

Nikos Paragios, Professor

Updated: 01/2011

Current Position: Ecole Centrale de Paris (P1)
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Educational Background

- 2005 **Habilitation a Diriger des Recherches.** School of Electrical and Computer Engineering, University of Nice/Sophia Antipolis, France,
- 1996 - 2000 **Ph.D. in Electrical & Computer Engineering** with the highest honors (mention tres honorable avec les felicitations du jury). I.N.R.I.A. Sophia Antipolis (French Research Institute for Research in Computer Science and Control) & School of Electrical and Computer Engineering, University of Nice/Sophia Antipolis, France,
- 1994 - 1996 **Master Degree in Computer Science** (mention très honorable), *Computer Science Department, University of Crete, Greece.*
- 1990 - 1994 **Bachelor Degree in Computer Science** (mention très honorable - **majeur**, School of Science), *Computer Science Department, University of Crete, Greece.*

Career Highlights

- Fellow Member, Institute of Electrical and Electronics Engineers (IEEE)
- H-index: 33, Citations: 5,681 (according to Publish or Perish - 1/31/2011)
- European Research Council, Starting-Grant/Consolidator, DIOCLES: Discrete Biomedical Perception, 2010
- Bodossakis Foundation Academic Prize: highest honor for young academics and scientists of Greek descent under the age of 40 in the field of applied sciences, 2008
- MIT TR35, one of the top 35 innovators in science and technology under the age of 35 who with their accomplishments are likely to shape their fields for decades to come from the MIT's Technology Review magazine, 2006

- Associate Editor, IEEE Transactions on Pattern Analysis and Machine Intelligence
- Area Editor, Computer Vision and Image Understanding Journal,
- Editorial Board Member, Medical Image Analysis,
- Editorial Board Member, International Journal of Computer Vision,
- Editorial Board Member, Journal of Mathematical Imaging and Vision,
- Editorial Board Member, Image and Vision Computing Journal,
- Editorial Board Member, SIAM Journal on Imaging Sciences,
- Program Chair, 11th European Conference in Computer Vision (ECCV'10),
- Fellow Member, (IEEE) Institute of Electrical and Electronics Engineers

Research Domains

- Multi-dimensional Signal Processing
 - Discrete and Continuous Optimization,
 - Image Segmentation and Grouping,
 - Image/Video and Structure Completion,
 - Object Recognition and Image Retrieval,
 - Motion analysis, Optical flow estimation and tracking,
 - 3D Grammar-based reconstruction of large scale scenes,
- Biomedical Imaging and Vision, Molecular Imaging
 - Shape/Surface/Volume Registration
 - Segmentation of Anatomical Structures with Prior Knowledge
 - Segmentation of anatomical structures with sparse models
 - DT-MRI, extraction and statistical interpretation of fibers
 - Cardiac Image Analysis towards Predictive Models of the Left Ventricle
- Augmented Reality, Human Computer interaction
 - Real-time face reconstruction
 - Hand-pose estimation from monocular images,
 - Camera-pose estimation in known environments from single shot images,
 - Photo-realistic models for animation and transitions of facial expressions,
- Applied Partial Differential Equations

Professional Background

December 2007 -	Director, Galen Research Group, INRIA Saclay Ile-de-France , France.
November 2005 -	Professor, Department of Applied Mathematics, Ecole Centrale de Paris , France.
July 2007 - September 2007	Visiting Professor, <u>Department of Biomedical Engineering</u> , Yale University , New Haven, Connecticut USA.
May 2006 - June 2006	Visiting Professor, <u>Computer Science Department</u> , Rutgers University , New Brunswick, New Jersey, USA.
March 2004 - October 2005	Professor, <u>Center for Education and Research in Computer Science</u> , Ecole Nationale de Ponts et Chaussees , Paris, France.
October 2002 - March 2004	Project Manager, <u>Real Time Vision and Modeling Department</u> , Siemens Corporate Research , Princeton, New Jersey, USA.
January 2004 - March 2004	Senior Research Scientist, <u>Real-Time Vision and Modeling Department</u> , Siemens Corporate Research , Princeton, New Jersey, USA.
November 1999 - January 2004	Research Scientist, <u>Imaging and Visualization Department</u> , Siemens Corporate Research , Princeton, New Jersey, USA.
September 2002 - January 2003	Adjunct Professor, <u>Computer Science Department</u> , Rutgers University , New Brunswick, New Jersey, USA.
October 1996 - October 1999	Research Associate, <u>Robotics and Vision Group (RobotVis)</u> , I.N.R.I.A. , Sophia Antipolis Research Unit, France.
September 1994 - June 1996	Research Assistant, <u>Computer Vision and Robotics Group</u> , Institute of Computer Science, Foundation for Research and Technology, Hellas , Crete, Greece.

Selected Publications

• DISSERTATIONS

- N. PARAGIOS, *Variational and Statistical Methods in Computational Vision: Contributions & Applications*, **Habilitation a Diriger des Recherches**, University of Nice Sophia Antipolis, France, Dec. 2005.
- N. PARAGIOS, *Geodesic Active Regions and Level Set Methods: Contributions and Applications in Artificial Vision*, **Ph.D. thesis**, School of Computer Engineering, University of Nice Sophia Antipolis, France, Jan. 2000.
- N. PARAGIOS, *Adaptive Detection and Location of Moving Objects in Image Sequences*, **Master thesis**, Computer Science Department, University of Crete, Greece, Jun. 1996.

• BOOKS

1. N. PARAGIOS, N. AYACHE AND J. DUNCAN (EDS), *Biomedical Image Analysis: Methodologies and Applications*, Springer, 2011 (in press).
2. N. PARAGIOS, Y. CHEN AND O. FAUGERAS (EDS), *The Handbook of Mathematical Models in Computer Vision*, Springer, 2005 (0-38726-3713).
3. S. OSHER AND N. PARAGIOS (EDS), *Geometric Level Set Methods in Imaging, Vision and Graphics*, Springer Verlag, 2003 (ISBN 0-38795-4880).

• JOURNAL PUBLICATIONS

1. L. SIMON, O. TEBOUL, P. KOUTSOURAKIS & N. PARAGIOS, *Random Exploration of the Procedural Space for Single-View 3D Modeling of Buildings*, International Journal of Computer Vision, (in press), 2011.
2. M. DE LA GORGE, D. FLEET & N. PARAGIOS, *Model-based 3D Hand Pose Estimation from Monocular Video*, IEEE Transactions on Pattern Analysis and Machine Intelligence, (in press), 2011.
3. S. KADOURY, H. LABELLE & N. PARAGIOS, *Automatic Inference of Articulated Spine Models in CT Images using High-Order Markov Random Fields*, Medical Image Analysis Journal, (in press), 2011.
4. B. GLOCKER, A. SOTIRAS, N. KOMODAKIS N. PARAGIOS, *Deformable Medical Image Registration: Setting The State Of The Art With Discrete Methods*, Annual Reviews on Biomedical Engineering Journal, (in press), 2011.
5. G. LANGS, N. PARAGIOS, P. DESGRANGES, A. RAHMOUNI AND H. KOBEITER, *Learning Deformation and Structure Simultaneously: In Situ Endograft Deformation Analysis*, Medical Image Analysis Journal, (in press), 2011.

6. N. KOMODAKIS, N. PARAGIOS AND G. TZIRITAS, *MRF Energy Minimization and Beyond via Dual Decomposition*, IEEE Transactions on Pattern Analysis and Machine Intelligence, 33(3): 531-552, 2011.
7. K. KARANTZALOS AND N. PARAGIOS , *Large-Scale Building Reconstruction through Information Fusion and 3D Priors*, IEEE Transactions on Geoscience and Remote Sensing, 48(5): 2283-2296, 2010.
8. N. AZZABOU, N. PARAGIOS & F. GUICHARD, *Image Reconstruction Using Particle Filters and Multiple Hypotheses Testing*, IEEE Transactions on Image Processing, 19(5): 1181-1190, 2010.
9. M. DE-LA-GORCE AND N. PARAGIOS, *A Variational Approach to Monocular Hand-pose Estimation*, Computer Vision and Image Understanding, 114: 363-372, 2010.
10. D. ZIKIC, B. GLOCKER, O. KUTTERA, M. GROHERA, N. KOMODAKIS, A.I KAMEN, N. PARAGIOS N. NAVAB, *Linear Intensity-based Image Registration by Markov Random Fields and Discrete Optimization*, Medical Image Analysis Journal, 14(4):550-562, 2010.
11. N. AZZABOU N. PARAGIOS, *patio-temporal Speckle Reduction in Ultrasound Images*, Inverse Problems in Imaging, 4(2): 211-222, 2010.
12. K. VARSHNEY, N. PARAGIOS, J-F. DEUX A. KULSKI, R. RAYMOND, P. HERNIGOU, AND A. RAHMOUNI, *Post-Arthroplasty Examination Using X-Ray Images*, IEEE Transactions on Medical Imaging, pp. 469-474, 2009.
13. L. GUI, J.-P. THIRAN & N.PARAGIOS, *Cooperative Object Segmentation and Behavior Inference in Image Sequences*, International Journal in Computer Vision, 84(2): 146 - 162, 2009.
14. K. KARANTZALOS AND N. PARAGIOS , *Recognition-Driven 2D Competing Priors Towards Automatic And Accurate Building Detection*, IEEE Transactions on Geoscience and Remote Sensing, pp. 133-144, 2009.
15. A. MITTAL, A. MONNET AND N. PARAGIOS, *Scene Modeling and Change Detection in Dynamic Scenes: A Subspace Approach*, Computer Vision and Image Understanding, pp. 63-79, 2009.
16. M. TARON, N. PARAGIOS AND M.-P. JOLLY, *Registration with Uncertainties and Statistical Modeling of Shapes with Variable Metric Kernels*, IEEE Transactions on Pattern Analysis and Machine Intelligence, pp. 99-113, 2009.
17. B. GLOCKER, N. KOMODAKIS, G. TZIRITAS, N. NAVAB & N.PARAGIOS, *Dense Image Registration through MRFs and Efficient Linear Programming*, Medical Image Analysis, pp 731-741, 2008.
18. J.-F. DEUX, P. MALZY, N. PARAGIOS, G BASSEZ, A. LUCIANI, P. ZERBIBA, F. ROUDOT-THORAVAl, A. VIGNAUD AND A. RAHMOUNI, *Assessment of calf muscles contraction by Diffusion Tensor Imaging*, European Radiology, pp. 2303-2010, 2008.

19. N. KOMODAKIS, G. TZIRITAS & N. PARAGIOS, *Performance vs Computational Efficiency for Optimizing Single and Dynamic MRFs: Setting the State of the Art with Primal Dual Strategies*, Computer Vision and Image Understanding, 14-29, 2008.
20. M. ROUSSON AND N. PARAGIOS, *Prior Knowledge, Level Set Representations and Visual Grouping*, International Journal in Computer Vision, pp. 231-243, 2008.
21. X. HUANG, N. PARAGIOS AND D. METAXAS, *Shape Registration in Implicit Spaces using Information Theory and Free Form Deformations*, IEEE Transactions on Pattern Analysis and Machine Intelligence, pp. 1303 - 1318, 2006.
22. N. PARAGIOS AND R. DERICHE, *Geodesic Active Regions and Level Set Methods for Motion Estimation and Tracking*, Computer Vision and Image Understanding, volume 97, pages 259-282, 2005.
23. N. PARAGIOS O. MELLINA-GOTTARDO AND V. RAMESH, *Gradient Vector Flow Fast Geometric Active Contours*, IEEE Transactions on Pattern Analysis and Machine Intelligence, pp. 402-407, 2004.
24. N. PARAGIOS, *Shape-driven Knowledge-based Segmentation and Tracking in Medical Image Analysis*, IEEE Transactions on Medical Imaging, pp. 402-407773-776, 2003.
25. N. PARAGIOS, M. ROUSSON AND V. RAMESH, *Non-Rigid Registration Using Distance Functions*, Computer Vision and Image Understanding, vol. 23, pp. 142-165, 2003.
26. N. PARAGIOS, *A Variational Approach for the Segmentation of the Left Ventricle in MR Cardiac Images*, International Journal of Computer Vision, vol. 50, pp. 345-362, 2002.
27. N. PARAGIOS AND R. DERICHE, *Geodesic Active Regions and Level Set Methods for Supervised Texture Segmentation*, International Journal of Computer Vision, vol. 46, pp. 223-247, 2002.
28. N. PARAGIOS AND R. DERICHE, *Geodesic Active Regions: A new Paradigm to Deal with Frame Partition Problems in Computer Vision*, Journal of Visual Communication and Image Representation, 13: 249-268, 2002.
29. N. PARAGIOS AND R. DERICHE, *Geodesic Active Contours and Level Sets for the Detection and Tracking of Moving Objects*, IEEE Transactions on Pattern Analysis and Machine Intelligence, vol 22, pp. 266-280, 2000.
30. N. PARAGIOS AND G. TZIRITAS, *Adaptive Detection and Localization of Moving Objects in Image Sequences*, Signal Processing: Image Communication, vol. 14, pp. 277-296, 1999.

• TOP RANK CONFERENCE PUBLICATIONS (ICCV, CVPR, ECCV, IPMI, MICCAI, NIPS ...)

1. N. HONNORAT, R. VAILLANT & N. PARAGIOS, *Guide-wire Extraction through Perceptual Organization of Local Segments in Fluoroscopic Images*, International Conference, Medical Image Computing and Computer Assisted Intervention (MICCAI), 2010.

2. S. KADOURY & N. PARAGIOS, *Nonlinear Embedding towards Articulated Spine Shape Inference using Higher-Order MRFs*, International Conference, Medical Image Computing and Computer Assisted Intervention (MICCAI), 2010.
3. M. SAVINAUD, M. DE LA GORCE, S. MAITREJEAN & N. PARAGIOS, *Model-based Multi-view Fusion of Cinematic Flow and Optical Imaging*, International Conference, Medical Image Computing and Computer Assisted Intervention (MICCAI), 2010.
4. A. SOTIRAS, Y. OU, B. GLOCKER, C. DAVATZIKOS & N. PARAGIOS, *Simultaneous Geometric - Iconic Registration*, International Conference, Medical Image Computing and Computer Assisted Intervention (MICCAI), 2010.
5. C. WANG, O. TEBOUL, F. MICHEL, S. ESSAFI & N. PARAGIOS. *3D KNOWLEDGE-BASED SEGMENTATION USING POSE-INVARIANT HIGHER-ORDER GRAPHS*, International Conference, Medical Image Computing and Computer Assisted Intervention (MICCAI), 2010.
6. M. BRONSTEIN, A. BRONSTEIN, F. MICHEL AND N. PARAGIOS, *Data Fusion through Cross-modality Metric Learning using Similarity-Sensitive Hashing*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2010.
7. O. TEBOUL, L. SIMON, P. KOUTSOURAKIS AND N. PARAGIOS, *Segmentation of Building Facades Using Procedural Shape Priors*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2010.
8. Y. ZENG, C. WANG , Y. WANG X. GU , D. SAMARAS AND N. PARAGIOS, *Dense Non-rigid Surface Registration Using High-Order Graph Matching*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2010.
9. J. HONORIO, L. ORTIZ, D. SAMARAS, N. PARAGIOS AND R. GOLDSTEIN, *Sparse and Locally Constant Gaussian Graphical Models*, Neural Information Processing Systems Conference (NIPS), 2009.
10. S. ESSAFI, G. LANGS & N. PARAGIOS, *Hierarchical 3D Diffusion Wavelets Shape Priors*, IEEE International Conference in Computer Vision (ICCV), 2009.
11. P. KOUTSOURAKIS, O. TEBOUL, L. SIMON, G. TZIRITIS & N. PARAGIOS, *Single View Reconstruction Using Shape Grammars for Urban Environments*, IEEE International Conference in Computer Vision (ICCV), 2009.
12. C. WANG, M. DE LA GORGE & N. PARAGIOS, *Segmentation, Ordering and Tracking using Graphical Models*, IEEE International Conference in Computer Vision (ICCV), 2009.
13. S. ESSAFI, G. LANGS AND N. PARAGIOS, *Left Ventricle Segmentation Using Diffusion Wavelets & Boosting* , International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2009.
14. S. KADOURY AND N. PARAGIOS, *Surface/Volume-based Articulated 3D Spine Inference through Markov Random Fields*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2009.

15. A. SOTIRAS, N. KOMODAKIS, B. GLOCKER AND N. PARAGIOS, *Graphical Models and Deformable Diffeomorphic Population Registration Using Global and Local Metrics*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2009.
16. R. NEJI, A. BESBES, N. KOMODAKIS, J-F. DEUX, M. MAATOU, A. RAHMOUNI, G. BASSEZ, G. FLEURY AND N. PARAGIOS, *A novel method for clustering of skeletal muscle fibers from DTI based on an angular Hilbertian metrics using linear programming*, Information Processing in Medical Imaging (IPMI), 2009.
17. B. GLOCKER, N. KOMODAKIS, N. NAVAB, G. TZIRITAS AND N. PARAGIOS, *Dense Registration with Deformation Priors*, Information Processing in Medical Imaging (IPMI), 2009.
18. R. NEJI, N. PARAGIOS, G. FLEURY, J-P. THIRAN AND G. LANGS, *Classification of Tensors and Fiber Tracts Using Mercer-Kernels Encoding Soft Probabilistic Spatial and Diffusion Information*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2009.
19. A. BESBES, N. KOMODAKIS, G. LANGS AND N. PARAGIOS, *Shape Priors and Discrete MRFs for Knowledge-based Segmentation*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2009.
20. H. HEIBEL, B. GLOCKER, M. GROHER, N. PARAGIOS, N. KOMODAKIS AND N. NAVAB, *Discrete Tracking of Parametrized Curves*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2009.
21. N. KOMODAKIS AND N. PARAGIOS, *Beyond Pairwise Energies: Efficient Optimization for Higher-order MRFs*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2009.
22. A. PANAGOPOULOS, D. SAMARAS AND N. PARAGIOS, *Robust Shadow and Illumination Estimation Using a Mixture Model*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2009.
23. N. KOMODAKIS AND N. PARAGIOS, *Beyond Loose LP-relaxations: Optimizing MRFs by Repairing Cycles*, European Conference in Computer Vision (ECCV), 2008.
24. N. AZZABOU AND N. PARAGIOS, *Spatio-Temporal Speckle Reduction In Ultrasound Sequences*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2008.
25. X. HUBERT, D. CHAMBELLAN, S. LEGOUPIL, J.R DEVERRE AND N. PARAGIOS, *Spatio-temporal decomposition in object-space along reconstruction in emission tomography*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2008.
26. G. LANGS, D. SAMARAS, N. PARAGIOS, J. HONORIO, N. ALIA-KLEIN, D. TOMASI, N. VOLKOW AND R. GOLDSTEIN, *Task-Specific Functional Brain Geometry from Model Maps*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2008.

27. C. WACHINGER, B. GLOCKER, J. ZELTNER, N. PARAGIOS, N. KOMODAKIS, M.S. HANSEN AND N. NAVAB, *Deformable Mosaicing for Whole-body MRI*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2008.
28. N. KOMODAKIS, G. TZIRITAS AND N. PARAGIOS, *Clustering via LP-based Stabilities*, Neural Information Processing (NIPS), 2008.
29. R. BEHMO, N. PARAGIOS AND V. PRINNET, *Graph commute times for image representation*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2008.
30. M. DE LA GORCE, N. PARAGIOS AND D. FLEET, *Model-Based Hand tracking with Texture, Shading and Self-occlusions*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2008.
31. S. ESSAFI, G. LANGS AND N. PARAGIOS, *Sparsity, Redundancy and Optimal Image Support towards Knowledge-based Segmentation*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2008.
32. B. GLOCKER, N. PARAGIOS, N. KOMODAKIS, G. TZIRITAS AND N. NAVAB, *Optical Flow Estimation with Uncertainties through Dynamic MRFs*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2008.
33. G. LANGS AND N. PARAGIOS, *Modeling the structure of multivariate manifolds: Shape Maps*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), 2008.
34. K. KARANTZALOS AND N. PARAGIOS, *Automatic Model-Based Building Detection From Single Panchromatic High Resolution Images*, XXI Congress of the International Society for Photogrammetry & Remote Sensing (ISPRS), 2008.
35. N. KOMODAKIS, N. PARAGIOS AND G. TZIRITAS, *MRF Optimization via Dual Decomposition: Message-Passing Revisited*, IEEE International Conference in Computer Vision (ICCV), 2007.
36. B. GLOCKER, N. KOMODAKIS, N. PARAGIOS, D. GLASSER, G. TZIRITAS AND N. NAVAB, *Primal/Dual Linear Programming and Statistical Atlases for Cartilage Segmentation*, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Brisbane, 2007. C. FLORIN, N. PARAGIOS, G. FUNKALEA AND J. WILLIAMS, *Liver Segmentation Using Sparse 3D Prior Models with Optimal Data Support*, Information Processing in Medical Imaging (IPMI), 2007.
37. B. GLOCKER, N. KOMODAKIS, N. PARAGIOS, G. TZIRITAS AND N. NAVAB, *Inter and Intra-Modal Deformable Registration: Continuous Deformations Meet Efficient Optimal Linear Programming*, Information Processing in Medical Imaging (IPMI), 2007.
38. N. AZZABOU, N. PARAGIOS, F. CAO AND F. GUICHARD, *Variable Bandwidth Image Denoising with Explicit Use of Image-based Parameter-free Noise Models*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Mineapolis, 2007.
39. L. GUI, J-P. THIRAN AND N. PARAGIOS, *Joint Segmentation and Object Behavior Classification in Image Sequences*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Mineapolis, 2007.

40. N. KOMODAKIS, G. TZIRITAS AND N. PARAGIOS, *Fast, Approximately Optimal Solutions for Single and Dynamic MRFs*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Mineapolis, 2007.
41. C. FLORIN, N. PARAGIOS AND J. WILLIAMS, *Globally Optimal Active Contours, Sequential Monte Carlo and On-line Learning for Vessel Segmentation*, European Conference in Computer Vision (ECCV), Copenhagen (Denmark), 2006 .
42. N. AZZABOU, N. PARAGIOS AND F. GUICHARD, *Random Walks, Constrained Multiple Hypotheses Testing and Image Enhancement*, European Conference in Computer Vision (ECCV), Copenhagen (Denmark), 2006.
43. M. TARON, N. PARAGIOS AND M.-P. JOLLY, *Modelling Shapes with Uncertainties : Higher Order Polynomials, Variable Bandwidth Kernels and Non-Parametric Density Estimation*, IEEE International Conference in Computer Vision (ICCV), 2005.
44. C. FLORIN, N. PARAGIOS AND J. WILLIAMS, *Particle Filters, a Quasi-Monte Carlo Solution for Segmentation of Coronaries*, Medical Image Computing & Computer Assisted Intervention (MICCAI), Palm Springs (USA), 2005.
45. S. LIM, A. MITTAL, L. DAVIS AND N. PARAGIOS, *Fast Illumination-invariant Background Subtraction using Two Views: Error Analysis, Sensor Placement and Applications*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), San Diego (USA), 2005.
46. M. TARON, N. PARAGIOS AND M-P. JOLLY, *Border Detection on Short Axis Echocardiographic Views Using an Ellipse Driven Region-based Framework*, Medical Image Computing & Computer Assisted Intervention (MICCAI), St Malo (France), 2004.
47. M. ROUSSON, N. PARAGIOS AND R. DERICHE, *Implicit Active Shape Models for 3D Segmentation in MRI Imaging*, Medical Image Computing & Computer Assisted Intervention (MICCAI), St Malo (France), 2004
48. A. MITTAL AND N. PARAGIOS, *Motion-Based Background Subtraction using Adaptive Kernel Density Estimation*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Washington D.C. (USA), 2004.
49. A. MONNET, A. MITTAL, N. PARAGIOS AND V. RAMESH, *Background Modeling & Subtraction of Dynamic Scenes*, IEEE International Conference in Computer Vision (ICCV), Nice (France), 2003.
50. N. PARAGIOS, *User & Computer-aided Boundary Delineation through the Propagation of Implicit Surfaces*, Medical Image Computing & Computer Assisted Intervention (MICCAI), Montreal (Canada), 2003.
51. X. HUANG, N. PARAGIOS, AND D. METAXAS *Establishing Local Correspondences towards Compact Representations of Anatomical Structures*, Medical Image Computing & Computer Assisted Intervention (MICCAI), Montreal (Canada), 2003.
52. N. PARAGIOS, M. ROUSSON AND V. RAMESH, *Matching Distance Functions: A Shape-to-Area Variational Approach for Global-to-Local Registration*, European Conference in Computer Vision (ECCV), Copenhagen (Denmark), vol. II. pp. 775-789, 2002.

53. M. ROUSSON AND N. PARAGIOS, *Shape Priors for Level Set Representations*, European Conference in Computer Vision (ECCV), Copenhagen (Denmark), vol. II. pp. 78-93, 2002.
54. N. PARAGIOS AND V. RAMESH, *A MRF-based Real Time Approach for Subway Monitoring*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Hawaii (USA), vol. I, pp. 1034-1040, 2001.
55. N. PARAGIOS, O. MELLINA-GOTTARDO AND V. RAMESH, *Gradient Vector Flow Fast Geodesic Active Contours*, IEEE International Conference in Computer Vision (ICCV), Vancouver (Canada), vol. I, pp. 67-73, 2001.
56. B. STENGER, V. RAMESH, N. PARAGIOS, F. COETZEE AND J. BOUHMANN, *Topology Free Hidden Markov Models: Application to background Modeling*, IEEE International Conference in Computer Vision (ICCV), Vancouver (Canada), vol. I, pp. 294-300, 2001.
57. N. PARAGIOS AND R. DERICHE, *Coupled Geodesic Active Regions for Image Segmentation: A Level Set Approach*, European Conference in Computer Vision (ECCV), Dublin (Ireland), vol. II, pp. 224-240, 2000.
58. N. PARAGIOS AND R. DERICHE, *Geodesic Active Regions for Supervised Texture Segmentation*, IEEE International Conference in Computer Vision (ICCV), Corfu (Greece), pp. 926-932, 1999.
59. N. PARAGIOS AND R. DERICHE, *Geodesic Active Regions for Motion Estimation and Tracking*, IEEE International Conference in Computer Vision (ICCV), Corfu (Greece), pp. 688-694, 1999.
60. N. PARAGIOS AND R. DERICHE, *Geodesic Active Contours for Supervised Texture Segmentation*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Fort Collins (USA), vol. 2, pp. 300-305, 1999.
61. N. PARAGIOS AND R. DERICHE, *Unifying Boundary and Region-based information for Geodesic Active Tracking*, IEEE Conference in Computer Vision and Pattern Recognition (CVPR), Fort Collins (USA), vol. 2, pp. 422-427, 1999.
62. N. PARAGIOS AND R. DERICHE, *A PDE-based Level Set Approach for Detection and Tracking of Moving Objects*, IEEE International Conference in Computer Vision (ICCV), Mumbai (India), pp. 1139-1145, 1998.

• INVITED PUBLICATIONS

1. N. KOMODAKIS, A. BESBES, B. GLOCKER & N. PARAGIOS *Biomedical Image Analysis Using Markov Random Fields & Efficient Linear Programming*, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2009.
2. N. PARAGIOS *Variational Methods and Partial Differential Equations in Cardiac Image Analysis*, IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI), Arlington (USA), 2004.

• PEER-REVIEW CONFERENCE PUBLICATIONS (ICPR, ISBI, ETC...)

1. T. HAUKE HEIBEL, B. GLOCKER, N. NAVAB AND N. PARAGIOS, *Needle Tracking Through Higher Order MRF Optimization*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
2. N. HONNORAT, R. VAILLANT AND N. PARAGIOS, *Robust Guidewire Segmentation Through Boosting, Clustering and Linear Programming*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
3. S. KADOURY AND N. PARAGIOS, *Multimodal Inference of Articulated Spine Models from Higher Order Energy Functions of Discrete MRFs*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
4. F. MICHEL AND N. PARAGIOS, *Image Transport Regression Using Mixture of Experts and Discrete Markov Random Fields*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
5. Y. OU, A. BESBES, M. BILELLO, M. MANSOUR, C. DAVATZIKOS AND N. PARAGIOS, *Detecting Mutually-Salient Landmark Pairs with MRF Regularization*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
6. M. SAVINAUD, A. SOTIRAS, S. MAITREJEAN AND N. PARAGIOS, *Bioluminescence Enhancement Through Fusion of Optical Imaging and Cinematic Video Flow*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
7. A. SOTIRAS, R. NEJI, J-F. DEUX, N. KOMODAKIS, G. FLEURY AND N. PARAGIOS, *A Kernel-based Graphical Model for Diffusion Tensor Registration*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2010.
8. A. BESBES, N. KOMODAKIS AND N. PARAGIOS, *Graph-based Knowledge-driven Discrete Segmentation of the Left Ventricle*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2009.
9. S. ESSAFI, G. LANGS, J-F. DEUX, A. RAHMOUNI, G. BASSEZ AND N. PARAGIOS, *Wavelet-driven Knowledge-based MRI Calf Segmentation*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2009.
10. B. GLOCKER, D. ZIKIC, N. KOMODAKIS, N. PARAGIOS AND N. NAVAB, *Linear Image Registration through MRF Optimization*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2009.
11. R. NEJI, G. LANGS, J-F. DEUX, M. MAATOUK, A. RAHMOUNI, G. BASSEZ, G. FLEURY AND N. PARAGIOS, *Unsupervised Classification of Skeletal Fibers Using Diffusion Maps*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2009.
12. M. SAVINAUD, N. PARAGIOS AND S. MAITREJEAN, *Motion-based Enhancement of Optical Imaging*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2009.
13. A. SOTIRAS, N. KOMODAKIS, G. LANGS AND N. PARAGIOS, *Atlas-based Deformable Mutual Population Segmentation*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2009.

14. Y. HAN, G. LANGS AND N. PARAGIOS, *Group-wise MDL based registration of small animals in video sequences*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2008.
15. X. HUBERT, D. CHAMBELLAN, S. LEGOUPIL, J.-R. DEVERRE AND N. PARAGIOS, *Conjoint use of Coded-aperture Collimators and MLEM Algorithm Towards Large Scale Vessels Reconstruction at 511 KEV*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2008.
16. R. NEJI, G. FLEURY, J.-F. DEUX, G. BASSEZ, A. VIGNAUD, A. RAHMOUNI AND N. PARAGIOS, *Support Vector Driven Markov Random Fields Towards DTI-Segmentation of the Human Skeletal Muscle*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2008.
17. D. PESCIA, N. PARAGIOS AND S. CHEMOUNY, *Automatic Detection of Liver Tumors*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2008.
18. M. SARDARESCU, N. PARAGIOS, N. KOMODAKIS, R. RAYMOND, P. HERNIGOU AND A. RAHMOUNI, *Knee Reconstruction through Efficient Linear Programming*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2008.
19. N. AZZABOU, N. PARAGIOS & F. GUICHARD, *Image denoising based on adapted dictionary computation*, IEEE INTERNATIONAL CONFERENCE ON IMAGE PROCESSING (ICIP), 2007.
20. C. FLORIN, N. PARAGIOS, G. FUNKA-LEA & J. WILLIAMS, *Time-Varying Linear Autoregressive Models for Segmentation*, IEEE INTERNATIONAL CONFERENCE ON IMAGE PROCESSING (ICIP), 2007.
21. A. BESBES, N. KOMODAKIS, B. GLOCKER, G. TZIRITAS & N. PARAGIOS, *4D Ventricular Segmentation and Wall Motion Estimation Using Efficient Discrete Optimization*, INTERNATIONAL SYMPOSIUM IN VISUAL COMPUTING (ISVC), 2007.
22. C. GHYS, M. TARON, N. PARAGIOS, B. BASCLE & N. KOMODAKIS, *Expression Mimicking : from 2D Monocular Sequences*, INTERNATIONAL SYMPOSIUM IN VISUAL COMPUTING (ISVC), 2007.
23. R. NEJI, N. AZZABOU, N. PARAGIOS & G. FLEURY, *A Convex Semi-Definite Positive Framework for DTI Estimation and Regularization*, INTERNATIONAL SYMPOSIUM IN VISUAL COMPUTING (ISVC), 2007.
24. K. KARANTZALOS, D. ARGIALAS, & N. PARAGIOS, *Comparing Morphological Levelings constrained by different markers*, INTERNATIONAL SYMPOSIUM ON MATHEMATICAL MORPHOLOGY (ISMM), 2007.
25. G. LANGS, N. PARAGIOS, A. RAHMOUNI & H. KOMBEITER, *Motion Analysis of Endovascular Stents-Grafts by MDL-based registration*, IEEE WORKSHOP ON MATHEMATICAL METHODS IN BIOMEDICAL IMAGE ANALYSIS (MMBIA), 2007.
26. M. TARON, N. PARAGIOS & M-P. JOLLY, *From Uncertainties to Statistical Model Building and Segmentation of the Left Ventricle*, IEEE WORKSHOP ON MATHEMATICAL METHODS IN BIOMEDICAL IMAGE ANALYSIS (MMBIA), 2007.

27. A. OIKONOMOPOULOS, I. PATRAS, M. PANTIC & N. PARAGIOS, *Trajectory-based Representation of Human Action*, INTERNATIONAL WORKSHOP ON AI FOR HUMAN COMPUTING (IJCAI-HC), 2007.
28. C. FLORIN, N. PARAGIOS, G. FUNKA-LEA AND J. WILLIAMS, *Locally Adaptive Autoregressive Active Models for Segmentation of 3D Anatomical Structures*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2007.
29. K. VARSHNEY, N. PARAGIOS, A. KULSKI, R. RAYMOND, P. HERNIGOU AND A. RAHMOUNI, *Multi-view Stereo Reconstruction of Total Knee Replacement from X-Rays*, IEEE INTERNATIONAL SYMPOSIUM ON BIOMEDICAL IMAGE ANALYSIS (ISBI), 2007 (in press).
30. N. AZZABOU, N. PARAGIOS AND F. GUICHARD, *Uniform and textured Regions Separation in Natural images towards Adaptive Denoising*, INTERNATIONAL CONFERENCE ON SCALE SPACE THEORIES AND VARIATIONAL METHODS (SSVM'07), in press.
31. L. GUI, J-P. THIRAN AND N. PARAGIOS, *Variational Framework for the Simultaneous Segmentation and Classification of Object Behavior in Image Sequences*, INTERNATIONAL CONFERENCE ON SCALE SPACE THEORIES AND VARIATIONAL METHODS (SSVM'07), in press.
32. M. DE LA GORCE AND N. PARAGIOS, *Monocular Hand Pose Estimation Using Variable Metric Gradient-Descent*, 17TH BRITISH MACHINE VISION CONFERENCE (BMVC), Edinburgh, 2006.
33. C. GHYS, N. PARAGIOS AND B. BASCLE, *Graph-based Multi-Resolution Temporal-based Face Reconstruction*, 2ND INTERNATIONAL SYMPOSIUM IN VISUAL COMPUTING (ISVC), Lake Tahoe, 2006.
34. C. GHYS, N. PARAGIOS AND B. BASCLE, *Understanding 3D Emotions through Compact Anthropometric Autoregressive Models*, 2ND INTERNATIONAL SYMPOSIUM IN VISUAL COMPUTING (ISVC), Lake Tahoe, 2006.
35. C. ALLENE AND N. PARAGIOS, *Image Renaissance Using Discrete Optimization*, IARP INTERNATIONAL CONFERENCE IN PATTERN RECOGNITION (ICPR), Hong Kong, 2006 (in press).
36. M. TARON, C. GHYS AND N. PARAGIOS, *Uncertainties-driven Surface Morphing: The case of Photo-realistic Transitions between Facial Expressions*, IARP INTERNATIONAL CONFERENCE IN PATTERN RECOGNITION (ICPR), Hong Kong, 2006 (in press).
37. P. ETYNGIER, N. PARAGIOS AND Y. GENC, *Radon space and Adaboost for Pose Estimation*, IARP International Conference in Pattern Recognition (ICPR), Hong Kong, 2006 (in press).
38. K. KARANTZALOS AND N. PARAGIOS *Higher Order Polynomials, Free Form Deformations and Optical Flow Estimation*, IEEE International Conference in Image Processing (ICIP), Genova (Italy), 2005.
39. R. DUPONT, N. PARAGIOS, R. KERIVEN AND P. FUCH *Extraction of Layers of Similar Motion through Combinatorial Techniques*, International workshop Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR), St. Augustin, FL (USA), 2005.

40. M. TARON, N. PARAGIOS AND M.-P. JOLLY *Uncertainty-driven Non-parametric Knowledge-based Segmentation: The Corpus Callosum Case*, IEEE Worskhop in Geometric Variational and Level Set Methods (VLSM), Beijing (China), 2005.
41. K. KARANTZALOS AND N. PARAGIOS *Implicit Free-Form-Deformations towards Optical Flow Estimation and Tracking*, IEEE Worskhop in Geometric Variational and Level Set Methods (VLSM), Beijing (China), 2005.
42. C. FLORIN, J. WILLIAMS, A. KHAMENE AND N. PARAGIOS *Registration of 3D angiographic and X-ray images using Sequential Monte Carlo sampling*, IEEE (ICCV) Workshop on Computer Vision for Biomedical Image Application, Beijing (China), 2005.
43. N. PARAGIOS, M-P. JOLLY, M. TARON AND R. RAMARAJ, *Active Shape Models & Segmentation of the Left Ventricle in Echocardiography*, International Conference on Scale Space Theories and PDEs methods in Computer Vision, Schlosschen Schonburg (Germany), 2005.
44. S. LIM, A. MITTAL, L. DAVIS AND N. PARAGIOS *Uncalibrated Stereo Rectification for Automatic 3D Surveillance*, IEEE International Conference in Image Processing (ICIP), Bancong (Singapore), 2004.
45. R. ZHANG, N. PARAGIOS AND D. METAXAS *Non-Parametric Clustering, Visual Grouping and Implicit Representations towards Recovery and Reconstruction of Motion Layers*, IEEE Worskhop in Geometric Variational and Level Set Methods (VLSM), Nice (France), 2003.
46. N. PARAGIOS, M. ROUSSON AND V. RAMESH, *Knowledge-based Registration & Segmentation of the Left Ventricle: A Level Set Approach*, IEEE Workshop on Applications in Computer Vision, Orlando, Florida, 2002.
47. N. PARAGIOS, *A Variational Approach for the Segmentation of the Left Ventricle in Cardiac Images*, IEEE Worskop on Variational & Level Set Methods in Computer Vision (VLSM), Vancouver (Canada), 2001.
48. N. PARAGIOS AND R. DERICHE, *Detection of Moving Objects: A Level Set Approach*, International Symposium on Intelligent Robotics System (SIRS), Stockholm (Sweden), pp. 265-274, 1997.
49. N. PARAGIOS AND R. DERICHE, *Geodesic Active Regions for Tracking*, EC Computer Vision and Robotics Workshop, Santorini (Greece), September 1998.
50. N. PARAGIOS AND R. DERICHE, *Detecting Multiple Moving Targets Using Deformable Contours*, IEEE International Conference in Image Processing (ICIP), 1997.
51. N. PARAGIOS, P. PEREZ, G. TZIRITAS, P. BOUTHEMY AND C. LABIT, *Adaptive Detection of Moving Objects using MultiScale Techniques*, IEEE International Conference in Image Processing (ICIP), 1996.
52. N. PARAGIOS AND G. TZIRITAS, *Detection and Location of Moving Objects Using Deterministic Relaxation Algorithms*, IARP International Conference in Pattern RECOGNITION (ICPR), Vienna (Austria), pp. 201-205, 1996.

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2. A. MITTAL, N. PARAGIOS AND V. RAMESH, *Method for scene modeling and change detection*, US Patent 7,555,046,
3. I. ZOGHLAMI, N. PARAGIOS AND V. RAMESH, *Method and system for searching and verifying magnitude change events in video surveillance*, US Patent 7,555,046,
4. N. PARAGIOS, F. COETZEE, V. RAMESH AND B. STENGER, *Real-Time Crowd Density Estimation From Video*, US Patent 7,457,436,
5. N. PARAGIOS AND M. ROUSSON, *Shape priors for level set representations*, US Patent 7,424,153,
6. N. PARAGIOS AND M. ROUSSON, *Prior knowledge, level set representations and visual grouping*, US Patent 7,391,882,
7. A. MITTAL, N. PARAGIOS AND A. MONNET, *Method for scene modeling and change detection*, US Patent 7,336,803,
8. A. MITTAL AND N. PARAGIOS, *Robust stereo-driven video-based surveillance*, US Patent 7,321,386,
9. N. PARAGIOS, *Method and system for user-aided boundary delineation through the propagation of implicit representations*, US Patent 7,277,582,
10. N. PARAGIOS, *User interactive level set methods for image segmentation*, US Patent 7,277,582,
11. N. PARAGIOS, M. ROUSSON AND V. RAMESH, *Non-rigid image registration using distance functions*, US Patent 7,200,269,
12. N. PARAGIOS, F. COETZEE, V. RAMESH AND B. STENGER, *Real-Time Crowd Density Estimation From Video*, US Patent 7,139,409,
13. N. PARAGIOS, M. ROUSSON AND V. RAMESH, *Integration of Visual Information, Anatomic Constraints and Prior Shape Knowledge for Medical Segmentations*, US Patent 7,095,890
14. N. PARAGIOS AND V. RAMESH, *A Variational Approach for the Segmentation of the Left Ventricle on MR Cardiac Images*, US Patent 7,079,674
15. D. COMANICIU, N. PARAGIOS AND V. RAMESH, *System and Method for Vehicle Detection and Tracking*, US Patent 6,999,004.

Service to the Scientific Community

Editorial Activities

Member of the

Editorial Board: Medical Image Analysis
International Journal of Computer Vision
Computer Vision and Image Understanding
Journal of Mathematical Imaging and Vision
IEEE Transactions on Pattern Analysis and Machine Intelligence
Image and Vision Computing Journal
SIAM Journal on Imaging Sciences

Fellow Member: Institute of Electrical and Electronics Engineers (IEEE)

Guest Editor: Inverse Problem and Imaging (IPI); Medical Image Analysis (with Y. Chen & T. Chan) - (2009),
International Journal of Computer Vision, Special Issue in Scale Space and Variational Methods (with F. Sgallari) - (2009),
Computer Vision and Image Understanding, Special Issue on Discrete Optimization (with R. Zabih) - (2008),
Computer Vision and Image Understanding, Spatial Coherence in Visual Motion Analysis (with J. Maclean & D. Fleet) - (2007),
International Journal of Computer Vision, Variational, Geometric and Level Set Methods (with O. Faugeras) - (2005),
International Journal of Computer Vision, Vision at Siemens Corporate Research (with N. Navab & J. Williams) - (2004)
International Journal of Computer Vision, Variational and Level Set Methods (with O. Faugeras) - (2002),

Program Chair *European Conference in Computer Vision*, Heraklion (Greece), 2010 - *International Symposium on Visual Computing*, Lake Tahoe (USA), 2007 - *European Conference on Advanced Video-based Surveillance*, London (UK), 2001.

General Chair *International Conference in Scale Space Theories and*
& Organizer: *Variational Methods in Computer Vision*, Ischia (Italy), 2007,

Conference Chair *IEEE Workshop on Geometric, Variational and Level Set*
& Organizer: *Methods in Computer Vision*, Beijing (France), 2005,
IEEE Workshop on Geometric, Variational and Level Set
Methods in Computer Vision, Nice (France), 2003,
IEEE Workshop on Variational and Level Set Methods, Vancouver (Canada), 2001 - *International Conference in Computer Vision*, Rio (Brazil), 2007 - *European Conference in Signal Processing*, Lausanne (Swiss), 2008 - *European Conference in Computer Vision*, Marseille (France), 2008

- Industrial & Governmental Chair :** *IEEE Conference on Advanced Video and Signal-based Surveillance*, Miami (USA), 2003.
- Demo Chair:** *IEEE Workshop in Applications in Computer Vision*, Orlando (USA), 2002.
- Co-Organizer:** *Workshop in Video Proceedings*, IEEE Conference in Computer Vision and Pattern Recognition, San Diego (USA), 2005,
Workshop in Video Proceedings, IEEE Conference in Computer Vision and Pattern Recognition, New York (USA), 2006,
Workshop in Mathematical Methods in Imaging, & Vision, 50th Anniversary, Department of Mathematics, University of Florida, Gainesville (USA) 2004,
- Jury de thèse/HDR** **2009:** Martin de la Gorce, Centrale - Xavier Hubert, Centrale - Nicolas Thorstensen, Ponts/Paris-Est, François Lecellier, ENSICAEN - Cedric Allene, Université de Paris-Est - Elias Griniyas University of Crete
2008: Efi Kokiopoulou, Ecole Polytechnique Federale de Lausanne - Pierre Maurel, Ecole Normale Supérieure - Ting Peng, Liama - Chinese Academy of Sciences - Laura Gui, Ecole Polytechnique Federale de Lausanne - Sylvain Boltz, Université de Nice/Sophia Antipolis - Camille Izard, Université de Lille - Hanna Martinsson, Université de Clermont - Adrien Bartoli, Université de Clermont (HDR)
2007: David Knossow, Institut National Polytechnique de Grenoble - Charles Florin, Ecole des Ponts - Maxime Taron, Ecole des Ponts - Julien Mille, Université de Tours - Benjamin Ordj, Université de Technologie de Compiègne - Aurelie Bigeau, Université de Rennes/IRISA
2006: Lucero Lopez, INRIA - Romain Dupont, Ecole des Ponts - Vincent Auvray, IRISA, France - Jan Erik Solem, UofMalmö - Olivier Juan, Ecole Nationale des Ponts et Chaussées, France - Nikos Komodakis, UofCrete - Thomas Deneux, Ecole Polytechnique,
2005: Muriel Gastaud, UofNice/Sophia Antipolis, France (2005), - Ali Shahrokni, EPFL, Suisse (2005) - Marie Rochery, INRIA - Xavier Bresson, EPFL - Christophe Chef d'hotel, ENS-Cachan.
- Journal Reviewer:** Machine Vision and Applications, Journal of Computational Physics, IEEE Transactions on Medical Imaging, IEEE Transactions on Image Processing, International Journal of Computer Vision, Computer Vision and Image Understanding, IEEE Transactions on Biomedical Engineering, Journal of Visual Communication and Image Representation, IEEE Transactions on Pattern Analysis and Machine Intelligence, Neuroimaging, Pattern Recognition, Journal of Mathematical Imaging and Vision.

Area Chair: IEEE Conference on Computer Vision and Pattern Recognition (2008), Medical Image Computing and Computer Assisted Intervention (2008), Medical Image Computing and Computer Assisted Intervention (2007), IEEE Conference on Computer Vision and Pattern Recognition (2007), European Conference in Computer Vision (2006)

Program Committee: International Conference on Medical Image Computing and Computer Assisted Intervention (2007), IEEE Workshop on Motion and Video Computing (2007), Workshop on Artificial Intelligence for Human Computing (2007), International Conference on Face and Gesture (2007), International Symposium on Visual Computing (2006), Medical Imaging and Computer Computed Assisted Intervention (2006), IEEE Conference on Computer Vision and Pattern Recognition (2006), European Conference in Computer Vision (2006), International Workshop on Computer Vision Approaches to Medical Image Analysis (2006), Canadian Conference on Computer and Robot Vision (2006), IEEE Workshop on Mathematical Methods in Biomedical Analysis (2006), IEEE International Symposium on Biomedical Imaging (2006), International Symposium on Visual Computing (2006), 15^{ème} Congrès Francophone AFRIF-AFIA de Reconnaissance des Formes et Intelligence Artificielle, SIAM Conference on Imaging Science (2006), Canadian Conference on Computer and Robot Vision (2005) IEEE International Conference on Computer Vision (2005), Computer Graphics International Conference (2005), IEEE Conference on Computer Vision and Pattern Recognition (2005), Scale Space Theories and PDE Methods in Computer Vision (2005), Energy Minimization Methods in Computer Vision and Pattern Recognition (2005), International Symposium on Visual Computing (2005), ACM Symposium on Solid Modeling and Applications (2005), IEEE Conference on Advanced Video and Signal-based Surveillance (2005), Traitement & Analyse D'Images: Methodes & Applications (2005), IEEE International Symposium on 3D Data Processing, Visualization and Transmission (2004), IEEE Workshop on Object Tracking and Classification Beyond the Visible Spectrum (2004), European Conference in Computer Vision (2004), International Workshop on Attention and Performance in Computational Vision (2004), IEEE Workshop on Computer Vision Approaches and Mathematical Methods in Medical/Biomedical Image Analysis (2004), IEEE International Workshop on Spatial Coherence for Visual Motion Analysis (2004), IEEE Conference in Computer in Vision and Pattern Recognition (2003), International Conference in Scale Space Theories (2003), IEEE Workshop on Biometric Methods and Applications (2003), Traitement & Analyse D'Images: Methodes et Applications (2003), International Workshop on Attention and Performance in Computer Vision (2003), IEEE Workshop on Applications of Computer Vision (2002), IEEE Workshop on Motion and Video Computing (2002), IEEE Workshop on Computer Vision beyond the Visible Spectrum (2001), IEEE International Symposium on Bio-informatics and Biomedical Engineering (2000).

Conference Reviewer: IEEE International Conference in Computer in Vision (2003), International Workshop on Biomedical Image Registration (2003), IEEE Conference in Computer in Vision and Pattern Recognition (2002), European Conference in Computer Vision (2002) IEEE Conference in Computer in Vision and Pattern Recognition (2001), National Science Foundation, ...

Supervision

- PhD Thesis
 - Nicolas Honnorat, [2009-2012], Ecole Centrale de Paris. Topic: Segmentation and Tracking in Interventional Images.
 - Panos Koutsourakis [2007-2010], Ecole Centrale de Paris, France. Topic: Grammar-driven Large Scale Image-based Reconstruction,
 - Farbice Michel, [2009-2012], Ecole Centrale de Paris. Topic: Regression, Metric Learning, and Deformable Image Registration
 - Loic Simon [2007-2010], Ecole Centrale de Paris. Topic: Procedural Modeling of Buildings towards Large Scale 3D Reconstruction,
 - Aristidis Sotiras [2007-2010], Ecole Centrale de Paris. Topic: Population Registration and Segmentation Using Discrete Methods,
 - Oliver Teboul [2007-2010], Ecole Centrale de Paris, France. Topic: Confluence of Computer Vision and Computer Graphics towards Image-based Reconstruction,
 - Chaohui Wang [2007-2010], Ecole Centrale de Paris, France. Topic: Segmentation, TRacking and Depth Ordering Using Graphical Models

Former Collaborators

- Post-doc
 - Samuel Kadouri, [2008-2009], PhD-Ecole Polytechnique de Montreal (2008). Topic: Inference of Articulated Models in Medical Imaging.
 - Olivier Juan, [2007-2008], PhD-Ecole de Ponts (2006). Topic: Transparent Motion Estimation and Combinatorial Optimization. Research Scientist, EDF, France.
 - Georg Langs, [2007-2008], PhD-Technical University of Graz (2006). Topic: Risk Assessment of Thoracic EndoVascular Repair through Motion Analysis of CT images. Assistant Professor, Medical University of Vienna, Austria.
 - Nikos Komodakis, [2006-2007], PhD-UoC (2006). Topic: Bridging the Gap between Discrete and Continuous Representations in Computer Vision. Research Scientist, University of Crete, Greece.
 - Konsntantions Karantzas, [2007-2008], PhD-UoC (2006). Topic: Typologies of Architecture, Prior Knowledge and Large Scale Scene Reconstruction from Images. Research Scientist, National Technical University of Athens, Greece.

- Lilla Zollei, [2005-2006], PhD-MIT (2005) (Chateaubriand Fellowship). Topic: Diffusion Tensor Imaging towards Modeling, Diagnosis of Muscular Diseases and Virtual Histology.
Research Fellow, MGH/Harvard Medical School.
- Ph.D.
 - Daniel Pescia, [2006-2009], Ecole Centrale de Paris. Topic: Predictive Models for Liver Cancer Modeling,
Research Engineer, Intrasure, France.
 - Mickael Savinaud, [2010], Ecole Centrale de Paris. Topic: In Vivo Real-time Registration in Optical Imaging for small animals,
Chief Technical Officer, Moodstocs, Paris, France.
 - Ahmed Besbes, [2010], Ecole Centrale de Paris. Topic: Remodeling of the Left Ventricle after Myocardial Infarction,
 - Salma Essafi [2010], Ecole Centrale de Paris, France. Topic: Segmentation of the Human Skeletal Muscle,
 - Regis Behmo, [2010], Ecole Centrale de Paris. Topic: Semantic Analysis & Indexing of Images Using Contextual Information,
Chief Technical Officer, Moodstocs, Paris, France.
 - Charlotte Ghys, [2010], Ecole Nationale des Ponts et Chaussees. Topic: Face modeling, extraction and animations,
Research Engineer, Yacast, Paris, France.
 - Radhouene Neji, [2009], Ecole Centrale de Paris. Topic: On the Use of Diffusion Tensor Imaging towards better Understanding of Muscular Diseases,
Research Scientist, Siemens Medical Solutions, Erlangen, Germany.
 - Xavier Hubert, [2009], Ecole Centrale de Paris. Topic: Non-invasive measurement method of the beta+ input function in blood for PET-imaging
Research Engineer, AREVA, La Defense, France.
 - Martin de la Gorge [2009], Ecole Centrale de Paris, France. Topic: 3D-2D Tracking of Articulated Objects,
Research Engineer, Image Metrics, Manchester, United Kingdom.
 - Noura Azzabou, [2007], Ecole Nationale des Ponts et Chaussees. Topic: Image Restoration,
Research Scientist, IM/AFM/Pitie SalPetriere Hospital, Paris, France.
 - Maxime Taron, [2007], Ecole Nationale des Ponts et Chaussees. Topic: Shape Registration with Uncertainties: Contributions and Applications to Knowledge-based Segmentation ,
Research Scientist, French Atomic Agency (CEA).
 - Charles Florin, [2006], Ecole Nationale des Ponts et Chaussees. Topic: Segmentation with Sparse Models,
Clinical Manager, Siemens Medical Solutions - USA.

Invited Lectures

- **Tutorial:** *Discrete Optimization in Medical Image Analysis*, Medical Image Computing & Computer Assisted Intervention (MICCAI), London, 2009 - *Level Set Methods in Medical Image Analysis*, Medical Image Computing & Computer Assisted Intervention (MICCAI), St Malo, 2004.
- **2009:** Sparse Representation of Multiscale Data and Images - Singapore (December), IEEE Engineering in Medicine and Biology Society - Minneapolis (September), Second International Workshop on Shape Perception in Human and Computer Vision - Regensburg (August), WSEAS International Conference on Computers - Rhodes (July), Mathématiques appliquées à la biologie et à la médecine - Lyon (July), BIOTRIBOLOGY: Basics and Trends in Medicine, Engineering and its Societal Impacts - Paris, Telecom-Paris - Paris (April), Université de Paris 6 - Paris (January), Imperial College - London (January)
- **2008:** Ecole Polytechnique - Paris (November), Chinese Academy of Sciences - Beijing (November), Ecole de Ponts - Paris (September),
- **2007:** Duke University - Durham (January), North Carolina State University - Raleigh (January), John Hopkins University - Baltimore (January), Drexler University - Philadelphia (January), Carnegie Mellon University - Pittsburgh (March), Technical University of Prague - Prague (April), University of Metz - Metz (May), Yale University - New Haven (September), Siemens Corporate Research - Princeton (August), Siemens Medical Solutions - Malvern (August), Leiden University - Leiden (September) PDE methods for Bio-imaging - Linz (November)
- **2006:** Technical University of Graz - (January), Journées de Géométrie Algorithmique, Le Bessat (February), Centre Nationale de la Recherche Scientifique (UMR 6072), - Caen (February), Rutgers University, New Brunswick (May), Ecole Normale Supérieure de Cachan - Paris (May), Stevens Institute of Technology - Jersey City (June), University of Houston - Houston (June), Siemens Corporate Research - Princeton (June), Numerical Geometry of Images, Curves and Surfaces - Avignon (July), Advanced Concepts for Intelligent Vision Systems, Antwerp (September), Massachusetts Institute of Technology - Boston (September), New York University Medical School - New York (September), University of Pennsylvania - Philadelphia (September), University of Malmö - Sweden (September), National Technical University - Athens (October), Institut de Recherche Mathématique - Rennes (November)
- **2005** Service Hospitalier Frédéric Joliot, Paris (December), Ecole Normale Supérieure, Paris (November), Cornell Medical School, New York (August), Rutgers University, Piscataway (August), GDR Mathématiques des Systèmes Perceptifs et Cognitifs, Paris (June), Ecole Fédérale Polytechnique de Lausanne (June).
- **2004:** France Telecom Research & Development, Lannion (December), Université Pierre et Marie Curie, Paris (November), Yale University, New Haven (October), Rensselaer Polytechnic Institute (RPI), Troy (October), State University of New York, Stony Brook (October), Mathematical and Image Analysis, Paris (September), National Technical University of Athens (June), Columbia University, New York (April), IEEE International Symposium in Biomedical Imaging, Washington (April), Ecole Fédérale Polytechnique de Lausanne (March), University of Athens (March), Workshop on Mathematical Methods in Imaging and Vision, Gainesville, (January).

- **2003:** Princeton University (December), University of Minnesota, Mineapolis (October), Philips Research, Paris (July), John Hopkins University, Baltimore (May), New York University (April), University of Toronto (April), York University, Toronto (April), Ecole Normale Supérieure de Cachan, Paris (March), I.N.R.I.A., Sophia Antipolis (March).
- **2002:** National Technical University of Athens, (October), SIAM Conference in Imaging Science, Boston (March), University of Florida, Gainesville (March), Massachusetts Institute of Technology, Boston (February), Sarnoff Corporation, Princeton (January).
- **2001:** Ecole Nationale Supérieure des Télécommunications, Paris (October), IARP European Workshop on Advanced Video-based Surveillance, London (September), Institute for Pure and Applied Mathematics - University of California, Los Angeles, (May), Georgia Institute of Technology, Atlanta (April).
- **Prior:** Centre National De La Recherche Scientifique, Paris (June-99), University of Pennsylvania, Philadelphia (September-98), Sarnoff Corporation, Princeton (August-98), NEC Research Institute, Princeton (August-98), University of Crete, Heraklion (July-97).

Teaching

- In Charge:** Image Processing, Machine Learning, Computer Vision and Computer Graphics, [06-now], Ecole Centrale de Paris, France,
- Instructor:** Introduction to Signal Processing, [08-now], Ecole Centrale de Paris, France,
 Advanced Mathematical Models in Computer Vision, [06-now], Ecole Centrale de Paris, France,
 Algorithmic Computer Vision (with R. Keriven & R. Deriche), [05-07], Ecole Normale Supérieure, France,
 Algorithmic Computer Vision (with R. Deriche), [08-now], Ecole Normale Supérieure, France,
 Vision and Augmented Reality (with R. Keriven), Spring [05-06], Ecole Normale Supérieure de Cachan, France,
 Introduction to Computer Vision (with R. Keriven), [05], Ecole Nationale des Ponts et Chaussées, France,
 Introduction to Computer Science, [04], Ecole Nationale des Ponts et Chaussées, France,
 Variational and Level Set Methods in Computer Vision, [02], Computer Science Department, Rutgers University, USA
- Teaching Assistant:** Digital Video Processing, Fall [94], Computer Science Department, University of Crete, Greece,
- Teaching Assistant:** Information and Coding Theory, Spring [94,95], Computer Science Department, University of Crete, Greece.

Grants

- Siemens Corporate Research [2004-2007]: 315,000\$

- France Telecom Research & Development [2004-2007]: 180,000EU
- DxO Enhancing Image Quality [2004-2007]: 90,000EU
- Agence National de la Recherche [2006-2009]: 75,000EU
- Ecole Centrale de Paris [2006-2009]: 105,000EU
- Commissariat d’Energie Atomique [2006-2009]: 105,000EU
- Region Ile-de-France [2007-2009]: 72,000EU
- Intrasence [2007-2010]: 115,000EU
- Ministere de l’Education et la Recherche [2007-2010]: 115,000EU
- Biospace [2007-2010]: 130,000EU
- Pole de Competitivite CapDigital [2008-2010]: 325,000EU
- AFM, [2007-2010]: 130,000EU
- Siemens-France [2008-2011]: 105,000EU
- Microsoft Research Europe, [2008-2011]: 150,000EU
- Ministere de l’Education et la Recherche [2008-2011]: 115,000EU
- Pole de Competitivite Medicen [2009-2010]: 426,000EU
- European Research Council [2010-2015]: 1,500,000EU

Scinetific Awards

<i>2008</i>	Bodossakis Prize, highest honor for young academics and scientists of Greek descent under the age of 40,
<i>2006</i>	MIT TR35, top innovator in science and technology under the age of 35,
<i>2002</i>	Outstanding Performance Award, Siemens Corporate Research,
<i>2000</i>	Honorable Mention (ranked 2 nd), ERCIM Cor Baayen Award (the most promising young researcher in Computer Science and Applied Mathematics in European Community),
<i>1996-1999</i>	Training and Mobility of junior scientists scholarship, European Community, Program of Training and Mobility of Young Researchers,
<i>1994-1996</i>	Research Assistant Scholarship, Institute of Computer Science, Foundation of Research and Technology-Hellas,
<i>1994</i>	Valedictorian, Department of Computer Science, University of Crete, Greece,
<i>1990-1994</i>	Awarded by the municipality of the town of Rhodes, Greece,
<i>1990-1994</i>	Awarded by the the Pan-Carpathian Foundation of USA,
<i>1992-1994</i>	Awarded by the Greek Institution of Scholarships (Valedictorian).

Languages

- **Greek:** Native speaker,
- **English:** Fluent written and spoken,
- **French:** Fluent spoken.

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