
17. S. Hawkins, J. Korecki, Y. Balagurunathan, Y. Gu, V. Kumar, S. Basu, L. Hall, D. Goldgof, R. Gatenby, R. Gillies, "Predicting Prognosis of Non-Small Cell Lung Cancer Using CT Image Features", *IEEE Access*, vol. 2, pp. 1418-1426, 2014
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26. S. Fefilatyeu, D. Goldgof, M. Shreve, C. Lembke, "Detection and Tracking of Ships in Open Sea with Rapidly Moving Buoy-Mounted Camera System", *Ocean Engineering*, vol. 54, pp. 1-12, 2012.
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2. J. Kalpathy-Cramer, B Zhao, D Goldgof, S Napel, D L Rubin, M F McNitt-Gray, J Sieren, I Yeung, L Hadjiiski, Y Balagurunathan, A Beers, "Standardizing Radiomic Feature Descriptions for Quantitative Imaging: A Preliminary Report of the Cooperative Efforts of the NCI's QIN PET-CT Subgroup", Education Exhibit, RSNA 2017, Chicago, IL, 12/2017
3. R. Liu, L. Hall, K. Bowyer, D. Goldgof, R. Gatenby, K. Ahmed, "Synthetic Minority Image Over-sampling Technique: How to Improve AUC for Glioblastoma Patient Survival Prediction", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2017)*, Bunff, Canada, 10/2017.
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