

Production scientifique de Laurent D. Cohen

Septembre 2024

Publications

Il est à noter que dans le domaine du traitement d'images, les actes de conférences internationales sélectives sont souvent préférés aux publications dans des journaux scientifiques, et leur sont de valeur similaire.

Les publications sont classées par catégories dans un ordre adapté de celui recommandé par le CNRS (qui est le suivant: 1.revues à comité de lecture; 2.conférences invitées dans des congrès; 3.actes de colloques à comité de lecture; 4.publications dans des revues sans comité; 5.communications à des congrès, symposium; 6.séminaires, workshops; 7.livres et ouvrages; 8.chapitres d'ouvrages; 9.logiciels; 10.autres)

Thèses.

- [1] Laurent D. Cohen. Etude de quelques problèmes semi-linéaires paraboliques et elliptiques. PhD thesis, Université Paris 6, 1986.
- [2] Laurent D. Cohen. Etude des modèles de contours actifs et d'autres techniques de traitement d'Images. 2nd PhD thesis, Université Paris-Sud Orsay, 1990.
- [3] Laurent D. Cohen. Méthodes Variationnelles pour le Traitement d'images. Université Paris Dauphine, 1995. Mémoire d'Habilitation à diriger des recherches. Accompagné des 10 publications les plus significatives des années 1988-1995.

Articles de Revues Internationales à comité de lecture.

- [4] P. Baras and Laurent D. Cohen. Explosion totale après T_{max} de la solution d'une équation de la chaleur non linéaire. *Comptes Rendus de l'Académie des Sciences Sér.I*, 300(10), 1985.
- [5] P. Baras and Laurent D. Cohen. Complete blow-up after T_{max} for the solution of a semilinear heat equation. *Journal of Functional Analysis*, 71(1):142–174, March 1987.
- [6] Laurent D. Cohen. On active contour models and balloons. *Computer Vision, Graphics, and Image Processing: Image Understanding*, 53(2):211–218, March 1991. Cet article a été intégré dans un livre collectant les **meilleurs articles des 10 dernières années** sur le sujet.
- [7] Isaac Cohen, Laurent D. Cohen, and Nicholas Ayache. Using deformable surfaces to segment 3-D images and infer differential structures. *Computer Vision, Graphics, and Image Processing: Image Understanding*, 56(2):242–263, September 1992. Cet article a été intégré dans un livre collectant les **meilleurs articles des 10 dernières années** sur le sujet.

- [8] Laurent D. Cohen and Isaac Cohen. Finite element methods for active contour models and balloons for 2-D and 3-D images. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, PAMI-15(11):1131-1147, November 1993.
- [9] Isaac Cohen and Laurent D. Cohen. A hybrid hyperquadric model for 2-D and 3-D data fitting. *International Journal on Computer Vision and Image Understanding*, 63(3):527–541, May 1996.
- [10] Laurent D. Cohen. Auxiliary variables and two-step iterative algorithms in computer vision problems. *Journal of Mathematical Imaging and Vision*, 6(1):61–86, January 1996.
- [11] E. Bardinet, Laurent D. Cohen, and N. Ayache. Tracking and motion analysis of the left ventricle with deformable superquadrics. *MEDIA, Medical Image Analysis, an international journal on Computer Vision, Visualisation and Image Guided Intervention in Medicine*, 1(2):129–149, 1996. Accompagné d'une vidéo dans la version CD du journal.
- [12] E. Bardinet, Laurent D. Cohen, and N. Ayache. Suivi de données médicales 3D avec un modèle paramétrique déformable. *Journal TSI, Technique et Science Informatiques*, 16(3/97):355-381, Mars 1997.
- [13] E. Bardinet, Laurent D. Cohen, and N. Ayache. A parametric deformable model to fit unstructured 3D data. *International Journal on Computer Vision and Image Understanding*, 71(1):39–54, July 1998.
- [14] Laurent D. Cohen and R. Kimmel. Global minimum for active contour models: A minimal path approach. *International Journal of Computer Vision*, 24(1):57-78, August 1997.
- [15] Denis Pellerin, Laurent D. Cohen, Fabrice Larrazet, Floris Pajany, Serge Witchitz, and Colette Veyrat. Preejectional left ventricular wall motion in normal subjects using doppler tissue imaging and correlation with ejection fraction. In *American Journal of Cardiology*, volume 80, pages 601–607, September 1997.
- [16] D Pellerin, A Berdeaux, L Cohen, JF Giudicelli, S Witchitz, and C Veyrat. Preejectional left ventricular wall motions studied on conscious dogs using doppler myocardial imaging. relationships with indexes of left ventricular function. *Ultrasound in Medicine and Biology*, 24(9):1271–1283, 1998.
- [17] C Veyrat, D Pellerin, L Cohen, F Larrazet, C Fournier, and S Witchitz. Dynamique pariétale prééjectionnelle du ventricule gauche par imagerie doppler tissulaire. *Archives des Maladies du Coeur et des Vaisseaux*, 91(1):29–38, 1998.
- [18] Pellerin D, Berdeaux A, Cohen L, Giudicelli JF, Witchitz S., and Veyrat C. Comparison of two myocardial velocity gradient assessment methods during dobutamine infusion using doppler myocardial imaging. *Journal of the American Society of Echocardiography*, 12(1):22–31, January 1999.
- [19] Veyrat C, Pellerin D, Cohen L, Larrazet F, Extramiana F, and Witchitz S. Spectral, one-or two-dimensional tissue velocity doppler imaging: which to choose? *Cardiology*, 9(1):9–18, 2000.
- [20] T. Deschamps and L.D. Cohen. Path Extraction in 3D Medical Images for Virtual Endoscopy. *Journal of Computer Aided Surgery*, 5(5), 2000.

- [21] M. Lefebure and L. D. Cohen. Image registration, optical flow and local rigidity. *Journal of Mathematical Imaging and Vision*, 14(2), March 2001. CEREMADE TR 0102, Jan 2001.
- [22] L. D. Cohen. Multiple contour finding and perceptual grouping using minimal paths. *Journal of Mathematical Imaging and Vision*, 14(3), May 2001. CEREMADE TR 0101, Jan 2001.
- [23] Fabrice Larrazet, Denis Pellerin, A Prigent, D Daou, Laurent D Cohen and Colette Veyrat. Quantitative analysis of hibernating myocardium by dobutamine tissue Doppler echocardiography. In *American Journal of Cardiology*, volume 88(4), pages 418-22, 2001.
- [24] Zakaria Ben Sbeh, Laurent D. Cohen, Gérard Mimoun, and Gabriel Coscas. A new approach of geodesic reconstruction for drusen segmentation in eye fundus images. *IEEE Transactions on Medical Imaging*, December 2001.
- [25] T. Deschamps and L.D. Cohen. Fast extraction of minimal paths in 3D images and application to virtual endoscopy. *MEDIA, Medical Image Analysis, an international journal of Computer Vision, Visualisation and Image Guided Intervention in Medicine*, 5(4):281–299, December 2001. Video in the web version of the journal.
- [26] Frederic Richard and Laurent D. Cohen. A new image registration technique with free boundary constraints: application to mammographs. *International Journal on Computer Vision and Image Understanding*, Special Issue of on Nonrigid Image Registration, Volume 89, Issues 2-3, Pages 166-196 February - March 2003.
- [27] Denis Pellerin, Fabrice Larrazet, Laurent D Cohen, Serge Witchitz and Colette Veyrat. Myocardial time intervals preceding left ventricular filling in chronic coronary artery disease: value of a decreased septal ejection time. In *International Journal of Cardiology*, volume 89(1), pages 33-44, May 2003.
- [28] Denis Pellerin, Laurent D Cohen, Fabrice Larrazet, Fabrice Extramiana, Serge Witchitz and Colette Veyrat. New insights into septal anterior wall motion velocities at end-systole in normal and hypertrophied left ventricles. In *European journal of echocardiography*, volume 4(2), pages 108-18, 2003.
- [29] Colette Veyrat, Denis Pellerin, Fabrice Larrazet, Laurent D Cohen, and Serge Witchitz. Dynamic myocardial velocity changes between phases of the cardiac cycle. In *Ultrasound in medicine & biology*, volume 29(8), pages 1077-84, August 2003.
- [30] Colette Veyrat, Denis Pellerin, Fabrice Larrazet, and Laurent D Cohen. Clinical relevancy of the myocardial velocity gradient: limitations of a binary response. In *Journal of the American Society of Echocardiography*, volume 16(12), pages 1217-25, December 2003.
- [31] Laurent D. Cohen. Chemins minimaux et modèles déformables en analyse d'images. *Traitement du Signal*, Volume 20 numéro 3, Numéro spécial: Le traitement du signal à l'aube du XXIème siècle, Pages 225–241, Décembre 2003.
- [32] Colette Veyrat, Fabrice Larrazet, Laurent D Cohen, François Laborde and Denis Pellerin. A new Doppler tissue ratio to revisit systole: the pre-ejectional

- isovolumic to ejectional velocity ratio-application to aging. In *Journal of the American Society of Echocardiography*, volume 17(12), pages 1251-8, December 2004.
- [33] Pablo Arbelaez and Laurent D. Cohen. Energy Partitions and Image Segmentation. *Journal of Mathematical Imaging and Vision*, 20(1-2):43–57, January - March 2004.
- [34] Pablo Arbelaez and Laurent D. Cohen. Segmentation d’Images Couleur par partitions de Voronoi. *Traitement du Signal*, Volume 21 numéro 5, Numéro spécial: L’image numérique couleur, Pages 407-421, Février 2005.
- [35] Colette Veyrat, Fabrice Larrazet, Laurent D Cohen, François Laborde and Denis Pellerin. Detection of prominent left anterior descending coronary artery stenosis for patients with stable angina using Doppler tissue echocardiography. In *Journal of the American Society of Echocardiography*, volume 18(8), pages 821-9, August 2005.
- [36] Stephane Bonneau, Maxime Dahan and Laurent D. Cohen. Single Quantum Dot tracking based on perceptual grouping using minimal paths in a spatio-temporal volume. *IEEE Transactions on Image Processing, special issue on Molecular and Cellular Imaging*, 14(9):1384–1395, September 2005.
- [37] Roberto Ardon and Laurent D. Cohen. Fast Constrained Surface Extraction by Minimal Paths. *International Journal of Computer Vision*, Special Issue on Variational and Level Set Methods in Computer Vision (VLSM 2003), 69(1):127–136, August 2006.
- [38] Gabriel Peyre and Laurent D. Cohen. Geodesic Remeshing Using Front Propagation. *International Journal of Computer Vision*, Special Issue on Variational and Level Set Methods in Computer Vision (VLSM 2003), 69(1):145–156, August 2006.
- [39] Pablo Arbelaez and Laurent D. Cohen. A Metric Approach to Vector-Valued Image Segmentation. *International Journal of Computer Vision*, Special Issue on Variational and Level Set Methods in Computer Vision (VLSM 2003), 69(1):119–126, August 2006.
- [40] Roberto Ardon, Laurent D. Cohen and Anthony Yezzi. Fast surface segmentation guided by user input using implicit extension of minimal paths. *Journal of Mathematical Imaging and Vision*, 25(3):289–305, October 2006.
- [41] Hua Li, Anthony Yezzi and Laurent D. Cohen. Fast 3D Brain Segmentation Using Dual-front Active Contours With Optional User-Interaction. *International Journal of Biomedical Imaging*, Special issue on Recent Advances in Mathematical Methods for the Analysis of Biomedical Images. 2006.
- [42] Roberto Ardon, Laurent D. Cohen and Anthony Yezzi. A new implicit method for surface segmentation by minimal paths in 3D images. *Applied Mathematics and Optimization*, 55(2):127-144, March 2007.
- [43] Laurent D. Cohen and Thomas Deschamps. Segmentation of 3D tubular objects with adaptive front propagation and minimal tree extraction for 3D medical imaging. *Computer Methods in Biomechanics and Biomedical Engineering*, 10(4):289 - 305, August 2007.

- [44] Gabriel Peyre and Laurent D. Cohen. Heuristically Driven Front Propagation for Fast Geodesic Extraction. *International Journal for Computational Vision and Biomechanics*, 1(1), 55–67, Jan-June 2008.
- [45] Fethallah Benmansour and Laurent D. Cohen. Fast Object Segmentation by Growing Minimal Paths from a Single Point on 2D or 3D Images. *Journal of Mathematical Imaging and Vision*. 33(2):209–221, February 2009.
- [46] Julien Mille and Fetallah Benmansour and Laurent D. Cohen. Carotid Lumen Segmentation Based on Tubular Anisotropy and Contours Without Edges in *The MIDAS Journal*, Special issue on Carotid Lumen Segmentation and Stenosis Grading (MICCAI 2009 Grand Challenge III), July 2009.
- [47] N. Barreira and M. G. Penedo and Laurent Cohen and M. Ortega. Topological Active Volumes: a Topology-Adaptive Deformable Model for Volume Segmentation. *Pattern Recognition*, 43(1):255-266, January 2010.
- [48] Fethallah Benmansour and Laurent D. Cohen. Tubular Structure Segmentation Based on Minimal Path Method and Anisotropic Enhancement in *International Journal of Computer Vision*, April 2011, Volume 92, Number 2, Pages 192-210.
- [49] Gabriel Peyre and Sebastien Bogleux and Laurent D. Cohen. Non-local Regularization of Inverse Problems. *AIMS journal: Inverse Problems and Imaging*, vol. 5(2), pp. 511-530, May 2011.
- [50] Adrian Ion and N. M. Artner and Gabriel Peyre and Walter G. Kropatsch and Laurent D. Cohen. Matching 2D and 3D Articulated Shapes using Eccentricity. *CVIU, Computer Vision and Image Understanding*, vol. 115, 6 (June 2011) pp. 817-834
- [51] Didier Auroux, Laurent D. Cohen, and Mohamed Masmoudi. Contour Detection and Completion for Inpainting and Segmentation Based on Topological Gradient and Fast Marching Algorithms in *International Journal of Biomedical Imaging*, Special Issue on Mathematical Methods for Images and Surfaces 2011, Volume 2011, Pages 1-20. doi:10.1155/2011/592924.
- [52] Youssef Rouchdy, Laurent D. Cohen, Olivier Pascual and Alain Bessis. Minimal path techniques for automatic extraction of microglia extensions in *International Journal for Computational Vision and Biomechanics (IJCV&B)*, 2011
- [53] Miyoung Jung, Gabriel Peyre and Laurent D. Cohen. Non-local Active Contours. In *SIAM Journal on Imaging Sciences*, 5(3):1022-1054, September 2012.
- [54] Youssef Rouchdy and Laurent D. Cohen. Geodesic voting methods: overview, extensions, and application to blood vessel segmentation. In *Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization*, 1(2):79-88, June 2013.
- [55] Chen Da, Mingqiang Yang and Laurent D. Cohen. Global Minimum For A variant Mumford-Shah Model with Application to medical image Segmentation. In *Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization*, 1(1):48-60, March 2013. (Best Paper Award)
- [56] Jean-Baptiste Fiot, Laurent D. Cohen, Parnesh Raniga and Jurgen Fripp. Efficient brain lesion segmentation using multi-modality tissue-based feature

- selection and Support Vector Machines. In *International Journal for Numerical Methods in Biomedical Engineering*, 29(9):905-915, September 2013.
- [57] Youssef Rouchdy and Laurent D. Cohen. Geodesic voting for the automatic extraction of tree structures. Methods and applications. In *Computer Vision and Image Understanding*, 117(10):1453-1467, October 2013.
- [58] Jean-Baptiste Fiot, Hugo Raguét, Laurent Risser, Laurent D. Cohen, Jürgen Fripp and François-Xavier Vialard, ADNI. Longitudinal deformation models, spatial regularizations and learning strategies to quantify Alzheimer's disease progression. In *NeuroImage: Clinical*, 4:718-729, May 2014.
- [59] Julien Mille, Sébastien Bougleux and Laurent D. Cohen. Combination of piecewise-geodesic paths for interactive segmentation. in *International Journal of Computer Vision*, 112(1):1-22, March 2015.
- [60] Fang Yang and Laurent D. Cohen. Geodesic Distance and Curves Through Isotropic and Anisotropic Heat Equations on Images and Surfaces. in *Journal of Mathematical Imaging and Vision*, Special Issue on Shape Analysis Beyond the Eikonal Equation, 55(2):210-228, June 2016.
- [61] Da Chen, Jean-Marie Mirebeau and Laurent D. Cohen. Vessel Tree Extraction using Radius-Lifted Keypoints Searching Scheme and Anisotropic Fast Marching Method. in *Journal of Algorithms and Computational Technology*, vol. 10, n°4, p. 224-234 2016.
- [62] Da Chen, Jean-Marie Mirebeau and Laurent D. Cohen. Global Minimum For A Finsler Elastica Minimal Path Approach. in *International Journal of Computer Vision*, vol. 122, n°3, p. 458-483, 2017.
- [63] Qi-Chong Tian and Laurent D. Cohen. Histogram-based Color Transfer for Image Stitching. in *Journal of Imaging, Special Issue on Color Image Processing*, 3(3), 38, September 2017.
- [64] Da Chen and Laurent D. Cohen. Fast Asymmetric Fronts Propagation for Image Segmentation. in *Journal of Mathematical Imaging and Vision*, Volume 60 Issue 6, July 2018 Pages 766-783.
- [65] Da Chen, Jiong Zhang and Laurent D. Cohen. Minimal Paths for Tubular Structure Segmentation with Coherence Penalty and Adaptive Anisotropy. in *IEEE Trans. on Image Processing*, Volume 28 Issue 3, Pages 1271 - 1284, March 2019.
- [66] Qi-Chong Tian and Laurent D. Cohen. A variational-based fusion model for nonuniform illumination image enhancement via contrast optimization and color correction. in *Signal Processing*, Volume 153, Pages 210-220, December 2018.
- [67] Li Liu, Da Chen, Laurent D. Cohen, Jiasong Wu, Michel Paques and Huazhong Shu. Anisotropic tubular minimal path model with fast marching front freezing scheme. in *Pattern Recognition*, Volume 104, August 2020 Pages 766-783. 10.1016/j.patcog.2020.107349 ; hal-02996912
- [68] Da Chen, Jack Spencer, Jean-Marie Mirebeau, Ke Chen, Ming-Lei Shu and Laurent D. Cohen. A Generalized Asymmetric Dual-front Model for Active Contours and Image Segmentation. in *IEEE Trans. on Image Processing*, Volume 30, May 2021, Pages 5056-5071. 10.1109/TIP.2021.3078102 ; hal-03425885

- [69] Da Chen, Jian Zhu, Xinxin Zhang, Ming-Lei Shu and Laurent D. Cohen. Geodesic Paths for Image Segmentation with Implicit Region-based Homogeneity Enhancement. in *IEEE Trans. on Image Processing*, Volume 30, May 2021, Pages 5138-5153. 10.1109/TIP.2021.3078106 ; hal-02996798
- [70] Li Liu, Da Chen, Ming-Lei Shu, Baosheng Li, Huazhong Shu, Michel Paques and Laurent D. Cohen. Trajectory Grouping with Curvature Regularization for Tubular Structure Tracking. in *IEEE Trans. on Image Processing*, Volume 31, 2021, pages 405-418. 10.1109/TIP.2021.3131940 ; hal-02996874
- [71] Li Liu, Mingzhu Wang, Shuwang Zhou, Minglei Shu, Laurent D. Cohen and Da Chen. Curvilinear Structure Tracking Based on Dynamic Curvature-penalized Geodesics. in *Pattern Recognition*, Volume 134, August 2023 Pages 766-783. <https://doi.org/10.1016/j.patcog.2022.109079>
- [72] Da Chen, Jean-Marie Mirebeau, Minglei Shu and Laurent D. Cohen. Computing geodesic paths encoding a curvature prior for curvilinear structure tracking. in *PNAS, Proceedings of the National Academy of Sciences of the United States of America*, Volume 120 (33), August 7, 2023. 10.1073/pnas.2218869120
- [73] Da Chen, Jean-Marie Mirebeau, Minglei Shu, Xuecheng Tai and Laurent D. Cohen. Geodesic Models With Convexity Shape Prior. in *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, volume 45, no. 07, pp. 8433-8452, 2023. doi: 10.1109/TPAMI.2022.3225192
- [74] Da Chen, Jean-Marie Mirebeau, Huazhong Shu and Laurent D. Cohen. A Region-Based Randers Geodesic Approach for Image Segmentation. in *International Journal of Computer Vision (IJCV)*, 2023 <https://doi.org/10.1007/s11263-023-01881-z>
- [75] Li Liu, Da Chen, Ming-Lei Shu and Laurent D. Cohen. Grouping Boundary Proposals for Fast Interactive Image Segmentation. in *IEEE Trans. on Image Processing*, Volume 33, 2024, pages 793-808. <https://doi.org/10.1109/TIP.2024.3349867>
- [76] Thomas Dages, Laurent D. Cohen and Alfred M. Bruckstein. A model is worth tens of thousands of examples for estimation and thousands for classification. in *Pattern Recognition*, Volume 157, january 2025 Pages . <https://doi.org/10.1016/j.patcog.2024.110904>
- [77] Shuwang Zhou, Li Liu, Da Chen, Hui Liu, Laurent D. Cohen and Minglei Shu. A Generalized Geodesic Voting Framework for Interactive Image Segmentation. in *IEEE Transactions on Instrumentation & Measurement*, To appear, August 2025.

Conférencier invité avec ou sans Actes de Colloques

- [78] Laurent D. Cohen and Isaac Cohen. Deformable models for medical images using finite elements & balloons. Conférence invitée. In *Actes Ecoles CEA - EDF - INRIA; Problèmes Non Linéaires Appliqués: Modélisations Mathématiques*

- pour le traitement d'images*, pages 180–200, Rocquencourt, France, March 1992.
- [79] Laurent D. Cohen. Deformable surfaces and parametric models to fit and track 3D data. Conférence invitée à la session 3D shape Recovery and Analysis. In *IEEE International Conference on Systems, Man and Cybernetics*, Beijing, China, Oct 1996.
 - [80] Laurent D. Cohen and R. Kimmel. Finding the global minimum for active contours using a level set approach. Conférence invitée à la session Partial Differential Equations. In *IEEE International Conference on Image Processing (ICIP'96)*, pages 1:473–476, Lausanne, Suisse, September 1996.
 - [81] Laurent D. Cohen. Modèles déformables. Conférence invitée. In *Actes de l'Ecole Thématique ISIS*, pages 1–20, Marly le Roy, Avril 1997.
 - [82] Laurent D. Cohen and Thomas Deschamps. Minimal Paths for 3D medical images and Virtual endoscopy. Conférence invitée. In *Mathematics and Image Analysis, MIA'00*, Paris, September 2000.
 - [83] Laurent D. Cohen and Benjamin Mauroy. Multiple minimal paths and perceptual grouping. Conférence invitée. In *Mathematics and Image Analysis, MIA'00*, Paris, September 2000.
 - [84] Laurent D. Cohen. Fast marching methods for minimal paths in 2D and 3D images. Conférence plénière invitée. In *Proc. Workshop on Hamilton-Jacobi Bellman equations and their applications.*, Paris, France, October 2000.
 - [85] Laurent D. Cohen. Chemins minimaux et Modèles Déformables en Analyse d'images. Conférence plénière invitée. In *Proc. Journées d'études SEE: Le Traitement d'Images à l'Aube Du XXIème Siecle.*, Paris, France, Mars 2002.
 - [86] Laurent D. Cohen and Pablo Arbelaez. Minimal Paths and Image Segmentation. Conférence invitée. In *Mathematics and Image Analysis, MIA'02*, Paris, September 2002.
 - [87] Laurent D. Cohen. Fast Marching and Front Propagation methods in Image Analysis. Conférence invitée. In *Fifth European Conference on Elliptic and Parabolic Problems*, Gaeta, Italy, June 2004.
 - [88] Laurent D. Cohen. Fast Marching and Deformable Models in Image Analysis. Conférence invitée. In *IFIP workshop on shape optimization and control*, Lisbon, Portugal, May 2004.
 - [89] Laurent D. Cohen and Roberto Ardon. Surface extraction by minimal paths, applications in 3D Medical Images. Conférence invitée. In *Mathematics and Image Analysis, MIA'04*, Paris, September 2004.
 - [90] Laurent D. Cohen. Minimal Paths and Deformable Models for Image Analysis. Conférence invitée. In *76. Jahrestagung der Gesellschaft für Angewandte Mathematik und Mechanik e.V., GAMM05*, Université du Luxembourg, 28 Mars - 01 April 2005.
 - [91] Laurent D. Cohen. Minimal Paths and Deformable Models for Image Analysis. Conférence invitée. In *Mini-invasive Procedures in Medicine and Surgery: Mathematical and Numerical Challenges*, Centre de recherches mathématiques, Université de Montreal, Canada, May 16-27, 2005.

- [92] Laurent D. Cohen and Roberto Ardon. A level set method for constrained object segmentation. Conférence invitée. In *22nd IFIP TC 7 Conference on System Modeling and Optimization, special session on shape analysis and optimization*, Turin, Italy, July 18-22, 2005.
- [93] Laurent D. Cohen. Surface Segmentation and Remeshing using front propagation in Medical Images. Conférence invitée. In *Actes Ecoles CEA - EDF - INRIA; Numerical Simulations of Blood Flows*, December 6-9, 2005, Rocquencourt, France.
- [94] Laurent D. Cohen. Deformable models for medical image Analysis. Conférence invitée. In *Israel-France Meeting in Medical Imaging*, Hadassah University Hospital, Jerusalem, Israel, February 27-March 1st, 2006.
- [95] Laurent D. Cohen. Surface Segmentation using Front Propagation in Medical Images. Conférence invitée. In *7th international symposium on computer methods in biomechanics and biomedical engineering, special session on Computer Assisted Surgery and Planning*, Antibes, March 22-25, 2006.
- [96] Laurent D. Cohen. Invited to organize the minisymposium on Minimal Paths and Fast Marching Methods in Image Analysis. In *2006 SIAM Conference on Imaging Science.*, Minneapolis, Minnesota, USA, 15-17 may, 2006.
- [97] Laurent D. Cohen. Minimal Paths and Fast Marching Methods for Surface Segmentation and Meshing. In *Curves and Surfaces*, invited to minisymposium on Numerical geometry of images, Avignon, June 29- July 5, 2006.
- [98] Laurent D. Cohen and Gabriel Peyre. Exact and Heuristically Driven Geodesic Computations. In *Curves and Surfaces*, invited to minisymposium on Mesh generation, Avignon, June 29- July 5, 2006.
- [99] Laurent D. Cohen. Fast Marching and Minimal paths for Curve and Surface Segmentation. Conférence invitée. In *Journées de Metz 2007*, PDE and variational methods in image analysis, Metz, May 3-4-5, 2007.
- [100] Laurent D. Cohen. Front Propagation and Minimal paths for Image Segmentation. Conférence invitée. In *RIMA'07, Rencontres MIP-LAMSIN en Imagerie Mathématique*, Institut de Mathématiques de Toulouse, France, 11 et 12 Juin 2007.
- [101] Laurent D. Cohen. Geodesic Remeshing using front propagation. Conférence invitée. In *Summer Mathematical Research Center on Scientific Computing and Its Applications.*, Cemracs'07, Pre and Post Processing in Scientific Computing, Luminy, France, 23rd July-31st August 2007.
- [102] Laurent D. Cohen. Fast Curve and Surface Segmentation by finding geodesics. Invited Keynote. Conférence invitée. In *VipIMAGE 2007*, International ECCOMAS Thematic Conference on computational vision and medical image processing, FEUP, Porto, Portugal, 17-19th October 2007.
- [103] Laurent D. Cohen. Front propagation and Fast Marching for fast segmentation of objects in 2D and 3D images. Invited Keynote. Conférence invitée. In *Joint International Meeting of the AMS and Sociedade Brasileira de Matematica*, Special session on Mathematical Methods in Image Processing, IMPA, Rio de Janeiro, Brazil, June 4-7th 2008.

- [104] Laurent D. Cohen. Curve and Surface Segmentation Using Minimal Paths. In *2008 SIAM Annual Meeting*. Invited to Minisymposium on Segmentation and Data Mining, San Diego, California, USA, July 7-11, 2008.
- [105] Laurent D. Cohen. Curve and Surface Segmentation using Fast Marching approaches for medical images. Conférence invitée. In *Imaging and Measurements in Biomedical Engineering* Paris, France October 2-3, 2008.
- [106] Laurent D. Cohen. Lignes géodésiques et segmentation d'images. Conférence invitée. In *SMAI-AFA Approximation, Modélisation Géométrique et Applications*. CIRM, Luminy, France, 24-28 novembre 2008.
- [107] Laurent D. Cohen. Lignes géodésiques et analyse d'images. Conférence invitée. In *Séminaire de Mathématiques appliquées du Collège de France*, Paris, France 16 Janvier 2009.
- [108] Laurent D. Cohen. Lignes géodésiques et analyse d'images médicales. Conférence invitée. In *1ère Journée de la Recherche à Dauphine* Paris, France 12 mai 2009.
- [109] Laurent D. Cohen. Modèles Déformables et Chemins Minimaux, Applications en analyse d'images médicales. Conférence invitée. In *Cérémonie SMAI en l'honneur des lauréats des prix de Mathématiques Appliquées de l'Académie des Sciences IHP*, Paris, France, 18 Novembre 2009.
- [110] Laurent D. Cohen. Invited to organize the minisymposium on Anisotropic Fast Marching and Applications. In *2010 SIAM Conference on Imaging Science*, Chicago, Illinois, USA, 14 April 2010.
- [111] Laurent D. Cohen. Extraction of tubular and tree structures in biomedical images using minimal paths and tubular models. Conférence invitée. in *Ill-posed Problems*, Rome, Italy. November 29-30, 2010.
- [112] Laurent D. Cohen. Geodesic Methods for Biomedical Image Segmentation. Keynote. in *1st Technion Computer Engineering (TCE) Conference*, Technion, Haifa, Israel. June 1-5, 2011.
- [113] Laurent D. Cohen. Geodesic Methods for Biomedical Image Segmentation. Conférence invitée. in *Analytic and Geometric Methods in Medical Imaging*, Cambridge, UK. August 22-26, 2011.
- [114] Laurent D. Cohen. Geodesic Voting for Image Segmentation. Conférence invitée. in *Fronts and Interfaces in Science and Technology*, bath, UK. December 13-15, 2011.
- [115] Laurent D. Cohen. A Voting scheme for vessel tree segmentation. Conférence invitée. in *Retinal Imaging Treatment and Analysis meeting (RITA)*, Institut de la Vision, Paris, France, October 15, 2012.
- [116] Laurent D. Cohen. Non Local Active Contours. Conférence invitée. in *Workshop on Image Processing and Reaction-Diffusion*, Jerusalem, Israel, September 11-13, 2012.
- [117] Laurent D. Cohen. Non Local Active Contours. Conférence invitée. in *Workshop on Nonlocal Problems*, Zurich, Switzerland, December 12-14, 2012.
- [118] Laurent D. Cohen. Segmentation d'images vasculaires par vote géodésique. Conférence invitée. in *Journée thématique mathématiques, image et biomédecine*, Paris, France, 18 décembre 2012.

- [119] Laurent D. Cohen. Extraction of tubular and tree structures in biomedical images using minimal paths and tubular models. Conférence invitée. in *Summer School and Workshop on Recent Advances in PDEs and Fluids à Stanford University*, Palo Alto, Californie, August 5-18, 2013.
- [120] Laurent D. Cohen. Automatic segmentation of natural images with Anisotropic Fast Marching algorithm and Geodesic voting. Conférence invitée. in *Fronts and Interfaces in Science and Technology*, Madrid, Spain, December 11-13, 2013.
- [121] Laurent D. Cohen. Geodesic Method for Blood Vessels and Tree Structure Segmentation. In *2014 SIAM Imaging Science Meeting*. Invited conference to Minisymposium on Detection and Analysis of Blood Vessels and Tree Shapes, Hong Kong, 12-14 May 2014.
- [122] Laurent D. Cohen. Minimally Overlapping Combination of Geodesic Paths for Interactive Segmentation. Conférence invitée. In *Research Workshop on Shape and Image Modeling and Analysis (SIMA)*., Ein-Gedi, The Dead Sea, Israel, 28-31 May 2014.
- [123] Laurent D. Cohen. Geodesic Methods for Biomedical Image Segmentation. Keynote. in *4th International Conference on Image Processing Theory, Tools and Applications, IPTA*, Paris, France. October 14-17, 2014.
- [124] Laurent D. Cohen. Geodesic methods in Biomedical Image Analysis. Conférence invitée. In *Advanced Study School on Imaging for Medical Applications.*, Sinaia, Romania, 29 June-4 July 2015.
- [125] Laurent D. Cohen. Segmentation of biomedical images using geodesic methods. Conférence invitée. In *Third International Workshop on Image Processing Techniques and Applications, incorporating Mathematical Imaging with Biomedical Applications.*, Liverpool, UK, 6-8 July 2015.
- [126] Laurent D. Cohen. Segmentation of retinal images using geodesic methods. Conférence invitée. In *Computer Methods in Biomechanics and Biomedical Engineering 2015 (CMBBE 2015)*., Montreal, Canada, September 1-5 2015.
- [127] Laurent D. Cohen. The Fast Marching Algorithm for Image Segmentation. Conférence invitée. In *Workshop on Algorithms and Applications (In honor of Ed Reingold's contributions on his 70th Birthday)*., Chicago, IL, USA, October 12 2015.
- [128] Laurent D. Cohen. Méthodes géodésiques pour la segmentation d'images médicales,. Conférence invitée. In *Horizon Maths 2015 (Fondation Sciences Mathématiques de Paris)*, IBM Bois-Colombes, France, 14-15 Décembre 2015.
- [129] Laurent D. Cohen. Geodesic curves for region-based segmentation. Conférence invitée Special Session on Image Analysis. In *2016 ICSEE International Conference on the Science of Electrical Engineering.*, Eilat, Israel, November 16-18, 2016.
- [130] Laurent D. Cohen. Geodesic methods for interactive image segmentation of biomedical images. Conférence invitée. in *International Workshop for Mathematical Imaging and Digital Geometry*, Beijing, China, June 12-13, 2017.

- [131] Laurent D. Cohen. Geodesic methods for interactive image segmentation of biomedical images. Conférence invitée. In *Summer School VIVABRAIN 2017 - Cerebral MR Angiography: acquisition, processing, simulation.*, Marne-La-Vallée, France, 26-29 Jun 2017.
- [132] Laurent D. Cohen. Geodesic Methods for Interactive Image Segmentation of biomedical images. Conférence invitée. In *International Summer School on Imaging for Medical Applications.*, Brasov, Romania, 17-21 July 2017.
- [133] Laurent D. Cohen. Geodesic Methods for Interactive Image Segmentation using Finsler metrics. Conférence invitée. in *Variational methods, new optimisation techniques and new fast numerical algorithms*, Cambridge, UK. September 4-8, 2017.
- [134] Laurent D. Cohen. Invited to organize the session on Geodesic Methods with Constraints. In *3rd conference on Geometric Science of Information GSI2017.*, Paris, France, 7-9 November, 2017.
- [135] Da Chen and Laurent D. Cohen. Minimal Paths and Geodesic Metrics for Image Segmentation and Tubular Structure Extraction. In *2018 SIAM Imaging Science Meeting*. Invited conference to Minisymposium on Variational Image Segmentation: Methods and Applications, Bologna, Italy, 5-8 June 2018.
- [136] Laurent D. Cohen. Geodesic methods in Biomedical Image Analysis. Tutorial at *IEEE International Symposium on Biomedical Imaging (ISBI 2019)*, Venice, Italy, April 8 - 11, 2019.
- [137] Laurent D. Cohen. From Active Contours to geodesic methods. Conférence invitée. In *Fourth International Workshop on Image Processing Techniques and Applications.*, Liverpool, UK, 22-23 July 2019.
- [138] Laurent D. Cohen. From Active Contours to geodesic methods. Conférence invitée, Keynote. In *3rd International Symposium on Image Computing and Digital Medicine (ISICDM).*, Xi'an, China, August 24-26, 2019.
- [139] Laurent D. Cohen. Geodesic methods for Biomedical Image Analysis. Tutorial at *3rd International Symposium on Image Computing and Digital Medicine (ISICDM).*, Xi'an, China, August 24-26, 2019.
- [140] Laurent D. Cohen. Geodesic Methods for Interactive Image Segmentation of biomedical images. Conférence invitée. In *International Summer School on Imaging for Medical Applications.*, Bucarest, Romania, 16-20 September 2019.
- [141] Laurent D. Cohen. From Active Contours to geodesic methods and back. Conférence invitée, Keynote. In *14th International Conference on Digital Image Processing (ICDIP 2022).*, Wuhan, China, May 2022.
- [142] Laurent D. Cohen. Eikonal methods applied to image segmentation. In *10th International Congress on Industrial and Applied Mathematics (ICIAM 2023)*. Invited conference to Minisymposium on Numerical Algorithms for the Eikonal Equation and Its Applications, Tokyo, Japan, 20-25 August 2023.
- [143] Laurent D. Cohen. Active Contours and geodesic methods. Conférence invitée, Keynote. In *5th International Conference on Video, Signal and Image Processing (VSIP 2023).*, Harbin, China, November 2023.

- [144] Laurent D. Cohen. Fast marching and front propagation for image segmentation. In *ALGORITHMY 2024, Central-European Conference on Scientific Computing*. Invited conference to Minisymposium on Numerical methods for level-set and eikonal equations – theory and applications, High Tatras Mountains, Slovakia, March 15-20, 2024.
- [145] Nicolas Makaroff and Laurent D. Cohen. Image Segmentation Using Chan-Vese Energy Minimization Coupled with a CNN Provided Mask. In *2024 SIAM Imaging Science Meeting*. Invited conference to Minisymposium on Synergy in Segmentation: Bridging Classical and Deep Learning Approaches, Atlanta, Georgia, USA, May 28-31, 2024.
- [146] Theo Bertrand, Nicolas Makaroff and Laurent D. Cohen. Region Segmentation Defined As the Unit Ball for the Geodesic Distance with Respect to a CNN Generated Riemannian Metric. In *2024 SIAM Imaging Science Meeting*. Invited conference to Minisymposium on Synergy in Segmentation: Bridging Classical and Deep Learning Approaches, Atlanta, Georgia, USA, May 28-31, 2024.

Actes de Colloques avec comité de lecture

Remarquer que certaines entrées regroupent plusieurs publications.
La presque totalité de ces conférences sont internationales.

- [147] Laurent D. Cohen. A new approach of vector quantization for image data compression and texture detection. In *International Conference on Pattern Recognition (ICPR'88)*, Rome, 1988.
- [148] Laurent D. Cohen, Laurent Vinet, Peter T. Sander, and André Gagalowicz. Hierarchical region based stereo matching. In *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'89)*, San Diego, June 1989.
- [149] Laurent D. Cohen, Laurent Vinet, Peter T. Sander, and André Gagalowicz. Cooperative segmentation and stereo matching. In *Proc. Topical Meeting on Image Understanding and Machine Vision*, Cape Cod, Massachusetts, June 1989. See also In *Proc. 6th Scandinavian Conference on Image Analysis*, Oulu, Finland, June 1989.
- [150] N. Ayache, J.D. Boissonnat, E. Brunet, Laurent D. Cohen, J.P. Chièze, B. Geiger, O. Monga, J.M. Rocchisani, and P. Sander. Building highly structured volume representations in 3D medical images. In *Computer Aided Radiology*, Juin 1989. Berlin, West-Germany.
- [151] Laurent D. Cohen and Isaac Cohen. A finite element method applied to new active contour models and 3D reconstruction from cross sections. In *Proc. Third IEEE International Conference on Computer Vision (ICCV'90)*, pages 587–591, Osaka, Japan, December 1990.
- [152] Isaac Cohen, Laurent D. Cohen, and Nicholas Ayache. Introducing deformable surfaces to segment 3D images and infer differential structures. In *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'91)*, pages 738–739, Lahaina, Maui, Hawaii, 1991. voir aussi Proc. IEEE EMBS'91 et RR Inria 1403, May 1991.

- [153] Laurent D. Cohen and Isaac Cohen. Deformable models for 3D medical images using finite elements & balloons. In *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'92)*, Champaign, Illinois, June 1992.
- [154] Isaac Cohen, Laurent D. Cohen, and Nicholas Ayache. Using deformable surface to segment 3-D images and infer differential structures. In *Proc. Second European Conference on Computer Vision (ECCV'92)*, pages 648–652, Santa Margherita Ligure, Italy, May 1992. In *Lecture Notes in Computer Science: Computer Vision*, Vol. 588 Springer-Verlag. Accompagné d'une vidéo dans les videoproceedings.
- [155] Laurent D. Cohen, Eric Bardinet, and Nicholas Ayache. Reconstruction of digital terrain model with a lake. In *Proceedings SPIE 93 Conference on Geometric Methods in Computer Vision*, San Diego, CA, July 1993. autre version RR Inria 1824, Décembre 1992.
- [156] Isaac Cohen and Laurent D. Cohen. A hybrid hyperquadric model for 2-D and 3-D data fitting. In *Proceedings of the 12th IEEE International Conference on Pattern Recognition (ICPR'94)*, pages B–403–405, Jerusalem, 1994.
- [157] Eric Bardinet, Laurent D. Cohen, and Nicholas Ayache. Fitting 3D data using superquadrics and free-form deformations. In *Proceedings of the 12th IEEE International Conference on Pattern Recognition (ICPR'94)*, pages A–79–83, Jerusalem, October 1994. voir aussi congrès IEEE WBIA'94 et CVRMed'95.
- [158] Laurent D. Cohen. Auxiliary variables for deformable models. In *Proc. Fifth IEEE International Conference on Computer Vision (ICCV'95)*, pages 975–980, Cambridge, USA, June 1995.
- [159] Laurent D. Cohen and Anne Gorre. On the convexity of the active contour energy. In *Proceedings of GRETSI*, Juan-les-Pins, September 1995.
- [160] Eric Bardinet, Laurent D. Cohen, and Nicholas Ayache. Tracking medical 3D data with a parametric deformable model. In *Proceedings of the IEEE International Symposium On Computer Vision*, Coral Gables, Florida, November 1995. Présenté aussi aux journées Orasis, Sophia-Antipolis, 1995
- [161] E. Bardinet, Laurent D. Cohen, and N. Ayache. Tracking medical 3D data with a deformable parametric model. In *Proc. Third European Conference on Computer Vision (ECCV'96)*, pages 1:317–328, Cambridge, U. K., April 1996. Accompagné d'une vidéo dans les videoproceedings.
- [162] Laurent D. Cohen and Ron Kimmel. Global Minimum for Active Contour Models: A Minimal Path approach. In *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'96)*, pages 666–673, San Francisco, USA, June 1996.
- [163] Laurent D. Cohen and Ron Kimmel. Regularization properties for minimal geodesics of a potential energy. In *Proc. 12th International Conference on Analysis and Optimization of Systems: Images, Wavelets and PDE's (ICAOS'96)*, Paris, France, June 1996.
- [164] B. Leroy, I. Herlin, and Laurent D. Cohen. Multi-resolution algorithms for active contour models. In *Proc. 12th International Conference on Analysis and Optimization of Systems: Images, Wavelets and PDE's (ICAOS'96)*, Paris, France, June 1996.

- [165] Laurent D. Cohen. Deformable curves and surfaces in image analysis. In *Third International Conference on Curves and Surfaces*, Chamonix, July 1996. Association Francaise d'Approximation (A.F.A.).
- [166] B. Leroy, I. Herlin, and Laurent D. Cohen. Face identification by deformation measure. In *Proc. 13th IEEE International Conference on Pattern Recognition (ICPR'96)*, Vienne, Austria, August 1996.
- [167] Laurent D. Cohen, F. Pajany, D. Pellerin, and C. Veyrat. Cardiac wall tracking using doppler tissue imaging (DTI). In *In Proc. of International Conference on Image Processing (ICIP'96)*, pages III-295-298, Lausanne, Suisse, Septembre 1996. Voir aussi communications à annual congress of the *American Society of Echocardiography*, Chicago, June 96. et 13th congress of the *European Society of cardiology*, Birmingham, UK.
- [168] Zakaria Ben Sbeh, Laurent D. Cohen, Gérard Mimoun, Gabriel Coscas, and Gisèle Soubrane. Une méthode adaptative pour la segmentation de drusen. In *Proceedings of GRETSI*, Grenoble, Septembre 1997.
- [169] Martin Lefébure and Laurent D. Cohen. Un algorithme multirésolution de recalage de signaux et d'images. In *Proceedings of GRETSI*, Grenoble, Septembre 1997. Présenté aussi aux journées Orasis, La colle sur Loup, Octobre 1997.
- [170] Zakaria Ben Sbeh, Laurent D. Cohen, Gérard Mimoun, Gabriel Coscas, and Gisèle Soubrane. An adaptive contrast method for segmentation of drusen. In *In Proc. of International Conference on Image Processing (ICIP'97)*, Santa Barbara, California, October 1997.
- [171] Martin Lefébure and Laurent D. Cohen. A multiresolution algorithm for signal and image registration. In *In Proc. of International Conference on Image Processing (ICIP'97)*, Santa Barbara, California, October 1997.
- [172] Florence Coscas, Gérard Mimoun, Zakaria Ben Sbeh, Laurent D. Cohen, Gabriel Coscas and Gisèle Soubrane. Automatic Detection of Macular Drusen. In *Proc. of 28th International Congress of Ophthalmology, ISFA*, Amsterdam, The Netherlands, 21-25 June 1998.
- [173] C Veyrat, D Pellerin, and L Cohen. Respective advantages of spectral, 2D and M mode color tissue doppler imaging. In *X Congress of the International Cardiac Doppler Society*, Kagawa, Japan, November 25-27 1998.
- [174] T. Deschamps, J.-M. Letang, B. Verdonck, and L.D. Cohen. Automatic construction of minimal paths in 3D images: An application to virtual endoscopy. In *Computer Assisted Radiology and Surgery*, Paris, France, June 23-26 1999.
- [175] T. Deschamps and L.D. Cohen. Path extraction in 3D medical images for virtual endoscopy. In *in Proc. Third Israeli Symposium on Computer-Aided Surgery, Medical Robotics, and Medical Imaging*, Technion, Haifa, Israel, May 18 2000.
- [176] Sylvie Naudet, Marc Viala, Patrick Sayd, Laurent Cohen, Frédéric Jallon, Arnauld Dumont, and J. Monnerie. An as-build on line modeling technique AOMS. In *Proceedings of XIXth ISPRS Congress*, Amsterdam, July 2000.
- [177] T. Deschamps and L.D. Cohen. Minimal paths in 3D images and application to virtual endoscopy. In *Proc. sixth European Conference on Computer Vision (ECCV'00)*, Dublin, Ireland, 26th June - 1st July 2000.

- [178] Andres Almensa and L.D. Cohen. Fingerprint Image Matching by minimization of a thin-plate energy using a two-step algorithm with auxiliary variables. In *Proc. Workshop on Applications of Computer Vision (WACV'00)*, December 2000, Palm Springs.
- [179] Patrick Sayd, Sylvie Naudet, Marc Viala, Laurent Cohen, and Arnaud Dumont. Aoms un outil de releve 3d d'environnements industriels. In *Actes du congrès de Vision ORASIS 2001*, Cahors, Juin 2001.
- [180] S. Vinson, L. D. Cohen and F. Perlant Extraction of Rectangular Buildings using DEM and Orthoimage. In *Proc. Scandinavian Conference on Image Analysis (SCIA'01)*, June 2001, Bergen, Norway.
- [181] M. Lefebure and L. D. Cohen. Image registration, optical flow and local rigidityimage registration, optical flow and local rigidity. In *Proc. of IEEE Scale-Space and Morphology in Computer Vision 2001*, Vancouver, Canada, July 2001.
- [182] L. D. Cohen. Multiple contour finding and perceptual grouping using minimal paths. In *Proc. IEEE Workshop on Variational and Level Set Methods in Computer Vision*, Vancouver, Canada, July 2001. IEEE.
- [183] M. Lefebure and L. D. Cohen. Optical Flow and Image Registration : a New Local Rigidity Approach for Global Minimization. In *Proc. of Third International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR - 2001)*, Sophia-Antipolis, September 2001.
- [184] Laurent D. Cohen and Thomas Deschamps. Multiple Contour Finding and Perceptual Grouping as a set of Energy Minimizing Paths. In *Proc. of Third International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR - 2001)*, Sophia-Antipolis, September 2001.
- [185] R. Truyen And T. Deschamps And L.D. Cohen. Clinical evaluation of an automatic path tracker for virtual colonoscopy. In *Proc. Medical Image Computing and Computer-Assisted Intervention, MICCAI'01, Utrecht, Netherlands*, October, 2001.
- [186] Valerie Moreau and Laurent Cohen and Denis Pellerin. Deformation Field Estimation for the Cardiac Wall using Doppler Tissue Imaging. In *Proc. Functional Imaging and Modeling of the Heart FIMH'01*, November, 2001.
- [187] Laurent D. Cohen and Thomas Deschamps. Grouping connected components using minimal path techniques. In *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'01)*, December, 2001.
- [188] Frédéric Richard and Laurent D. Cohen. Une nouvelle technique de recalage d'images avec des contraintes aux bords libres: applications aux mammographies. In *Actes de la conférence Reconnaissance des Formes et Intelligence Artificielle, RFIA'02*, pages 453–462, Angers, Janvier 2002.
- [189] Samuel Vinson and Laurent D. Cohen. Extraction des bâtiments complexes à partir d'images aériennes et de MNE. In *Actes de la conférence Reconnaissance des Formes et Intelligence Artificielle, RFIA'02*, pages 125–134, Angers, Janvier 2002.

- [190] Laurent D. Cohen and Thomas Deschamps. Groupement de Composantes Connexes à l'aide de Chemins Minimaux. In *Actes de la conférence Reconnaissance des Formes et Intelligence Artificielle, RFIA'02*, pages 723–732, Angers, Janvier 2002.
- [191] P. Sayd, S. Naudet, F. Gaspard, M. Viala, A. Dumont, F. Jallon, J.B. Monnerie, L. Cohen. 3D Modeling of Industrial Installation: Toward the Digital Factory. In *Proc. Business Applications of Virtual Reality, BAVR 2002*, Poznan, Poland April 24-25, 2002.
- [192] Frédéric Richard and Laurent D. Cohen. A new Image Registration Technique with Free Boundary Constraints : Application to Mammography. In *Proc. seventh European Conference on Computer Vision (ECCV'02)*, Copenhagen, Denmark, May 2002.
- [193] O. Gérard, T. Deschamps, Myriam Greff and Laurent D. Cohen. Real-time Interactive Path Extraction with On-the-fly Adaptation of the external forces. In *Proc. seventh European Conference on Computer Vision (ECCV'02)*, Copenhagen, Denmark, May 2002.
- [194] L.D. Cohen and T. Deschamps. Fast Extraction of 3D tubular and tree structures. In *in Proc. Fifth Israeli Symposium on Computer-Aided Surgery, Medical Robotics, and Medical Imaging*, Tel Aviv, Israel, May 22 2002.
- [195] Frédéric Richard and Laurent D. Cohen. Non-Rigid Mammogram Registration With Free Boundary Constraints. In *Proc. 6th International Workshop on Digital Mammography (IWDM'02)*, Bremen, Germany, June 2002.
- [196] Thomas Deschamps, Laurent D. Cohen. Fast surface and Tree Structure Extraction of Vascular Objects in 3D Medical Images. In *Proc. Fifth International Conference on Curves and Surfaces*, Saint-Malo, France, June 27 - July 3, 2002.
- [197] Thomas Deschamps and Laurent D. Cohen. Fast extraction of tubular and tree 3D surfaces with front propagation methods. In *Proc. 16th IEEE International Conference on Pattern Recognition (ICPR'02)*, Quebec, Canada, August 2002.
- [198] Valerie Moreau, Laurent D. Cohen and Denis Pellerin. Estimation and Analysis of the Deformation of the Cardiac Wall using Doppler Tissue Imaging. In *Proc. 16th IEEE International Conference on Pattern Recognition (ICPR'02)*, Quebec, Canada, August 2002.
- [199] Samuel Vinson and Laurent D. Cohen. Multiple rectangle model for Buildings Segmentation and 3D Scene Reconstruction. In *Proc. 16th IEEE International Conference on Pattern Recognition (ICPR'02)*, Quebec, Canada, August 2002.
- [200] Laurent D. Cohen. Minimal Paths and Deformable Models for Image Analysis. In *Demo session at IEEE Workshop on Applications of Computer Vision (WACV'02)*, Orlando, Florida, December 2002.
- [201] Laurent D. Cohen and Samuel Vinson. Segmentation of Complex Buildings from Aerial Images and 3D Surface Reconstruction. In *Proc. IEEE Workshop on Applications of Computer Vision (WACV'02)*, Orlando, Florida, December 2002.

- [202] Pablo A. Arbelaez and L. D. Cohen. Partitions d'énergies et segmentation d'images. In *Actes du congrès de Vision ORASIS 2003*, pages 375–384, Gerardmer, France, Mai 2003.
- [203] Pablo A. Arbelaez and L. D. Cohen. The Extrema Edges. In *Proc. of 4th International Conference on Scale-Space theories in Computer Vision*, pages 180–195, Isle of Skye, Scotland, UK, June 2003.
- [204] Pablo A. Arbelaez and L. D. Cohen. Extrema mosaic and image segmentation. In *Proc. of 4th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR - 2003)*, pages 246–260, Lisbon, Portugal, July 2003.
- [205] Pablo A. Arbelaez and L. D. Cohen. Generalized Voronoi Tessellations for Vector-Valued Image Segmentation. In *Proc. of 2nd IEEE conference on Variational, Geometric and Level Set Methods in Computer Vision (VLISM'03)*, Nice, October 2003.
- [206] Roberto Ardon and L. D. Cohen. Fast Constrained Surface Extraction by Minimal Paths. In *Proc. of 2nd IEEE conference on Variational, Geometric and Level Set Methods in Computer Vision (VLISM'03)*, Nice, October 2003.
- [207] Gabriel Peyre and L. D. Cohen. Geodesic re-meshing and parameterization using front propagation. In *Proc. of 2nd IEEE conference on Variational, Geometric and Level Set Methods in Computer Vision (VLISM'03)*, pages 33-40, Nice, October 2003.
- [208] Pablo A. Arbelaez et L. D. Cohen. Segmentation d'Images Vectorielles par Partitions de Voronoi Généralisées. In *Actes de la conférence Reconnaissance des Formes et Intelligence Artificielle, RFIA'04*, Toulouse, Janvier 2004.
- [209] Roberto Ardon et L. D. Cohen. Extraction rapide de surfaces contraintes par chemins minimaux. In *Actes de la conférence Reconnaissance des Formes et Intelligence Artificielle, RFIA'04*, Toulouse, Janvier 2004.
- [210] Gabriel Peyre et L. D. Cohen. Remaillage géodésique par propagation de fronts. In *Actes de la conférence Reconnaissance des Formes et Intelligence Artificielle, RFIA'04*, Toulouse, Janvier 2004. Ce papier a reçu le **prix du meilleur papier**.
- [211] Stephane Bonneau and Laurent D. Cohen and Maxime Dahan. A Multiple Target Approach for Single Quantum Dot Tracking. In *Proc. of IEEE International Symposium on Biomedical Imaging: From Nano to Macro, ISBI'04*, Arlington, USA, April 2004.
- [212] Roberto Ardon and Laurent D. Cohen. Efficient initialization for constrained active surfaces, applications in 3D Medical Images. In *Proc. of Computer Vision Approaches to Medical Image Analysis (CVAMIA) and Mathematical Methods in Biomedical Image Analysis (MMBIA) Workshop 2004*, Springer, Prague, Czech Republic, May 2004.
- [213] Gabriel Peyre and Laurent D. Cohen. Surface Segmentation Using Geodesic Centroidal Tessellation. In *Proc. of 2nd IEEE International Symposium on 3DPVT (3D Data Processing, Visualization, and Transmission)*, pages 995-1002, Thessaloniki, Greece, September 2004.

- [214] Stephane Bonneau, Maxime Dahan and Laurent D. Cohen. Tracking Single Quantum Dots in Live Cells with Minimal Paths. *in Proc. IEEE CVPR05 Workshop on Computer Vision Methods for Bioinformatics* San Diego, USA, June 2005.
- [215] Roberto Ardon, Laurent D. Cohen and Anthony Yezzi implicit surface segmentation by minimal paths, Applications in 3D medical images. *in Proc. IEEE ICIP'05 International Conference on Image Processing* Genova, September 11-14, 2005
- [216] Hua Li, Anthony Yezzi and Laurent D. Cohen Fast 3D Brain Segmentation Using Dual-Front Active Contours with Optional User-Interaction. *in Proc. IEEE CVBIA'05 Computer Vision for Biomedical Image Applications: Current Techniques and Future Trends, An International Conference on Computer Vision (ICCV'05) Workshop* Beijing, China, October 21, 2005. **Best Paper.**
- [217] Gabriel Peyre and Laurent D. Cohen. Heuristically Driven Front Propagation for Geodesic Paths Extraction. In *Proc. of 3rd IEEE conference on Variational, Geometric and Level Set Methods in Computer Vision (VLSM'05)*, Nice, Springer LNCS, p.173-184, Oct. 2005.
- [218] Roberto Ardon, Laurent D. Cohen and Anthony Yezzi A new implicit method for surface segmentation by minimal paths: Applications in 3D medical images. *in Proc. EMMCVPR 2005, Fifth International conference on Energy Minimization Methods in Computer Vision and Pattern Recognition* St. Augustine, FL, USA, November 9-11, 2005. Lecture Notes in Computer Science, LNCS 3757 Springer.
- [219] Stephane Bonneau, Laurent D. Cohen and Maxime Dahan. Détection et suivi d'objets ponctuels dans des séquences d'images de fluorescence. In *Proc. RFIA 2006, 15e congrès francophone AFRIF-AFIA, Reconnaissance des Formes et Intelligence Artificielle*, Tours, 25-27 janvier 2006.
- [220] Gabriel Peyre and Laurent D. Cohen. Landmark-based Computation for Heuristically Driven Path Planning. *in Proc. IEEE CVPR06 Conference on Computer Vision and Pattern Recognition* New York, USA, June 17-22, 2006.
- [221] Adrian Ion and Gabriel Peyre and Yil Haxhimusa and Samuel Peltier and Walter G. Kropatsch and Laurent Cohen. Shape Matching Using the Geodesic Eccentricity Transform - A Study. In *Proceedings of OAGM'07*, Schloss Krumbach, Austria, 3-4 May 2007.
- [222] Adrien Auclair and Laurent Cohen and Nicole Vincent A Robust Approach for 3D model reconstruction from a video sequence of Cars. In *Proceedings of 15th Scandinavian Conference on Image Analysis, SCIA 2007*, Aalborg, Denmark, June 14-17, 2007. Lecture Notes in Computer Science, Springer, Berlin,
- [223] Adrien Auclair and Laurent Cohen and Nicole Vincent How to Use SIFT Vectors to Analyze an Image with Database Templates. In *Proceedings of 5th International Workshop on Adaptive Multimedia Retrieval, AMR'07*, Paris, France, 5-6 July 2007.
- [224] Oudom Somphone and Sherif Makram-Ebeid and Laurent Cohen. Image Registration with a Partition of Unity Finite Element Method. In *International*

- Conference on Nonconvex programming: local and global approaches, Theory, Algorithms and Applications, NPC'07*, Rouen, France, 17-21 December, 2007.
- [225] Fethallah Benmansour and Stephane Bonneau and Laurent D. Cohen Finding a Closed Boundary by Growing Minimal Paths from a Single Point on 2D or 3D Images. in *Proc. IEEE Mathematical Methods in Biomedical Image Analysis MMBIA 2007, An International Conference on Computer Vision (ICCV'07) Workshop* Rio de Janeiro, Brazil, October 14-15, 2007.
- [226] Fethallah Benmansour and Stephane Bonneau and Laurent D. Cohen Finding a Closed Boundary by Growing Minimal Paths from a Single Point. in *Proc. of the Thematic Conference on Computational Vision and Medical Image Processing* Porto, Portugal, October 2007.
- [227] Fethallah Benmansour and Stephane Bonneau and Laurent D. Cohen An Implicit Approach to Closed Surface and Contour Segmentation Based on Geodesic Meshing and Transport Equation in *Actes RFIA 2008, 16e congrès francophone AFRIF-AFIA Reconnaissance des Formes et Intelligence Artificielle* Amiens, France, 22-25 Janvier, 2008.
- [228] Oudom Somphone and Sherif Makram-Ebeid and Laurent D. Cohen. Robust Image Registration Based on a Partition of Unity Finite Element Method In *Proc. Fifth IEEE International Symposium on Biomedical Imaging (ISBI'08)*, Paris, France, May 14-17, 2008.
- [229] Fethallah Benmansour and Laurent D. Cohen. From a single point to a surface patch by growing minimal paths. In *Seventh International Conference On Mathematical Methods For Curves and Surfaces*, Tonsberg, Norway, June 26-July 1, 2008.
- [230] Adrian Ion and N. M. Artner and Gabriel Peyre and S. B. L. Marmol and Walter G. Kropatsch and Laurent D. Cohen. 3D Shape Matching Using the Geodesic Eccentricity Transform - A Study. In *Proceedings of S3D (Search in 3D), an IEEE CVPR08 Workshop*, Anchorage, Alaska, June 27, 2008.
- [231] Pablo Arbelaez and Laurent D. Cohen. Constrained Image Segmentation from Hierarchical Boundaries. In *Proceedings of IEEE CVPR08*, Anchorage, Alaska, June 23-28, 2008.
- [232] Youssef Rouchdy and Laurent D. Cohen and Olivier Pascual and Alain Bessis Segmentation of microglia from confocal microscope images combining the Fast Marching Method with Harris Points. In *Proceedings of third international workshop on Microscopic Image Analysis with Applications in Biology, MIAAB 2008*, in conjunction with MICCAI in New York, NY, September 06, 2008.
- [233] Adrien Auclair and Laurent Cohen and Nicole Vincent Using Point Correspondences Without Projective Deformation For Multi-View Stereo Reconstruction. In *Proceedings of IEEE ICIP 2008*, San Diego, California, USA, October 15-18, 2008.
- [234] Sébastien Bougleux and Gabriel Peyré and Laurent D. Cohen. Anisotropic Geodesics for Perceptual Grouping and Domain Meshing. In *Proc. tenth European Conference on Computer Vision (ECCV'08)*, Marseille, France, October 12-18, 2008.

- [235] Gabriel Peyré and Sébastien Bogleux and Laurent D. Cohen. Non-local Regularization of Inverse Problems. In *Proc. tenth European Conference on Computer Vision (ECCV'08)*, Marseille, France, October 12-18, 2008.
- [236] Oudom Somphone and Benoit Mory and Sherif Makram-Ebeid and Laurent D. Cohen. Prior-based Piecewise-smooth Segmentation by Template Competitive Deformation using Partitions of Unity. In *Proc. tenth European Conference on Computer Vision (ECCV'08)*, Marseille, France, October 12-18, 2008.
- [237] Julien Mille and Romuald Boné and Laurent D. Cohen. Region-based 2D deformable generalized cylinder for narrow structures segmentation. In *Proc. tenth European Conference on Computer Vision (ECCV'08)*, Marseille, France, October 12-18, 2008.
- [238] Youssef Rouchdy and Laurent D. Cohen. Image Segmentation by Geodesic Voting. Application to the Extraction of Tree Structures from Confocal Microscope Images. In *Proceedings of 19th IAPR/IEEE International Conference on Pattern Recognition ICPR 2008*, Tampa, Florida, USA, December 8-11, 2008.
- [239] Fethallah Benmansour and Laurent Cohen and E. Davilla and P.C. Douek and M. Orkisz and M.A. Zuluaga. New interactive methods for tubular structure segmentation of medical images. In *Proc. 12th Israeli Symposium on Computer-Aided Surgery, Medical Robotics, and Medical Imaging (ISRA-CAS'09)*, Tel Aviv, Israel, May 7th, 2009.
- [240] Julien Mille and Laurent D. Cohen. Geodesically linked active contours: evolution strategy based on minimal paths. In *Proc. of 2nd Second International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'09)*, Voss, Norway, June 1 - June 5, 2009, Springer LNCS.
- [241] Nikos Gabrielides and Laurent D. Cohen. An Implicit Method for Interpolating two Digital Curves on Parallel Planes. In *Proc. of 2nd Second International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'09)*, Voss, Norway, June 1 - June 5, 2009, Springer LNCS.
- [242] Fethallah Benmansour and Laurent D. Cohen. Tubular anisotropy for 3D vessels segmentation. In *Proc. of 2nd Second International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'09)*, Voss, Norway, June 1 - June 5, 2009, Springer LNCS.
- [243] Fethallah Benmansour and Laurent D. Cohen. From a single point to a surface patch by growing minimal paths. In *Proc. of 2nd Second International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'09)*, Voss, Norway, June 1 - June 5, 2009, Springer LNCS.
- [244] Fethallah Benmansour and Laurent D. Cohen. Tubular Anisotropy Segmentation. In *Proc. ORASIS'09, Congrès des jeunes chercheurs en vision par ordinateur*, Trégastel, 8-12 juin 2009.
- [245] Adrien Auclair and Laurent D. Cohen and Nicole Vincent. Hachage de descripteurs locaux pour la recherche d'images similaires. In *Proc. ORASIS'09, Congrès des jeunes chercheurs en vision par ordinateur*, Trégastel, 8-12 juin 2009.

- [246] Youssef Rouchdy and Laurent Cohen. The shading zone problem in geodesic voting and its solutions for the segmentation of tree structures. Application to the segmentation of Microglia extensions. In *Proc. MMBIA 2009: IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis*, in conjunction with CVPR'09, Miami, Florida, USA, June 20-25, 2009.
- [247] Julien Mille and Laurent Cohen. Deformable tree models for 2D and 3D branching structures extraction. In *Proc. MMBIA 2009: IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis*, in conjunction with CVPR'09, Miami, Florida, USA, June 20-25, 2009.
- [248] Fethallah Benmansour and Laurent Cohen and Max Law and Albert Chung. Tubular anisotropy for 2D vessels segmentation. In *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'09)*, Miami, Florida, USA, June 20-25, 2009.
- [249] Fethallah Benmansour and Laurent Cohen. A New interactive method for coronary arteries segmentation based on tubular anisotropy. In *Proc. Sixth IEEE International Symposium on Biomedical Imaging (ISBI'09)*, Boston, Massachusetts, USA, June 28 - July 1, 2009.
- [250] Julien Mille and Laurent Cohen. A local normal-based region term for active contours. In *Proc. 7th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition, EMMCVPR'09*, Bonn, Germany, August 24-27, 2009.
- [251] Sébastien Bogleux and Gabriel Peyré and Laurent Cohen. Compression d'images par triangulations géodésiques anisotropes. In *Proc. GRETSI*, Dijon, France, September 8-11, 2009.
- [252] Julien Mille and Laurent Cohen. Reconstruction de structures arborescentes par chemins minimaux et bande déformable. In *Proc. GRETSI*, Dijon, France, September 8-11, 2009.
- [253] Hua Li and Anthony Yezzi and Laurent Cohen. 3D Multi-branch Tubular Surface and Centerline Extraction with 4D Iterative Key Points. In *Proc. 12th International Conference on Medical Image Computing and Computer Assisted Intervention, MICCAI'09*, Imperial College, London, UK, September 21-24, 2009.
- [254] Sébastien Bogleux and Gabriel Peyré and Laurent Cohen. Image Compression with Anisotropic Geodesic Triangulations. In *Proc. Twelfth IEEE International Conference on Computer Vision (ICCV'09)*, Kyoto, Japan, September 29th-October 2nd, 2009.
- [255] Adrien Auclair and Laurent D. Cohen and Nicole Vincent. Hash Functions for Near Duplicate Image Retrieval. In *IEEE Workshop on Applications of Computer Vision, WACV'09*, Snowbird, Utah, USA, 7-8 December, 2009.
- [256] Julien Mille and Laurent Cohen. 3D CTA Image Segmentation With A Generalized Cylinder-Based Tree Model. In *Proc. Seventh IEEE International Symposium on Biomedical Imaging (ISBI'10)*, Rotterdam, The Netherlands, 14-17 April, 2010.

- [257] Julien Rabin, Gabriel Peyre and Laurent D. Cohen. Geodesic Shapes and Surfaces Retrieval via Optimal Mass Transport. In *Proc. eleventh European Conference on Computer Vision (ECCV'10)*, Greece, September 2010.
- [258] Youssef Rouchdy and Laurent D. Cohen A geodesic voting method for the segmentation of tubular tree and centerlines. In *Proc. Eighth IEEE International Symposium on Biomedical Imaging (ISBI'11)*, pp. 979-983, Chicago, USA, April 2011.
- [259] Jia Li and Laurent D. Cohen Reconstruction of 3D Tubular Structures from Cone-Beam Projections. In *Proc. Eighth IEEE International Symposium on Biomedical Imaging (ISBI'11)*, Chicago, USA, April 2011.
- [260] Miyoun Jung, Gabriel Peyre and Laurent D. Cohen. Non-local Active Contours. In *Proc. of 3rd International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'11)*, Ein Gedi, Israel, May 29th– June 2nd, 2011, Springer LNCS, pages 255-266.
- [261] Yves Ahipo and Didier Auroux and Laurent Cohen and Mohamed Masmoudi. A hybrid scheme for contour detection and completion based on topological gradient and fast marching algorithms - application to image inpainting and segmentation In *Proc. of 3rd International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'11)*, Ein Gedi, Israel, May 29th– June 2nd, 2011, Springer LNCS, pages 386-397.
- [262] Youssef Rouchdy and Laurent D. Cohen. A geodesic Voting Shape Prior To Constrain the Level Set Evolution for the Segmentation of Tubular Trees. In *Proc. of 3rd International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'11)*, Ein Gedi, Israel, May 29th– June 2nd, 2011, Springer LNCS, pages 362-373.
- [263] Miyoun Jung, Gabriel Peyre and Laurent D. Cohen. Texture Segmentation via Non-local Non-parametric Active Contours. In *Proc. of 8th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR - 2011)*, St Petersburg Russia, August 2011.
- [264] Miyoun Jung, Gabriel Peyre and Laurent D. Cohen. Non-local Segmentation and Inpainting, In *Proc. IEEE International Conference on Image Processing (ICIP'11)*, Bruxelles, Belgique, September 2011
- [265] Jean-Baptiste Fiot and Laurent D. Cohen and Parnesh Raniga and Jurgen Fripp. Efficient Lesion Segmentation using Support Vector Machines. In *Proc. VIPIMAGE 2011, Third ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing*, Olhao, Portugal, September 2011, **Best Student Paper Award**.
- [266] Jean-Baptiste Fiot and Laurent D. Cohen and Pierrick Bourgeat and Parnesh Raniga and Oscar Acosta and Victor Villemagne and Olivier Salvado and Jurgen Fripp Multimodality Imaging Population Analysis using Manifold Learning In *Proc. VIPIMAGE 2011, Third ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing*, Olhão, Portugal, September 2011
- [267] Raphael PREVOST, Laurent COHEN, Jean-Michel CORREAS and Roberto ARDON Automatic detection and segmentation of renal lesions in 3D

- contrast-enhanced ultrasound images In *Proc. SPIE Medical Imaging 2012: Image Processing*, San Diego, California, USA, February 2012.
- [268] Raphael PREVOST, Benoit MORY, Jean-Michel CORREAS, Laurent COHEN and Roberto ARDON Kidney Detection And Real-Time Segmentation In 3d Contrast-Enhanced Ultrasound Images In *Proc. Eighth IEEE International Symposium on Biomedical Imaging (ISBI'12)*, Barcelona, Spain, May 2-5 2012.
- [269] Jean-Baptiste Fiot, Jurgen Fripp and Laurent D. Cohen Combining Imaging And Clinical Data In Manifold Learning: Distance-Based And Graph-Based Extensions Of Laplacian Eigenmaps. In *Proc. Eighth IEEE International Symposium on Biomedical Imaging (ISBI'12)*, Barcelona, Spain, May 2-5 2012.
- [270] Yining Hu, Miyoun Jung, Ahmed Oukili, Guanyu Yang, Jean-Claude Nunes, Jérôme Fehrenbach, Gabriel Peyre, Marc Bedossa, Limin Luo, Christine Toumoulin and Laurent D. Cohen Sparse reconstruction from a limited projection number of the coronary artery tree in X-ray rotational imaging. In *Proc. Eighth IEEE International Symposium on Biomedical Imaging (ISBI'12)*, Barcelona, Spain, May 2-5 2012.
- [271] Youssef Rouchdy and Laurent D. Cohen Retinal blood vessel segmentation using geodesic voting methods. In *Proc. Eighth IEEE International Symposium on Biomedical Imaging (ISBI'12)*, pp. 979-983, Barcelona, Spain, May 2-5 2012.
- [272] Julien Mille and Sebastien Boughleux and Laurent Cohen. Minimally overlapping paths sets for closed contour extraction. In *Proc. International Conference on Computer Vision Theory and Applications (VISAPP)*, Rome, Italy, 24-26 february 2012.
- [273] Jean-Baptiste Fiot, Laurent Risser, Laurent D. Cohen, Jurgen Fripp and François-Xavier Vialard. Local vs global descriptors of hippocampus shape evolution for Alzheimer's longitudinal population analysis. In *Proc. 2nd International MICCAI Workshop on Spatiotemporal Image Analysis for Longitudinal and Time-Series Image Data (STIA'12)*, MICCAI 2012, Nice, France, october 1-5, 2012
- [274] R. Cuingnet, R. Prevost, D. Lesage, L. D. Cohen, B. Mory, R. Ardon Automatic Detection and Segmentation of Kidneys in 3D CT Images Using Random Forests, In *Proc. 15th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2012)*, LNCS 7512, Springer 2012, Nice, France, october 1-5, 2012
- [275] Raphael Prevost, Remi Cuingnet, Benoit Mory, Jean-Michel Correas, Laurent D. Cohen, and Roberto Ardon Joint Co-Segmentation and Registration of Ultrasound Images In *Proc. 23rd biennial International Conference on Information Processing in Medical Imaging (IPMI 2013)*, Asilomar, California, USA on June 29 - July 3, 2013
- [276] R. Prevost, R. Cuingnet, B. Mory, L. D. Cohen, R. Ardon Incorporating shape variability in image segmentation via implicit template deformation, In *Proc. 16th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2013)*, LNCS , Springer 2013, Nagoya, Japan, September 22-26th, 2013

- [277] R. Prevost, B. Romain, R. Cuingnet, B. Mory, L. Rouet, O. Lucidarme, L. D. Cohen, R. Ardon Registration of Free-Breathing 3D+t Abdominal Perfusion CT Images via Co-Segmentation, In *Proc. 16th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2013)*, LNCS , Springer 2013, Nagoya, Japan, September 22-26th, 2013
- [278] J. Mille, S. Bougleux and L.D. Cohen, Combination of paths for interactive segmentation, In *Proc. British Machine Vision Conference (BMVC 2013)*, Bristol, England, September 9-13, 2013
- [279] Da Chen and Laurent D. Cohen Automatic Vessel Tree Structure Extraction by Growing Minimal Paths and a Mask. In *Proc. 10th IEEE International Symposium on Biomedical Imaging (ISBI'14)*, Beijing, China, April 29 - May 2, 2014.
- [280] R. Prevost, B. Mory, R. Cuingnet, L. D. Cohen and R. Ardon Tagged Template Deformation, In *Proc. 17th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2014)*, LNCS , Springer 2014, Boston, USA, September 14-18th, 2014.
- [281] Da Chen, Laurent D. Cohen and Jean-Marie Mirebeau Vessel Extraction Using Anisotropic Minimal Paths and Path Score. In *Proc. 21st IEEE International Conference on Image Processing (ICIP 2014)*, Paris, France, Octobre 27-30, 2014.
- [282] Emmanuel Cohen and Yehoshua Zeevi and Laurent D. Cohen Texture Enhancement using Diffusion Process with Potential. In *Proc. of 2014 IEEE 28-th Convention of Electrical and Electronics Engineers in Israel (IEEEI 2014)*., Eilat, Israel, December 3-5, 2014.
- [283] Da Chen and Laurent D. Cohen. Piecewise Geodesics for Vessel Centerline Extraction and Boundary Delineation with Application to Retina Segmentation. In *Proc. of 5th International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'15)*, Lège-Cap Ferret, France, May 31 - June 4, 2015, Springer LNCS 9087, pages 270-281.
- [284] Da Chen and Laurent D. Cohen Automatic Tracking of Retinal Vessel Segments using Radius-Lifted Minimal Path Method. In *Proc. 19th Medical Image Understanding and Analysis Conference (MIUA 2015)*, Lincoln, UK, 15-17th July, 2015.
- [285] Da Chen and Laurent D. Cohen Interactive Retinal Vessel Centreline Extraction and Boundary Delineation Using Anisotropic Fast Marching and Intensities Consistency. Special track on Ophthalmic imaging and analysis, In *Proc. 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2015)*, Milano, Italy, 25-29 August, 2015.
- [286] Vijaya Kumar GHORPADE and Laurent D. Cohen Automatic Segmentation of Natural Images with Anisotropic Fast Marching Algorithm and Geodesic Voting. In *Proc. 22nd IEEE International Conference on Image Processing (ICIP 2015)*, Quebec City, Canada, 27-30 September, 2015.
- [287] Da Chen and Jean-Marie Mirebeau and Laurent D. Cohen Global Minimum for Curvature Penalized Minimal Path Method, In *Proc. British Machine Vision Conference (BMVC 2015)*, Swansea, UK, 7 - 10 September 2015

- [288] Da Chen and Laurent D. Cohen Vessel Tree Segmentation Via Front Propagation and Dynamic Anisotropic Riemannian Metric, In *Proc. IEEE International Symposium on Biomedical Imaging (ISBI 2016)*, Prague, Republique Tchèque, April 13-16 2016.
- [289] Da Chen and Jean-Marie Mirebeau and Laurent D. Cohen A New Finsler Minimal Path Model with Curvature Penalization for Image Segmentation and Closed Contour Detection, In *Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2016)*, Las Vegas, USA, June 26th- July 1st 2016
- [290] Da Chen and Jean-Marie Mirebeau and Laurent D. Cohen Finsler Geodesic Evolution Model for Region based Active Contours, In *Proc. British Machine Vision Conference (BMVC 2016)*, York County, UK, 19 - 22 September 2016
- [291] Emmanuel Cohen, Thomas Deffieux, Elodie Tiran, Charlie Demené, Laurent Cohen, Mickael Tanter. Ultrasensitive Doppler based neuronavigation system for preclinical brain imaging applications, In *Proc. IEEE International Ultrasonic Symposium (IUS 2016)*, Tours, France, 18 - 21 September 2016
- [292] Emmanuel Cohen and Thomas Deffieux and Charlie Demené and Laurent D. Cohen and Mickael Tanter. 3D vessel extraction in the rat brain from Ultrasensitive Doppler images, In *Proc. Computer Methods in Biomechanics and Biomedical Engineering (CMBBE 2016)*, Tel Aviv, Israel, 20 - 22 September 2016, Best Poster Presentation Award.
- [293] Qi-Chong Tian and Laurent D. Cohen. Color Correction in Image Stitching Using Histogram Specification and Global Mapping, In *Proc. sixth IEEE International Conference on Image Processing Theory, Tools and Applications (IPTA 2016)*, Oulu, Finland, 12-15 December 2016.
- [294] Qi-Chong Tian and Laurent D. Cohen. Color Consistency for Photo Collections without Gamut Problems, In *23rd International Conference on Multimedia Modeling (MMM 2017)*, Reykjavik, Iceland, 4-6 January, 2017.
- [295] Abraham Marciano, Najib Gadi and Laurent D. Cohen. Vehicle X-Ray Scans Registration: A One-Dimensional Optimization Problem. In *Proc. of 6th International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'17)*, Kolding, Denmark, June 4-8th, 2017.
- [296] Fang Yang and Laurent D. Cohen. Tubular Structure Segmentation based on Heat Diffusion. In *Proc. of 6th International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM'17)*, Kolding, Denmark, June 4-8th, 2017.
- [297] Emmanuel Cohen and Laurent D. Cohen. Extraction 3D du réseau vasculaire cérébral chez le rat à partir d'images Doppler ultrasensible. In *Proc. ORASIS 2017*, Colleville-sur-Mer, June 12-16th, 2017.
- [298] Abraham Marciano, Laurent D. Cohen and Najib Gadi. Recalage d'Images Radiographiques de Véhicules : Un Problème d'Optimisation Unidimensionnel. In *Proc. ORASIS 2017*, Colleville-sur-Mer, June 12-16th, 2017.
- [299] Fang Yang, Laurent D. Cohen and Alfred Bruckstein. A Model for Automatically Tracing Object Boundaries. In *Proc. IEEE International Conference on Image Processing (ICIP'17)*, Beijing, China, September 17-20, 2017.

- [300] Qi-Chong Tian and Laurent D. Cohen. Naturalness preservation image contrast enhancement via histogram modification, In *9th International Conference on Graphic and Image Processing (ICGIP 2017)*, Qingdao, China, Oct 14-16, 2017.
- [301] Qi-Chong Tian and Laurent D. Cohen. Global and Local Contrast Adaptive Enhancement for Non-uniform Illumination Color Images, In *6th Color and Photometry in Computer Vision ICCV'17 workshop*, Venice, Italy, October 29th, 2017.
- [302] Fang Yang, Laurent D. Cohen and Alfred Bruckstein. PointFlow: A Model for Automatically Tracing Object Boundaries and Inferring Illusory Contours. In *Proc. 11th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition, EMMCVPR'17*, Venice, Italy, October 30-November 1st, 2017
- [303] Emmanuel Cohen, Laurent D. Cohen, Thomas Deffieux and Mickael Tanter. An Isotropic Minimal Path Based Framework for Segmentation and Quantification of Vascular Networks. In *Proc. 11th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition, EMMCVPR'17*, Venice, Italy, October 30-November 1st, 2017
- [304] Da Chen and Laurent D. Cohen. Fast Asymmetric Fronts Propagation for Voronoi Region Partitioning and Image Segmentation. In *Proc. 11th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition, EMMCVPR'17*, Venice, Italy, October 30-November 1st, 2017
- [305] Abraham Marciano, Laurent D. Cohen and Najib Gadi. Vehicle X-Ray Images Registration. In *Proc. 11th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition, EMMCVPR'17*, Venice, Italy, October 30-November 1st, 2017
- [306] Da Chen and Laurent D. Cohen. Anisotropic Edge-based Balloon Eikonal Active Contours, In *Proc. 3rd conference on Geometric Science of Information (GSI2017)*, Paris (France), November 7-9th, 2017
- [307] Da Chen and Laurent D. Cohen. A New Dynamic Minimal Path Model for Tubular Structure Centerline Delineation, In *Proc. IAPR International Conference on Pattern Recognition (ICPR 2018)*, Beijing, China, August 20-24th, 2018
- [308] Da Chen, Jack A Spencer, Jean-Marie Mirebeau, Ke Chen and Laurent D. Cohen. Asymmetric Geodesic Distance Propagation for Active Contours, In *Proc. 29th British Machine Vision Conference (BMVC'18)*, Newcastle, UK, 3-6 September, 2018
- [309] Fang Yang, Li Chai, Da Chen and Laurent D. Cohen. Geodesics via asymmetric Heat diffusion based on Finsler Metric. In *Proc. 14th Asian Conference on Computer Vision (ACCV18)*, Perth, Australia, 2-6 December, 2018.
- [310] Li Liu, Da Chen, Laurent Cohen, Huazhong Shu, Michel Paques. Vessel Extraction Using Crossing-Adaptive Minimal Path Model with Anisotropic Enhancement and Curvature Constraint, In *Proc. IEEE International Symposium on Biomedical Imaging (ISBI 2019)*, Venice, Italy, April 8 - 11, 2019.

- [311] Raphael Groskot and Laurent D. Cohen and Leonidas Guibas Shape part Transfer via semantic latent space factorization, In *Proc. 4th conference on Geometric Science of Information (GSI2019)*, Toulouse (France), August 27-29th, 2019
- [312] Emmanuel Cohen and Thomas Deffieux and Charlie Demené and Laurent D. Cohen and Mickael Tanter. 4D point cloud registration for tumor vascular networks monitoring from ultrasensitive Doppler images, In *Proc. 16th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE 2019)*, New York City, USA, 14 - 16 August 2019.
- [313] Changqing Fu and Laurent D. Cohen. Geometric Deformation on Objects: Unsupervised Image Manipulation via Conjugation, In *Proc. Eighth International Conference on Scale Space and Variational Methods in Computer Vision (SSVM 2021)*, Virtual, 17-19 May 2021.
- [314] Li Liu, Da Chen, Minglei Shu, Huazhong Shu and Laurent D. Cohen. A new Tubular Structure Tracking Algorithm based on Curvature-penalized Perceptual Grouping. In *Proc. 2021 IEEE 46th International Conference on Acoustics, Speech and Signal Processing (ICASSP2021)*, Virtual and Toronto, Canada, 6-11 June 2021.
- [315] Da Chen, Laurent D. Cohen, Jean-Marie Mirebeau and Xue-Cheng Tai. New Elastica Geodesic Approach with Convexity Shape Prior for Region-based Active Contours and Image Segmentation. In *Proc. International Conference on Computer Vision (ICCV21)*, Virtual, Montreal, Canada, 11-17 October, 2021. hal-03174123v2t
- [316] Raphael Groskot and Laurent D. Cohen. Deformable Voxel Grids for Shape Comparisons. In *14th International Conference on Digital Image Processing (ICDIP 2022)*, May 2022, Wuhan (Virtual), China. ; hal-03863370
- [317] Raphael Groskot and Laurent D. Cohen. Shape Morphing as a Minimal Path in the Graph of Cubified Shapes. In *18th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISIGRAPP23)*, February 19-21, 2023, Lisbon, Portugal. **Best Paper Award.**
- [318] Theo Bertrand, Nicolas Makaroff and Laurent D. Cohen. Fast Marching Energy CNN. In *Proc. 9th International Conference on Scale Space and Variational Methods in Computer Vision (SSVM 2023)*, Sardinia - Italy, May 21-25 2023.
- [319] Thomas Dages, Laurent D. Cohen and Alfred M. Bruckstein. A Model Is Worth Tens of Thousands of Examples, In *Proc. 9th International Conference on Scale Space and Variational Methods in Computer Vision (SSVM 2023)*, Sardinia - Italy, May 21-25 2023.
- [320] Nicolas Makaroff and Laurent D. Cohen. Chan-Vese Attention U-Net: An attention mechanism for robust segmentation. In *Proc. 6th conference on Geometric Science of Information (GSI2023)*, Saint-Malo (France), August 30th-September 1st, 2023.
- [321] Changqing Fu and Laurent D. Cohen. DeepPrism: Channel Convolution for Sparse Generative Models. In *The 5th International Conference on Video, Signal and Image Processing (VSIP 2023)*, Harbin, China, November 2023.

- [322] Changqing Fu and Laurent D. Cohen. Conic Linear Units: Improved Model Fusion and Rotational-Symmetric Generative Model. In *19th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISIGRAPP24)*, February 27-29, 2023, Rome, Italy.
- [323] LIN ZHANG, CHENGGANG LU, XIN-YANG SHI, CAIFENG SHAN, JIONG ZHANG, DA CHEN and Laurent D. Cohen. GAPNET: GRANULARITY ATTENTION NETWORK WITH ANATOMY-PRIOR-CONSTRAINT FOR CAROTID ARTERY SEGMENTATION. In *Proceedings of ALGORITMY 2024, Central-European Conference on Scientific Computing.*, High Tatra Mountains, Slovakia, March 15-20, 2024.
- [324] Theo Bertrand and Laurent D. Cohen. Fitting Tree Model with CNN and Geodesics to Track Blood Vessels in 2D Medical Images and Application to Ultrasound Localization Microscopy Data. In *Proceedings of the 4th International Conference on Image Processing and Vision Engineering (IMPROVE24)*, May 2-4, 2024, Angers, France. DOI: 10.5220/0012723900003720
- [325] Hongda Liang, Da Chen, Tao Chen, Li Liu, Jiong Zhang and Laurent Cohen. An Adaptive Geodesic Voting Method for Curvilinear Tree Structure Extraction. In *Proc. 2024 16th International Conference on Graphics and Image Processing (ICGIP 2024)*, Nanjing, China, November 8-10, 2024.

Colloques avec comité de lecture sans actes et divers

- [326] Laurent D. Cohen. Chemins Minimaux et Modèles Déformables Élastiques en Analyse d'images. In *Lettres des Départements scientifiques du CNRS, SPM*, N. 42, Décembre 2003.
- [327] Gabriel Peyre and Laurent D. Cohen. Calculs géodésiques pour le remailage adaptatif In *2ème Congrès National de Mathématiques Appliquées et Industrielles SMAI 2005*, Evian, 23-27 mai 2005.
- [328] Roberto Ardon and Laurent D. Cohen. Segmentation implicite de surfaces à partir d'un ensemble de plus de deux courbes. In *2ème Congrès National de Mathématiques Appliquées et Industrielles SMAI 2005*, Evian, 23-27 mai 2005.
- [329] Roberto Ardon and Laurent D. Cohen and Anthony Yezzi. A Level Set Method for Constrained Object Segmentation. In *2006 SIAM Conference on Imaging Science. Minisymposium on Minimal Paths and Fast Marching Methods in Image Analysis*, Minneapolis, Minnesota, USA, 15-17 may 2006.
- [330] Laurent D. Cohen. Fast Marching and Deformable Models in Image Analysis. In *2006 SIAM Conference on Imaging Science. Minisymposium on Minimal Paths and Fast Marching Methods in Image Analysis*, Minneapolis, Minnesota, USA, 15-17 may 2006.
- [331] Gabriel Peyre and Laurent D. Cohen. Geodesic Surface Processing. In *Introduction to numerical methods for moving boundaries.*, Ensta, Paris, 12-14 Nov. 2007.

- [332] Ron Kimmel and Nir Sochen and Laurent D. Cohen and Fethalla Benmansour. Using deformable surface registration for vessel segmentation on computed tomography angiography. In *French-Israeli Cooperation Seminar on Medical and Biological Imaging*, Ministry of Science, Culture and Sport, Jerusalem, Israel, December 18-19, 2007.
- [333] Laurent D. Cohen and Ron Kimmel Using deformable surface registration for vessel segmentation on computed tomography angiography. In *Israel-France Seminar on Medical and Biological Imaging*, Haut Conseil pour la Recherche et la Coopération Scientifique et Technologique, Ministère de l'Enseignement Supérieur et de la Recherche, Paris, 17-18 novembre 2008.
- [334] Laurent D. Cohen Extraction of Tubular and Tree Structures in Biomedical Images using Minimal Paths and Tubular Models. In *First Workshop on Mathematical Methods in Systems Biology*, Tel Aviv, Israel, 4-7 January 2010.
- [335] Laurent D. Cohen and F. Benmansour Tubular Model for Orientation Dependant Vessel Segmentation using Anisotropic Fast Marching. In *2010 SIAM Conference on Imaging Science. Minisymposium on Anisotropic Fast Marching and Applications*, Chicago, Illinois, USA, 14 April 2010.
- [336] Laurent D. Cohen and S. Bougleux and G. Peyré Image Compression with Anisotropic Geodesic Triangulation. In *2010 SIAM Conference on Imaging Science. Minisymposium on Anisotropic Fast Marching and Applications*, Chicago, Illinois, USA, 14 April 2010.
- [337] Laurent D. Cohen, Fethallah Benmansour, Philippe Douek, Maciej Orkisz, Maria Alejandra Zuluaga, Eduardo Davila, Ron Kimmel, Alexander Brook and Nir Sochen Vessel Segmentation on Computed Tomography Angiography. In *Daguessh Science Special issue on 5 Years Of The French-Israeli High Council For Science & Technology*, n°71, June 2010.
- [338] Raphael PREVOST, Laurent COHEN, Anne-Marie TISSIER, Jean-Michel CORREAS and Roberto ARDON Segmentation du rein et des lésions rénales en échographie de contraste 3D. In *Journées Françaises de Radiologie 2011* 21-25 octobre 2011, Paris.
- [339] Interview pour l'enquête : Imagerie Médicale, Radiographie d'une évolution. Simuler pour mieux soigner. In *le Journal du CNRS*, 260-261, Septembre-Octobre 2012, pages 18-27. Support pour l'exposition *La vie en transparence* au musée des arts et métiers à Paris de Mai 2012 à Janvier 2013.
- [340] Jean-Baptiste Fiot, Laurent Risser, Laurent D. Cohen, Jurgen Fripp and François-Xavier Vialard. Local vs global descriptors of hippocampus shape evolution for Alzheimer's longitudinal population analysis. In *Workshop SIGMA'2012 Signal, Image, Geometry, Modeling, Approximation*, Marseille, France, Nov 2012.
- [341] Julien Mille, Sébastien Bougleux et Laurent Cohen. Segmentation interactive d'images par combinaison de courbes géodésiques par morceaux. In *Journées du GTMG 2014* Lyon, France, 26-27 Mars 2014.
- [342] Julien Mille, Sébastien Bougleux and Laurent Cohen. Combination of piecewise-geodesic curves for interactive image segmentation. In *8th international Conference on Curves and Surfaces* Paris, France, 12-18 June 2014.

- [343] Da Chen and Laurent D. Cohen A New Feature Coherence-Penalized Dynamic Minimal Path Model for Tubularity Centerline Delineation. In *2018 SIAM Conference on Imaging Science.*, Bologna, Italy, 5-8 June 2018.
- [344] Da Chen and Laurent D. Cohen. Finsler Metrics for Fronts Propagation and Active Contours Evolution. In *9th international Conference on Curves and Surfaces* Arcachon, France, 28 June-4 July, 2018.
- [345] Raphael Groskot and Joan Bruna and Laurent D. Cohen Volumetric Meshes: a Neural Network-friendly representation for 3D shapes generative models, In *Workshop I: Geometric Processing*, Part of the Long Program Geometry and Learning from Data in 3D and Beyond, IPAM, UCLA, Los Angeles, USA, April 1-5, 2019
- [346] Nicolas Makaroff and Laurent D. Cohen. Chan-Vese Attention U-Net: An attention mechanism for robust segmentation. In *Première édition du Colloque Français d'Intelligence Artificielle en Imagerie Biomédicale (IABM 2023)*, Paris (France), March 30-31st, 2023.
- [347] Théo Bertrand and Nicolas Makaroff and Laurent D. Cohen. Region segmentation defined as the unit ball for the geodesic distance with respect to a CNN generated Riemannian metric. In *2024 SIAM Conference on Imaging Science. Minisymposium on Synergy in Segmentation: Bridging Classical and Deep Learning Approaches*, Atlanta, Georgia, USA, 28-31 may 2024.
- [348] Nicolas Makaroff and Laurent D. Cohen. Image Segmentation using Chan-Vese energy minimization coupled with a CNN provided mask. In *2024 SIAM Conference on Imaging Science. Minisymposium on Synergy in Segmentation: Bridging Classical and Deep Learning Approaches*, Atlanta, Georgia, USA, 28-31 may 2024.

Livres et Ouvrages

- [349] Laurent D. Cohen. Guest editor for special issue *Mathematics and Image Analysis, MIA'00* in *Journal of Mathematical Imaging and Vision*. 14(3), 106 pages, May 2001.
- [350] Laurent D. Cohen. Guest editor for special issue *Mathematics and Image Analysis, MIA'02* in *Journal of Mathematical Imaging and Vision*. 20(1-2), 200 pages, January 2004.
- [351] Laurent D. Cohen. Editeur des Actes du Colloque International *Mathematics and Image Analysis, MIA'04*, 400 pages, sous forme du Cahier de Mathématiques du CEREMADE No 0441, Paris, September 2004.
- [352] Laurent D. Cohen. Editeur des Actes du Colloque International *Mathematics and Image Analysis, MIA'06*, sous forme du Cahier de Mathématiques du CEREMADE No 2006-41, Paris, September 2006.
- [353] Laurent D. Cohen. Guest editor for special issue *Mathematics and Image Analysis, MIA'04* in *Journal of Mathematical Imaging and Vision*. 25(3), 160 pages, October 2006.
- [354] Laurent D. Cohen, Nir Sochen and Luminita A. Vese. Guest editors for special issue *Mathematics and Image Analysis, MIA'06* in *Journal of Mathematical Imaging and Vision*. 33(2), 146 pages, February 2009.

- [355] Gabriel Peyré, Laurent D. Cohen and Joachim Weickert Guest editors for special issue *Mathematics and Image Analysis, MIA'09* in *Journal of Mathematical Imaging and Vision*. 41(1-2), 168 pages, September 2011.
- [356] Gabriel Peyre and Mickael Pechaud and Renaud Keriven and Laurent D. Cohen. Geodesic Methods in Computer Vision and Graphics. *Foundations and Trends in Computer Graphics and Vision* vol. 5, 3-4 (2010) 197-397 (book of 200 pages).
- [357] Gabriel Peyré, Jalal Fadili, Jean-Francois Aujol and Laurent D. Cohen. Guest editors for special issue *Mathematics and Image Analysis* in *Journal of Mathematical Imaging and Vision*. 48(2)203:382, 180 pages, February 2014.
- [358] Laurent D. Cohen, Khalifa Djemal, Su Ruan and Christine Toumoulin. Guest editors for special issue *on biomedical image segmentation using variational and statistical approaches* in *IRBM, Biomedical Engineering and Research*. 35(1)1:45, May 2014.

Chapitres d'Ouvrages

- [359] Laurent D. Cohen. On active contour models. In *Active perception and Robot vision*. Springer, July 1989.
- [360] N. Ayache, J.D. Boissonnat, Laurent D. Cohen, B. Geiger, O. Monga, J. Levy-Vehel, and P. Sander. Steps toward the automatic interpretation of 3D images. *NATO ASI Series on 3D Imaging in Medicine*, F 60:107–120, Springer, 1990.
- [361] Laurent D. Cohen and Isaac Cohen. Using a finite element method for active contour models and 3-D reconstruction from cross sections. In Y.A. Feldman and A. Bruckstein, editors, *Artificial Intelligence and Computer Vision*, pages 237–247. Elsevier Science Publishers B.V., North-Holland, 1991.
- [362] N. Ayache, P. Cinquin, I. Cohen, Laurent D. Cohen, F. Leitner, and O. Monga. Segmentation of complex 3D medical objects: a challenge and a requirement for computer assisted surgery planning and performing. In R. Taylor and S. Lavalley, editors, *Computer Integrated Surgery*, pages 59–74. MIT Press, 1995.
- [363] Laurent D. Cohen. Avoiding local minima for deformable curves in image analysis. In *Curves and Surfaces with Applications in CAGD*, pages 77–84. A. Le Méhauté, C. Rabut, and L. L. Schumaker (eds.), 1997.
- [364] Laurent D. Cohen. *Deformable Models in Medical Image Analysis*, chapter 4. On Active Contour Models and Balloons. IEEE Press, October 1998.
- [365] Isaac Cohen, Laurent D. Cohen, and Nicholas Ayache. *Deformable Models in Medical Image Analysis*, chapter 13. Using Deformable Surfaces to Segment 3-D Images and Infer Differential Structures. IEEE Press, October 1998.
- [366] Thomas Deschamps and Laurent D. Cohen. Grouping connected components using minimal path techniques. In Springer, *Geometrical Method in Biomedical image processing*. R. Malladi (ed.), 2002.
- [367] Laurent D. Cohen. Minimal Paths and Fast Marching Methods for Image Analysis. In *Mathematical Models in Computer Vision: The Handbook*, Nikos Paragios and Yunmei Chen and Olivier Faugeras Editors, Springer 2005.

- [368] Gabriel Peyre and Laurent D. Cohen. Geodesic Computations for Fast and Accurate Surface Remeshing and Parameterization. in *Elliptic and Parabolic Problems : A Special Tribute to the Work of Haim Brezis (C. Bandle et al. eds.)*, Progress in Nonlinear Differential Equations and Their Applications, vol. 63, Pages 157–171, Birkhauser 2005.
- [369] Gabriel Peyré and Laurent D. Cohen, Geodesic Methods for Shape and Surface Processing in *Advances in Computational Vision and Medical Image Processing: Methods and Applications*, Springer, 2010.
- [370] Laurent D. Cohen. Minimal Paths and Virtual Endoscopy. in *European Success Stories in Industrial Mathematics*, Springer, 2012.
- [371] R. Prevost, B. Mory, R. Cuingnet, J.-M. Correas, L. D. Cohen and R. Ardon. Kidney Detection and Segmentation in Contrast-Enhanced Ultrasound 3D Images. in *Abdomen and Thoracic Imaging*, Springer US, 2014, pp 37-67.
- [372] Julien Mille, Sébastien Bogleux and Laurent D. Cohen. Combination of Piecewise-Geodesic Curves for Interactive Image Segmentation. In *Curves and Surfaces 2014, LNCS 9213*, pages 341–356. J.-D. Boissonnat et al (Eds.), Springer 2015.
- [373] R. Prevost, R. Cuingnet, B. Mory, L. D. Cohen and R. Ardon. Incorporating Shape Variability in Image Segmentation via Implicit Template Deformation. in *Biomedical Image Segmentation: Advances and Trends*, CRC Press, 2016, pp 1-34.
- [374] Laurent D. Cohen A Breakthrough in image Processing: Partial Differential Equations and Variational methods. in *50 years of research at University Paris Dauphine.*, February 2019.
- [375] Da Chen and Laurent D. Cohen From Active Contours to Minimal Geodesic Paths: New Solutions to Active Contours Problems by Eikonal Equations in *Handbook of Numerical Analysis, volume 20– Processing, Analyzing and Learning of Images, Shapes, and Forms*, pages 233-271, Edited by Ron Kimmel, Xue-Cheng Tai, Elsevier, 2019.
- [376] Raphael Groskot and Laurent D. Cohen Unified Shape Analysis and Synthesis via Deformable Voxel Grids. submitted in de Sousa, A.A., et al. *Computer Vision, Imaging and Computer Graphics Theory and Applications. VISI-GRAPP 2023. Revised selected papers. Communications in Computer and Information Science series (CCIS, volume 2103)*, Springer, September 2024. https://doi.org/10.1007/978-3-031-66743-5_2

Videos

- [377] Laurent D. Cohen and A. Witkin. Recursive book. Film, 1985. SCHLUMBERGER Palo Alto Research. présenté à Stanford University.
- [378] Isaac Cohen, Laurent D. Cohen, and Nicholas Ayache. Using deformable surface to segment 3-D images and infer differential structures. In *Proc. Second European Conference on Computer Vision (ECCV'92)*, Santa Margherita Ligure, Italy, May 1992. Videoproceedings.

- [379] N. Ayache, E. Bardinet, S. Benayoun, I. Cohen, L.D. Cohen, H. Delingette, J. Feldmar, C. Nastar, G. Subsol, and J.-P. Thirion. Non Rigid Motion (Tracking, Analysis and Simulation). Video, INRIA, 1994. Produced by INRIA audiovisuel.
- [380] E. Bardinet, Laurent D. Cohen, and N. Ayache. Tracking medical 3D data with a deformable parametric model. In *Proc. Fourth European Conference on Computer Vision (ECCV'96)*, Cambridge, U. K., April 1996. Videoproceedings.
- [381] E. Bardinet, Laurent D. Cohen, and N. Ayache. Tracking and motion analysis of the left ventricle with deformable superquadrics. *MEDIA, Medical Image Analysis, an international journal of Computer Vision, Visualisation and Image Guided Intervention in Medicine*, 1(2), November 1996. Video in the CD version of the journal.
- [382] T. Deschamps, L.D. Cohen. Minimal paths in 3D images and application to virtual endoscopy. *Medical Image Analysis*, 2001. video in the web version of the journal.
- [383] Gabriel Peyre and Laurent D. Cohen. Geodesic Computation for Adaptive Remeshing in *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'05)* Volume 2, 20-26, p.1193. San Diego, USA, June 2005. Video Proceedings. <http://www.cmap.polytechnique.fr/~peyre/download/PeyreCohenCVPR05.zip>
- [384] Laurent D. Cohen. L'oeil numérique. Portrait de chercheur réalisé par la Fondation EADS, Octobre 2009. <http://www.ceremade.dauphine.fr/~cohen/GP09>

Brevets

- [385] Centered Path construction in 3D images, avec T. Deschamps et S. Makram-Ebeid au LEP. 1999, étendu à l'international en 2000. (Image Processing Method, System and Apparatus for Processing an Image representing a tubular structure and for constructing a path related to said structure, March 1999 International Publication Number: WO 00/41134)
- [386] Outils de traitement d'images en Photogrammetrie, n° BD 1276 "Procédé de mesurage d'un objet tridimensionnel ou d'un ensemble d'objets". avec M. Viala, S. Naudet et R. Maroy au CEA, 1999, étendu à l'international en 2001.
- [387] Station d'imagerie médicale à segmentation rapide d'images, avec T. Deschamps à Philips Recherche France. EP02079269A Octobre 2001, étendu à l'international en 2002. (02.05.2003 Ref #FR2831306, #EP1306803)
- [388] Fast surface interpolation, avec R. Ardon et J.-M. Lagrange à Philips Recherche France, 2003.
- [389] Vessel Centerline Determination, avec I. Milstein et S. Ackerman, et G. Miller, Brevet international, EP1709589B1 2005.
- [390] Detection of irregularities using registration, avec A. Marciano et N. Gadi, demande de Brevet GB1620098.2A United Kingdom, 2016.
- [391] Classifier using Data Generation, Pierre MERIGUET, Luis TOBIAS, Najib GADI, Laurent COHEN, Jamal ATIF, demande de Brevet GB1900672.5 United Kingdom, 2019.

Principaux Rapports Industriels

- [392] Laurent D. Cohen. Méthodes de moindres carrés pour l'équation de burgers. Technical report, Avions Marcel Dassault-Bréguet Aviation, 1984.
- [393] Laurent D. Cohen. Quantification vectorielle appliquée à la détection de textures. Technical report, SCHLUMBERGER Palo Alto Research, Californie, USA, 1985.
- [394] Laurent D. Cohen. Plusieurs rapports internes de synthèse "SCHLUMBERGER Montrouge Recherche (SMR)" en cryptographie, sécurité informatique, compression des données texte et image, restauration d'images. Technical report, Schlumberger Montrouge Recherche, 1986-87.
- [395] Laurent D. Cohen. Des, data encryption standard. *Scientific Magazine of Research*, (diffusion et vulgarisation de la recherche dans le groupe Schlumberger), SMR-1, January 1987.
- [396] Laurent D. Cohen. Quantization and image data compression (1ère partie). *Scientific Magazine of Research*, (diffusion et vulgarisation de la recherche dans le groupe Schlumberger), SMR-2, 1987.
- [397] Laurent D. Cohen. Quantization and image data compression (2ème partie). *Scientific Magazine of Research*, (diffusion et vulgarisation de la recherche dans le groupe Schlumberger), SMR-3, January 1988.

Rapports d'activités de conseil et collaboration

- [398] Laurent D. Cohen. Déconvolution et amélioration d'image. Technical report, Schlumberger Montrouge Recherche, Octobre 1988.
- [399] Laurent D. Cohen. Filtres adaptatifs et contours. Technical report, Schlumberger Montrouge Recherche, Octobre 1989.
- [400] Laurent D. Cohen. Extraction de contours. reconnaissance des formes. Technical report, Schlumberger Montrouge Recherche, Octobre 1990.
- [401] Laurent D. Cohen. Détection de contours et segmentation par minimisation d'énergie. Technical report, Schlumberger Montrouge Recherche, Octobre 1991.
- [402] Laurent D. Cohen. Fusion stéréo avec discontinuités. Technical report, Matra MS2I, 1992.
- [403] Laurent D. Cohen. Mise en correspondance de signaux par minimisation d'énergie. Technical report, Etudes et Productions Schlumberger, EPS Clamart, 1993.
- [404] Laurent D. Cohen. Problèmes de restauration d'images, de segmentation et fusion de données par minimisation d'énergie. Technical report, EuropScan Schlumberger, 1994.
- [405] Laurent D. Cohen. Optimisation d'algorithmes pour la segmentation et fusion de données par minimisation d'énergie. Technical report, EuropScan Schlumberger, 1995 et 1996.
- [406] Laurent D. Cohen. Etat de l'art sur l'indexation par le contenu de séquences vidéo. Technical report, Alcatel Alsthom Recherche, 1996-1997.
- [407] Laurent D. Cohen. Méthode numérique de résolution des contours actifs dans le système d'aide à la détection d'objets dans des images de tuyauterie industrielle. Technical report, CEA, 1998.

- [408] Laurent D. Cohen. Reconstruction de surfaces par méthodes variationnelles pour des applications en imagerie sismique 3d. Technical report, Elf Aquitaine, 1998.
- [409] Laurent D. Cohen. Etude de la reconstruction de surfaces à partir d'une paire d'images stéréo. Technical report, EuropScan, Février 1999.
- [410] Laurent D. Cohen. Filtres adaptatifs et restauration d'images. Technical report, Heymann Systems, Mars 2000.
- [411] Laurent D. Cohen. On vessel segmentation, central line and bone removal. Technical report, Algotec, Mars 2003.

Séminaires Invités en France et à l'étranger

Voir aussi la liste de publications précédente pour les présentations de communications à des Colloques avec comité de lecture et actes publiés.

- Séminaires invités dans un cadre universitaire:
 - Séminaire Analyse Numérique Université Paris 6 (85).
 - Colloquium du CEREMADE (Janvier 91).
 - Séminaire “Structure déformable en Imagerie” de Sudimage-Ecole Normale Supérieure, rue d’Ulm puis Cachan (Janvier 91 et 95).
 - Université de Nancy (Novembre 92).
 - Stanford Research Institute, Menlo Park, Californie (Juillet 93).
 - Stanford University, Palo Alto, Californie (Juillet 93).
 - University of South California, Los Angeles (Août 93).
 - INRIA Sophia Antipolis (Février 94).
 - Technion, Haifa (Octobre 94)
 - Brown University, Providence, *Diffusion meeting 1995 ESPRIT-NSF* (Juin 95).
 - Présentation de travaux au GT1 du GDR-PRC Communication Homme-Machine sur les approches variationnelles et statistiques (7 Juillet 95).
 - Hebrew University, Jerusalem (Octobre 88 et 95);
 - Weizman Institute, Rehovot (Octobre 95).
 - Lawrence Berkeley Laboratory (LBL) et University of California, Berkeley, Californie (Juin 1996).
 - INESC et Instituto Superior Tecnico, Technical University, Lisbonne, Portugal (Novembre 1996).
 - Conférence invitée à l’assemblée générale du GDR ISIS, Marly-le-Roy (4 Avril 97).
 - Conférence invitée au GT3 du GDR ISIS - Modèles déformables dynamiques (14 Octobre 97).
 - CMLA, ENS Cachan (11 Décembre 97).
 - Conférence invitée à la journée “Imagerie Doppler et modélisation du myocarde,” Faculté de Médecine Paris-Sud (11 février 98)
 - Enserb, Bordeaux (18 Février 1998).
 - Conférence invitée au GT3 du GDR ISIS - Modèles déformables dynamiques (22 Novembre 1999).
 - Colloquium du CEREMADE (27 Mars 2001).
 - INRIA Sophia Antipolis (6 Novembre 2001).
 - Technion, Haifa et Tel Aviv University (15 et 16 Janvier 2002).
 - Laboratoire Jacques-Louis Lions, Paris 6, (9 Avril 2002).
 - McGill University et University of Ottawa, Canada (Aout 2002)
 - University of South Florida, et University of Central Florida, USA (Décembre 2002)
 - INRIA Sophia Antipolis (21 Juillet 2003).
 - Conférence invitée, Réunion plénière du GDR ISIS (11 Décembre 2003).
 - CMAP, Ecole Polytechnique (20 Janvier 2004)
 - ESIEE (7 Avril 2005)
 - INRIA Sophia Antipolis (19 Juillet 2005).
 - Technion, Haifa (26 Février 2006).
 - CREATIS, INSA Lyon (24 Octobre 2007).

- Hebrew University, Jerusalem (20 Décembre 2007);
 - UCLA, University of California, Los Angeles, Californie, USA (14 Juillet 2008);
 - University of California, Berkeley, Californie, USA (16 Juillet 2008);
 - Collège de France, (16 Janvier 2009).
 - Paris 6, (17 Février 2009).
 - Cogimage, Centre de Recherche de l'Institut du Cerveau et de la Moelle Epinière , (11 Janvier 2010).
 - Séminaire des Mathématiques, ENS Ulm (13 Janvier 2010).
 - Séminaire de Biologie, ENS Ulm (8 Mars 2010).
 - Paris 6, (14 Juin 2011).
 - ESIEE (16 Juin 2011)
 - Imperial College (Londres) (29 Aout 2011)
 - York University (3 Mai 2012)
 - University of Toronto (7 Mai 2012)
 - Jerusalem College of Technology (Septembre 2012)
 - ETHZ, Ecole Polytechnique de Zurich (Décembre 2012)
 - Stanford University, Palo Alto, Californie (Aout 2013).
 - UCLA, University of California, Los Angeles, Californie, USA (12 Aout 2013);
 - Chinese University of Hong Kong, Hong Kong (9 Mai 2014);
 - McGill University, Canada (Aout 2015)
 - CRM, Université de Montreal, Canada (Octobre 2015)
 - Hebrew University, Jerusalem (21 Décembre 2015);
 - TU/e Eindhoven, Pays-Bas (25 Janvier 2017)
 - Hebrew University, Jerusalem (9 Janvier 2019);
 - Séminaire journée Mokaplan (20 Février 2019);
 - Nanjing Southeast University, Chine (28 Aout 2019);
 - INRIA Sophia Antipolis (22 Novembre 2022).
 - NTU, Nanyang Technological University, Singapore (15 Septembre 2022);
 - University of Osaka, Japon (30 Aout 2023);
- Séminaires invités de traitement d'images dans un cadre industriel:
 - DEC à Boston (Juin 92).
 - Schlumberger Cambridge Research (G.B.) (Septembre 93).
 - Thomson-LCR Orsay (Juin 1994).
 - IBM et Elscint (Matériel d'imagerie médicale, Octobre 94), Haifa;
 - Conférence d'ouverture du Groupe de travail sur le theme "image" au College Scientifique et Technique de Thomson-CSF (14 Mai 97)
 - Matra Cap Systèmes (22 Mai 97)
 - Elf Aquitaine Pau (23 Septembre 97)
 - Laboratoire d'electronique Philips (LEP) (4 Novembre 97)
 - Séminaire d'une journée sur les modèles déformables dans le cadre du GRECO-Transfert Industriel (26 Mars 1998).
 - SEE : Le Traitement d'images à l'aube du 21eme siecle (27 Mars 2002).
 - Algotec, Israel (15 Septembre 2008)
 - Philips, Suresnes (3 Septembre 2009)
 - EADS, Saint Cloud (12 Janvier 2010)
 - Algotec, Israel (2 Juin 2011)

- Safran, Issy les Moulineaux (13 Juillet 2012)
 - HeartFlow, Redwood city, California (5 Aout 2013)
 - Smiths Detection, Vitry-Sur-Seine (22 Mai 2014)
 - Huawei, Boulogne-Billancourt (3 Février 2017)
 - Philips Medical, Haifa, Israel (7 Janvier 2019) –
- Nombreuses présentations de nos travaux par des doctorants ou collaborateurs dans des séminaires ou GDR.

Thèses soutenues sous ma direction

1. Isaac Cohen : Thèse de doctorat d'université, spécialité Mathématiques appliquées soutenue à Paris-Dauphine le 3 Juin 1992 sur les "*Modèles déformables 2-D et 3-D: Application à la segmentation d'images médicales*".
2. Eric Bardinnet (à l'INRIA Sophia Antipolis): Thèse de doctorat d'université, spécialité Mathématiques appliquées soutenue à Paris-Dauphine le 19 Décembre 1995 sur "*Modèles déformables contraints: Applications à l'imagerie médicale.*"
3. Bertrand Leroy: Thèse de doctorat d'université, spécialité Mathématiques appliquées soutenue à Paris-Dauphine le 27 Juin 1996 sur les "*Modèles déformables et modèles de déformation appliqués à la reconnaissance de visage.*"
4. Zakaria Ben Sbeh : Thèse soutenue à Paris-Dauphine le 6 Mai 1998 "*Une nouvelle méthode de segmentation en morphologie mathématique basée sur la reconstruction géodésique: Applications à l'extraction de drusen en imagerie d'angiographie numérisée d'ophtalmologie.*"
5. Martin Lefebure : Thèse de doctorat d'université, spécialité Mathématiques appliquées soutenue à Paris-Dauphine le 3 Novembre 1998 "*Estimation de Mouvement et Recalage de Signaux et d'Images : Formalisation et Analyse.*"
6. Thomas Deschamps : Thèse soutenue à Paris-Dauphine le 20 Décembre 2001 *Extraction de courbes et surfaces par méthodes de chemins minimaux et ensembles de niveaux, Applications en Imagerie médicale 3D.*
7. Samuel Vinson : Thèse soutenue le 29 Avril 2002 à Paris-Dauphine. *Modèles déformables et Méthodes variationnelles : applications en imagerie satellitaire et aérienne.*
8. Roberto Ardon : Thèse soutenue le 17 Mars 2005 à Paris-Dauphine. *Extraction de surfaces contraintes dans des images 3D et chemins minimaux, applications en imagerie médicale.*
9. Valérie Moreau : Thèse soutenue le 15 Décembre 2005 à l'INRIA Sophia. *Méthodes Variationnelles et séquentielles pour l'étude de la contraction cardiaque.*
10. Pablo Arbelaez : Thèse soutenue le 24 Novembre 2005 à Paris-Dauphine. *Une approche métrique pour la Segmentation d'images.*
11. Stéphane Bonneau : Thèse soutenue le 18 Décembre 2006 à Paris-Dauphine. *Chemins minimaux en Analyse d'images : Nouvelles contributions et applications à l'imagerie biologique. .*
12. Oudom Somphone : Thèse soutenue le 4 Février 2009 à Paris-Dauphine. *Recalage par éléments finis avec partition de l'unité - Applications en imagerie médicale.*
13. Adrien Auclair: Thèse soutenue le 10 septembre 2009. *Méthodes rapides pour la recherche des plus proches voisins SIFT : application à la recherche d'images, et Contributions à la reconstruction 3D multivues.*

14. Fethalla Benmansour : Thèse soutenue le 17 Décembre 2009 à Paris-Dauphine
Méthode des chemins minimaux appliquée à l'imagerie médicale : Segmentation de structures Tubulaires et de Surfaces par Anisotropie multi-échelle et par détection récursive de points -clés.
15. Jean-Baptiste Fiot : Thèse soutenue le 17 Septembre 2013 à Paris-Dauphine
Mathematical methods of image analysis for cross-sectional and longitudinal population studies .
16. Prasenjit Saha : Thèse DSRA soutenue le 16 Septembre 2013 à Paris-Dauphine
Méthodes géodésiques en analyse d'images.
17. Raphael Prevost : Thèse soutenue le 21 Octobre 2013 à Paris-Dauphine
Variational methods for model-based image segmentation - Applications in medical imaging .
18. Jose Alberto Iglesias Martinez: Thèse commencée en 2010 sur des *méthodes de vote géodésique pour la reconnaissance de formes*, en collaboration avec le Technion, Haifa, Israel, dans le cadre d'une bourse du projet Européen FIRST. Thèse soutenue en 2015. Université de Vienne, Autriche.
19. Da Chen: Thèse soutenue le 27 Septembre 2016 à Paris-Dauphine sur des *Nouveaux modèles de chemin minimal pour l'extraction de structures tubulaires et la segmentation d'images.*
20. Fang Yang: Thèse soutenue le 14 Septembre 2017 à Paris-Dauphine, sur *Finding Contours in Images Using Geodesic Lines and Field Lines.*
21. Abraham Marciano: Thèse soutenue le 3 Juillet 2018 à Paris-Dauphine, sur des *méthodes de recalage pour des images de radiographie industrielle.*
22. Qi-Chong Tian: Thèse soutenue le 4 Octobre 2018 à Paris-Dauphine, sur *Color Correction and Contrast Enhancement for natural Images and Videos.*
23. Emmanuel Cohen: Thèse soutenue le 19 Décembre 2018 à Paris-Dauphine, sur *Cartographie, analyse et reconnaissance des réseaux vasculaires par Doppler ultrasensible.*
24. Liu Li: Thèse soutenue le 28 Aout 2019, sur des *Geodesic metrics approach and its application in retinal image processing.* En codirection avec le Pr Shu, Nanjing Southeast University, Chine
25. Raphael Grosnot: Thèse soutenue le 29 Juin 2021 à Paris-Dauphine, sur *:Représentations séparables de formes 3D pour le traitement de formes, Separable 3D Shape representation for shape processing.*
26. Théo Bertrand: Thèse soutenue le 20 Septembre 2024 à Paris-Dauphine, sur *:Méthodes Géodésiques et Apprentissage pour la Microscopie par Localisation Ultrasonore.*