

# FUSHENG WANG

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## CURRENT TITLES AND AFFILIATIONS

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- Assistant professor, Department of Biomedical Informatics, Stony Brook University (75%), January 2015-present
- Assistant professor, Department of Computer Science, Stony Brook University (25%), January 2015 - present
- Adjunct assistant professor, Department of Biomedical Informatics, Emory University, December 2011 - present

## PREVIOUS ACADEMIC AND PROFESSIONAL APPOINTMENTS

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- Assistant professor, Department of Biomedical Informatics, Emory University, December 2011 – January 2015
- Senior research scientist, Center for Comprehensive Informatics, Emory University, January 2009 – September 2013
- Research scientist, Siemens Corporate Research October, 2004 – January 2009

## EDUCATION

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- Ph.D. in Computer Science, University of California, Los Angeles, October 2004
- M.S. in Computer Science, University of California, Los Angeles, December 2000
- M.S. in Engineering Physics, Tsinghua University, July 1997
- B.S. in Applied Physics, Tsinghua University, July 1994

## RESEARCH FOCUS

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Scalable data management systems, spatial and temporal data management and analytics, medical imaging informatics, healthcare and public health data analytics

## HONORS AND AWARDS

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2016 SIGSPATIAL Conference Best Poster Award

2016 The International Conference on Extending Database Technology (EDBT) Test of Time Award: “Bridging Physical and Virtual Worlds: Complex Event Processing for RFID Data Streams.”

2014 NSF CAREER Award IIS-1350885, “CAREER: High Performance Spatial Queries and Analytics for Spatial Big Data.”

2014 IBM Champion in Information Management

2013 IBM Champion in Information Management

2012 Best presentation award of session, Pathology Informatics Conference

2011 Best paper award, the 31st International Conference on Distributed Computing Systems (ICDCS)

2010 Best presentation award of session, Pathology Informatics Conference

2004 UCLA Engineering Achievement Award

## GRANT SUPPORT

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### Current grants:

- Role: Co- Principal Investigator, NSF ACI-1443054, CIF21 DIBBs: Middleware & High Performance Scalable Analytics Libraries for Extreme Scale Data Intensive Science. 10/01/2014-09/31/2019; \$750,000 (PI: Geoffrey Fox, Indiana University; \$5M total)
- Role: Principal Investigator, NSF IIS-1350885, CAREER: High Performance Spatial Queries and Analytics for Spatial Big Data 09/01/2014-08/31/2019; \$445,697
- Role: Principal Investigator, Pitney Bowes Research Gift, Scalable Spatial Systems. 01/01/2015-present; \$10,000

- Role: Co-Investigator, **NIH National Cancer Institute U24CA18092401A1**: Tools to Analyze Morphology and Spatially Mapped Molecular Data.  
09/01/2015-8/31/2019; \$80,000 (PI: Joel H. Saltz, Stony Brook University)
- Role: Principal Investigator, **NSF REU: Exploring Scalable Data Analytics for Big Data at Stony Brook University**  
June 1- August 5, 2017; \$9,420

**Previous support:**

- Role: Principle Investigator, **Amazon** Web Service in Education Research Grant  
April 1, 2015 – April 1, 2016. \$5,000
- Role: Principle Investigator, **Amazon** Web Service in Education Research Grant  
August 20, 2014- August 19, 2016; \$4,000
- Role: Principle Investigator, **Amazon** Web Service in Education Research Grant  
January 1, 2012- December 31, 2013; \$5,000
- Role: Principal Investigator, **NSF REU: Exploring Scalable Data Analytics for Big Data at Stony Brook University**  
May 31- August 5, 2016; \$9,300
- Role: Principal Investigator, **NSF REU: Exploring Scalable Data Analytics for Big Data at Stony Brook University**  
06/01/2014-08/07/2015; \$8,400
- Role: Principal Investigator , **Centers for Disease Control and Prevention (CDC)**: Adaptive Self Learning Technology Venous Thromboembolism through EHRs  
07/10/2014-07/09/2015; \$100,000
- Role: Co-Investigator, **NIH National Library of Medicine R01LM011119**: Informatics for Integrative Brain Tumor Whole Slide Analysis (PI: Joel H. Saltz, Stony Brook University; \$3,887,041 total)  
07/01/2011-05/31/2015; \$156,328
- Role: Principle Investigator, **Google** Summer of Code  
Summer 2016 (\$5500; total: \$27,500)
- Role: Principle Investigator, **Google** Summer of Code  
Summer 2015 (\$5500; total: \$16,500)
- Role: Co- Investigator, **Google** Summer of Code  
Summer 2014 (\$5,500), Summer 2013 (\$5,500), Summer 2012 (\$5,000)
- Role: Co-Investigator, **NIH National Library of Medicine 12ST1100**: In Silico Research Center of Excellence – Extension  
09/01/2012-08/31/2013; Total: \$722,000
- Role: Co-Investigator, Atlanta Clinical and Translational Science Institute: Biomedical Informatics
- Role: Investigator, SAIC (**National Cancer Institute**) 29XS154: caBIG In Vivo Imaging Middleware  
7/2009 –9/2011; Total: \$664,874
- Role: Senior Research Scientist, **NIH National Cancer Institute 3P30CA138292-03S2** (PI: Curran): Winship Cancer Institute caBIG Implementation Supplement, deployment of caBIG technology in NCI-designated cancer center  
4/2009-3/2012; \$115,904
- Role: Principal Investigator, Booz Allen Hamilton (**National Cancer Institute**) 98505XSB23: NCI caBIG Integrative Cancer Research  
6/2010-1/2011; \$10,000
- Role: Senior Research Scientist, **NIH National Library of Medicine** (subk UMDNJ): Image Mining for Comparative Analysis of Expression Patterns in Tissue Microarray  
7/2007 – 9/2011; ((PI: David Foran, Rutgers University; Total: \$2,730,046)
- Role: Project Lead, **NIH National Cancer Institute**, U54CA105480: Network for Translational Research: Optical Imaging

2005-2008; \$300,000 (PI: Bruce Tromberg; Total: 6.55M)

- Role: Co-PI, **National Cancer Institute**, 91710DBS47: Imaging Algorithm Validation Tools (AVT) 2007-2008; \$75,000
- Role: PI, **National Cancer Institute** 94531DBS87: Network for Translational Research: Optical Imaging (NTROI)/caBIG Imaging Collaboration 2008; \$45,000

## BIBLIOGRAPHY

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Google Scholar: <http://scholar.google.com/citations?user=VB6tZFEAAAAJ&hl=en>. According to Google Scholar, as of June 2017, total citations are 2885, h-index Publications is 25, and i10-index is 50. The acceptance rate of the conference is shown as (X%) if available, and the number of citations on Google scholar as of May 2017 (gcite:X). Impact factor will be shown as (IF) if available. Advisees in the author list will be marked with “\*”.

### Peer Reviewed Journal Publications:

1. \*Xiaobo Sun, William S. Pittard, Tianlei Xu, Li Chen, Michael E. Zwick, Xiaoqian Jiang, Fusheng Wang and Zhaohui Qin. *OmicSeq: A Web-based Search Engine for Exploring Omics Datasets*. Nucleic Acids Research, In Press. (IF: 9.2)
2. \*Shuai Zheng, James J. Lu, Nima Ghasemzadeh, Arshed Ali Quyyumi and Fusheng Wang: *Effective Information Extraction Framework for Heterogeneous Clinical Reports Using Online Machine Learning and Controlled Vocabularies*. Journal of Medical Internet Research - Medical Informatics, Vol 5, No 2 (2017). (IF: 4.5)
3. \*Yanhui Liang, Fusheng Wang, Darren Treanor, Derek Magee, George Teodoro, \*Yangyang Zhu, Jun Kong: *A Framework for 3D Vessel Analysis with Whole Slide Images of Serial Liver Sections*. In International journal of computational biology and drug design, Vol 9, Issue 1-2, pages 102-119, 2016.
4. \*Shuai Zheng, James Lu, Christina Appin, Daniel Brat, Fusheng Wang: *Support Patient Search for Pathology Reports with Interactive Online Learning Based Data Extraction*. Journal of Pathology Informatics, Vol 6(1), January 2015.
5. Chunjie Zhou, Pengfei Dai, Fusheng Wang and Zhenxing Zhang: *Predicting the Passenger Demand on Bus Services for Mobile Users*. Pervasive and Mobile Computing. Vol. 25, January 2016, Pages 48–66. (IF: 1.72)
6. David J Foran, Tahsin Kurc, Xin Qi, Daihou Wang, Fusheng Wang, George Teodoro, Lee A.D. Cooper, Michael Nalishnik, Lin Yang and Joel H. Saltz: *Scalable analysis of Big pathology image data cohorts using efficient methods and high-performance computing strategies*. BMC Bioinformatics, Vol 16(1), 2015. (IF: 2.44)
7. \*Shuai Zheng, Fusheng Wang and James Lu: *Enabling Ontology Based Semantic Queries in Biomedical Database Systems*. International Journal of Semantic Computing (IJSC). Vol 8(1), 2014.
8. Fusheng Wang, \*Cristobal Vergara-Niedermayr, Peiya Liu: *Metadata Based Management and Sharing of Distributed Biomedical Data*. International Journal of Metadata, Semantics and Ontologies (IJMSO), Special Issue on "Metadata for e-Science and e-Research". Vol 9 (1), 2014.
9. Jun Kong, Lee A.D. Cooper, Fusheng Wang, Jingjing Gao, G. Teodoro, L. Scarpace, T. Mikkelsen, C. Moreno, Tahsin Kurc, Joel H. Saltz, and Daniel J. Brat. *Machine-based Morphologic Analysis of Glioblastoma using Whole-slide Pathology Images Uncovers Clinically Relevant Molecular Correlates*. PLOS One. 8 (11), 2013.
10. Patrick M. Widener, Tahsin Kurc, Wenjin Chen, Fusheng Wang, Lin Yang, Jun Hu, Vijay Kumar, Vicky Chu, Lee A.D. Cooper and Jun Kong, Ashish Sharma, Tony Pan, Joel H. Saltz and David Foran: *High Performance Computing Techniques for Scaling Image Analysis Workflows*. Applied Parallel and Scientific Computing, p67-77, 2012.
11. Lee A.D. Cooper, Jun Kong, David A. Gutman, Fusheng Wang, Jingjing Gao, Christina Appin, Sharath R. Cholleti, Tony C. Pan, Ashish Sharma, Lisa Scarpace, Tom Mikkelsen, Tahsin Kurc, Carlos S. Moreno, Daniel J. Brat, Joel H. Saltz: *Integrated Morphologic Analysis for the Identification and Characterization of Disease Subtypes*. J Am Med Inform Assoc (JAMIA), Vol 19(2), 2012.

12. Lee A.D. Cooper, Alexis B. Carter, Alton B. Farris, Fusheng Wang, Jun Kong, David A. Gutman, Patrick Widener, Tony C. Pan, Sharath R. Cholleti, Ashish Sharma, Tahsin Kurc, Daniel J. Brat, Joel H. Saltz: *Digital Pathology: Data Intensive Frontier in Medical Imaging*. Proceedings of the IEEE 100(4): 991-1003 (2012).
13. Jun Kong, Lee A.D. Cooper, Fusheng Wang, David A. Gutman, Jingjing Gao, Candace Chisolm, Ashish Sharma, Tony Pan, Erwin G. Van Meir, Tashin M. Kurc, Carlos S. Moreno, Daniel J. Brat and Joel H. Saltz: *Integrative, Multi-modal Analysis of Glioblastoma Using TCGA Molecular Data, Pathology Images and Clinical Outcomes*. 2011 IEEE Transactions on Biomedical Engineering. Dec; 58(12), 2011.
14. David Gutman, J. Cobb, D. Somanna, Fusheng Wang, Tahsin Kurc, Joel H. Saltz, Daniel J. Brat, L. A.D. Cooper: *Cancer Digital Slide Archive: An Informatics Resource to Support Integrated In Silico Analysis of TCGA Pathology Data*. Journal of the American Medical Informatics Association (JAMIA). 2013 Nov 1;20(6):1091-1098
15. \*Cristobal Vergara-Niedermayr, Fusheng Wang, Tony Pan, Tahsin Kurc, Joel H. Saltz: *Semantically Interoperable XML Data*. International Journal of Semantic Computing (IJSC). Vol 7(3), 2013.
16. Yingjie Shi, Xiaofeng Meng, Fusheng Wang, Yantao Gan: *HEDC++: An Extended Histogram Estimator for Data in the Cloud*. Journal of Computer Science and Technology (JCST), Special Issue on Cloud Data Management. 28 (6), 2013.
17. Fusheng Wang, Jun Kong, Jingjing Gao, David Alder, \*Zhengwen Zou, \*Bryan Katigbak, \*Cristobal Vergara-Niedermayr, Tahsin Kurc and Joel H. Saltz: *A High Performance Spatial Database Based Approach for Pathology Imaging Algorithm Evaluation*. Journal of Pathology Informatics. 2013, 4:5
18. Fusheng Wang, Jun Kong, Lee Cooper, Tony Pan, Tahsin Kurc, Wenjin Chen, Ashish Sharma, Cristobal Niedermayr, Tae W Oh, Daniel Brat, Alton B Farris, David J Foran, and Joel Saltz: *A Data Model and Database for High-resolution Pathology Analytical Image Informatics*. Journal of Pathology Informatics 2011, 2:32.
19. David J. Foran, Ling Yang, Wenjin Chen, Jun Hu, Lauri A. Goodell, Michael Reiss, Fusheng Wang, Tahsin Kurc, Tony Pan, Ashish Sharma and Joel H. Saltz: *ImageMiner: Comparative Analysis of Tissue Microarrays Using Content-based Image Retrieval, High-Performance Computing, and Grid Technology*. J Am Med Inform Assoc. (JAMIA) 2011 Jul 1;18(4):403-15.
20. Lee A.D. Cooper, Jun Kong, David Gutman, Fusheng Wang, Sharath Cholleti, Tony Pan, Patrick Widener, Ashish Sharma, Tom Mikkelsen, Adam Flanders, Daniel L. Rubin, Ervin V. Meir, Tahsin Kurc, Carlos Moreno, Daniel J. Brat, Joel H. Saltz: *An Integrative Approach for In Silico Glioma Research*. IEEE Transactions on Biomedical Engineering Letters, 2011 Oct; 57(10):2617-21.
21. Fusheng Wang, \*Shaorong Liu and Peiya Liu: *A Temporal RFID Data Model for Querying Physical Objects*. Journal of Pervasive and Mobile Computing, Volume 6, Issue 3, June 2010, Pages 382-397.
22. Fusheng Wang, S. Liu and Peiya Liu: *Complex RFID Event Processing*. The International Journal on Very Large Data Bases (VLDBJ). Volume 18, Number 4 / August, 2009.
23. Fusheng Wang, Carlo Zaniolo and Xin Zhou: *ArchIS: An XML-Based Approach to Transaction-Time Temporal Database Systems*. The International Journal on Very Large Data Bases (VLDBJ). Volume 17, Number 6 / November, 2008.
24. Fusheng Wang and Carlo Zaniolo, *An XML-Based Approach to Publishing and Querying the History of Databases*. World Wide Web: Internet and Web Information Systems, Kluwer, Vol.8, No.3, September, 2005. p233-259.

#### **Peer Reviewed Conferences and Workshop Publications:**

25. \*Yu Wang and Fusheng Wang: Association Rule Learning and Frequent Sequence Mining of Cancer Diagnoses in New York State. To Appear in Proceedings of the Third VLDB Workshop on Data Management and Analytics on Healthcare and Medicine (DMAH 2017), September 1, 2017, Munich, Germany.

26. \*Xiaobo Sun, Fusheng Wang and Zhaohui Qin: *Comparative Studies on Merging Massive Data from Genome-Wide Association Studies using Big Data Platforms*. To Appear in Proceedings of the Third VLDB Workshop on Data Management and Analytics on Healthcare and Medicine (DMAH 2017), September 1, 2017, Munich, Germany.
27. \*Alevtina Dubovitskaya, Zhigang Xu, Samuel Ryu, Michael Ignaz Schumacher and Fusheng Wang: *How Blockchain could Empower eHealth: an Application for Radiation Oncology*. To Appear in Proceedings of the Third VLDB Workshop on Data Management and Analytics on Healthcare and Medicine (DMAH 2017), September 1, 2017, Munich, Germany.
28. \*Xin Chen, \*Yu Wang, Xiaxia Yu and Fusheng Wang: Large Scale Analysis of Opioid Poisoning Related Hospital Visits in New York State. To Appear in AMIA Annual Symposium, November 4-8, 2017, Washington DC, USA.
29. \*Alevtina Dubovitskaya, Zhigang Xu, Samuel Ryu, Michael Schumacher and Fusheng Wang: Secure and Trustable Electronic Medical Records Sharing using Blockchain. To Appear in AMIA Annual Symposium, November 4-8, 2017, Washington DC, USA.
30. S. K. Prasad, D. Aghajarian, Mi. McDermott, D. Shah, M. Mokbel, S. Puri, S. J. Rey, S. Shekhar, Y. Xe, R. R. Vatsavai, F. Wang, Y. Liang, H. Vo and S. Wang: *Parallel Processing over Spatial-Temporal Datasets from Geo, Bio, Climate and Social Science Communities: A Research Roadmap*. To Appear in Proceedings of IEEE BigData Congress. June 25 - June 30, 2017, Honolulu, Hawaii, USA.
31. Naiyun Zhou, Xiaxia Yu, Tianhao Zhao, Si Wen, Fusheng Wang, Wei Zhu, Tahsin Kurc, Allen Tannenbaum, Joel H. Saltz and Yi Gao: *Evaluation of nucleus segmentation in digital pathology images through large scale image synthesis*. In Proc. of 2017 SPIE Medical Imaging, February 11, 2017, Orlando, Florida, United States.
32. \*Yanhui Liang, Fusheng Wang, Daniel J. Brat, Joel H. Saltz and Jun Kong: *Development of a Framework for Large Scale Three-Dimensional Pathology and Biomarker Imaging and Spatial Analytics*. In Proceedings of AMIA Joint Summits on Translational Science, San Francisco, CA, March 27 - 30, 2017.
33. \*Xin Chen, Yu Wang, Elinor Schoenfeld, Mary Saltz, Joel Saltz and Fusheng Wang: *Spatio-temporal Analysis for New York State SPARCS Data*. In Proceedings of AMIA Joint Summits on Translational Science, San Francisco, CA, March 27 - 30, 2017.
34. \*Pengyue Zhang, Fusheng Wang, George Teodoro, \*Yanhui Liang, Daniel Brat and Jun Kong: *Automated Level Set Segmentation of Histopathologic Cells with Sparse Shape Prior Support and Dynamic Occlusion Constraint*. In Proceedings of IEEE International Symposium on Biomedical Imaging, Melbourne, Australia, April 18-21, 2017.
35. Blair J. Rossetti, Fusheng Wang, \*Pengyue Zhang, George Teodorou, Daniel J. Brat and Jun Kong: *Dynamic Registration for Gigapixel Serial Whole Slide Images*. In Proceedings of IEEE International Symposium on Biomedical Imaging, Melbourne, Australia, April 18-21, 2017.
36. \*Pengyue Zhang, Fusheng Wang and Yefeng Zeng: *Self Supervised Deep Representation Learning for Fine Grained Body Part Recognition*. In Proceedings of IEEE International Symposium on Biomedical Imaging, Melbourne, Australia, April 18-21, 2017.
37. \*Xin Chen and Fusheng Wang: *Integrative Spatial Data Analytics for Public Health Studies of New York State*. In Proceedings of AMIA 2016 Annual Symposium. Chicago, IL, Nov 12-16, 2016.
38. \*Yanhui Liang, \*Hoang Vo, \*Ablimit Aji, Jun Kong and Fusheng Wang: Scalable 3D Spatial Queries for Analytical Pathology Imaging with MapReduce. Poster Paper. In Proc. of the 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2016), October 31 to November 3, 2016, San Francisco Bay Area, California, USA.
39. \*Xin Chen, \*Hoang Vo, and Fusheng Wang: *Annotating Geographical Objects in OpenStreetMap with Geo-tagged Social Media*. In Proc. of the 9th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN 2016), October 31, 2016, San Francisco Bay Area, California, USA.

40. \*Hoang Vo, Jun Kong, \*Dejun Teng, \*Yanhui Liang, \*Ablimit Aji, George Teodoro and Fusheng Wang: *A MapReduce Based High Performance Whole Slide Image Analysis Framework in the Cloud*. In Proceedings of the Second International Workshop on Data Management and Analytics for Medicine and Healthcare (DMAH 2016). New Delhi, September 9, 2016.
41. Cong Xie, Wen Zhong, Jun Kong, Wei Xu, Klaus Mueller and Fusheng Wang: *IEVQ: An Iterative Example-based Visual Query for Pathology Database*. In Proceedings of the Second International Workshop on Data Management and Analytics for Medicine and Healthcare (DMAH 2016). New Delhi, September 9, 2016.
42. Jun Kong, \*Pengyue Zhang, \*Yanhui Liang, George Teodorou, Daniel J. Brat and Fusheng Wang: *Robust Cell Segmentation for Histological Images of Glioblastoma*. Oral Presentation. In Proceedings of International Symposium on Biomedical Imaging (ISBI 2016), April 13-16, 2016, Prague, Czech.
43. \*Furqan Baig, \*Mudit Mehrotra, \*Hoang Vo, Fusheng Wang, Joel H. Saltz, Tahsin Kurc: *SparkGIS: Efficient Comparison and Evaluation of Algorithm Results in Tissue Image Analysis Studies*. In Proceedings of the First International Workshop on Data Management and Analytics for Medicine and Healthcare. Waikoloa, Hawaii, September 4, 2015.
44. \*Yanhui Liang, Jun Kong, \*Yangyang Zhu and Fusheng Wang: *Three-Dimensional Data Analytics for Pathology Imaging*. In Proceedings of the First International Workshop on Data Management and Analytics for Medicine and Healthcare. Waikoloa, Hawaii, September 4, 2015.
45. \*Yanhui Liang, Jun Kong, \*Yangyang Zhu and Fusheng Wang: *Three-Dimensional Data Analytics for Pathology Imaging*. In Proceedings of the First International Workshop on Data Management and Analytics for Medicine and Healthcare (DMAH 2015). Waikoloa, Hawaii, September 4, 2015.
46. \*Yanhui Liang, Fusheng Wang, Darren Treanor, Derek Magee, George Teodoro, \*Yangyang Zhu and Jun Kong: *A 3D Primary Vessel Reconstruction Framework with Serial Microscopy Images*. In Proc. of the 18th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2015). Munich, Germany, October 5-9, 2015.
47. \*Xin Chen, Yu Wang, Eugene Agichtein and Fusheng Wang: *A comparative study of demographic inference in Twitter*. In Proc. of the 9th International AAAI Conference on Web and Social Media (ICWSM 2015). Oxford, UK, May 26-29, 2015.
48. \*Hoang Vo and Fusheng Wang: *Effective Temporal Modeling for Scalable Spatio-Temporal Queries*. In Proc. of the International Symposium on Spatiotemporal Computing (IWSC'2015). Fairfax, Virginia, July 13-15, 2015.
49. \*Yanhui Liang, Fusheng Wang, Darren Treanor, Derek Magee, George Teodoro, \*Yangyang Zhu and Jun Kong: *Liver Whole Slide Image Analysis for 3D Vessel Reconstruction*. In Proc. of the 12th IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI 2015). Brooklyn, New York, USA, April 16-19, 2015.
50. Jun Kong, Fusheng Wang, George Teodoro, \*Yanhui Liang, \*Yangyang Zhu, Carol Tucker-Burden, Daniel Brat: *Automated Cell Segmentation with 3D Fluorescence Microscopy Images*. In Proc. of the 12th IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI 2015). Brooklyn, New York, USA, April 16-19, 2015.
51. Chunjie Zhou, Pengfei Dai and Fusheng Wang: *Mining Spatial and Temporal Movement Patterns of Passengers on Bus Networks*. In Proc. of the Seventh International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing 2015). February 22 - 27, 2015 - Lisbon, Portugal.
52. \*Xin Chen, \*Hoang Vo, \*Ablimit Aji and Fusheng Wang: *High Performance Integrated Spatial Big Data Analytics*. In Proc. of the Third ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial-2014), Nov 4, 2014, Dallas, TX, USA.
53. \*Ablimit Aji, George Teodoro and Fusheng Wang: *Haggis: Turbo Charge a MapReduce based Spatial Data Warehousing System with GPU Engine*. In Proc. of the Third ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial-2014), Nov 4, 2014, Dallas, TX, USA.

54. \*Hoang Vo, \*Ablimit Aji, and Fusheng Wang: *SATO: A Spatial Data Partitioning Framework for Scalable Query Processing*. In Proc. of the 22nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2014), Dallas, Texas in November 4-7, 2014, Dallas, TX, USA.
55. Jun Kong, Fusheng Wang, George Teodoro, Lee A.D. Cooper, Carlos Moreno, Tahsin Kurc, Tony Pan, Joel H. Saltz, and Daniel Brat: *High-Performance Computational Analysis of Glioblastoma Pathology Images with Database Support Identifies Molecular and Survival Correlates*. In Proc. Of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2013). Shanghai, China, December 18-21, 2013.
56. \*Ablimit Aji, Fusheng Wang, \*Xiling Sun, \*Hoang Ho, Rubao Lee, Xiaodong Zhang, and Joel H. Saltz: *Demonstration of Hadoop-GIS: A Spatial Data Warehousing System Over MapReduce (Demo Paper)*. In Proc. of the 21st ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS 2013). Orlando, Florida, USA. November 5-8, 2013.
57. \*Shuai Zheng, Fusheng Wang, James Lu: *ASLForm: An Adaptive Self Learning Medical Form Generating System*. In Proc. of AMIA Annual Symposium, Washington D.C., 2013.
58. \*Ablimit Aji, Fusheng Wang, \*Hoang Vo, Rubao Lee, Qiaoling Liu, Xiaodong Zhang, Joel H. Saltz: *Hadoop-GIS: A Spatial Data Warehousing System Over MapReduce*. In Proceedings of the 39th International Conference on Very Large Databases (VLDB'2013), Trento, Italy, August 26-30, 2013.
59. \*Shuai Zheng, Fusheng Wang, James Lu and Joel H. Saltz: *Enabling Ontology Based Semantic Queries in Biomedical Database Systems*. Poster Paper. In Proceedings of the 21st ACM International Conference on Information and Knowledge Management (CIKM'2012), Maui, USA, 2012.
60. \*Ablimit Aji, Fusheng Wang and Joel H. Saltz: *Towards Building a High Performance Spatial Query System for Large Scale Medical Imaging Data*. In Proceedings of the 20th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS 2012).
61. Yingjie Shi, Xiaofeng Meng, Fusheng Wang and Yantao Gan: *You Can Stop Early with COLA: Online Processing of Aggregate Queries in the Cloud*. In Proceedings of the 21st ACM International Conference on Information and Knowledge Management (CIKM'2012), Maui, USA, 2012.
62. \*Shuai Zheng, Fusheng Wang and James Lu: *Bridging the Unstructured and Structured Worlds: an Adaptive Self Learning Medical Form Generating System*. In Proceedings of the Second International Workshop on Managing Interoperability and complexXity in Health Systems (MIXHS'2012), in conjunction with CIKM 2012, Maui, USA, 2012.
63. Yingjie Shi, Xiaofeng Meng, Fusheng Wang, Yantao Gan: *HEDC: A Histogram Estimator for Data in the Cloud*. To Appear in in Proceedings of the Fourth International Workshop on Cloud Data Management (CloudDB'2012), in conjunction with CIKM 2012, Maui, USA, 2012.
64. Kaibo Wang, Yin Huai, Rubao Lee, Fusheng Wang, Xiaodong Zhang and Joel H. Saltz: *Accelerating Pathology Image Data Cross-Comparison on CPU-GPU Hybrid Systems*. In Proceedings of the 38th International Conference on Very Large Data Bases (VLDB'2012), Istanbul, Turkey, 2012. Vol 5(11):1543-1554.
65. \*Ablimit Aji and Fusheng Wang: *High Performance Spatial Query Processing for Large Scale Scientific Data*. In Proceedings of SIGMOD/PODS PhD Symposium 2012. Scottsdale, AZ, USA May 20, 2012.
66. Fusheng Wang, \*Tae W. Oh, Cristobal Vergara-Niedermayr, Tahsin Kurc, Joel H. Saltz: *Managing and Querying Whole Slide Images*. In Proc. of SPIE Medical Imaging, Feb 4-9, 2012. San Diego, California, USA.
67. Fusheng Wang, Jun Kong, Jingjing Gao, \*Cristobal Vergara-Niedermayr, D. Alder, Lee A.D. Cooper, W. Chen, Tahsin Kurc and Joel H. Saltz: *High Performance Analytical Pathology Imaging Database for Algorithm Evaluation*. In Proc. of the Joint Workshop on High Performance and Distributed Computing for Medical Imaging (MICCAI/MICCAI-DCI 2011), in conjunction with MICCAI. Toronto, Sep 22, 2011.
68. Jun Kong, Lee A.D. Cooper, C. Moreno, Fusheng Wang, Tahsin Kurc, Joel H. Saltz, and Daniel J. Brat: *In Silico Analysis of Nuclei in Glioblastoma Using Large-scale Microscopy Images Improves Prediction of Treatment*

- Response*. In Proc. Of 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society(EMBC 2011).
69. Rubao Lee, Tian Luo, Y. Huai, Fusheng Wang, Yongqiang He and Xiaodong Zhang: *YSmart: Yet Another SQL-to-MapReduce Translator*. In Proc. of the 31st Int'l Conference on Distributed Computing Systems (ICDCS 2011), June 20-24, 2011. Minneapolis, Minnesota, USA. **(Best paper award)**
  70. Lee A.D. Cooper, Jun Kong, Fusheng Wang, Tahsin Kurc, Carlos S. Moreno, Daniel J. Brat, Joel H. Saltz: *Morphological Signatures and Genomic Correlates in Glioblastoma*. In Proc. of the 8th IEEE International Symposium on Biomedical Imaging (ISBI 2011). Chicago, Illinois, USA, March 30 - April 2, 2011.
  71. Jun Kong, Lee A.D. Cooper, Fusheng Wang, C. Chisolm, Carlos Moreno, Tahsin Kurc, Patrick Widener, Daniel J. Brat, Joel H. Saltz: *A Comprehensive Framework for Classification of Nuclei in Digital Microscopy Imaging: An Application to Diffuse Gliomas*. In Proc. of the 8th IEEE International Symposium on Biomedical Imaging (ISBI 2011). Chicago, Illinois, USA, March 30 - April 2, 2011.
  72. Fusheng Wang, Rubao Lee, Xiaodong Zhang and Joel H. Saltz: *Towards Building High Performance Medical Image Management System for Clinical Trials*. In Proc. of SPIE Medical Imaging, Orland, Florida, USA, Feb 12-17, 2011.
  73. James Gardner, Li Xiong, Fusheng Wang, Andrew Post and Joel H. Saltz: *An Evaluation of Feature Sets and Sampling Techniques for De-identification of Medical Records*. In Proc. of 1st ACM International Health Informatics Symposium. Arlington, Virginia, USA, November 11-12, 2010.
  74. Tahsin Kurc, Patrick Widener, Wenjin Chen, Fusheng Wang, Lin Yang, Jun Hu, Vicky Chu, Joel H. Saltz, David J. Foran and Tahsin Kurc: *Grid-Enabled, High-performance Microscopy Image Analysis*. In Proc. of the 2nd International Workshop on High-Performance Medical Image Computing for Image-Assisted Clinical Intervention and Decision-Making (HP-MICCAI2010). Beijing, China, September 24, 2010.
  75. Fusheng Wang, Tony Pan, Ashish Sharma and Joel H. Saltz: *Managing and Querying Image Annotation and Markup in XML*. In Proc. of SPIE Medical Imaging, San Diego, 13 - 18 February 2010.
  76. Fusheng Wang, \*P. Hussels, Peiya Liu: *Securely and Flexibly Sharing a Biomedical Data Management System*. In Proc of SPIE Medical Imaging 2009, Orlando, Florida, USA, February 7-12, 2009, 2009.
  77. Fusheng Wang, \*Cristobal Vergara-Niedermayr: *Collaboratively Sharing Scientific Data*. In Proc. of the 4th International Conference on Collaborative Computing (CollaborateCom'08). Orlando, FL, USA, November 13-16, 2008.
  78. Fusheng Wang and Carlo Zaniolo: *Temporal Queries and Version Management for XML Document Archives*. Journal of Data and Knowledge Engineering (DKE). Volume 65, Issue 2, May 2008, P304-324.
  79. \*T. Xia, Fusheng Wang, S. Liu and S. Palanivelu: *Flexible Multi-Dimensional Indexing Server for Searching Non-Textual Diagnostic Annotations*. In Proc. of the IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA'08). Innsbruck, Austria. March 17-19, 2008.
  80. Fusheng Wang, \*Florian Thiel, \*Daniel Furrer, \*Cristobal Vergara-Niedermayr, \*Chen Qin, \*Georg Hackenberg, \*Pierre-Emmanuel Bourgue, \*David Kaltschmidt, and \*Mo Wang: *An Adaptable XML Based Approach for Scientific Data Management and Integration*. In Proc. of SPIE Medical Imaging 2008, San Diego, California, USA, February 16-21, 2008.
  81. Fusheng Wang, \*Cornelius Rabsch and Peiya Liu: *Native Web Browser Enabled SVG-based Collaborative Multimedia Annotation for Medical Images*. In Proc. of the 24th International Conference on Data Engineering (ICDE'08), April 7-12, 2008, Cancun, Mexico.
  82. Fusheng Wang, \*Cornelius Rabsch and Peiya Liu: *Using SVG to Model and Query Image Annotations and their History*. In Proc. of IEEE International Conference on Bioinformatics and Biomedicine 2007 (BIBM'07), San Jose, USA, November 2-4, 2007.
  83. Fusheng Wang, \* Pierre-Emmanuel Bourgue, Georg Hackenberg, Mo Wang, David Kaltschmidt, Cornelius Rabsch, Patrick Kling, Gerald Madlmayr, Peiya Liu, John Pearson and Joe Carpinelli: *SciPort: An Adaptable*



- Scientific Data Integration Platform for Collaborative Scientific Research*. In Proc. of the 33rd International Conference on Very Large Data Bases (VLDB'2007), Vienna, Austria, September 23-28 2007.
84. \*Tian Xia, Fusheng Wang, Peiya Liu: *Managing and Searching Distributed Multidimensional Annotations with Large Scale Image Data*. In Proc. of International Workshop on Multimedia Content Analysis and Mining (MCAM'07). WeiHai, China, June 30-July 1 2007.
  85. \*Shaorong Liu, Fusheng Wang, Peiya Liu: *Integrated RFID Data Modeling for Querying Physical Objects in RFID-enabled Pervasive Computing*. In Proc. of the 8th International Conference on Mobile Data Management (MDM'07). Mannheim, Germany, May 7 - 11, 2007.
  86. Fusheng Wang, \*Cornelius Rabsch, \*P. Kling, Peiya Liu and John Pearson: *Web-based Collaborative Information Integration for Scientific Research*. In Proc. of 23rd International Conference on Data Engineering (ICDE'2007). Istanbul, Turkey; April 17-20, 2007.
  87. \*Yijian Bai, Fusheng Wang, Peiya Liu and \*Shaorong Liu: *RFID Data Processing with a Data Stream Query Language*. In Proc. of 23rd International Conference on Data Engineering (ICDE'2007). Istanbul, Turkey; April 17-20, 2007.
  88. Fusheng Wang, Xin Zhou and Carlo Zaniolo: *Bridging Relational Database History and the Web: the XML Approach*. In the 8th ACM International Workshop on Web Information and Data Management (WIDM'06), Arlington, Virginia, USA, November 10, 2006.
  89. \*Shaorong Liu, Fusheng Wang, Peiya Liu: *Integrated RFID Data Modeling: An Approach for Querying Physical Objects in Pervasive Computing*. Poster Paper. In Proc. of the ACM 15th Conference on Information and Knowledge Management (CIKM'06), Arlington, Virginia, USA, Nov 6-11, 2006.
  90. \*Yijian Bai, Fusheng Wang, Peiya Liu: *Efficiently Filtering RFID Data Streams*. In Proc. of the First International VLDB Workshop on Clean Databases (CleanDB'06), Seoul, Korea, September 11, 2006.
  91. Xin Zhou, Fusheng Wang and Carlo Zaniolo: *Efficient Temporal Coalescing Query Support in Relational Database Systems*. In Proc. of the 17th International Conference on Database and Expert Systems Applications (DEXA'06), Krakow, Poland, September, 2006.
  92. Fusheng Wang, Xin Zhou and Carlo Zaniolo: *Using XML to Build Efficient Transaction-Time Temporal Database Systems on Relational Databases*. Short Paper. In Proc. of the 22nd International Conference on Data Engineering (ICDE'2006), April 3-7, Atlanta, Georgia, USA, 2006.
  93. Fusheng Wang, \*Shaorong Liu, Peiya Liu and \*Yijian Bai: *Bridging Physical and Virtual Worlds: Complex Event Processing for RFID Data Streams*. In Proc. of the 10th International Conference on Extending Database Technology (EDBT'2006), Munich, Germany, March, 2006.
  94. Fusheng Wang, Peiya Liu, John Pearson, Fred Azar and \*Gerald Madlmayr, *Experiment Management with Metadata-based Integration for Collaborative Scientific Research*. In Proc. of the 22nd International Conference on Data Engineering (ICDE'2006), April 3-7, Atlanta, Georgia, USA, 2006.
  95. Fusheng Wang and Peiya Liu: *Temporal Management of RFID Data*. In Proc. of the 31st International Conference on Very Large Data Bases (VLDB'05). Trondheim, Norway; August 30-September 2, 2005. p1128-1139.
  96. Fusheng Wang, Carlo Zaniolo, Xin Zhou and Hyun J. Moon: *Version Management and Historical Queries in Digital Libraries*. Poster Paper. 12th International Symposium on Temporal Representation and Reasoning (TIME'05), Vermont, June, 2005. p207-209.
  97. Fusheng Wang, Carlo Zaniolo, and Xin Zhou, *Temporal XML? SQL Is Fighting Back!*. 12th International Symposium on Temporal Representation and Reasoning (TIME'05), June, 2005. p47-55.
  98. Fusheng Wang and Carlo Zaniolo, *XBiT: An XML-based Bitemporal Data Model*. In Proc. of the 23rd International Conference on Conceptual Modeling(ER'04) Shanghai, China, November 2004. p810-824.
  99. Fusheng Wang, Xin Zhou and Carlo Zaniolo: *Temporal Information Management using XML*. Poster Paper. In Proc. of the 23rd International Conference on Conceptual Modeling(ER'04), Shanghai, China, November 2004.

100. Fusheng Wang, Carlo Zaniolo, *Publishing and Querying the Histories of Archived Relational Databases in XML*. In Proc. of the 4th International Conference on Web Information Systems Engineering (WISE'03), Roma, Italy, December 2003. p93-102.
101. Fusheng Wang and Carlo Zaniolo, *Representing and Querying the Evolution of Databases and their Schemas in XML*, Proceedings of the Fifteenth International Conference on Software Engineering & Knowledge Engineering (SEKE'2003), Hotel Sofitel, San Francisco Bay, CA, USA, July 1-3, 2003.
102. Fusheng Wang, and Carlo Zaniolo, *Temporal Queries in XML Document Archives and Web Warehouses*. In Proc. of the 10th International Symposium on Temporal Representation and Reasoning and 4th International Conference on Temporal Logic (TIME-ICTL'03), Queensland, Australia, July 2003. p47-55.
103. Fusheng Wang and Carlo Zaniolo, *Preserving and Querying Histories of XML-Published Relational Databases*. In Proc. of the Second International Workshop on Evolution and Change in Data Management (ECDM02) (held in conjunction with ER'02), Tampere, Finland, October 2002. p26-38.

**Book chapters:**

104. \*Ablimit Aji, Hoang Vo and Fusheng Wang: *Spatial Queries in the Cloud*. Encyclopedia of Database Systems (edited by Ling Liu and M. Tamer Özsu). 2017.
105. \*Ablimit Aji and Fusheng Wang: Challenges and Approaches in Spatial Big Data Management. "Big Data: Storage, Sharing, and Security (3S)". Auerbach Publications, 2016.
106. Fusheng Wang, \*Ablimit Aji, and George Teodoro: *Medical Image Dataset Processing over Cloud/MapReduce with Heterogeneous Architectures*. Encyclopedia of GIS. Springer. 2016.
107. Joel H. Saltz, Fusheng Wang, George Teodoro, Lee A.D. Cooper, Patrick Widener, Jun Kong, David Gutman, Tony Pan, Sharath Cholleti, Ashish Sharma, Daniel Brat, and Tahsin Kurc: *Large-Scale Microscopy Imaging Analytics for In Silico Biomedicine*. Data-Intensive Science. CRC Press. May 28, 2013. p55-72.
108. Fusheng Wang, Chunjie Zhou, Yanming Nie: *Event Processing in Sensor Streams*. Book Chapter. "Managing and Mining Sensor Data", by Springer, 2013.
109. Fusheng Wang, Peiya Liu and John Pearson: *SciPort: An Extensible Data Management Platform for Biomedical Research*. Book Chapter. "Database Technology for Life Sciences and Medicine", by World Scientific Publishing, 2010.
110. Fusheng Wang and Peiya Liu: *Temporal and Location Based RFID Data Management and Processing*. Book Chapter. "Unique Radio Innovation for the 21st Century: Building Scalable and Global RFID Networks", by Springer-Verlag, 2010.

**Invited papers:**

111. Fusheng Wang, Ablimit Aji and Hoang Vo: *High Performance Spatial Queries for Spatial Big Data: from Medical Imaging to GIS*. ACM SIGSPATIAL Special, Vol 6(3), November, 2014.
112. Fusheng Wang, Tahsin Kurc, Patrick Widener, Tony Pan, Jun Kong, Lee A.D. Cooper, David Gutman, Ashish Sharma, Sharath Cholleti, Vijay Kumar, Joel H. Saltz: *High-performance Systems for In Silico Microscopy Imaging Studies*. In Proc. of Seventh International Conference on Data Integration in the Life Sciences (DILS 2010), Gothenburg, Sweden, August 25-27, 2010.

**Abstracts:**

1. \*Sheetal Mangesh Pandrekar, \*Manish Valakonda, \*Xin Chen and Fusheng Wang: Towards Spatial Analysis of Opioid Abuse Using Twitter. To Appear in AMIA Annual Symposium, November 4-8, 2017, Washington DC, USA.
2. \*Yanhui Liang, Jun Kong and Fusheng Wang: *Three-Dimension (3D) Blood Vessel Reconstruction and Spatial Analytics with Whole-Slide Histological Images*. In Proceedings of AMIA 2016 Annual Symposium. Chicago, IL, Nov 12-16, 2016.

3. \*Yanhui Liang, Jun Kong and Fusheng Wang: *Three-Dimension (3D) Whole-slide Histological Image Analytics*. Pathology Informatics Summit, Pittsburgh, PA, USA, May 23-26, 2016.
4. \*Shuai Zheng, Raymund Dantes, Sheri C. Tejedor, James J. Lu, Michele Beckman, Asha Krishnaswamy, Lisa Richardson, Fusheng Wang: *Improved Identification of Venous Thromboembolism from Electronic Medical Records using Information Extraction*. In Proceedings of AMIA 2015 Annual Symposium. San Francisco, CA, Nov 14-18, 2015.
5. \*Shuai Zheng, Fusheng Wang, Hua Gan, James Lu, Salma K. Jabbour, Ning J. Yue and Wei Zou: *Patient Treatment and Prognosis Information Extraction with Adaptive Self Learning Medical Form Generating System*. The 56<sup>th</sup> Conference for American Society for Radiation Oncology, San Francisco, CA, September 14-17, 2014.
6. \*Shuai Zheng, James J. Lu, Daniel J. Brat, Fusheng Wang: *Adaptive Learning Based Data Extraction for Patient Identification Search from Pathology Reports*. Pathology Informatics Summit, Pittsburgh, PA, May 13 – May 16, 2014.
7. \*Hoang Vo, \*Dejun Teng, \*Yanhui Liang, \*Ablimit Aji, Jun Kong, Fusheng Wang. *A MapReduce Based High Performance Whole Slide Image Analysis Framework in the Cloud*. Pathology Informatics Summit, Pittsburgh, PA, May 13 – May 16, 2014.
8. Jun Kong, Lee A.D. Cooper, Fusheng Wang, Jingjing Gao, George Teodoro, Lisa Scarpace, Tom Mikkelsen, Carlos S. Moreno, Joel H. Saltz, and Daniel J. Brat: *Machine-based Classification of Oligodendroglioma Component in Glioblastoma using Large-scale Microscopic Image Analysis Uncovers Oligodendroglial Molecular Signatures*. The TCGA Scientific Symposium. Crystal City, VA, USA, November 27-28, 2012.
9. Lee AD Cooper, Christina Appin, Rami Yacoub, David A Gutman, Hyun Ju Choi, Jun Kong, Fusheng Wang, Carlos S Moreno, Robin Bostick, Daniel J Brat, Joel H Saltz: *Active Learning for Pathology Image Analysis*. Pathology Informatics Conference, Pittsburgh, Oct 9-12, 2012.
10. \*Ablimit Aji, Qiaoling Liu, Fusheng Wang, Tahsin Kurc and Joel H. Saltz: *MIGIS: High Performance Spatial Query System for Pathology Imaging Analytics*. Pathology Informatics Conference, Pittsburgh, Oct 9-12, 2012.
11. Lee A.D. Cooper, Rami Yacoub, David A. Gutman, Fusheng Wang, Carlos S. Moreno, Daniel J. Brat, Roberd M. Bostick, Joel H. Saltz: *Quantitative imaging of protein expression using multiplex quantum dot immunohistochemistry*. American Association for Cancer Research Annul Meeting, Chicago, IL, April 4, 2012.
12. Jingjing Gao, Jun Kong, Fusheng Wang, Tahsin Kurc, Lance Waller, Joel H. Saltz: *An Accuracy Validation Framework for Automated Pathology Image Segmentation and Classification Algorithms*. Pathology Informatics Conference: Pittsburgh, PA, USA, Oct 4-7, 2011.
13. Fusheng Wang: *High Performance Data Management and Queries for Analytical Medical Imaging Informatics*. Data Intensive Research and XLDB Europe joint Workshop. Edinburgh, UK, June 7-10, 2011.
14. Jun Kong, Lee A.D. Cooper, Candace Chisolm, Fusheng Wang, Carlos Moreno, Tahsin Kurc, Daniel Brat and Joel H. Saltz: *Computer-Based Classification of Nuclei in Gliomas*. USCAP 2011 annual meeting, San Antonio, TX, February 26-March 4, 2011.
15. Fusheng Wang, Tony Pan, Tahsin Kurc, Ashish Sharma, Joel H. Saltz, W. Chen, V. Chu, J. Hu, L. Yang and David J. Foran: *Modeling and Managing Annotation and Markup for Pathology and Microscopy Images*. In Proc. of AMIA 2010 Annual Symposium. Washington DC, November 13-17, 2010.
16. Joel H. Saltz, Fusheng Wang, Tony Pan, Tahsin Kurc, Ashish Sharma, Joel H. Saltz, Wenjin Chen, Vicky Chu, Jun Hu, Ling Yang and David J. Foran: *High-throughput Microscopy Image Analysis for Deep Integrative In Silico Study of Brain Tumors*. Poster in CTSA Annual Informatics Meeting, Washington DC, October 13-14, 2010.
17. Fusheng Wang et. al.: *Developing Data Model Standards and Databases for Pathology Analytical Imaging*, Pathology Informatics, Boston, MA, September 19-22, 2010.
18. Tony Pan, Fusheng Wang, Justin Permar, Cristobal Vergara Niedermayr, Ashish Sharma, Tahsin Kurc, Joel H. Saltz: *xService: a Framework for Developing Interoperable caGrid Data Services for XML Data*. NCI caBIG Annual Meeting, Washington DC, September, 2010.

**Conference reports:**

1. Shuai Ma, Xiaofeng Meng, and Fusheng Wang: *Report on the Fourth International Workshop on Cloud Data Management*. SIGMOD Record, March 2013. ACM SIGMOD Record, Vol. 43(2), 53-56, 2014.
2. Xiaofeng Meng, Fusheng Wang, Adam Silberstein: *Report on the Fourth International Workshop on Cloud Data Management*. ACM SIGMOD Record, Vol. 42 (1), March 2013.
3. Xiaofeng Meng and Fusheng Wang: *The First Extremely Large Database Conference at Asia*. Conference Report, ACM SIGMOD Record, Vol. 41(4), December 2012.

## PATENTS

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- Zhaohui Qin, Fusheng Wang and Steve Pittard: *Methods, systems and computer readable storage media for generating quantifiable genomic information and results*. US patent pending. Application No. 14/696,714, April 27, 2015.
- Fusheng Wang: *Collaborative Data and Knowledge Integration*. US Patent No. 8,239,455, Issued on Aug 7, 2012.
- Fusheng Wang, Shaorong Liu and Peiya Liu: *Method and Apparatus for Complex RFID Event Processing*. US Patent No. 7,668,794, Issued on Feb 23, 2010.
- Fusheng Wang and Peiya Liu, *Systems, Devices, and Methods for Managing RFID Data*. United States Patent No. 7,481,368, Issued on Jan 27, 2009.

## FORMAL TEACHING

---

- Instructor, Introduction to Biomedical Informatics (TBD) (CSE391/BMIxxx), Spring 2018  
Department of Biomedical Informatics, Stony Brook University
- Instructor, (BMI513), Fall 2017  
Department of Biomedical Informatics, Stony Brook University
- Instructor, Seminar in Databases (CSE644), Fall 2016  
Department of Computer Science, Stony Brook University
- Instructor, Database Systems (CSE532), Fall 2016  
Department of Computer Science, Stony Brook University
- Instructor, Database Systems (CSE532, Ph.D. course), Fall 2015  
Department of Computer Science, Stony Brook University
- Instructor, Database Systems (CS377, undergraduate course), Fall 2013  
Department of Mathematics and Computer Science, Emory University
- Instructor, Database Systems (CS554, graduate course), Spring 2013  
Department of Mathematics & Computer Science, Emory University
- Instructor, Advanced Database Systems (CS730R, graduate course), Spring 2011  
Department of Mathematics & Computer Science, Emory University

Other:

- Instructor, Summer Course at Renmin University: Advanced databases and their applications to biomedical informatics, June 2012.
- Instructor: Clinical Informatics Academy, Emory University, June 2011, March 2012

## SUPERVISORY TEACHING

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### Ph.D. student supervising:

*Current Ph.D. students:*

- |  |              |
|--|--------------|
| • Mousumi Roy, Computer Science, Stony Brook University                                | 2016-present |
| • Sina Rashidian, Computer Science, Stony Brook University                             | 2015-present |
| • Yu Wang, Computer Science, Stony Brook University                                    | 2015-present |
| • Pengyue Zhang, Computer Science, Stony Brook University                              | 2015-present |
| • Furqan Baig, Computer Science, Stony Brook University                                | 2015-present |
| • Hoang Vo, Computer Science, Stony Brook University (expected graduation Spring 2018) | 2012-present |

- Xin Chen, Biomedical Informatics, Stony Brook University (expected graduation 2018) 2012-present
- Yanhui Liang, Biomedical Informatics, Stony Brook University (graduating summer 2017) 2012-present
- Xiaobo Sun (co-advisee), Computer Science and Informatics, Emory University 2012-present

*Graduated:*

- Abulimiti Aji, Ph.D., Computer Science and Informatics, Emory University. Graduation: October, 2014. First employment: HP Labs.
- Shuai Zheng, Ph.D. (co-advisee, with James Lu), Computer Science and Informatics, Emory University. Graduation: May, 2015. First employment: Centers for Disease Control and Prevention (CDC).

**M.S. student supervising:**

*Current:*

- Amogh Avadhani (M.S., expected graduation 2017)
- Gaurav Badur Gopalkrishna (M.S., expected graduation 2017)
- Anusha Muthyampeta (M.S., expected graduation 2017)
- Sudeshna Pal (M.S., expected graduation 2017)
- Prachi Poddar (M.S., expected graduation 2017)
- Poojitha Ponakala (M.S., expected graduation 2017)
- Manish Kumar Valakonda (M.S., expected graduation 2017)
- Aviral Nigam (M.S., expected graduation 2017)
- Xinyu Dong (MS., SUNY Korea, expected graduation 2017)
- Qingjiang Yin (MS., SUNY Korea, expected graduation 2017)
- Zhiqian Liu (MS 2017 expected graduation 2017)

*Graduated:*

- Sheetal Mangesh Pandrekar (MS 2016). Transferring to Ph.D. program.
- Abhinav Agshikar (MS 2016). First employment: Amazon
- Yangyang Zhu (MS 2015). First employment: VMWare
- Jiaqi Chen (MS 2015). First employment: VMWare
- Kaushik Devarajaiah (MS 2015). First employment: Google
- Mudit Mehrotra (MS 2015). First employment: Trulia

**B.S. student supervising:**

- Rishi Paras Shah (2017, Columbia University, funded by NSF REU)
- Nicholas Cataldo (2016, Stony Brook University, funded by NSF REU)
- Carolyn Kiriakos (2015, Stony Brook University, funded by NSF REU)
- Priscila Souza (2015, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; visiting student at Stony Brook University)

**High school student supervising:**

- Kavya Kopparapu (Thomas Jefferson High School for Science and Technology, Alexandria, Virginia, funded by Simons Summer Research Program, 2017)
- Shrey Shah (Jericho High School, Jericho, New York, 2017)
- Niranjana Kumar (Manhasset High School, Manhasset, New York, 2015)

**Visiting Scholars:**

- Ping Fan, visiting associate professor, Hubei University of Sci. & Tech., China, April, 2016-March, 2017
- Dubovitskaya Alevtina, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland 2016
- Na Tang, visiting associate professor, South Normal University, China, August 2015-August 2016
- Ming Zhong, visiting associate professor, Wuhan University, China, September 2015-September 2016
- Wei Zhang, Associate Professor, Harbin Institute of Technology, China January 2013-January 2014

**Ph.D. dissertation committee:**

- Shuchu Han, Computer Science, Stony Brook University, 2017
- Liyue Fan, Computer Science and Informatics, Emory University, 2014

## SERVICES

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### Program committee member or organizer (recent):

- The Third VLDB International Workshop on Data Management and Analytics for Medicine and Healthcare (DMAH 2017). **Co-Chair (founder)**
- ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL 2017)
- IEEE International Conference on Healthcare Informatics (ICHI 2017)
- The 2017 International Symposium on Spatial and Temporal Databases (SSTD 2017)
- 29th International Conference on Scientific and Statistical Database Management (SSDM 2017)
- The 9th International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing 2017)
- EDBT Workshop on Querying Graph Structured Data (GraphQ 2017)
- The 7th International Symposium on Internet of Ubiquitous and Pervasive Things (2017)
- IEEE International Conference on eScience (eScience 2016)
- The Third International Conference on CyberGIS and Geospatial Data Science (CG 2016)
- IEEE International Conference on Healthcare Informatics (ICHI 2016)
- IEEE International Workshop on Big Spatial Data (BSD 2016)
- ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial-2016)
- EDBT Workshop on Querying Graph Structured Data (GraphQ 2016)
- The second VLDB International Workshop on Data Management and Analytics for Medicine and Healthcare (DMAH 2016). **Co-Chair (lead)**
- The 8th International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing 2016)
- ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL 2016)
- The 6th International Symposium on Internet of Ubiquitous and Pervasive Things (IUPT 2016)
- EDBT Workshop on Querying Graph Structured Data (GraphQ 2015)
- ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial-2015)
- The first VLDB International Workshop on Data Management and Analytics for Medicine and Healthcare (DMAH 2015). **Founding Chair**
- The 5th International Symposium on Internet of Ubiquitous and Pervasive Things (IUPT 2015)
- The Seventh International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing 2015)
- ICHI Workshop on Health Information Quality (HealthIQ 2015)
- 14th International Symposium on Spatial and Temporal Databases (SSTD 2015, demo track)
- The 8th International Workshop on High Performance Computing for Biomedical Image Analysis (HPC-MICCAI 2015)
- ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial-2014)
- ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS 2014)
- The 40th International Conference on Very Large Databases (VLDB 2014, Demo track)
- The Sixth International Workshop on Cloud Data Management (CloudDB 2014). **Co-Chair**
- ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL GIS 2013)
- ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data (BigSpatial-2013)
- IEEE International Conference on Healthcare Informatics 2013 (ICHI 2013). **Workshop Co-chair**
- The Fifth International Workshop on Cloud Data Management (CloudDB 2013). **Co-Chair**
- The 7th Metadata and Semantics Research conference (MTSR 2013), 2013
- The 3rd International Workshop on Internet of Ubiquitous and Pervasive Things (IUPT), 2013
- The Fourth International Workshop on Cloud Data Management (CloudDB 2012). **PC Co-Chair**
- The Extremely Large Databases Conference at Asia (XLDB Asia), 2012. **PC Chair**

- International Workshop on Managing Interoperability and compleXity in Health Systems (MIX-HS), 2012
- The 2nd International Workshop on Internet of Ubiquitous and Pervasive Things (IUPT), 2012

### **Manuscript reviewers:**

Applied Clinical Informatics, AIMS Medical Science, AMIA Annual Symposium, Computers & Electrical Engineering, Geoinformatica, ACM Transaction on Database Systems (TODS), Computer Methods and Programs in Biomedicine, IEEE Transactions on Computational Social Systems, IEEE Transactions on Knowledge & Data Engineering (TKDE), Journal of Computer and System Sciences, Journal of Network and Computer, J. of World Wide Web (WWW), J. of Information Systems, Knowledge and Information Systems (KAIS), J. Data and Knowledge Engineering (DKE), ACM Transactions on Intelligent Systems and Technology, IEEE Transactions on Biomedical Engineering (TBME), Journal of the American Medical Informatics Association (JAMIA), Journal of Digital Imaging, BMC Cancer, BMC Medical Research Methodology, GigaScience, J. of Information and Software Technology, J. of Multimedia Tools and Applications, J. of Systems, Man and Cybernetics, J. of Information Sciences, IEEE Communications Letters, IEEE Communication Magazine, Journal of Network and Computer Applications, Transactions on Management Information Systems, Transactions on Computational Biology and Bioinformatics, Transactions on Intelligent Systems and Technology, Computing in Science & Engineering, Journal of Computer and System Sciences, Concurrency and Computation: Practice and Experience

### **Guest editor:**

Journal of Computer Science and Technology, Special Issue on Cloud Data Management, 2013

### **Grant Review Panels:**

- NSF Industrial Innovation and Partnerships review panel, 2017
- NSF ACI external reviewer, 2016
- NSF ACI panel, 2016
- NSF Industrial Innovation and Partnerships external reviewer, 2016
- NSF Industrial Innovation and Partnerships review panel, 2016
- NSF Industrial Innovation and Partnerships review panel, 2015
- NSF CISE external reviewer, 2015
- NSF CCF external reviewer, 2015
- NSF CISE review panel, 2014
- NSF SI2 external reviewer, 2014
- HongKong Research Grants Council reviewer, 2013, 2014, 2015, 2016, 2017

### **INVITED TALKS**

---

- *Scalable Spatial Analytics for Pathology Imaging: from 2D to 3D*. Stony Brook Cancer Center Annual Symposium, May 2016.
- *High Performance Spatial Queries and Analytics for Spatial Big Data*. Brookhaven National Laboratory, August 2015.
- *Hadoop-GIS: A High Performance Spatial Big Data Warehousing System for Analytical Pathology Imaging*. University of Texas Health Science Center at Houston. April 2014.
- *High Performance Spatial Queries and Analytics for Spatial Big Data*. Department of Computer Science, University of Illinois at Chicago, April 2014.
- *High Performance Spatial Queries and Analytics for Spatial Big Data*. School of Medicine, Dartmouth College, April 2014.
- *Hadoop-GIS: A Spatial Data Warehousing System over MapReduce*. Department of Computer and Informatics Science. Indiana University-Purdue University, September 20, 2013
- *High Performance Spatial Queries and Analytics for Spatial Big Data*. Department of Computer Science, Florida State University, February 2014.

- *Hadoop-GIS: a Spatial Data Warehousing System over MapReduce*. Chinese Academy of Science, February 2012.
- Software Infrastructures to Support Modeling, Managing and Querying of Data for Pathology Imaging. School of Medicine, UCLA, Feb 10, 2012.
- *High Performance Medical Imaging GIS*. Department of Computer Science, UCLA, Feb 7, 2012.
- *Managing and Querying Whole Slide Images*. Invited talk, Emory Clinical and Translational Informatics Rounds, January 26, 2012.
- *High Performance Analytical Medical Imaging*. Institute of Computing Technology, Chinese Academy of Sciences China, October 13, 2011.
- *Database Supported Medical Imaging*. School of Information Institute of Data and Knowledge Engineering, Renmin University, China, October 12, 2011.
- *High Performance Data Management and Queries for Analytical Medical Imaging Informatics*. Department of Computer Science and Engineering, Ohio State University, July 1, 2011
- *Building Analytical Medical Imaging Database with IBM DB2*. IBM DB2 pureXML Bootcamp, Atlanta, November, 2010.

## **SOCIETY MEMBERSHIPS**

---

Association for Computing Machinery (ACM): member

IEEE: member

The Society of Photographic Instrumentation Engineers (SPIE): Senior member

Association for Pathology Informatics: Member