

Publication List

Julien Tierny

1 ABOUT

This list contains my published work up to September 2020:

[58] [57] [61] [60] [11] [59] [1] [41] [54] [18] [63] [4] [37] [32] [19] [35] [22] [29] [67] [66] [23] [62] [64] [55] [5] [13] [52] [51] [44] [45] [42] [56] [46] [9] [21] [20] [26] [36] [7] [3] [27] [50] [43] [53] [34] [47] [48] [8] [49] [40] [39] [17] [16] [24] [25] [2] [65] [38] [6] [14] [28] [33] [31] [12] [15] [10] [30]

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] T. Bin Masood, J. Budin, M. Falk, G. Favelier, C. Garth, C. Gueunet, P. Guillou, L. Hofmann, P. Hristov, A. Kamakshidasan, C. Kappe, P. Klacansky, P. Laurin, J. Levine, J. Lukaszczk, D. Sakurai, M. Soler, P. Steneteg, J. Tierny, W. Usher, J. Vidal, and M. Wozniak. An Overview of the Topology ToolKit. In *TopoInVis*, 2019.
- [3] R. A. Boto, J. C. Garcia, J. Tierny, and J.-P. Piquemal. Interpretation of the reduced density gradient. *Molecular Physics*, 2016.
- [4] 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.
- [5] 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.
- [6] 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.
- [7] 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.
- [8] H. Carr, J. Tierny, and G. Weber. Pathological and test cases for reeb analysis. In *Proc. of TopoInVis*, 2017.
- [9] 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.
- [10] R. Cotsakis, J. Shaw, J. Tierny, and J. A. Levine. Implementing Persistence-Based Clustering of Point Clouds in the Topology ToolKit. In *TopoInVis Book*, 2020.
- [11] M. Daoudi, T. Filali-Ansary, J. Tierny, and J.-P. Vandeborre. 3d mesh models: view-based indexing and structural analysis. In *DELOS Conference*, 2007.
- [12] H. Doraiswamy, J. Tierny, P. J. S. Silva, L. G. Nonato, and C. Silva. TopoMap: A 0-dimensional Homology Preserving Projection of High-Dimensional Data. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2020.
- [13] 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.
- [14] M. Falk, C. Garth, C. Gueunet, J. A. Levine, J. Lukaszczk, 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>.
- [15] M. Falk, C. Garth, C. Gueunet, J. A. Levine, J. Lukaszczk, J. Tierny, and J. Vidal. Topological Data Analysis Made Easy with the Topology ToolKit, What is New? In *Proc. of IEEE VIS Tutorials*, 2020. <https://topology-tool-kit.github.io/ieeeVisTutorial.html>.
- [16] 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.
- [17] G. Favelier, C. Gueunet, A. Gyulassy, J. Jomier, J. Levine, J. Lukaszczk, 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>.
- [18] G. Favelier, C. Gueunet, and J. Tierny. Visualizing ensembles of viscous fingers. In *IEEE SciVis Contest*, 2016.
- [19] 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.
- [20] 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.
- [21] D. Guenther, J. Salmon, and J. Tierny. Mandatory critical points of 2D uncertain scalar fields. *Computer Graphics Forum (Proc. of EuroVis)*, 2014.
- [22] C. Gueunet, P. Fortin, J. Jomier, and J. Tierny. Contour forests: Fast multi-threaded augmented contour trees. In *IEEE Lдав*, 2016.
- [23] C. Gueunet, P. Fortin, J. Jomier, and J. Tierny. Task-based augmented merge trees with fibonacci heaps. In *IEEE Lдав*, 2017.
- [24] 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.
- [25] 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.
- [26] 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.
- [27] 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.
- [28] M. Kontak, J. Vidal, and J. Tierny. Statistical Parameter Selection for Clustering Persistence Diagrams. In *Proc. of SuperComputing workshop on Urgent HPC*, 2019.
- [29] J. Lukaszczk, 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.
- [30] J. Lukaszczk, J. Beran, W. Engelke, M. Falk, A. Friederici, C. Garth, L. Hofmann, I. Hotz, P. Hristov, W. Köpp, T. B. Masood, M. Olejniczak, P. Rosen, J.-T. Sohns, T. Weinkauff, K. Werner, and J. Tierny. Report of the TopoInVis TTK Hackathon: Experiences, Lessons Learned, and Perspectives. In *TopoInVis*, 2019.
- [31] J. Lukaszczk, C. Garth, R. Maciejewski, and J. Tierny. Localized Topological Simplification of Scalar Data. *IEEE Transactions on Visualization and Computer Graphics (Proc. of IEEE VIS)*, 2020.
- [32] 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.
- [33] M. Olejniczak, A. S. P. Gomes, and J. Tierny. A Topological Data Analysis Perspective on Non-Covalent Interactions in Relativistic Calculations. *International Journal of Quantum Chemistry*, 2019.
- [34] V. Pascucci, X. Tricoche, H. Hagen, and J. Tierny. *Topological Methods in Data Analysis and Visualization: Theory, Algorithms and Applications*. Springer, 2010.

- [35] 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.
- [36] S. Philip, B. Summa, J. Tierny, P. Bremer, and V. Pascucci. Distributed seams for gigapixel panoramas. *IEEE Transactions on Visualization and Computer Graphics*, 2015.
- [37] 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.
- [38] M. Soler, M. Petittfrere, 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.
- [39] 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.
- [40] M. Soler, M. Plainchault, B. Conche, and J. Tierny. Topologically controlled lossy compression. In *Proc. of IEEE PacificVis*, 2018.
- [41] B. Summa, J. Tierny, P. Bremer, G. Scorzelli, and V. Pascucci. Active stitching: Beyond batch processing of panoramas. Technical report, University of Utah, 2013.
- [42] B. Summa, J. Tierny, and V. Pascucci. Panorama weaving: Fast and flexible seam processing. *ACM Transactions on Graphics (Proc. of ACM SIGGRAPH)*, 2012.
- [43] 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.
- [44] 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.
- [45] J. Thiery, J. Tierny, and T. Boubekeur. Cager: Cage-based reverse engineering of animated 3d shapes. *Computer Graphics Forum*, 2012.
- [46] J. Thiery, J. Tierny, and T. Boubekeur. Jacobians and Hessians of mean value coordinates for closed triangular meshes. *The Visual Computer*, 2013.
- [47] J. Tierny. *Reeb graph based 3D shape modeling and applications*. PhD thesis, Lille1 University, 2008.
- [48] J. Tierny. *Contributions to Topological Data Analysis for Scientific Visualization*. PhD thesis, Sorbonne University UPMC, 2016.
- [49] J. Tierny. *Topological Data Analysis for Scientific Visualization*. Springer, 2018.
- [50] 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.
- [51] J. Tierny, J. Daniels, L. Nonato, V. Pascucci, and C. Silva. Inspired quadrangulation. *Computer Aided Design (Proc. of ACM Solid and Physical Modeling)*, 2011.
- [52] 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.
- [53] 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/>.
- [54] 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.
- [55] 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.
- [56] 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.
- [57] J. Tierny, J.-P. Vandeborre, and M. Daoudi. 3D mesh skeleton extraction using topological and geometrical analyses. In *Proc. of Pacific Graphics*, 2006.
- [58] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Invariant high level Reeb graphs of 3D polygonal meshes. In *Proc. of IEEE 3DPVT*, 2006.
- [59] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Geometry flavored topological skeletons: applications to shape handling, understanding and retrieval. In *DELOS Conference*, 2007.
- [60] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Reeb chart unfolding based 3D shape signatures. In *Proc. of Eurographics*, 2007.
- [61] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Topology driven 3D mesh hierarchical segmentation. In *Proc. of IEEE Shape Modeling International*, 2007.
- [62] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Enhancing 3D mesh topological skeletons with discrete contour constrictions. *The Visual Computer*, 2008.
- [63] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Fast and precise kinematic skeleton extraction of 3D dynamic meshes. In *Proc. of IEEE ICPR*, 2008.
- [64] J. Tierny, J.-P. Vandeborre, and M. Daoudi. Partial 3D shape retrieval by Reeb pattern unfolding. *Computer Graphics Forum*, 2009.
- [65] 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.
- [66] A. Vintescu, F. Dupont, G. Lavoué, P. Memari, and J. Tierny. Conformal factor persistence for fast hierarchical cone extraction. In *Eurographics (short papers)*, 2017.
- [67] A. M. Vintescu, F. Dupont, G. Lavoué, P. Memari, and J. Tierny. Least squares affine transitions for global parameterization. *Journal of WSCG*, 2017.