

Suren Byna

Publication List

Google Scholar Profile: <https://goo.gl/iTz2pS>
(Citations: 2643, h-Index: 29, i10-Index: 67 on 01/01/2022)

Book

1. Bin Dong, John Wu, Suren Byna, "*User-Defined Tensor Data Analysis*", Springer Briefs in Computer Science, 2021 (<https://link.springer.com/book/10.1007/978-3-030-70750-7>).

Journal Articles

2. Bin Dong, Alex Popescu, Verónica Rodríguez Tribaldos, Suren Byna, Jonathan Ajo-Franklin, Kesheng Wu, "*Real-time and Post-hoc Compression for Data from Distributed Acoustic Sensing*", in *submission* to Computers & Geosciences Journal
3. Wei Zhang, Chenxu Niu, Suren Byna, Yu Lim, and Yong Chen, "*Essentials of Metadata Search in Scientific Data Management*", in *revised submission* to IEEE Transactions on Parallel and Distributed Systems (TPDS)
4. Houjun Tang, Quincey Koziol, John Ravi, and Suren Byna, "*Transparent Asynchronous Parallel I/O using Background Threads*", IEEE Transactions on Parallel and Distributed Systems (TPDS) - Special Section on Innovative R&D toward the Exascale Era, 2021
5. Jingqing Mu, Jerome Soumagne, Suren Byna, Quincey Koziol, Houjun Tang, and Richard Warren, "*Interfacing HDF5 with A Scalable Object-centric Storage System on Hierarchical Storage*", Journal of Concurrency and Computation: Practice and Experience, 2020
6. Suren Byna, M. Scot Breitenfeld, Bin Dong, Quincey Koziol, Elena Pourmal, Dana Robinson, Jerome Soumagne, Houjun Tang, Venkatram Vishwanath, and Richard Warren, "*ExaHDF5: Delivering Efficient Parallel I/O on Exascale Computing Systems*," Journal of Computer Science and Technology, 2020, 35(1): 145-160. DOI: 10.1007/s11390-020-9822-9
7. Babak Behzad, Suren Byna, Prabhat and Marc Snir, "*Optimizing I/O Performance of HPC Applications with Autotuning*", ACM Transactions on Parallel Computing, 2019
8. Beytullah Yildiz, Kesheng Wu, Suren Byna, and Arie Shoshanii, "*Parallel membership queries on very large scientific data sets using bitmap indexes*", Concurrency and Computation: Practice and Experience, 2019
9. Soyoung Jeon, Prabhat, Suren Byna, Junmin Gu, William Collins, and Michael Wehner, "*Characterization of Extreme Precipitation within Atmospheric River Events over California*", Journal of Advances in Statistical Climatology, Meteorology and Oceanography, 1, 45-57, doi:10.5194/ascmo-1-45-2015, 2015.
10. Surendra Byna and Xian-He Sun, "*Editorial, Special issue on Data Intensive Computing*," Journal of Parallel and Distributed Computing (JPDC), Feb 2011.
11. Surendra Byna, Yong Chen, Xian-He Sun, "*Taxonomy of Data Prefetching Strategies for Multicore Processors*," Journal of Computer Science and Technology (JCST), Volume 24, Number 3 / May, pp. 405-417, 2009.
12. Xian-He Sun, Surendra Byna, and Yong Chen, "*Server-based Data Push Architecture for Multi-processor Environments*," Journal of Computer Science and Technology (JCST), 22(5): 641-652, September 2007.
13. Surendra Byna, Kirk W. Cameron and Xian-He Sun, "*Isolating Costs in Shared Memory Communication Buffering*," Parallel Processing Letters, Vol. 15, No. 4 (2005) 357-365, December 2005.

Conference/Workshop Publications

14. John Ravi, Suren Byna, Quincey Koziol, Houjun Tang, and Michela Becchi, “*Understanding Asynchronous Parallel I/O on HPC Systems*”, in submission to IPDPS 2022.
15. Sian Jin, Sheng Di, Jiannan Tian, Suren Byna, Dingwen Tao, and Franck Cappello, “*Improving Prediction-Based Lossy Compression Dramatically via Ratio-Quality Modeling*”, in submission to ICDE 2022.
16. Qiao Kang, Scot Breitenfeld, Kaiyuan Hou, Wei-keng Liao, Robert Ross, and Suren Byna, “*Optimizing Performance of Parallel I/O Accesses to Non-contiguous Blocks in Multiple Array Variables*”, IEEE BigData 2021 conference, Dec 2021
17. Houjun Tang, Suren Byna, N. Anders Petersson, and David Mccallen, “*Tuning Parallel Data Compression and I/O for Large-scale Earthquake Simulation*”, The Second International Workshop on Big Data Reduction (IWBDR) 2021, held with 2021 IEEE Big Data
18. Wei Zhang, Suren Byna, Hyogi Sim, SangKeun Lee, Sudharshan Vazhkudai, Yong Chen, “*Exploiting User Activeness for Data Retention in HPC Systems*”, Supercomputing 2021 (SC21)
19. J. Bez, H. Tang, B. Xie, D. Williams-Young, R. Latham, R. Ross, S. Oral, and S. Byna, “*I/O Bottleneck Detection and Tuning: Connecting the Dots using Interactive Log Analysis*”, the 6th International Parallel Data Systems Workshop (PDSW'21), in conjunction with Supercomputing 2021 (SC21)
20. Houjun Tang, Bing Xie, Suren Byna, Phillip Carns, Quincey Koziol, Sudarsan Kannan, Jay Lofstead, and Sarp Oral, “*SCTuner: An Autotuner Addressing Dynamic I/O Needs on Supercomputer I/O Subsystems*”, the 6th International Parallel Data Systems Workshop (PDSW'21), in conjunction with Supercomputing 2021 (SC21)
21. Cong Xu, Martin Flotin, Suparna Bhattacharya, Suren Byna, “*Data-Aware Storage Tiering for Deep Learning*”, the 6th International Parallel Data Systems Workshop (PDSW'21), in conjunction with Supercomputing 2021 (SC21)
22. Bo Fang, Daoce Wang, Sian Jin, Quincey Koziol, Zhao Zhang, Qiang Guan, Suren Byna, Sriram Krishnamoorthy, Dingwen Tao, “*Characterizing Impacts of Storage Faults on HPC Applications: A Methodology and Insights*”, 2021 IEEE International Conference on Cluster Computing, September 7–10, 2021.
23. Tonglin Li, Suren Byna, Quincey Koziol, Houjun Tang, Jean Luca Bez, and Qiao Kang, “*h5bench: HDF5 I/O Kernel Suite for Exercising HPC I/O Patterns*”, Cray User Group meeting (CUG) 2021.
24. Bing Xie, Houjun Tang, Suren Byna, Jesse Hanley, Quincey Koziol, Tonglin Li, Sarp Oral, “*Battle of the Defaults: Extracting Performance Characteristics of HDF5 under Production Load*”, CCGrid 2021
25. Suren Byna, Quincey Koziol, Houjun Tang, Wei Zhang, and Yong Chen, “*Searching metadata stored in self-describing file formats efficiently*”, AGU 2020 Abstract in the “Recent Advances and Future Directions in Hydro-informatics: From Data to Decision-Making” session.
26. John Ravi, Suren Byna, Quincey Koziol, “*GPU Direct I/O with HDF5*”, 5th International Parallel Data Systems Workshop (PDSW) 2020, in conjunction with SC20
27. Bjoern Enders, Debbie Bard, Cory Snaveley, Lisa Gerhardt, Jason Lee, Becci Totzke, Katie Antypas, Suren Byna, Ravi Cheema, Shreyas Cholia, Mark Day, Aditi Gaur, Annette Greiner, Taylor Groves, Mariam Kiran, Quincey Koziol, Kelly Rowland, Chris Samuel, Ashwin Selvarajan, Alex Sim, David Skinner, Rollin Thomas, Gabor Torok, “*Cross-facility science with the Superfacility Project at LBNL*”, IEEE/ACM 2nd Annual Workshop on Extreme-scale Experiment-in-the-Loop Computing (XLOOP), 2020, in conjunction with SC20
28. Debbie Bard, Cory Snaveley, Lisa Gerhardt, Jason Lee, Becci Totzke, Katie Antypas, Suren Byna, Ravi Cheema, Shreyas Cholia, Mark Day, Aditi Gaur, Annette Greiner, Taylor Groves, Mariam Kiran,

- Quincey Koziol, Kelly Rowland, Chris Samuel, Ashwin Selvarajan, Alex Sim, David Skinner, Rollin Thomas, Gabor Torok, *"The Superfacility project: automated pipelines for experiments and HPC"*, Extended Abstract for State of the Practice talk series, SC20 (2020)
29. Kai-yuan Hou, Quincey Kozio, and Suren Byna, *"TaskWorks: A Task Engine for Empowering Asynchronous Operations in HPC Applications"*, SC20 Research Posters, 2020
 30. Chenxu Niu, Wei Zhang, Suren Byna, and Yong Chen, *"Semantic Search for Self-Describing Scientific Data Formats"*, SC20 Research Posters, 2020
 31. Houjun Tang, Suren Byna, Bin Dong, and Quincey Koziol, *"Parallel Query Service for Object-centric Data Management Systems"*, The 6th IEEE International Workshop on High-Performance Big Data and Cloud Computing (HPBDC) 2020, in conjunction with IPDPS 2020.
 32. Donghe Kang, Oliver Rübel, Suren Byna, and Spyros Blanas, *"Predicting and Comparing the Performance of Array Management Libraries"*, IPDPS 2020
 33. Bin Dong, Veronica Rodriguez Tribaldos, Xin Xing, Suren Byna, Jonathan Ajo-Franklin, and Kesheng Wu, *"DASSA: Parallel DAS Data Storage and Analysis for Subsurface Event Detection"*, IPDPS 2020
 34. Tirthak Patel, Suren Byna, Glenn K. Lockwood, Nicholas J. Wright, Philip Carns, Rob Ross, and Devesh Tiwari, *"Uncovering Access, Reuse, and Sharing Characteristics of I/O-Intensive Files on Large-Scale Production HPC Systems"*, FAST '20
 35. Wei Zhang, Suren Byna, Chenxu Niu, and Yong Chen, *"Exploring Metadata Search Essentials for Scientific Data Management"*, 26th IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC) 2019
 36. Houjun Tang, Suren Byna, Stephen Bailey, Zarija Lukic, Jialin Liu, Quincey Koziol, and Bin Dong, *"Tuning Object-centric Data Management Systems for Large Scale Scientific Applications"*, 26th IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC) 2019
 37. Richard Warren, Jerome Soumagne, Jingqing Mu, Houjun Tang, Suren Byna, Bin Dong, and Quincey Koziol, *"Analysis in the Data Path of an Object-centric Data Management System"*, 26th IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC) 2019
 38. Houjun Tang, Quincey Koziol, Suren Byna, John Mainzer, and Tonglin Li, *"Enabling Transparent Asynchronous I/O using Background Threads"*, PDSW 2019, in conjunction with SC19.
 39. Glenn K. Lockwood, Shane Snyder, Suren Byna, Philip Carns, and Nicholas J. Wright, *"Understanding Data Motion in the Modern HPC Data Center"*, PDSW 2019, in conjunction with SC19.
 40. Megha Agarwal, Divyansh Singhvi, Preeti Malakar, and Suren Byna, *"Active Learning-based Automatic Tuning and Prediction of Parallel I/O Performance"*, PDSW 2019, in conjunction with SC19.
 41. Tirthak Patel, Suren Byna, Glenn K. Lockwood, and Devesh Tiwari, *"Revisiting I/O Behavior in Large-Scale Storage Systems: The Expected and the Unexpected"*, SC19
 42. Wei Zhang, Suren Byna, Houjun Tang, Brody Williams, and Yong Chen, *"MIQS: Metadata Indexing and erving Service for Self-Describing File Formats"*, SC19
 43. John Mainzer, Neil Fortner, Gerd Heber, Elena Pourmal, Quincey Koziol, Suren Byna, and Marc Paterno, *"Sparse Data Management in HDF5"*, 2019 IEEE/ACM 1st Annual Workshop on Large-scale Experiment-in-the-Loop Computing (XLOOP), 2019 in conjunction with SC19, pp. 20-25, doi: 10.1109/XLOOP49562.2019.00009.
 44. Donghe Kang, Oliver Rübel, Suren Byna, and Spyros Blanas, *"Comparison of Array Management Library Performance - A Neuroscience Use Case"*, SC19 Poster

45. Bin Dong, Kesheng Wu, Suren Byna, and Houjun Tang, "SLOPE: Structural Locality-aware Programming Model for Composing Array Data Analysis", ISC High Performance 2019.
46. Jingqing Mu, Jerome Soumagne, Suren Byna, Quincey Koziol, Houjun Tang, and Richard Warren, "Interfacing HDF5 with A Scalable Object-centric Storage System on Hierarchical Storage", CUG 2019
47. Tonglin Li, Quincey Koziol, Houjun Tang, Jialin Liu, and Suren Byna, "I/O Performance Analysis of Science Applications Using HDF5 File-level Provenance", CUG 2019
48. Teng Wang, Suren Byna, Glenn Lockwood, Philip Carns, Shane Snyder, Sunggon Kim, and Nicholas Wright, "A Zoom-in Analysis of I/O Logs to Detect Root Causes of I/O Performance Bottlenecks", IEEE/ACM CCGrid 2019
49. Sunggon Kim, Alex Sim, Kesheng Wu, Suren Byna, Teng Wang, Yongseok Son and Hyeonsang Eom, "DCA-IO: A Dynamic I/O Control Scheme for Parallel and Distributed File System", IEEE/ACM CCGrid 2019
50. Bin Dong, Teng Wang, Houjun Tang, Quincey Koziol, Kesheng Wu, and Suren Byna, "ARCHIE: Data Analysis Acceleration with Array Caching in Hierarchical Storage", IEEE International Conference on Big Data (IEEE BigData) 2018
51. J.S. Vetter, R. Brightwell, M. Gokhale, P. McCormick, R. Ross, J. Shalf, K. Antypas, D. Donofrio, A. Dubey, T. Humble, C. Schuman, B. Van Essen, S. Yoo, A. Aiken, D. Bernholdt, S. Byna, K. Cameron, F. Cappello, B. Chapman, A. Chien, M. Hall, R. Hartman-Baker, Z. Lan, M. Lang, J. Leidel, S. Li, R. Lucas, J. Mellor-Crummey, P. Peltz, Jr., T. Peterka, M. Strout, and J. Wilke, "Extreme Heterogeneity 2018: DOE ASCR Basic Research Needs Workshop on Extreme Heterogeneity", US Department of Energy, Office of Science, Advanced Scientific Computing Research, 2018, doi:10.2172/1473756.
52. Suren Byna, Quincey Koziol, Venkatram Vishwanath, Jerome Soumagne, Houjun Tang, Kimmy Mu, Richard Warren, François Tessier, Bin Dong, Teng Wang, and Jialin Liu, "Proactive Data Containers (PDC): An object-centric data store for large-scale computing systems", AGU Fall Meeting 2018
53. Wei Zhang, Houjun Tang, Suren Byna, and Yong Cheng, "DART: Distributed Adaptive Radix Tree for Efficient Affix-based Keyword Search on HPC Systems", The 27th International Conference on Parallel Architectures and Compilation Techniques (PACT'18)
54. Jialin Liu, Quincey Koziol, Gregory Butler, Neil Fortner, Mohamad Chaarawi, Houjun Tang, Suren Byna, Glenn Lockwood, Ravi Cheema, Kristy Kallback-Rose, Damian Hazen, and Prabhat, "Evaluation of HPC Application I/O on Object Storage Systems", 3rd Joint International Workshop on Parallel Data Storage and Data Intensive Scalable Computing Systems (PDSW-DISCS), 2018 (Held in conjunction with SC18)
55. Fahim Chowdhury, Jialin Liu, Quincey Koziol, Thorsten Kurth, Steven Farrell, Suren Byna, Prabhat, Weikuan Yu, "Initial Characterization of I/O in Large-Scale Deep Learning Applications", Work in Progress paper, 3rd Joint International Workshop on Parallel Data Storage and Data Intensive Scalable Computing Systems (PDSW-DISCS), 2018 (Held in conjunction with SC18)
56. Teng Wang, Suren Byna, Bin Dong, and Houjun Tang, "UniviStor: Integrated Hierarchical and Distributed Storage for HPC", IEEE Cluster 2018.
57. Teng Wang, Suren Byna, Glenn Lockwood, Nicholas Wright, Phil Carns, and Shane Snyder, "IOMiner: Large-scale Analytics Framework for Gaining Knowledge from I/O Logs", IEEE Cluster 2018.
58. Kimmy Mu, Jerome Soumagne, Houjun Tang, Suren Byna, Quincey Koziol, and Richard Warren, "A Server-managed Transparent Object Storage Abstraction for HPC", IEEE Cluster 2018.
59. Glenn Lockwood, Shane Snyder, Teng Wang, Suren Byna, Phil Carns, and Nicholas Wright, "A Year in the Life of a Parallel File System", 2018 International Conference for High Performance Computing, Networking, and Storage (SC'18)

60. Haoyuan Xing, Sofoklis Floratos, Spyros Blanas, Suren Byna, Prabhat, Kesheng Wu, Paul Brown, "ArrayBridge: Interweaving declarative array processing in SciDB with imperative HDF5-based programs", 34th IEEE International Conference on Data Engineering (ICDE) 2018
61. Houjun Tang, Suren Byna, Francois Tessier, Teng Wang, Bin Dong, Jingqing Mu, Quincey Koziol, Jerome Soumagne, Venkatram Vishwanath, Jialin Liu, and Richard Warren, "Toward Scalable and Asynchronous Object-centric Data Management for HPC", 18th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid) 2018
62. Bharti Wadhwa, Suren Byna, Ali R. Butt, "Toward Transparent Data Management in Multi-layer Storage Hierarchy for HPC Systems", IEEE International Conference on Cloud Engineering 2018 (IC2E 2018)
63. Glenn Lockwood, Shane Snyder, Wucherl Yoo, Kevin Harms, Zachary Nault, Suren Byna, Philip Carns, Nicholas Wright, "UMAMI: A Recipe for Generating Meaningful Metrics through Holistic I/O Performance Analysis", 2nd Joint International Workshop on Parallel Data Storage & Data Intensive Scalable Computing Systems (PDSW-DISCS), 2017 (Held in conjunction with SC17)
64. Houjun Tang, Suren Byna, Bin Dong, Jialin Liu, and Quincey Koziol, "SoMeta: Scalable Object-centric Metadata Management for High Performance Computing", IEEE Cluster 2017
65. Bin Dong, Kesheng Wu, Suren Byna, Jialin Liu, Weijie Zhao, and Florin Rusu, "ArrayUDF: User-Defined Scientific Data Analysis on Arrays", The ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC) 2017
66. Suren Byna, Mohamad Chaarawi, Quincey Koziol, John Mainzer, and Frank Willmore, "Tuning HDF5 subfiling performance on parallel file systems", Cray User Group Conference 2017 (CUG 2017)
67. Jialin Liu, Quincey Koziol, Houjun Tang, François Tessier, Wahid Bhimji, Brandon Cook, Brian Austin, Suren Byna, Bhupender Thakur, Glenn Lockwood, Jack Deslippe, and Prabhat, "Understanding the I/O Performance Gap Between Cori KNL and Haswell", Cray User Group Conference 2017 (CUG 2017)
68. Cong Xu, Shane Snyder, Omkar Kulkarni, Vishwanath Venkatesan, Philip Carns, Suren Byna, Robert Sisneros, and Kalyana Chadalavada, "DXT: Darshan eXtended Tracing", Cray User Group Conference 2017 (CUG 2017)
69. Bin Dong, Suren Byna, Kesheng Wu, Prabhat, Hans Johansen, Jeffrey N. Johnson, and Noel Keen, "Data Elevator: Low-contention Data Movement in Hierarchical Storage System", The 23rd annual IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), 2016.
70. Wenzhao Zhang, Houjun Tang, Stephen Ranshous, Suren Byna, Daniel F. Martin, Kesheng Wu, Bin Dong, Scott Klasky, and Nagiza F. Samatova, "Exploring memory hierarchy and network topology for runtime AMR data sharing across scientific applications", Big Data Conference 2016
71. Houjun Tang, Suren Byna, Steve Harenberg, Wenzhao Zhang, Xiaocheng Zou, Daniel F. Martin, Bin Dong, Dharshi Devendran, Kesheng Wu, David Trebotich, Scott Klasky, and Nagiza Samatova, "In situ Storage Layout Optimization for AMR Spatio-temporal Read Accesses", The International Conference on Parallel Processing (ICPP), 2016, to be held in Philadelphia, Aug 16-19, 2016
72. Bin Dong, Suren Byna, and Kesheng Wu, "SDS-Sort: Scalable Dynamic Skew-aware Parallel Sorting", The ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC) 2016
73. Md. Mostofa Ali Patwary, Nadathur Satish, Narayanan Sundaram, Jialin Liu, Peter Sadowski, Evan Racah, Suren Byna, Wahid Bhimji, Craig Tull, Prabhat, Predeep Dubey, "PANDA: Extreme Scale Parallel K-Nearest Neighbor on Distributed Architectures", 30th International Parallel & Distributed Processing Symposium, 2016.
74. Houjun Tang, Suren Byna, Steven Harenberg, Xiaocheng Zou, Wenzhao Zhang, Kesheng Wu, Bin Dong, Oliver Rubel, Kristofer Bouchard, Scott Klasky and Nagiza Samatova, "Usage Pattern-Driven Dynamic Data Layout Reorganization", 16th International Symposium on Cluster, Cloud and Grid Computing (CCGrid) 2016.
75. Wenzhao Zhang, Houjun Tang, Steven Harenberg, Suren Byna, Xiaocheng Zou, Dharshi Devendran, Daniel Martin, Kesheng Wu, Bin Dong, Scott Klasky and Nagiza Samatova, "AMRZone:

- A Runtime AMR Data Sharing Framework for Scientific Applications*, 16th International Symposium on Cluster, Cloud and Grid Computing (CCGrid) 2016.
76. Dharshi Devendran, Suren Byna, Bin Dong, Brian van Straalen, Hans Johansen, and Noel Keen, “*Collective I/O Optimizations for Adaptive Mesh Refinement (AMR) Data Writes on Lustre File System*”, Cray User Group meeting (CUG) 2016.
 77. Cong Xu, Suren Byna, Vishwanath Venkatesan, Omkar Kulkarni, and Kalyana Chadavalada, “*LIOPProf: Exposing Lustre File System Behavior for I/O Middleware*”, Cray User Group meeting (CUG) 2016.
 78. Wahid Bhimji, Debbie Bard, Melissa Romanus, David Paul, Andrey Ovsyannikov, Brian Friesen, Matt Bryson, Joaquin Correa, Glenn K. Lockwood, Vakho Tsulaia, Suren Byna, Steve Farrell, Doga Gursay, Chris Daley, Vince Beckner, Brian Van Straalen, Nicholas Wright, Katie Antypas, and Prabhat, “*Accelerating Science with the NERSC Burst Buffer Early User Program*”, CUG 2016, [**Best Paper Award**]
 79. Jialin Liu, Alex Gittens, Suren Byna, Quincey Koziol, Lisa Gerhardt, Evan Racah, Michael F. Ringenburt, and Prabhat, “*H5Spark: Bridging the I/O Gap between Spark and Scientific Data Formats on HPC Systems*”, Cray User Group meeting (CUG) 2016.
 80. X. Zou, D. Boyuka II, D. Desai, D. F. Martin, S. Byna, K. Wu, K. Bansal, B. Dong, W. Zhang, H. Tang, D. Devendran, D. Trebotich, S. Klasky, H. Johansen, and N. Samatova, “*AMR-aware In Situ Indexing and Scalable Querying*”, 24th High Performance Computing Symposium (HPC) 2016. [**HPC 2016 Best Paper Award, Spring Simulation Multi-Conference 2016 (SpringSim'16) Best Paper Runner up**]
 81. Burlen Loring, Suren Byna, Prabhat, Junmin Gu, Hari Krishnan, Michael Wehner, and Oliver Ruebel, “*TECA an Extreme Event Detection and Climate Analysis Package for High Performance Computing*”, The AMS (American Meteorological Society) 96th Annual Meeting, Jan 2016
 82. Harinarayan Krishnan, Burlen Loring, Suren Byna, Michael F. Wehner, Travis A. O'Brien, Prabhat, Chris Paciorek, and Daithi Stone, “*Enabling End-to-End Climate Science Workflows in High Performance Computing Environments*”, The AMS (American Meteorological Society) 96th Annual Meeting, Jan 2016
 83. Md. Mostofa Ali Patwary, Suren Byna, Nadathur Satish, Narayanan Sundaram, Zarija Lukic, Vadim Roytershteyn, Michael Anderson, Yushu Yao, Prabhat, and Pradeep Dubey, “*BD-CATS: Big Data Clustering at Trillion Particle Scale*”, ACM/IEEE Supercomputing (SC15), 2015.
 84. Bin Dong, Suren Byna, and Kesheng Wu, “*Heavy-tailed Distribution of Parallel I/O System Response Time*”, 10th Parallel Data Storage Workshop (PDSW) 2015, to be held in conjunction with SC15, November 2015
 85. Babak Behzad, Suren Byna, Prabhat and Marc Snir, “*Pattern-driven Parallel I/O Tuning*”, 10th Parallel Data Storage Workshop (PDSW) 2015, in conjunction with SC15, November 2015
 86. Shane Snyder, Philip Carns, Robert Latham, Misbah Mubarak, Chris Carothers, Babak Behzad, Huong Vu Thanh Luu, Suren Byna, and Prabhat, “*Techniques for Modeling Large-scale HPC I/O Workloads*”, the 6th International Workshop on Performance Modeling, Benchmarking and Simulation of High Performance Computer Systems (PMBS15), in conjunction with SC15, November 2015
 87. Jinoh Kim, Bin Dong, Suren Byna, and Kesheng Wu, “*Security for the Scientific Data Service Framework*”, 2nd International Workshop on Privacy and Security of Big Data (PSBD 2015), in conjunction with IEEE BigData 2015
 88. Jialin Liu, Yong Chen and Suren Byna, “*Collective Computing for Scientific Big Data Analysis*”, Eighth International Workshop on Parallel Programming Models and Systems Software for High-End Computing (P2S2), 2015, in conjunction with ICPP 2015
 89. Bin Dong, Suren Byna, Kesheng Wu, “*Spatially Clustered Join on Heterogeneous Scientific Data Sets*”, accepted for publication at IEEE Big Data 2015
 90. Babak Behzad, Suren Byna, Stefan Wild, Prabhat and Marc Snir, “*Dynamic Model-driven Parallel I/O Performance Tuning*”, IEEE Cluster 2015

91. H. Luu, M. Winslett, W. Gropp, R. Ross, P. Carns, K. Harms, Prabhat, S. Byna, and Y. Yao, "A Multi-platform Study of I/O Behavior on Petascale Supercomputers", The 24th ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC) 2015, [Best paper finalist]
92. X. Zou, K. Wu, D. Boyuka II, D. Martin, S. Byna, H. Tang, K. Bansal, T. Ligocki, H. Johansen, and N. Samatova, "Parallel In Situ Detection of Connected Components in Adaptive Mesh Refinement Data", IEEE/ACM CCGrid 2015
93. Suren Byna and Brian Austin, "Evaluation of Parallel I/O Performance and Energy Consumption with Frequency Scaling on Cray XC30", Cray Users Group (CUG) meeting 2015
94. Suren Byna, Kalyana Chadalavada, Rob Sisneros, and Quincey Koziol, "Tuning Parallel I/O on Blue Waters for Writing 10 Trillion Particles", Cray Users Group (CUG) meeting 2015
95. S. Jeon, C. Paciorek, Prabhat, S. Byna, W. Collins, and M. Wehner, "Uncertainty Quantification for Characterizing Spatial Tail Dependence under Statistical Framework", Poster @ American Geophysical Union (AGU) - Fall Meeting 2014
96. M. S. Breitenfeld, K. Chadalavada, R. Sisneros, S. Byna, Q. Koziol, N. Fortner, Prabhat, and V. Vishwanath, "Recent Progress in Tuning Performance of Large-scale I/O with Parallel HDF5", Work-in-Progress presentation @ the 9th Parallel Data Storage Workshop (PDSW) held in conjunction with SC14, 2014
97. Bin Dong, Suren Byna, and John Wu, "Parallel Query Evaluation as a Scientific Data Service", IEEE Cluster 2014
98. S. Blanas, K. Wu, S. Byna, B. Dong, and A. Shoshani, "Parallel Data Analysis Directly on Scientific File Formats", ACM SIGMOD 2014
99. B. Behzad, S. Byna, S. Wild, Prabhat, and M. Snir, "Improving Parallel I/O Autotuning with Performance Modeling", The 23rd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC) 2014
100. Hsuan-Te Chiu, Jerry Chou, Venkat Vishwanath, Suren Byna, and Kesheng Wu, "Simplifying Index File Structure to Improve I/O Performance of Parallel Indexing", The 20th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2014)
101. Ted Habermann, Andrew Collette, Steve Vincena, Werner Bengler, Jay Jay Billings, Matt Gerring, Konrad Hinsien, Pierre de Buyl, Mark Könnecke, Filipe Maia, and Suren Byna, "The Hierarchical Data Format (HDF): A Foundation for Sustainable Data and Software", 2nd Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE2), in conjunction with Supercomputing 2014 (SC14)
102. J. Liu, S. Byna, B. Dong, K. Wu, and Y. Chen, "Model-driven Data Layout Selection for Improving Read Performance", High Performance Data Intensive Computing (HPDIC2014) workshop in conjunction with IEEE IPDPS 2014
103. B. Behzad, H. Luu, J. Huchette, S. Byna, Prabhat, R. Aydt, Q. Koziol, and M. Snir, "Taming Parallel I/O Complexity with Auto-Tuning", ACM/IEEE SuperComputing Conference (SC13), November 2013.
104. B. Dong, S. Byna, and K. Wu, "SDS: A Framework for Scientific Data Services", 8th Parallel Data Storage Workshop (PDSW) held in conjunction with SC13, 2013
105. B. Dong, S. Byna, and K. Wu, "Expediting Scientific Data Analysis with Reorganization", IEEE Cluster 2013
106. J.L. Liu, S. Byna, and Y. Chen, "Segmented Analysis for Reducing Data Movement", IEEE International Conference on Big Data (BigData 2013)
107. K-W. Lin, J. Chou, S. Byna, and K. Wu, "Optimizing FastQuery Performance on Lustre File System", 25th International Conference on Scientific and Statistical Database Management (SSDBM) 2013.
108. B. Behzad, J. Huchette, H. Luu, R. Aydt, S. Byna, Y. Yao, Q. Koziol, and Prabhat, "A Framework for Auto-tuning HDF5 Application", HPDC 2013 Short Paper.
109. S. Jeon, Prabhat, S. Byna, W. Collins, and M. F. Wehner, "Event Detection and Spatial Analysis for Characterizing Extreme Precipitation", Poster @ American Geophysical Union (AGU) - Fall Meeting 2013

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