Xavier Pennec

List of Publications by Year in Descending Order

214 papers	10,861 citations	47 h-index	101 g-index
227 ext. papers	12,417 ext. citations	3.6 avg, IF	6.29 L-index

#	Paper	IF	Citations
214	The geometry of mixed-Euclidean metrics on symmetric positive definite matrices. *Differential Geometry and Its Applications*, **2022**, 81, 101867	0.5	
213	Left atrial shape is independent predictor of arrhythmia recurrence after catheter ablation for atrial fibrillation: A shape statistics study.. *Heart Rhythm O2*, **2021**, 2, 622-632	1.5	0
212	Cardiac Motion Modeling With Parallel Transport And Shape Splines **2021**,		1
211	Geodesics and Curvature of the Quotient-Affine Metrics on Full-Rank Correlation Matrices. *Lecture Notes in Computer Science*, **2021**, 93-102	0.9	0
210	A Reduced Parallel Transport Equation on Lie Groups with a Left-Invariant Metric. *Lecture Notes in Computer Science*, **2021**, 119-126	0.9	2
209	Statistical Analysis of Organs Shapes and Deformations: The Riemannian and the Affine Settings in Computational Anatomy. *Human-computer Interaction Series*, **2021**, 159-183	0.6	
208	Parallel Transport on Kendall Shape Spaces. *Lecture Notes in Computer Science*, **2021**, 103-110	0.9	1
207	Association of Immunosuppression and Viral Load With Subcortical Brain Volume in an International Sample of People Living With HIV. *JAMA Network Open*, **2021**, 4, e2031190	10.4	4
206	Advances in Geometric Statistics for Manifold Dimension Reduction **2020**, 339-359		1
205	Voxel-based assessments of treatment effects on longitudinal brain changes in the Multidomain Alzheimer Preventive Trial cohort. *Neurobiology of Aging*, **2020**, 94, 50-59	5.6	1
204	Introduction to differential and Riemannian geometry **2020**, 3-37		
203	Beyond Riemannian geometry: The affine connection setting for transformation groups **2020**, 169-229		11
202	Manifold-valued image processing with SPD matrices **2020**, 75-134		2
201	Bias on estimation in quotient space and correction methods **2020**, 343-376		
200	A model of brain morphological changes related to aging and Alzheimer's disease from cross-sectional assessments. *NeuroImage*, **2019**, 198, 255-270	7.9	17
199	Exploration of Balanced Metrics on Symmetric Positive Definite Matrices. *Lecture Notes in Computer Science*, **2019**, 484-493	0.9	2
198	Is Affine-Invariance Well Defined on SPD Matrices? A Principled Continuum of Metrics. *Lecture Notes in Computer Science*, **2019**, 502-510	0.9	1

197	Symmetric Algorithmic Components for Shape Analysis with Diffeomorphisms. *Lecture Notes in Computer Science*, **2019**, 759-768	0.9	3
196	Population-based priors in cardiac model personalisation for consistent parameter estimation in heterogeneous databases. *International Journal for Numerical Methods in Biomedical Engineering*, **2019**, 35, e3158	2.6	7
195	Multifidelity-CMA: a multifidelity approach for efficient personalisation of 3D cardiac electromechanical models. *Biomechanics and Modeling in Mechanobiology*, **2018**, 17, 285-300	3.8	12
194	Low-dimensional representation of cardiac motion using Barycentric Subspaces: A new group-wise paradigm for estimation, analysis, and reconstruction. *Medical Image Analysis*, **2018**, 45, 1-12	15.4	10
193	Cardiac Motion Evolution Model for Analysis of Functional Changes Using Tensor Decomposition and Cross-Sectional Data. *IEEE Transactions on Biomedical Engineering*, **2018**, 65, 2769-2780	5	3
192	Statistical shape modeling of the left ventricle: myocardial infarct classification challenge. *IEEE Journal of Biomedical and Health Informatics*, **2018**, 22, 503-515	7.2	35
191	Topologically Constrained Template Estimation via Morse--Smale Complexes Controls Its Statistical Consistency. *SIAM Journal on Applied Algebra and Geometry*, **2018**, 2, 348-375	1.5	1
190	Parallel Transport of Surface Deformations from Pole Ladder to Symmetrical Extension. *Lecture Notes in Computer Science*, **2018**, 116-124	0.9	3
189	Barycentric subspace analysis on manifolds. *Annals of Statistics*, **2018**, 46,	3.2	23
188	Deep Learning Techniques for Automatic MRI Cardiac Multi-Structures Segmentation and Diagnosis: Is the Problem Solved?. *IEEE Transactions on Medical Imaging*, **2018**, 37, 2514-2525	11.7	457
187	Detecting Clinically Meaningful Shape Clusters in Medical Image Data: Metrics Analysis for Hierarchical Clustering Applied to Healthy and Pathological Aortic Arches. *IEEE Transactions on Biomedical Engineering*, **2017**, 64, 2373-2383	5	48
186	Template Shape Estimation: Correcting an Asymptotic Bias. *SIAM Journal on Imaging Sciences*, **2017**, 10, 808-844	1.9	8
185	Template Estimation in Computational Anatomy: Fr□het Means Top and Quotient Spaces Are Not Consistent. *SIAM Journal on Imaging Sciences*, **2017**, 10, 1139-1169	1.9	4
184	Statistical shape modelling to aid surgical planning: associations between surgical parameters and head shapes following spring-assisted cranioplasty. *International Journal of Computer Assisted Radiology and Surgery*, **2017**, 12, 1739-1749	3.9	11
183	Looks Do Matter! Aortic Arch Shape After Hypoplastic Left Heart Syndrome Palliation Correlates With Cavopulmonary Outcomes. *Annals of Thoracic Surgery*, **2017**, 103, 645-654	2.7	22
182	How successful is successful? Aortic arch shape after successful aortic coarctation repair correlates with left ventricular function. *Journal of Thoracic and Cardiovascular Surgery*, **2017**, 153, 418-427	1.5	38
181	Inconsistency of Template Estimation by Minimizing of the Variance/Pre-Variance in the Quotient Space. *Entropy*, **2017**, 19, 288	2.8	4
180	Simulating Longitudinal Brain MRIs with Known Volume Changes and Realistic Variations in Image Intensity. *Frontiers in Neuroscience*, **2017**, 11, 132	5.1	7

179	SVF-Net: Learning Deformable Image Registration Using Shape Matching. *Lecture Notes in Computer Science*, **2017**, 266-274	0.9	109
178	Sample-Limited (L_p) Barycentric Subspace Analysis on Constant Curvature Spaces. *Lecture Notes in Computer Science*, **2017**, 20-28	0.9	2
177	Longitudinal Parameter Estimation in 3D Electromechanical Models: Application to Cardiovascular Changes in Digestion. *Lecture Notes in Computer Science*, **2017**, 432-440	0.9	
176	Inconsistency of Template Estimation with the Fr□het Mean in Quotient Space. *Lecture Notes in Computer Science*, **2017**, 16-27	0.9	
175	Longitudinal Analysis Using Personalised 3D Cardiac Models with Population-Based Priors: Application to Paediatric Cardiomyopathies. *Lecture Notes in Computer Science*, **2017**, 350-358	0.9	
174	Improving Understanding of Long-Term Cardiac Functional Remodelling via Cross-Sectional Analysis of Polyaffine Motion Parameters. *Lecture Notes in Computer Science*, **2017**, 51-59	0.9	1
173	A statistical shape modelling framework to extract 3D shape biomarkers from medical imaging data: assessing arch morphology of repaired coarctation of the aorta. *BMC Medical Imaging*, **2016**, 16, 40	2.9	41
172	A Framework for Creating Population Specific Multimodal Brain Atlas Using Clinical T1 and Diffusion Tensor Images. *Mathematics and Visualization*, **2016**, 99-108	0.6	2
171	Combination of Polyaffine Transformations and Supervised Learning for the Automatic Diagnosis of LV Infarct. *Lecture Notes in Computer Science*, **2016**, 190-198	0.9	4
170	A Non-parametric Statistical Shape Model for Assessment of the Surgically Repaired Aortic Arch in Coarctation of the Aorta: How Normal is Abnormal?. *Lecture Notes in Computer Science*, **2016**, 21-29	0.9	7
169	Simulating Patient Specific Multiple Time-Point MRIs from a Biophysical Model of Brain Deformation in Alzheimer□ Disease **2016**, 167-176		
168	Barycentric Subspace Analysis: A New Symmetric Group-Wise Paradigm for Cardiac Motion Tracking. *Lecture Notes in Computer Science*, **2016**, 300-307	0.9	1
167	Longitudinal Analysis of Image Time Series with Diffeomorphic Deformations: A Computational Framework Based on Stationary Velocity Fields. *Frontiers in Neuroscience*, **2016**, 10, 236	5.1	11
166	Highly reduced model of the cardiac function for fast simulation **2016**,		1
165	A biophysical model of brain deformation to simulate and analyze longitudinal MRIs of patients with Alzheimer's disease. *NeuroImage*, **2016**, 134, 35-52	7.9	15
164	A Survey of Mathematical Structures for Extending 2D Neurogeometry to 3D Image Processing. *Lecture Notes in Computer Science*, **2016**, 155-167	0.9	2
163	Spatio-Temporal Tensor Decomposition of a Polyaffine Motion Model for a Better Analysis of Pathological Left Ventricular Dynamics. *IEEE Transactions on Medical Imaging*, **2015**, 34, 1562-1575	11.7	28
162	Computing Bi-Invariant Pseudo-Metrics on Lie Groups for Consistent Statistics. *Entropy*, **2015**, 17, 1850-1881	2.1	4

161	Regional flux analysis for discovering and quantifying anatomical changes: An application to the brain morphometry in Alzheimer's disease. *NeuroImage*, **2015**, 115, 224-34	7.9	11
160	Assessing atrophy measurement techniques in dementia: Results from the MIRIAD atrophy challenge. *NeuroImage*, **2015**, 123, 149-64	7.9	48
159	Disentangling normal aging from Alzheimer's disease in structural magnetic resonance images. *Neurobiology of Aging*, **2015**, 36 Suppl 1, S42-52	5.6	43
158	Propagation of Myocardial Fibre Architecture Uncertainty on Electromechanical Model Parameter Estimation: A Case Study. *Lecture Notes in Computer Science*, **2015**, 448-456	0.9	5
157	Descriptive and Intuitive Population-Based Cardiac Motion Analysis via Sparsity Constrained Tensor Decomposition. *Lecture Notes in Computer Science*, **2015**, 419-426	0.9	3
156	Barycentric Subspaces and Affine Spans in Manifolds. *Lecture Notes in Computer Science*, **2015**, 12-21	0.9	7
155	Statistical Computing on Non-Linear Spaces for Computational Anatomy **2015**, 147-168		1
154	Biased Estimators on Quotient Spaces. *Lecture Notes in Computer Science*, **2015**, 130-139	0.9	
153	Efficient Parallel Transport of Deformations in Time Series of Images: From Schild to Pole Ladder. *Journal of Mathematical Imaging and Vision*, **2014**, 50, 5-17	1.6	28
152	Group-wise construction of reduced models for understanding and characterization of pulmonary blood flows from medical images. *Medical Image Analysis*, **2014**, 18, 63-82	15.4	20
151	O3-03-06: REGIONAL FLUX ANALYSIS OF LONGITUDINAL ATROPHY IN ALZHEIMER'S DISEASE **2014**, 10, P214-P214		
150	Spectral Log-Demons: Diffeomorphic Image Registration with Very Large Deformations. *International Journal of Computer Vision*, **2014**, 107, 254-271	10.6	65
149	A biophysical model of shape changes due to atrophy in the brain with Alzheimer's disease. *Lecture Notes in Computer Science*, **2014**, 17, 41-8	0.9	2
148	Discrete Ladders for Parallel Transport in Transformation Groups with an Affine Connection Structure. *Signals and Communication Technology*, **2014**, 243-271	0.5	
147	Sparse Multi-Scale Diffeomorphic Registration: The Kernel Bundle Framework. *Journal of Mathematical Imaging and Vision*, **2013**, 46, 292-308	1.6	29
146	Geodesics, Parallel Transport & One-Parameter Subgroups for Diffeomorphic Image Registration. *International Journal of Computer Vision*, **2013**, 105, 111-127	10.6	40
145	Toward a comprehensive framework for the spatiotemporal statistical analysis of longitudinal shape data. *International Journal of Computer Vision*, **2013**, 103, 22-59	10.6	85
144	Parallel Transport with Pole Ladder: Application to Deformations of Time Series of Images. *Lecture Notes in Computer Science*, **2013**, 68-75	0.9	1

143	Random Spatial Structure of Geometric Deformations and Bayesian Nonparametrics. *Lecture Notes in Computer Science*, **2013**, 120-127	0.9	1
142	Mathematical Methods for Medical Imaging. *International Journal of Computer Vision*, **2013**, 105, 109-110	10.6	1
141	LCC-Demons: a robust and accurate symmetric diffeomorphic registration algorithm. *NeuroImage*, **2013**, 81, 470-483	7.9	107
140	Benchmarking framework for myocardial tracking and deformation algorithms: an open access database. *Medical Image Analysis*, **2013**, 17, 632-48	15.4	114
139	Computational modelling of the right ventricle in repaired tetralogy of Fallot: can it provide insight into patient treatment?. *European Heart Journal Cardiovascular Imaging*, **2013**, 14, 381-6	4.1	24
138	Bi-invariant Means on Lie Groups with Cartan-Schouten Connections. *Lecture Notes in Computer Science*, **2013**, 59-67	0.9	5
137	Higher-Order Momentum Distributions and Locally Affine LDDMM Registration. *SIAM Journal on Imaging Sciences*, **2013**, 6, 341-367	1.9	15
136	Exponential Barycenters of the Canonical Cartan Connection and Invariant Means on Lie Groups **2013**, 123-166		14
135	Statistical Shape Analysis of Surfaces in Medical Images Applied to the Tetralogy of Fallot Heart **2013**, 165-191		2
134	Groupwise Spectral Log-Demons Framework for Atlas Construction. *Lecture Notes in Computer Science*, **2013**, 11-19	0.9	3
133	Regional Analysis of Left Ventricle Function Using a Cardiac-Specific Polyaffine Motion Model. *Lecture Notes in Computer Science*, **2013**, 483-490	0.9	7
132	Improving DTI resolution from a single clinical acquisition: a statistical approach using spatial prior. *Lecture Notes in Computer Science*, **2013**, 16, 477-84	0.9	4
131	Sparse scale-space decomposition of volume changes in deformations fields. *Lecture Notes in Computer Science*, **2013**, 16, 328-35	0.9	3
130	Spatio-temporal dimension reduction of cardiac motion for group-wise analysis and statistical testing. *Lecture Notes in Computer Science*, **2013**, 16, 501-8	0.9	5
129	Evaluation of iLogDemons Algorithm for Cardiac Motion Tracking in Synthetic Ultrasound Sequence. *Lecture Notes in Computer Science*, **2013**, 178-187	0.9	1
128	A Near-Incompressible Poly-affine Motion Model for Cardiac Function Analysis. *Lecture Notes in Computer Science*, **2013**, 288-297	0.9	3
127	Multinomial probabilistic fiber representation for connectivity driven clustering. *Lecture Notes in Computer Science*, **2013**, 23, 730-41	0.9	7
126	Comparison of the endocranial ontogenies between chimpanzees and bonobos via temporal regression and spatiotemporal registration. *Journal of Human Evolution*, **2012**, 62, 74-88	3.1	57

125	Capturing the multiscale anatomical shape variability with polyaffine transformation trees. *Medical Image Analysis*, **2012**, 16, 1371-84	15.4	31
124	Kernel Bundle EPDiff: Evolution Equations for Multi-scale Diffeomorphic Image Registration. *Lecture Notes in Computer Science*, **2012**, 677-688	0.9	5
123	An Incompressible Log-Domain Demons Algorithm for Tracking Heart Tissue. *Lecture Notes in Computer Science*, **2012**, 55-67	0.9	11
122	Which Reorientation Framework for the Atlas-Based Comparison of Motion from Cardiac Image Sequences?. *Lecture Notes in Computer Science*, **2012**, 25-37	0.9	6
121	Spectral Demons Image Registration via Global Spectral Correspondence. *Lecture Notes in Computer Science*, **2012**, 30-44	0.9	11
120	Regional flux analysis of longitudinal atrophy in Alzheimer's disease. *Lecture Notes in Computer Science*, **2012**, 15, 739-46	0.9	4
119	Simultaneous multiscale polyaffine registration by incorporating deformation statistics. *Lecture Notes in Computer Science*, **2012**, 15, 130-7	0.9	2
118	Registration, atlas estimation and variability analysis of white matter fiber bundles modeled as currents. *NeuroImage*, **2011**, 55, 1073-90	7.9	69
117	A nonconservative Lagrangian framework for statistical fluid registration-SAFIRA. *IEEE Transactions on Medical Imaging*, **2011**, 30, 184-202	11.7	15
116	A statistical model for quantification and prediction of cardiac remodelling: application to tetralogy of Fallot. *IEEE Transactions on Medical Imaging*, **2011**, 30, 1605-16	11.7	56
115	iLogDemons: A Demons-Based Registration Algorithm for Tracking Incompressible Elastic Biological Tissues. *International Journal of Computer Vision*, **2011**, 92, 92-111	10.6	127
114	Femur specific polyaffine model to regularize the log-domain demons registration **2011**,		9
113	Schild's ladder for the parallel transport of deformations in time series of images. *Lecture Notes in Computer Science*, **2011**, 22, 463-74	0.9	33
112	A multi-scale kernel bundle for LDDMM: towards sparse deformation description across space and scales. *Lecture Notes in Computer Science*, **2011**, 22, 624-35	0.9	18
111	Geometry-aware multiscale image registration via OBBTree-based polyaffine log-demons. *Lecture Notes in Computer Science*, **2011**, 14, 631-8	0.9	12
110	Mapping the effects of Abeta1-42 levels on the longitudinal changes in healthy aging: hierarchical modeling based on stationary velocity fields. *Lecture Notes in Computer Science*, **2011**, 14, 663-70	0.9	14
109	Joint T1 and Brain Fiber Diffeomorphic Registration Using the Demons. *Lecture Notes in Computer Science*, **2011**, 10-18	0.9	3
108	Coupled level set segmentation using a point-based statistical shape model relying on correspondence probabilities **2010**,		2

107	A new combined surface and volume registration **2010**,		2
106	Lung CT registration combining intensity, curves and surfaces **2010**,		6
105	STATISTICALLY ASSISTED FLUID IMAGE REGISTRATION ALGORITHM - SAFIRA **2010**, 2010, 364-367	1.5	
104	Grid-wide neuroimaging data federation in the context of the NeuroLOG project. *Studies in Health Technology and Informatics*, **2010**, 159, 112-23	0.5	6
103	Atlas to Image-with-Tumor Registration Based on Demons and Deformation Inpainting **2010**,		3
102	Log-Domain Diffeomorphic Registration of Diffusion Tensor Images. *Lecture Notes in Computer Science*, **2010**, 198-209	0.9	4
101	Atlas-Based Reduced Models of Blood Flows for Fast Patient-Specific Simulations. *Lecture Notes in Computer Science*, **2010**, 95-104	0.9	10
100	A LAGRANGIAN FORMULATION FOR STATISTICAL FLUID REGISTRATION **2009**, 2009, 975-978	1.5	4
99	3D reconstruction of the human spine from radiograph(s) using a multi-body statistical model **2009**,		1
98	DT-REFinD: diffusion tensor registration with exact finite-strain differential. *IEEE Transactions on Medical Imaging*, **2009**, 28, 1914-28	11.7	73
97	Statistical models of sets of curves and surfaces based on currents. *Medical Image Analysis*, **2009**, 13, 793-808	15.4	114
96	A Fast and Log-Euclidean Polyaffine Framework for Locally Linear Registration. *Journal of Mathematical Imaging and Vision*, **2009**, 33, 222-238	1.6	76
95	An augmented reality system for liver thermal ablation: design and evaluation on clinical cases. *Medical Image Analysis*, **2009**, 13, 494-506	15.4	74
94	Spatiotemporal atlas estimation for developmental delay detection in longitudinal datasets. *Lecture Notes in Computer Science*, **2009**, 12, 297-304	0.9	61
93	Diffeomorphic demons: efficient non-parametric image registration. *NeuroImage*, **2009**, 45, S61-72	7.9	935
92	Mapping the regional influence of genetics on brain structure variability--a tensor-based morphometry study. *NeuroImage*, **2009**, 48, 37-49	7.9	71
91	Computation of a probabilistic statistical shape model in a maximum-a-posteriori framework. *Methods of Information in Medicine*, **2009**, 48, 314-9	1.5	18
90	Statistical Computing on Manifolds: From Riemannian Geometry to Computational Anatomy. *Lecture Notes in Computer Science*, **2009**, 347-386	0.9	33

89	A statistical model of right ventricle in tetralogy of Fallot for prediction of remodelling and therapy planning. *Lecture Notes in Computer Science*, **2009**, 12, 214-21	0.9	18
88	A statistical model of white matter fiber bundles based on currents. *Lecture Notes in Computer Science*, **2009**, 21, 114-25	0.9	4
87	Articulated spine models for 3-D reconstruction from partial radiographic data. *IEEE Transactions on Biomedical Engineering*, **2008**, 55, 2565-74	5	33
86	Geometric variability of the scoliotic spine using statistics on articulated shape models. *IEEE Transactions on Medical Imaging*, **2008**, 27, 557-68	11.7	63
85	DTI registration with exact finite-strain differential **2008**,		18
84	BEST INDIVIDUAL TEMPLATE SELECTION FROM DEFORMATION TENSOR MINIMIZATION **2008**, 2008, 460-463	1.5	13
83	Flexible and Efficient Workflow Deployment of Data-Intensive Applications On Grids With MOTEUR. *International Journal of High Performance Computing Applications*, **2008**, 22, 347-360	1.8	108
82	A Probabilistic Model to Analyse Workflow Performance on Production Grids **2008**,		15
81	A NEW REGISTRATION METHOD BASED ON LOG-EUCLIDEAN TENSOR METRICS AND ITS APPLICATION TO GENETIC STUDIES **2008**, 2008, 1115-1118	1.5	6
80	Workflow-Based Data Parallel Applications on the EGEE Production Grid Infrastructure. *Journal of Grid Computing*, **2008**, 6, 369-383	4.2	7
79	Generation of a statistical shape model with probabilistic point correspondences and the expectation maximization- iterative closest point algorithm. *International Journal of Computer Assisted Radiology and Surgery*, **2008**, 2, 265-273	3.9	34
78	Inferring brain variability from diffeomorphic deformations of currents: an integrative approach. *Medical Image Analysis*, **2008**, 12, 626-37	15.4	58
77	Diffeomorphic Demons Using ITK's Finite Difference Solver Hierarchy. *The Insight Journal*, **2008**,		9
76	A tensor-based morphometry study of genetic influences on brain structure using a new fluid registration method. *Lecture Notes in Computer Science*, **2008**, 11, 914-21	0.9	20
75	Symmetric log-domain diffeomorphic Registration: a demons-based approach. *Lecture Notes in Computer Science*, **2008**, 11, 754-61	0.9	185
74	Registration of 4D time-series of cardiac images with multichannel Diffeomorphic Demons. *Lecture Notes in Computer Science*, **2008**, 11, 972-9	0.9	24
73	Sparse approximation of currents for statistics on curves and surfaces. *Lecture Notes in Computer Science*, **2008**, 11, 390-8	0.9	13
72	Optimizing jobs timeouts on clusters and production grids **2007**,		15

71	Clinical DT-MRI estimation, smoothing, and fiber tracking with log-Euclidean metrics. *IEEE Transactions on Medical Imaging*, **2007**, 26, 1472-82	11.7	175
70	Geometric Means in a Novel Vector Space Structure on Symmetric Positive-Definite Matrices. *SIAM Journal on Matrix Analysis and Applications*, **2007**, 29, 328-347	1.5	441
69	Measuring brain variability by extrapolating sparse tensor fields measured on sulcal lines. *NeuroImage*, **2007**, 34, 639-50	7.9	53
68	A computational framework for the statistical analysis of cardiac diffusion tensors: application to a small database of canine hearts. *IEEE Transactions on Medical Imaging*, **2007**, 26, 1500-14	11.7	98
67	Statistical Comparison of Cardiac Fibre Architectures **2007**, 413-423		3
66	Insight into efficient image registration techniques and the demons algorithm. *Lecture Notes in Computer Science*, **2007**, 20, 495-506	0.9	29
65	Shape analysis using a point-based statistical shape model built on correspondence probabilities **2007**, 10, 959-67		9
64	Measuring brain variability via sulcal lines registration: a diffeomorphic approach **2007**, 10, 675-82		20
63	Mean template for tensor-based morphometry using deformation tensors. *Lecture Notes in Computer Science*, **2007**, 10, 826-33	0.9	43
62	Non-parametric diffeomorphic image registration with the demons algorithm. *Lecture Notes in Computer Science*, **2007**, 10, 319-26	0.9	179
61	Log-Euclidean metrics for fast and simple calculus on diffusion tensors. *Magnetic Resonance in Medicine*, **2006**, 56, 411-21	4.4	751
60	Probabilistic and dynamic optimization of job partitioning on a grid infrastructure **2006**,		8
59	Computational Models for Image-Guided Robot-Assisted and Simulated Medical Interventions. *Proceedings of the IEEE*, **2006**, 94, 1678-1688	14.3	25
58	Robust mosaicing with correction of motion distortions and tissue deformations for in vivo fibered microscopy. *Medical Image Analysis*, **2006**, 10, 673-92	15.4	119
57	A Riemannian Framework for Tensor Computing. *International Journal of Computer Vision*, **2006**, 66, 41-66	10.6	871
56	Intrinsic Statistics on Riemannian Manifolds: Basic Tools for Geometric Measurements. *Journal of Mathematical Imaging and Vision*, **2006**, 25, 127-154	1.6	406
55	Towards a statistical atlas of cardiac fiber structure. *Lecture Notes in Computer Science*, **2006**, 9, 297-304	0.9	9
54	A Log-Euclidean Polyaffine Framework for Locally Rigid or Affine Registration. *Lecture Notes in Computer Science*, **2006**, 120-127	0.9	24

53	Principal Spine Shape Deformation Modes Using Riemannian Geometry and Articulated Models. *Lecture Notes in Computer Science*, **2006**, 346-355	0.9	13
52	A log-Euclidean framework for statistics on diffeomorphisms. *Lecture Notes in Computer Science*, **2006**, 9, 924-31	0.9	180
51	Performance evaluation of grid-enabled registration algorithms using bronze-standards. *Lecture Notes in Computer Science*, **2006**, 9, 152-60	0.9	7
50	Health-e-child: an integrated biomedical platform for grid-based paediatric applications. *Studies in Health Technology and Informatics*, **2006**, 120, 259-70	0.5	10
49	A novel framework for the 3D analysis of spine deformation modes. *Studies in Health Technology and Informatics*, **2006**, 123, 176-81	0.5	
48	Assessment of brace local action on vertebrae relative poses. *Studies in Health Technology and Informatics*, **2006**, 123, 372-7	0.5	
47	Riemannian elasticity: a statistical regularization framework for non-linear registration. *Lecture Notes in Computer Science*, **2005**, 8, 943-50	0.9	44
46	Non-linear 2D and 3D Registration Using Block-Matching and B-Splines **2005**, 325-329		2
45	Polyrigid and polyaffine transformations: a novel geometrical tool to deal with non-rigid deformations - application to the registration of histological slices. *Medical Image Analysis*, **2005**, 9, 507-23	15.4	91
44	An augmented reality system to guide radio-frequency tumour ablation. *Computer Animation and Virtual Worlds*, **2005**, 16, 1-10	0.9	46
43	Grid-enabling medical image analysis. *Journal of Clinical Monitoring and Computing*, **2005**, 19, 339-49	2	19
42	Extrapolation of sparse tensor fields: application to the modeling of brain variability. *Lecture Notes in Computer Science*, **2005**, 19, 27-38	0.9	16
41	Fast and simple calculus on tensors in the log-Euclidean framework. *Lecture Notes in Computer Science*, **2005**, 8, 115-22	0.9	138
40	A complete augmented reality guidance system for liver punctures: first clinical evaluation. *Lecture Notes in Computer Science*, **2005**, 8, 539-47	0.9	21
39	Mosaicing of confocal microscopic in vivo soft tissue video sequences. *Lecture Notes in Computer Science*, **2005**, 8, 753-60	0.9	18
38	Incorporating statistical measures of anatomical variability in atlas-to-subject registration for conformal brain radiotherapy. *Lecture Notes in Computer Science*, **2005**, 8, 927-34	0.9	22
37	A Riemannian Framework for the Processing of Tensor-Valued Images. *Lecture Notes in Computer Science*, **2005**, 112-123	0.9	15
36	GRID-ENABLED NON-RIGID REGISTRATION OF MEDICAL IMAGES. *Parallel Processing Letters*, **2004**, 14, 197-216	0.3	4

35	Grid powered nonlinear image registration with locally adaptive regularization. *Medical Image Analysis*, **2004**, 8, 325-42	15.4	57
34	Generalized image models and their application as statistical models of images. *Medical Image Analysis*, **2004**, 8, 361-9	15.4	8
33	VIRTUAL REALITY, AUGMENTED REALITY AND ROBOTICS IN SURGICAL PROCEDURES OF THE LIVER **2004**,		3
32	An Accuracy Certified Augmented Reality System for Therapy Guidance. *Lecture Notes in Computer Science*, **2004**, 79-91	0.9	7
31	Non-rigid Atlas to Subject Registration with Pathologies for Conformal Brain Radiotherapy. *Lecture Notes in Computer Science*, **2004**, 704-711	0.9	28
30	Polyrigid and Polyaffine Transformations: A New Class of Diffeomorphisms for Locally Rigid or Affine Registration. *Lecture Notes in Computer Science*, **2003**, 829-837	0.9	13
29	Generalized Image Models and Their Application as Statistical Models of Images. *Lecture Notes in Computer Science*, **2003**, 150-157	0.9	1
28	Tracking brain deformations in time sequences of 3D US images. *Pattern Recognition Letters*, **2003**, 24, 801-813	4.7	42
27	Iconic feature based nonrigid registration: the PASHA algorithm. *Computer Vision and Image Understanding*, **2003**, 89, 272-298	4.3	168
26	Deformable biomechanical models: application to 4D cardiac image analysis. *Medical Image Analysis* , **2003**, 7, 475-88	15.4	93
25	Grid Enabled Non-rigid Registration with a Dense Transformation and a priori Information. *Lecture Notes in Computer Science*, **2003**, 804-811	0.9	1
24	Evaluation of a New 3D/2D Registration Criterion for Liver Radio-Frequencies Guided by Augmented Reality. *Lecture Notes in Computer Science*, **2003**, 270-283	0.9	15
23	Multi-scale EM-ICP: A Fast and Robust Approach for Surface Registration. *Lecture Notes in Computer Science*, **2002**, 418-432	0.9	153
22	Improved Detection Sensitivity in Functional MRI Data Using a Brain Parcelling Technique. *Lecture Notes in Computer Science*, **2002**, 467-474	0.9	12
21	Robust Registration of Multi-modal Images: Towards Real-Time Clinical Applications. *Lecture Notes in Computer Science*, **2002**, 140-147	0.9	32
20	Reconstructing a 3D structure from serial histological sections. *Image and Vision Computing*, **2001**, 19, 25-31	3.7	405
19	Multisubject Non-rigid Registration of Brain MRI Using Intensity and Geometric Features. *Lecture Notes in Computer Science*, **2001**, 734-742	0.9	32
18	Rigid registration of 3-D ultrasound with MR images: a new approach combining intensity and gradient information. *IEEE Transactions on Medical Imaging*, **2001**, 20, 1038-49	11.7	204

17	Rigid Point-Surface Registration Using an EM Variant of ICP for Computer Guided Oral Implantology. *Lecture Notes in Computer Science*, **2001**, 752-761	0.9	19
16	Landmark-Based Registration Using Features Identified Through Differential Geometry **2000**, 499-513		35
15	Understanding the Demons Algorithm: 3D Non-rigid Registration by Gradient Descent. *Lecture Notes in Computer Science*, **1999**, 597-605	0.9	85
14	Uniform Distribution, Distance and Expectation Problems for Geometric Features Processing. *Journal of Mathematical Imaging and Vision*, **1998**, 9, 49-67	1.6	37
13	The correlation ratio as a new similarity measure for multimodal image registration. *Lecture Notes in Computer Science*, **1998**, 1115-1124	0.9	182
12	A geometric algorithm to find small but highly similar 3D substructures in proteins. *Bioinformatics*, **1998**, 14, 516-22	7.2	63
11	Feature-based registration of medical images: Estimation and validation of the pose accuracy. *Lecture Notes in Computer Science*, **1998**, 1107-1114	0.9	13
10	Medical image registration using geometric hashing. *IEEE Computational Science and Engineering*, **1997**, 4, 29-41		46
9	A Framework for Uncertainty and Validation of 3-D Registration Methods Based on Points and Frames. *International Journal of Computer Vision*, **1997**, 25, 203-229	10.6	106
8	Comparison and evaluation of retrospective intermodality brain image registration techniques. *Journal of Computer Assisted Tomography*, **1997**, 21, 554-66	2.2	608
7	Comparison and evaluation of retrospective intermodality image registration techniques **1996**,		28
6	Asclepios: a research project team at INRIA for the analysis and simulation of biomedical images415-436		1
5	Grid-enabled workflows for data intensive medical applications		19
4	Virtual Reality and Augmented Reality in Digestive Surgery		14
3	Parcellation of brain images with anatomical and functional constraints for fMRI data analysis		10
2	Non-rigid MR/US registration for tracking brain deformations		3
1	Numerical Accuracy of Ladder Schemes for Parallel Transport on Manifolds. *Foundations of Computational Mathematics*,1	2.7	1