

2019 IEEE 9th Symposium on Large Data Analysis and Visualization (LDAV 2019)

**Vancouver, British Columbia, Canada
21 October 2019**



**IEEE Catalog Number: CFP19LDA-POD
ISBN: 978-1-7281-2606-7**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19LDA-POD
ISBN (Print-On-Demand):	978-1-7281-2606-7
ISBN (Online):	978-1-7281-2605-0

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2019 IEEE 9th Symposium on Large Data Analysis and Visualization (LDAV)

Papers

Graph Layouts

Session Chair: Brian Summa

Force-Directed Graph Layouts by Edge Sampling	1
Robert Gove	

Feature Tracking and Rendering

Session Chair: Chris Bryan

Feature Tracking Utilizing a Maximum-Weight Independent Set Problem.....	6
Andrea Schnorr, Dirk N. Helmrich, Hank Childs, Torsten W. Kuhlen, Bernd Hentschel	
Low-Overhead In Situ Visualization Using Halo Replay	16
Jeff Ames, Silvio Rizzi, Joseph Insley, Saumil Patel, Benjamín Hernández, Erik W. Draeger, Amanda Randles	
Interactive Rendering of Large-Scale Volumes on Multi-Core CPUs.....	27
Feng Wang, Ingo Wald, Chris R. Johnson	
PxStream: Remote Visualization for Distributed Rendering Frameworks.....	37
Thomas Marrinan, Silvio Rizzi, Joseph A. Insley, Lance Long, Luc Renambot, Michael E. Papka	

Turbulence, Particles and Topology

Session Chair: Xavier Tricoche

Distributed Percolation Analysis for Turbulent Flows	42
Anke Friederici, Wiebke Köpp, Marco Atzori, Ricardo Vinuesa, Philipp Schlatter, Tino Weinkauff	
A Lifeline-Based Approach for Work Requesting and Parallel Particle Advection	52
Roba Binyahib, David Pugmire, Boyana Norris, Hank Childs	
Ranking Viscous Finger Simulations to an Acquired Ground Truth with Topology-Aware Matchings	62
Maxime Soler, Martin Petitfrere, Gilles Darche, Mélanie Plainchault, Bruno Conche, Julien Tierny	
Topology-Based Spectral Sparsification	73
Amyra Meidiana, Seok-Hee Hong, Jiajun Huang, Peter Eades, Kwan-Liu Ma	

Posters

Bringing the Field into the Lab: Large-Scale Visualization of Animal Movement Trajectories within a Virtual Island	83
Jillian Aurisano, James Hwang, Andrew Johnson, Lance Long, Margaret Crofoot, Tanya Berger-Wolf	
Large-Scale Cinematic Visualization Using Universal Scene Description.....	85
Mark A. Bolstad	
Topological Analysis of High Velocity Turbulent Flow.....	87
Thibault Bridel-Bertomeu, Benjamin Fovet, Julien Tierny, Fabien Vivodtzev	
Parallel Particle Advection and Lagrangian Analysis for 3D-PLI Fiber Orientation Maps	89
Ali C. Demiralp, Daniel Zielasko, Markus Axer, Tom Vierjahn, Torsten W. Kuhlen	
Real-Time Compression of Dynamically Generated Images for Offscreen Rendering.....	91
Leah Emerson, Thomas Marrinan	
VAMD: Visual Analytics for Multimodal Data	93
John Fallon, R. Jordan Crouser	
A Proposed Framework for Interactive Virtual Reality In Situ Visualization of Parallel Numerical Simulations.....	95
Aryaman Gupta, Ulrik Günther, Pietro Incardona, Ata Deniz Aydin, Raimund Dachselt, Stefan Gumhold, Ivo F. Sbalzarini	