

Publication List

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This list contains my published work up to October 2019:

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REFERENCES

- [1] S. Berretti, M. Daoudi, A. D. Bimbo, T. F. Ansary, P. Pala, J. Tierny, and J.-P. Vandeborre. 3d object indexing. In *3D object processing: compression, indexing and watermarking*, 2008.
- [2] R. A. Boto, J. C. Garcia, J. Tierny, and J.-P. Piquemal. Interpretation of the reduced density gradient. *Molecular Physics*, 2016.
- [3] P. Bremer, G. Weber, J. Tierny, V. Pascucci, M. Day, and J. Bell. A topological framework for the interactive exploration of large scale turbulent combustion. In *Proc. of IEEE eScience*, 2009.
- [4] P. Bremer, G. Weber, J. Tierny, V. Pascucci, M. Day, and J. Bell. Interactive exploration and analysis of large scale simulations using topology-based data segmentation. *IEEE Transactions on Visualization and Computer Graphics*, 2011.
- [5] T. Bridel-Bertomeu, B. Fovet, J. Tierny, and F. Vivodtzev. Topological Analysis of High Velocity Turbulent Flow. In *IEEE Symposium on Large Data Analysis and Visualization (posters)*, 2019.
- [6] H. Carr, Z. Geng, J. Tierny, A. Chattopadhyay, and A. Knoll. Fiber surfaces: Generalizing isosurfaces to bivariate data. *Computer Graphics Forum (Proc. of EuroVis)*, 2015.
- [7] H. Carr, J. Tierny, and G. Weber. Pathological and test cases for reeb analysis. In *Proc. of TopoInVis*, 2017.
- [8] F. Chen, H. Obermaier, H. Hagen, B. Hamann, J. Tierny, and V. Pascucci. Topology analysis of time-dependent multi-fluid data using the reeb graph. *Computer Aided Geometric Design*, 2013.
- [9] M. Daoudi, T. Filali-Ansary, J. Tierny, and J.-P. Vandeborre. 3d mesh models: view-based indexing and structural analysis. In *DELOS Conference*, 2007.
- [10] T. Etienne, L. Nonato, C. Scheidegger, J. Tierny, T. Peters, V. Pascucci, M. Kirby, and C. Silva. Topology verification for isosurface extraction. *IEEE Transactions on Visualization and Computer Graphics*, 2012.
- [11] M. Falk, G. Favelier, C. Gueunet, P. Guillou, A. Kamakshidasan, P. Klacansky, J. Levine, J. Lukaszczuk, D. Sakurai, M. Soler, J. Tierny, W. Usher, J. Vidal, and M. Wozniak. An Overview of the Topology ToolKit. In *TopoInVis*, 2019.
- [12] M. Falk, C. Garth, C. Gueunet, J. A. Levine, J. Lukaszczuk, J. Tierny, and J. Vidal. Topological Data Analysis Made Easy with the Topology ToolKit, A Sequel. In *Proc. of IEEE VIS Tutorials*, 2019. <https://topology-tool-kit.github.io/ieeeVis2019Tutorial.html>.
- [13] G. Favelier, N. Faraj, B. Summa, and J. Tierny. Persistence atlas for critical point variability in ensembles. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2018.
- [14] G. Favelier, C. Gueunet, A. Gyulassy, J. Jomier, J. Levine, J. Lukaszczuk, D. Sakurai, M. Soler, J. Tierny, W. Usher, and Q. Wu. Topological Data Analysis Made Easy with the Topology ToolKit. In *Proc. of IEEE VIS Tutorials*, 2018. <https://topology-tool-kit.github.io/ieeeVis2018Tutorial.html>.
- [15] G. Favelier, C. Gueunet, and J. Tierny. Visualizing ensembles of viscous fingers. In *IEEE SciVis Contest*, 2016.
- [16] M. Gargouri, J. Tierny, E. Jolivet, P. Petit, and E. Angelini. Accurate and robust shape descriptors for the identification of rib cage structures in ct-images with random forests. In *IEEE Symposium on Biomedical Imaging*, 2013.
- [17] D. Guenther, R. Alvarez-Boto, J. Contreras-Garcia, J.-P. Piquemal, and J. Tierny. Characterizing molecular interactions in chemical systems. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2014.
- [18] D. Guenther, J. Salmon, and J. Tierny. Mandatory critical points of 2D uncertain scalar fields. *Computer Graphics Forum (Proc. of EuroVis)*, 2014.
- [19] C. Gueunet, P. Fortin, J. Jomier, and J. Tierny. Contour forests: Fast multi-threaded augmented contour trees. In *IEEE LDAV*, 2016.
- [20] C. Gueunet, P. Fortin, J. Jomier, and J. Tierny. Task-based augmented merge trees with fibonacci heaps. In *IEEE LDAV*, 2017.
- [21] C. Gueunet, P. Fortin, J. Jomier, and J. Tierny. Task-based Augmented Contour Trees with Fibonacci Heaps. *IEEE Transactions on Parallel and Distributed Systems*, 2019. Accepted.
- [22] C. Gueunet, P. Fortin, J. Jomier, and J. Tierny. Task-based Augmented Reeb Graphs with Dynamic ST-Trees. In *Eurographics Symposium on Parallel Graphics and Visualization*, 2019.
- [23] A. Gyulassy, D. Guenther, J. A. Levine, J. Tierny, and V. Pascucci. Conforming morse-smale complexes. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2014.
- [24] P. Klacansky, J. Tierny, H. Carr, and Z. Geng. Fast and exact fiber surfaces for tetrahedral meshes. *IEEE Transactions on Visualization and Computer Graphics*, 2016.
- [25] M. Kontak, J. Vidal, and J. Tierny. Statistical Parameter Selection for Clustering Persistence Diagrams. In *Proc. of SuperComputing workshop on Urgent HPC*, 2019.
- [26] J. Lukaszczuk, G. Aldrich, M. Steptoe, G. Favelier, C. Gueunet, J. Tierny, R. Maciejewski, B. Hamann, and H. Leitte. Viscous fingering: A topological visual analytic approach. *Applied Mechanics and Materials*, 2017.
- [27] J. Michelin, J. Tierny, F. Tupin, C. Mallet, and N. Paparoditis. Quality evaluation of 3d city building models with automatic error diagnosis. In *Proc. of ISPRS Conference on SSG*, 2013.
- [28] V. Pascucci, X. Tricoche, H. Hagen, and J. Tierny. *Topological Methods in Data Analysis and Visualization: Theory, Algorithms and Applications*. Springer, 2010.
- [29] S. Philip, B. Summa, J. Tierny, P. Bremer, and V. Pascucci. Scalable seams for gigapixel panoramas. In *Eurographics Symposium on Parallel Graphics and Visualization*, 2013.
- [30] S. Philip, B. Summa, J. Tierny, P. Bremer, and V. Pascucci. Distributed seams for gigapixel panoramas. *IEEE Transactions on Visualization and Computer Graphics*, 2015.
- [31] E. Santos, J. Tierny, A. Khan, B. Grimm, L. Lins, J. Freire, V. Pascucci, C. Silva, S. Klasky, R. Barreto, and N. Podhorszki. Enabling advanced visualization tools in a web-based simulation monitoring system. In *Proc. of IEEE eScience*, 2009.
- [32] M. Soler, M. Petitfrere, G. Darche, M. Plainchault, B. Conche, and J. Tierny. Ranking Viscous Finger Simulations to an Acquired Ground Truth with Topology-Aware Matchings. In *IEEE Symposium on Large Data Analysis and Visualization*, 2019.
- [33] M. Soler, M. Plainchault, B. Conche, and J. Tierny. Lifted Wasserstein matcher for fast and robust topology tracking. In *IEEE Symposium on Large Data Analysis and Visualization*, 2018.
- [34] M. Soler, M. Plainchault, B. Conche, and J. Tierny. Topologically controlled lossy compression. In *Proc. of IEEE PacificVis*, 2018.
- [35] B. Summa, J. Tierny, P. Bremer, G. Scorzelli, and V. Pascucci. Active stitching: Beyond batch processing of panoramas. Technical report, University of Utah, 2013.
- [36] B. Summa, J. Tierny, and V. Pascucci. Panorama weaving: Fast and flexible seam processing. *ACM Transactions on Graphics (Proc. of ACM SIGGRAPH)*, 2012.

- [37] B. Summa, J. Tierny, and V. Pascucci. Visualizing the uncertainty of graph-based 2d segmentation with min-path stability. *Computer Graphics Forum (Proc. of EuroVis)*, 2017.
- [38] J. Thiery, B. Buchholz, J. Tierny, and T. Boubekeur. Analytic curve skeletons for 3d surface modeling and processing. *Computer Graphics Forum (Proc. of Pacific Graphics)*, 2012.
- [39] J. Thiery, J. Tierny, and T. Boubekeur. Cager: Cage-based reverse engineering of animated 3d shapes. *Computer Graphics Forum*, 2012.
- [40] J. Thiery, J. Tierny, and T. Boubekeur. Jacobians and Hessians of mean value coordinates for closed triangular meshes. *The Visual Computer*, 2013.
- [41] J. Tierny. *Reeb graph based 3D shape modeling and applications*. PhD thesis, Lille1 University, 2008.
- [42] J. Tierny. *Contributions to Topological Data Analysis for Scientific Visualization*. PhD thesis, Sorbonne University UPMC, 2016.
- [43] J. Tierny. *Topological Data Analysis for Scientific Visualization*. Springer, 2018.
- [44] J. Tierny and H. Carr. Jacobi fiber surfaces for bivariate Reeb space computation. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2016.
- [45] J. Tierny, J. Daniels, L. Nonato, V. Pascucci, and C. Silva. Inspired quadrangulation. *Computer Aided Design (Proc. of ACM Solid and Physical Modeling)*, 2011.
- [46] J. Tierny, J. Daniels, L. G. Nonato, V. Pascucci, and C. Silva. Interactive quadrangulation with Reeb atlases and connectivity textures. *IEEE Transactions on Visualization and Computer Graphics*, 2012.
- [47] J. Tierny, G. Favelier, J. A. Levine, C. Gueunet, and M. Michaux. The Topology ToolKit. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2017. <https://topology-tool-kit.github.io/>.
- [48] J. Tierny, D. Guenther, and V. Pascucci. Optimal general simplification of scalar fields on surfaces. In *Topological and Statistical Methods for Complex Data*. Springer, 2014.
- [49] J. Tierny, A. Gyulassy, E. Simon, and V. Pascucci. Loop surgery for volumetric meshes: Reeb graphs reduced to contour trees. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2009.
- [50] J. Tierny and V. Pascucci. Generalized topological simplification of scalar fields on surfaces. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2012.
- [51] J. Tierny, J.-P. Vandeborre, and M. Daoudi. 3D mesh skeleton extraction using topological and geometrical analyses. In *Proc. of Pacific Graphics*, 2006.
- [52] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Invariant high level Reeb graphs of 3D polygonal meshes. In *Proc. of IEEE 3DPVT*, 2006.
- [53] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Geometry flavored topological skeletons: applications to shape handling, understanding and retrieval. In *DELOS Conference*, 2007.
- [54] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Reeb chart unfolding based 3D shape signatures. In *Proc. of Eurographics*, 2007.
- [55] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Topology driven 3D mesh hierarchical segmentation. In *Proc. of IEEE Shape Modeling International*, 2007.
- [56] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Enhancing 3D mesh topological skeletons with discrete contour constrictions. *The Visual Computer*, 2008.
- [57] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Fast and precise kinematic skeleton extraction of 3D dynamic meshes. In *Proc. of IEEE ICPR*, 2008.
- [58] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Partial 3D shape retrieval by Reeb pattern unfolding. *Computer Graphics Forum*, 2009.
- [59] J. Vidal, J. Budin, and J. Tierny. Progressive Wasserstein Barycenters of Persistence Diagrams. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2019.
- [60] A. Vintescu, F. Dupont, G. Lavoué, P. Memari, and J. Tierny. Conformal factor persistence for fast hierarchical cone extraction. In *Eurographics (short papers)*, 2017.
- [61] A. M. Vintescu, F. Dupont, G. Lavoué, P. Memari, and J. Tierny. Least squares affine transitions for global parameterization. *Journal of WSCG*, 2017.