

2022 IEEE 12th Symposium on Large Data Analysis and Visualization (LDAV 2022)

**Oklahoma City, Oklahoma, USA
16 October 2022**



**IEEE Catalog Number: CFP22LDA-POD
ISBN: 978-1-6654-9157-0**

**Copyright © 2022 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:	CFP22LDA-POD
ISBN (Print-On-Demand):	978-1-6654-9157-0
ISBN (Online):	978-1-6654-9156-3
ISSN:	2373-7514

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

2022 IEEE 12th Symposium on Large Data Analysis and Visualization (LDAV) **LDAV 2022**

Table of Contents

LDAV 2022 Committees vii

12th IEEE Symposium on Large Data Analysis and Visualization

High-Quality Progressive Alignment of Large 3D Microscopy Data	1
<i>Aniketh Venkat (Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, USA), Duong Hoang (Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, USA), Attila Gyulassy (Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, USA), Peer-Timo Bremer (Lawrence Livermore National Laboratory, USA), Frederick Federer (Moran Eye Center, University of Utah, USA), Alessandra Angelucci (Moran Eye Center, University of Utah, USA), and Valerio Pascucci (Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, USA)</i>	
A Prototype for Pipeline-Composable Task-Based Visualization Algorithms	11
<i>Marvin Petersen (RWTH Aachen University, Germany), Kilian Werner (Technische Universität Kaiserslautern, Germany), Andrea Schnorr (Technische Universität Kaiserslautern, Germany), Torsten Wolfgang Kuhlen (RWTH Aachen University, Germany), and Christoph Garth (Technische Universität Kaiserslautern, Germany)</i>	
Topological Analysis of Ensembles of Hydrodynamic Turbulent Flows: An Experimental Study	22
<i>Florent Nauleau (CEA/CESTA), Fabien Vivodtzev (CEA/CESTA), Thibault Bridel-Bertomeu (CEA/CESTA), Héloïse Beaugendre (Inria, Univ. Bordeaux, CNRS, Bordeaux INP, Institut de Mathématiques de Bordeaux,), and Julien Tierny (Sorbonne Université and CNRS)</i>	
Distributed Hierarchical Contour Trees	33
<i>Hamish A. Carr (University of Leeds), Oliver Rubel (Lawrence Berkeley National Laboratory), and Gunther H. Weber (Lawrence Berkeley National Laboratory)</i>	
Angular-based Edge Bundled Parallel Coordinates Plot for the Visual Analysis of Large Ensemble Simulation Data	43
<i>Keita Watanabe, Naohisa Sakamoto (Kobe University), Jorji Nonaka (RIKEN R-CCS), and Yasumitsu Maejima (RIKEN R-CCS)</i>	

Hybrid Image-/Data-Parallel Rendering Using Island Parallelism	53
<i>Stefan Zellmann (University of Cologne), Ingo Wald (NVIDIA), Joao Barbosa (INESC-TEC and University of Minho), Serkan Demirci (Bilkent University), Alper Sahistan (Bilkent University), and Ugur Gudukbay (Bilkent University)</i>	
New Triggers for Automatic Camera Placement Over Time	63
<i>Meghanto Majumder (University of Oregon), Nicole Marsaglia (Lawrence Livermore National Laboratory), and Hank Childs (University of Oregon)</i>	
Massive Data Visualization Techniques for use in Virtual Reality Devices	65
<i>Jason A. Ortiz (Argonne National Laboratory; University of Central Florida), Joseph A. Insley (Argonne National Laboratory; Northern Illinois University), Janet Knowles (Argonne National Laboratory), Victor A. Mateevitsi (Argonne National Laboratory), Michael E. Papka (Argonne National Laboratory; Northern Illinois University), and Silvio Rizzi (Argonne National Laboratory)</i>	
Exploration Tool for Effectively Interpreting the Visual Metaphor Process of Sentiment Visualization	67
<i>Hyoji Ha (Ajou University), Kwanghyuk Moon (Ajou University), Hyerim Joung (Ajou University), Hyegyeong Kim (Ajou University), and Kyungwon Lee (Ajou University)</i>	
Toward Bi-directional In Situ Visualization and Analysis of Blood Flow Simulations With Dynamic Deforming Boundaries	69
<i>Nazariy Tishchenko (Argonne National Laboratory; Northern Illinois University), Nicola Ferrier (Argonne National Laboratory), Joseph A. Insley (Argonne National Laboratory; Northern Illinois University), Victor A. Mateevitsi (Argonne National Laboratory), Michael E. Papka (Argonne National Laboratory; Northern Illinois University), Silvio Rizzi (Argonne National Laboratory), and Jifu Tan (Northern Illinois University)</i>	
Distributed Volumetric Neural Representation for in situ Visualization and Analysis	71
<i>Qi Wu (University of California, Davis), Joseph Insley (Argonne National Laboratory), Silvio Rizzi (Argonne National Laboratory), and Kwan-Liu Ma (University of California at Davis)</i>	
Sort-Last In-Transit Data Visualization with SENSEI, Catalyst, and Unreal Engine	73
<i>Isaac Nealey (Argonne National Laboratory; University of California, San Diego), Nicola Ferrier (Argonne National Laboratory), Joseph A. Insley (Argonne National Laboratory; Northern Illinois University), Victor A. Mateevitsi (Argonne National Laboratory), Silvio Rizzi (Argonne National Laboratory), and Jurgen Schulze (University of California, San Diego; Qualcomm)</i>	
Author Index	75