Yuqing Melanie Wu

Address:	Computer Science Department
	185 E 6th St. Claremont, CA
Email:	Melanie.Wu@pomona.edu
Webpage:	http://www.cs.pomona.edu/~mwu
Phone:	+1 909 607 9202 (office)

EDUCATION and PROFESSIONAL DEVELOPMENT

Ph.D. in Computer Science, University of Michigan, Ann Arbor	2004
Dissertation: Query Optimization in XML	
Advisor: H.V. Jagadish	
M.S. Computer Science, Indiana University, Bloomington	1999
M.S. Computer Science, Peking University, Beijing, China	1998
B.S. Computer Science, Peking University, Beijing, China	1995
American Council on Education (ACE) Fellowship	2021-22
HERS institute Higher Education Leadership Development Program	2018

EMPLOYMENT

Department Chair	Computer Science Dept, Pomona College	2017–2020
Professor	Pomona College	2018–present
Visiting Professor	Technische Universiteit Eindhoven, Netherlands	2016
Associate Professor w/Tenure	Pomona College	2015–2018
Visiting Associate Professor	Pomona College	2014–2015
Associate Professor w/Tenure	Indiana University	2010–2015
Visiting Professor	Chinese University of HongKong	2012
Visiting Professor	Hasselt University, Belgium	2012
Assistant Professor	Indiana University	2004–2010
Research Intern	IBM Almaden Research Center	2003
Research Intern	Microsoft Research	2002
Research Assistant	University of Michigan	2000–2004
Teaching Assistant	Indiana University	1999
Lecturer	Informix Authorized Training Center	1996–1998
Developer	Boya System Integration Inc	1996-1998

LEADERSHIP POSITIONS

Department Chair	Computer Science Dept, Pomona College	2017–2020
Council member	ACM-W Executive Council	2012–present
Chair of Communication Committee		2012-19
Treasurer		2019—present
Board member	CRA-WP Board of Directors	2016–present
Director of Graduate Study	Computer Science Dept, Indiana Univ.	2012–2014

FELLOWSHIPS AND GRANTS

Fellowship

American Council of Education	ACE fellowship	2021-2022

Grants

Pomona College   Wig Teaching Innovation Grant   2019
    Teaching grant for course redesign (incorporating Ethics in CS intro course)
    $1,500

Pomona College   Wig Teaching Innovation Grant   2018
    Teaching grant for course redesign (CS54)
    $1,000

Pomona College   Wig travel grant   2018
    Travel grant for attending HERS institute
    $9,199

Pomona College   Faculty/student Conference Travel Grant   2018
    Travel grant for attending CRA (Computing Research Association) Computer
    Science Chairs' summit
    $2,155

Pomona College   Faculty/student Conference Travel Grant   2017
    Travel grant for presenting as panelist at Barbour celebration
    University of Michigan
    $1,300

NSF   XPS Exploratory grant (as PI)   2015-2020
    Symmetric Queries as a Building Block for Efficient Parallel Query
    Evaluation
    $297,592

Pomona College   Wig travel grant   2014
    Travel grant for attending Grace Hopper Conference
    $1,300

Indiana University   Scholarship of Teaching and Learning (as co-PI)   2013-2015
    Awarded by Center for Innovative Teaching and Learning

Promoting Academic Integrity in Computer Science: A Culture Study
$15,000

Indiana University	Faculty Research Support Program (FRSP) grant (as co-PI)	2010-2012

Empowering Health Care with Innovative Technologies of the Semantic Web.
$46,541

Indiana University	College of Art and Science Summer Research Grant (as co-PI)	2009-2010

Asian American Students and Access to Higher Education.
$8,000.

Indiana University	Scholarship of Teaching and Learning (as PI)	2007-2008

Awarded by Center for Innovative Teaching and Learning
Redesigning Computer Science Undergraduate Courses with Active Learning Techniques
$3,000

Indiana University	Faculty Research Support Program (FRSP) grant (as PI)	2005-2006

ACXESS: Access Control for XML with Enhanced Security Specification.
$30,600.

NIH	Exploratory Centers for Cheminformatics Research (as senior participant)	2004-2007

Chemical Informatics and Cyber infrastructure Collaboration program
$731,750

Scholarships as Student

University of Michigan	Rackham Travel Grant	2003
University of Michigan	Barbour Scholarship	2002
University of Michigan	Graduate Student Research Fellowship	2000
Indiana University	Graduate Fellowship	1998-1999
Peking University	GuangHua Graduate Fellowship, 1st Prize	1996, 1997
	Awarded to the top three of the class	1998
Peking University	GuangHua Fellowship, 1st Prize	1992, 1993
	Awarded to the top three of the class	1994, 1995
Peking University	Procter & Gamble Fellowship	1991
	Awarded to the top of the class	

HONORS AND AWARDS

Wig Distinguish Professor Award	Pomona College	2021
Faculty Service Award	School of Informatics & Computing Indiana University	2013

WIC (Women in Computing) Inspirational Teacher Award	Indiana University	2013
Trustee's Teaching Award	Indiana University	2012
Trustee's Teaching Award	Indiana University	2010
WIC (Women in Computing) Advisor of the Year	Indiana University	2010
Best Article Award	BNCOD - The 26th British National Conference on Databases	2009
Best Article Award (as advisor)	The Ph.D. Workshop conjunct to EDBT - the 11th International Conference on Extending Database Technology	2008

PUBLICATIONS

Journal Articles (peer reviewed)

1. Jelle Hellings, Catherine L. Pilachowski, Dirk Van Gucht, Marc Gyssens, Yuqing Wu: From Relation Algebra to Semi-join Algebra: An Approach to Graph Query Optimization. Comput. J. 64(5): 789-811 (2021)

2. Jelle Hellings, Marc Gyssens, Yuqing Wu, Dirk Van Gucht, Jan Van den Bussche, Stijn Vansummeren, George H. L. Fletcher: Comparing the expressiveness of downward fragments of the relation algebra with transitive closure on trees. Inf. Syst. 89: 101467 (2020)

3. Jelle Hellings, Marc Gyssens, Dirk Van Gucht, Yuqing Wu: First-order definable counting-only queries. Ann. Math. Artif. Intell. 87(1-2): 109-136 (2019)

4. Marc Gyssens, Jelle Hellings, Jan Paredaens, Dirk Van Gucht, Jef Wijsen, Yuqing Wu : Calculi for symmetric queries. J. Comput. Syst. Sci. 105: 54-86 (2019)

5. Yuqing Wu: Path Query. Encyclopedia of Database Systems (2nd ed.) 2018

6. Jelle Hellings, Marc Gyssens, Jan Paredaens, Yuqing Wu. Implication and Axiomatization of Functional and Constant Constraints. In the *Annals of Mathematics and Artificial Intelligence*. 76 (3-4): 251-279 (2016)

7. George H. L. Fletcher, Marc Gyssens, Jan Paredaens, Dirk Van Gucht, Yuqing Wu: Structural characterizations of the navigational expressiveness of relation algebras on a tree. J. Comput. Syst. Sci. 82(2): 229-259 (2016)

8. Chaluemwut Noyunsan, Tatpong Katayukul, Kanda Runapongsa Saikaew, Yuqing Wu. A Social Network Newsworthiness Filter Based on Topic Analysis. In the *International Journal of Technology*. 2016

9. Dimitri Surinx, George H. L. Fletcher, Marc Gyssens, Dirk Leinders, Jan Van den Bussche, Dirk Van Gucht, Stijn Vansummeren, Yuqing Wu: Relative expressive power of navigational

querying on graphs using transitive closure. In *Logic Journal of the IGPL* 23(5): 759-788 (2015)

10. George H. L. Fletcher, Marc Gyssens, Dirk Leinders, Jan Van den Bussche, Dirk Van Gucht, Stijn Vansummeren, Yuqing Wu: The Impact of Transitive Closure on the Expressiveness of Navigational Query Languages on Unlabeled Graphs. In the *Annals of Mathematics and Artificial Intelligence*. 73(1-2): 167-203 (2015)

11. George H. L. Fletcher, Marc Gyssens, Dirk Leinders, Dimitri Surinx, Jan Van den Bussche, Dirk Van Gucht, Stijn Vansummeren, Yuqing Wu: Relative Expressive Power of Navigational Querying on Graphs. In the *Information Science*. 298: 390-406 (2015)

12. Minaxi Gupta, Yuqing Wu, Swapnil S. Joshi, Aparna Tiwari, Ashish Nair, Ezhilan Ilangovan: On the Linkability of Complementary Information from Free Versions of People Databases. In the *SIGMETRICS Performance Evaluation Review*. 40(4): 96-100 (2013).

13. Yuqing Wu, Dirk Van Gucht, Marc Gyssens and Jan Paredaens: A Study of a Positive Fragment of Path Queries: Expressiveness, Normal Form and Minimization. In the *Computer Journal* 54(7): 1091-1118 (2011).

14. George H. L. Fletcher, Dirk Van Gucht, Yuqing Wu, Marc Gyssens, Sofia Brenes, and Jan Paredaens. A Methodology for Coupling Fragments of XPath with Structural Indexes for XML Documents. In *Information Systems*, 34(7): 657-670 (2009).

15. Yuqing Wu, Stelios Pararizos, and H.V.Jagadish. Querying XML in TIMBER. In *IEEE Bulletin of Technical Committee on Data Engineering*. 31(4):15-24 (2008).

16. Yuqing Wu. Path Query. *Encyclopedia of Database Systems*. 2009.

17. Huijun Wang, Jonathan Klinginsmith, Xiao Dong, Adam Lee, Rajarshi Guha, Yuqing Wu, Gordon Crippen, and David Wild. Chemical Data Mining of the NCI Human Tumor Cell Line Database. In *Journal of Chemical Information and Modeling*. 47(6):2063-2076 (2007).

18. Surajit Chaudhuri, Zhiyuan Chen, Kyuseok Shim, and Yuqing Wu. Storing XML (with XSD) in SQL Databases: Interplay of Logical and Physical Designs. In *IEEE Transactions on Knowledge and Data Engineering*. 17(12): 1595-1609 (2005).

19. Yuqing Wu, Jignesh Patel, and H. V. Jagadish. Using Histograms to Estimate Answer Size for XML Queries. In *Information Systems – **Special Issue: Best Articles from EDBT 2002,*** 28 (1-2): 33-59 (2003).

20. H. V. Jagadish, Shurug Al-Khalifa, Adriane Chapman, Laks V.S. Lakshmanan, Andrew Nierman, Stelios Paparizos, Jignesh M. Patel, Divesh Srivastava, Nuwee Wiwatwattana, Yuqing Wu, and Cong Yu. TIMBER: A Native XML Database. In the *VLDB Journal*, 11(4): 274-291 (2002).

Refereed Conference Proceedings (*peer reviewed*)

1. Jelle Hellings, Yuqing Wu: Stab-Forests: Dynamic Data Structures for Efficient Temporal Query Processing. TIME 2020: 18:1-18:19

2. Kaijie Zhu, George H. L. Fletcher, Nikolay Yakovets, Odysseas Papapetrou, Yuqing Wu : Scalable temporal clique enumeration. In Proceedings of the 16th International Symposium on Spatial and Temporal Databases, 2019: 120-129

3. Jelle Hellings, Marc Gyssens, Dirk Van Gucht, Yuqing Wu: First-Order Definable Counting-Only Queries . In *Foundations of Information and Knowledge Systems* 2 2018: 225-243.

4. Jelle Hellings, Yuqing Wu, Marc Gyssens, Dirk Van Gucht: The Power of Tarski's Relation Algebra on Trees. In *Foundations of Information and Knowledge Systems* 2018: 244-264.

5. Jelle Hellings, Catherine L. Pilachowski, Dirk Van Gucht, Marc Gyssens and Yuqing Wu. From Relation Algebra to Semi-Join Algebra: An Approach for Graph Query Optimization. In the 16th International Symposium of Database Programming Languages. 2017: 5:1-5:10.

6. Mayukh Das, Yuqing Wu, Tushar Khot, Kristian Kersting, Sriraam Natarajan, Scaling Lifted Probabilistic Inference and Learning via Graph Databases. In *SIAM International Conference on Data Mining*, 2016. 738-746.

7. Chaluemwut Noyunsan, Tatpong Katayukul, Kanda Runapongsa Saikaew, Yuqing Wu. Social Network Newsworthiness Filter Based on Topic Analysis. In The *6th KUU International Engineering Conference.* 2016

8. Jelle Hellings, Marc Gyssens, Yuqing Wu, Dirk Van Gucht, Jan Van den Bussche, Stijn Vansummeren, George H. L. Fletcher. Relative Expressive Power of Downward Fragments of Navigational Query Languages on Trees and Chains. In *Database Programming Language*. 2015: 59-68.

9. Xin Shuai, Xiaozhong Liu, Tian Xia, Yuqing Wu and Chun Guo. Comparing the Pulses of Categorical Hot Events in Twitter and Weibo. In the *25th ACM Conference on Hypertext and Social Media*, 2014:126-135.

10. Jelle Hellings, Marc Gyssens, Jan Paredaens and Yuqing Wu. Implication and Axiomatization of Functional Constraints on Patterns with an Application to the RDF Data Model. In the 8th *International Symposium on Foundations of Information and Knowledge Systems* 2014: 250-269.

11. Marc Gyssens, Jan Paredaens, Dirk Van Gucht, Jef Wijsen, Yuqing Wu: An Approach towards the Study of Symmetric Queries. In *Very Large Database*, 2014: 25-36.

12. Yifan Pan and Yuqing Wu. ROU: Advanced Keyword Search on Graph. In the 22th ACM Conference on Information and Knowledge Management. 2013: 1625-1630.

13. Yongming Luo, George H.L. Fletcher, Jan Hidders, Yuqing Wu and Paul De Bra. External Memory k-Bisimulation Reduction of Big Graphs. In *the 22th ACM Conference on Information and Knowledge Management*. 2013:919-928.

14. Yuqing Wu, George H. L. Fletcher: Search on Graphs: Theory Meets Engineering. Invited tutorial at *the 15th Asia-Pacific Web Conference,* 2013: 3-6.

15. Yongming Luo, Yannick de Lange, George H. L. Fletcher, Paul De Bra, Jan Hidders, Yuqing Wu: Bisimulation Reduction of Big Graphs on MapReduce. In *Big Data – 29th British National Conference on Databases.* 2013: 189-203.

16. George H. L. Fletcher, Marc Gyssens, Dirk Leinders, Jan Van den Bussche, Dirk Van Gucht, Stijn Vansummeren, Yuqing Wu: The Impact of Transitive Closure on the Boolean Expressiveness of Navigational Query Languages on Graphs. In the 7th *International Symposium on Foundations of Information and Knowledge Systems* 2012: 124-143.

17. George H. L. Fletcher, Marc Gyssens, Dirk Leinders, Jan Van den Bussche, Dirk Van Gucht, Stijn Vansummeren, Yuqing Wu: Relative Expressive Power of Navigational Querying on Graphs. In the *14th International Conference on Database Theory*, 2011: 197-207.

18. Mo Zhou, Yifan Pan and Yuqing Wu. Efficient Association Discovery with Keyword-based Constraints on Large Graph Data. In *the 20th ACM Conference on Information and Knowledge Management*. October, 2011: 2441-2444.

19. Mo Zhou, Yifan Pan and Yuqing Wu. Conkar: Constraint Keyword-based Association Discovery. In *the 20th ACM Conference on Information and Knowledge Management.* 2011: 2553-2556.

20. Vahid Jalali, Mo Zhou, Yuqing Wu, Study of RDB-based RDF Data Management Techniques. In *the 12th International Conference on Web-Age Information Management.* 2011:366-378.

21. Jonathan Klinginsmith, Malika Mahoui, Yuqing Melanie Wu: Towards Reproducible eScience in the Cloud. in the *IEEE 3rd International Conference on Cloud Computing Technology and Science.* 2011: 582-586.

22. Yuqing Wu, Sofia Brenes, and Hyungdae Yi. Workload-aware Trie Indices for XML. In the *18th ACM Conference on Information and Knowledge Management*. 2009: 1425-1428.

23. Yuqing Wu, Sofia Brenes, Tejas Totade, Dhaval Damani, Shijin Joshua, and Michel Salim. ASIC: Algebra-based Structural Indices Comparison. In the *18th ACM Conference on Information and Knowledge Management*. 2009: 2111-2112.

24. Yuqing Wu, Namrata Lele, Rashmi Aroskar, Sharanya Chinnusamy and Sofia Brenes. XQGen - An Algebra-based XPath Query Generator For Micro-Benchmarking. In the *18th ACM Conference on Information and Knowledge Management*. 2009: 2109-2110.

25. Yuqing Wu, Dirk Van Gucht, Marc Gyssens, and Jan Paredaens, A Study of a Positive Fragment of Path Queries: Expressiveness, Normal Form and Minimization. In *Dataspace: The Final Frontier, 26th British National Conference on Databases*, 2009: 133-145. **Best Article Award.**

26. George H. L. Fletcher, Dirk Van Gucht, Yuqing Wu, Marc Gyssens, Sofia Brenes, and Jan Paredaens. A Methodology for Coupling Fragments of XPath with Structural Indexes for XML Documents. In the *11th International Symposium of Database Programming Languages.* September, 2007. Published in the *Lecture Notes in Computer Science Vol.4797*, pp. 48-65. Springer, 2007.

27. Sriram Mohan, Arijit Sengupta, and Yuqing Wu. A Rewrite-based Approach for Enforcing Access Constraints for XML. In the *11th International Conference on Knowledge-based and Intelligent Information and Engineering Systems.* Published in the *Lecture Notes in Computer Science Vol.4694*, pp. 1081-1089. Springer, 2007.

28. Sriram Mohan, and Yuqing Wu. IPAC: An Interactive Approach to Access Control for Semi-Structured Data. In *the Proceedings of the 32nd International Conference on Very Large Data Bases*, 2006: 1147-1150.

29. Sriram Mohan, Jonathan Klinginsmith, Arijit Sengupta, and Yuqing Wu. ACXESS - Access Control for XML with Enhanced Security Specification. In the *Proceedings of the 22nd International Conference on Data Engineering*, pp. 2006: 171.

30. Yuqing Wu, Jonathan Klinginsmith, and Huanmei Wu. Data Cube Based Tumor Respiratory Motion Characterization. In the *Proceedings of the 48th Annual Meeting of American Association of Physicists in Medicine*, 33(6), 2006: 2265-2269.

31. Jon Klinginsmith, Malika Mahoui, Huanmei Wu, and Yuqing Wu, A Biomedical Patient Data Driven Approach for the Prediction of Tumor Motion. In the *Proceedings of the 48th Annual Meeting of American Association of Physicists in Medicine*, 33(6), 2006: 2052-2056.

32. Sriram Mohan, Arijit Sengupta and Yuqing Wu. Access Control for XML: a Dynamic Query Rewriting Approach. In the *Proceedings of the 2005 ACM CIKM International Conference on Information and Knowledge Management*, 2005: 251-252.

33. Surajit Chaudhuri, Zhiyuan Chen, Kyuseok Shim, and Yuqing Wu. Storing XML (with XSD) in SQL Databases: Interplay of Logical and Physical Designs. In *the Proceedings of the 20th International Conference on Data Engineering*, 2004: 842.

34. Stelios Paparizos, Yuqing Wu, Laks V. S. Lakshmanan, and H. V. Jagadish. Tree Logical Classes for Efficient Evaluation of XQuery. In the *Proceedings of the ACM SIGMOD International Conference on Management of Data*, 2004: 71-82.

35. Stelios Paparizos, Shurug Al-Khalifa, Adriane Chapman, H.V. Jagadish, Laks V.S. Lakshmanan, Andrew Fireman, Jignesh M. Patel, Divesh Srivastava, Nuwee Wiwatwattana, Yuqing Wu, and Cong Yu. TIMBER: A Native System for Querying XML. In the *Proceedings of the 2003 ACM SIGMOD International Conference on Management of Data*, 2003: 672.

36. Yuqing Wu, Jignesh Patel and H.V. Jagadish, Structural Join Order Selection for XML Query Optimization. In the *Proceedings of the 19th International Conference on Data Engineering,* 2003: 443-454.

37. Tengjiao Wang, Shiwei Tang, Dongqing Yang, Jun Gao, Yuqing Wu, and Jian Pei. COMMIX: Towards Effective Web Information Extraction, Integration and Query Answering. In the *Proceedings of the 2002 ACM SIGMOD International Conference on Management of Data*, 2002: 620.

38. Yuqing Wu, Jignesh M. Patel and H.V.Jagadish. Estimating Answer Sizes for XML Queries. In Advances in Database Technology - The Proceeding of the 8th International Conference on Extending Database Technology, 2002: 590-608.

39. Shurug Al-Khalifa, H. V. Jagadish, Nick Koudas, Jignesh M. Patel, Divesh Srivastava and Yuqing Wu. Structural Joins: A Primitive for Efficient XML Query Pattern Matching. In the *Proceedings of the 18th International Conference on Data Engineering*, 2002: 141-143.

40. Yuqing Wu, Dogging Yang, and Shiwei Tang. Sharing Spatial Information among Heterogeneous Geographic Information System, In the Proceeding of *the 15th National Conference on Database Systems (China).* 1998.

Refereed Workshop Proceedings (*peer reviewed*)

1. Yongming Luo, George H. L. Fletcher, Jan Hidders, Paul De Bra, Yuqing Wu: Regularities and Dynamics in Bisimulation Reductions of Big Graphs. In *the 1st International Workshop on Graph Data Management Experiences and Systems, co-located with SIGMOD/PODS,* 2013: 13-17.

2. Mo Zhou, and Yuqing Wu. XML-Based RDF Data Management for Efficient Query Processing. In the *13th International Workshop on the Web and Databases.* June, 2010.

3. Jonathan Klinginsmith, Malika Mahoui, Yuqing Wu, and Josette Jones, Discovering Domain Specific Concepts within User-Generated Taxonomies. In the *3rd International* Workshop *on Domain Driven Data Mining,* held in conjunction to the 2009 *International Conference on Data Mining*. 2009: 19-24.

4. Sofia Brenes, Yuqing Wu, Dirk Van Gucht, and Pablo Santa Cruz. Trie Indexes for Efficient XML Query Evaluation. In the *11th International Workshop on the Web and Databases.* June, 2008.

5. Sofia Brenes, (Advisor Yuqing Wu), Structural Summaries for Efficient XML Query Processing. In the *Ph.D. Workshop of conjunct to the 11th International Conference on Extending Database Technology*. March, 2008. **Best Article Award.**

6. George H. L. Fletcher, Dirk Van Gucht, Yuqing Wu, Marc Gyssens, and Jan Paredaens. Coupling Fragments of XPath with XML Indexing and Query Decomposition. In the *Proceedings of the 1st Workshop on Emerging Research Opportunities for Web Data Management (EROW 2007) Collocated with the 11th International Conference on Database Theory (ICDT 2007)*. January, 2007.

7. Stelios Paparizos, Shurug Al-Khalifa, H. V. Jagadish, Laks V.S. Lakshmanan, Andrew Nierman, Divesh Srivastava, and Yuqing Wu. Grouping in XML. In the *EDBT Workshop on XML-based Data Management and Multimedia Engineering (XMLDM'02)*, Published in Springer-Verlag, *Lecture Notes in Computer Science Vol.2490*, pp. 128-147. 2002.

Software Artifacts (*peer reviewed*)

1. Mo Zhou, Yifan Pan and Yuqing Wu. Conkar: Constraint Keyword-based Association Discovery. Demo at *the 20th ACM Conference on Information and Knowledge Management.* 2011.

2. Yuqing Wu, Sofia Brenes, Tejas Totade, Dhaval Damani, Shijin Joshua, and Michel Salim. ASIC: Algebra-based Structural Indices Comparison. Demo at the *18th ACM Conference on Information and Knowledge Management*. 2009.

3. Yuqing Wu, Namrata Lele, Rashmi Aroskar, Sharanya Chinnusamy and Sofia Brenes. XQGen - An Algebra-based XPath Query Generator For Micro-Benchmarking. Demo at the *18th ACM Conference on Information and Knowledge Management*. 2009.

4. Sriram Mohan, and Yuqing Wu. IPAC: An Interactive Approach to Access Control for Semi-Structured Data. Demo at *the 32nd International Conference on Very Large Data Bases*, 2006.

5. Sriram Mohan, Jonathan Klinginsmith, Arijit Sengupta, and Yuqing Wu. ACXESS - Access Control for XML with Enhanced Security Specification. Demo at *the 22nd International Conference on Data Engineering*, 2006.

6. Stelios Paparizos, Shurug Al-Khalifa, Adriane Chapman, H.V. Jagadish, Laks V.S. Lakshmanan, Andrew Nierman, Jignesh M. Patel, Divesh Srivastava, Nuwee Wiwatwattana, Yuqing Wu, and Cong Yu. TIMBER: A Native System for Querying XML. Demo at *the 2003 ACM SIGMOD International Conference on Management of Data.* June, 2003.

7. Tengjiao Wang, Shiwei Tang, Dongqing Yang, Jun Gao, Yuqing Wu, and Jian Pei. COMMIX: Towards Effective Web Information Extraction, Integration and Query Answering. Demo at *the 2002 ACM SIGMOD International Conference on Management of Data*. 2002.

Book

1. Dongqing Yang, Yuqing Wu, Xiaoyuan Bao, Shiwei Tang. Database system implementation. Translation of the book of the same name by Hector Garcia-Molina, Jeffrey D Ullman and Jennifer Widom.

Other Publications

1. Jelle Hellings, Marc Gyssens, Yuqing Wu, Dirk Van Gucht, Jan Van de Bussche, Stijn Vansummeren, George H. L. Fletcher: Comparing Downward Fragments of the Relational Calculus with Transitive Closure on Trees. CoRR abs/1803.01390 (2018)

2. George H. L. Fletcher, Marc Gyssens, Jan Paredaens, Dirk Van Gucht, Yuqing Wu: Structural characterizations of the navigational expressiveness of relation algebras on a tree. In *the Computing Research Repository* 1502.03258, 2015.

3. George H. L. Fletcher, Marc Gyssens, Dirk Leinders, Dimitri Surinx, Jan Van den Bussche, Dirk Van Gucht, Stijn Vansummeren, Yuqing Wu: Relative Expressive Power of Navigational Querying on Graphs. In *the Computing Research Repository* 1401.8201, 2014.

4. Yongming Luo, George H. L. Fletcher, Jan Hidders, Yuqing Wu, Paul De Bra:I/O-efficient algorithms for localized bisimulation partition construction and maintenance on massive graphs. In *the Computing Research Repository* 1210.0748, 2012.

5. Vahid Jalali, Mo Zhou, Yuqing Wu, Study of RDB-based RDF Data Management. Techniques.Technical Report 694, Computer Science Department, Indiana University, 2011.

6. Mo Zhou, Yifan Pan and Yuqing Wu. Efficient Association Discovery with Keyword-based Constraints on Large Graph Data. Technical Report 692, Computer Science Department, Indiana University, 2011.

7. Mo Zhou, and Yuqing Wu. XML-Based RDF Data Management for Efficient Query Processing. Technical Report 683, Computer Science Department, Indiana University, 2010.

8. Sofia Brenes, Yuqing Melanie Wu, and Hyungdae Yi. Workload-aware Trie Indexes for XML, Technical Report 673, Computer Science Department, Indiana University, January, 2009.

9. Yuqing Wu, Dirk Van Gucht, Marc Gyssens, and Jan Paredaens. A Study of Positive XPath with Parent/Child Navigation, Technical Report 660, Computer Science Department, Indiana University, March, 2008.

10. George H. L. Fletcher, Dirk Van Gucht, Yuqing Wu, Marc Gyssens, and Jan Paredaens. A Methodology for Coupling Fragments of XPath with Structural Indexes for XML Documents. Technical Report 639, Computer Science Department, Indiana University. October, 2006.

11. Sriram Mohan, Arijit Sengupta, and Yuqing Wu. A Framework for Access Control for XML. Technical Report 633, Computer Science Department, Indiana University. July, 2006.

12. Sriram Mohan, Arijit Sengupta, Yuqing Wu, and Jonathan Klinginsmith. Access Control for XML - A Dynamic Query Rewriting Approach. Technical Report 609, Computer Science Department, Indiana University. February, 2005.

PATENTS

- US Patent No. 7451144 – Method of Pattern Searching. Nick Koudas, Divesh Srivastava, Jignesh Paten, Shurug Al-Khalifa, H.V. Jagadish, Yuqing Wu. Issued Nov. 8, 2008.

- US Patent No. 7228312 – Transformation tool for mapping XML to relational database. Surajit Chaudhuri, Zhiyuan Chen, Kyuseok Shim, Yuqing Wu. Issued June 5, 2007.

PRESENTATIONS

- *All publications in peer-reviewed conferences and peer-reviewed workshops listed above in the "PUBLICATIONS" section were presented at the conferences and workshops listed.*

- *All software artifacts listed above in the "PUBLICATIONS" section were demonstrated at the conferences listed.*

INVITED TALKS

1. Invited Panelist at CRA-WP Career Mentoring Workshop. "Strategies for your Career", with Kathryn McKinley, Dec, 2020.

2. Invited Panelist at CRA-WP Career Mentoring Workshop. "Promotion to the Next Level (Education)", with Richard Ladner, Dec, 2020

3. Invited Panelist at Grace Hopper Celebration of Women in Computing, "Sponsors & Mentors: Building Your Academic Professional Network", with AJ Brush, Sep 2020.

4. Invited Panelist at SIGGRAPH Women-in-Tech breakfast by Disney. Aug 2019.

5. Invited Panelist at CRA-W Grad Cohort, Apr 2019

6. Invited Panelist at CRA-W Career mentoring workshop, Nov 2018.

7. Invited Panelist at Career Panel, Barbour Celebration, Rackham Graduate School, University of Michigan, Ann Arbor, Oct, 2017.

8. Invited Panelist at Student Opportunity Lab (SOL), Graph Hopper Conference, Oct, 2017.

9. Invited Panelist at Women in CG panel, SIGGRAPH, Aug, 2017.

10. Invited Panelist at CRA-W Graduate Cohort. April 2017.

11. Invited Panelist at CRA-W Graduate Cohort. April 2016.

12. Invited talk at the SIKS symposium on Data Engineering for Data Science at the Eindhoven University of Technology, the Netherlands: Looking through the Lens of Social Media. March 2015.

13. Invited session keynote at the ICT-OPEN conference: Computing Culture. March 2015.

14. Panelist at Grace Hopper Conference, Quiet Success. Nov, 2013.

15. Invited tutorial at APWeb Conf, Apr. 2013.

16. Invited talk at IUPUI: Graph Management and Search. Nov. 2012

17. Invited talk at Peking University, China: Keyword Search on Graph Data. May. 2012

18. Invited talk at Chinese University of Hong Kong, China: Search the Graph. May. 2012

19. Invited talk at Delft University of Technology, Netherlands: Searching the Graph. Mar. 2012

20. Invited talk at Eindhoven University of Technology, Netherlands: Searching the Graph. Mar. 2012

21. Invited talk at University of Antwerp, Belgium: Efficient Keyword search in the Graph. Mar. 2012

22. Invited talk at Hasselt University, Belgium: Efficient Keyword search in the Graph. Mar. 2012

23. Invited talk to the D2I colloquium: Search Queries – How to ask them and answer them. Oct 2011.

24. Expert panelist for "Teaching in Computer Science" Seminar, fall 2011.

25. Invited lectures for I400-Health Informatics. Spring 2011

26. Invited lectures for B461-Database Concepts, spring 2011.

27. Invited to teach summer class at Renmin University. Web-era Data Management. July 2010.

28. Invited talk at NanKai University. Weaving the Web. Jun. 2010.

29. Invited talk at NanKai University. A Methodology for Efficient XML Query Processing. Jun. 2010

30. Invited talk at Peking University, Structural Summaries for Efficient XML Query Processing. May, 2008.

31. Invited talk at TianJin Normal University, Efficient Evaluation of Semi-structured Data. May, 2008.

32. Invited talk at Renmin University, Structural Summaries for Efficient XML Query Processing. May, 2008.

33. Invited talk at Indiana University-Purdue University, Indianapolis (IUPUI), Coupling Theoretical Study of Query Language and System Design. Apr, 2008.

34. Invited talk at Data and Search Institute, Indiana University. Coupling Fragments of XPath Algebra with Structural Indices of XML Documents. Oct, 2007.

35. Invited talk at Informatics Colloquium of Indiana University. Securing Access to XML Data. Sep, 2006.

36. Invited talk at COE (Center of Excellency), Indianapolis, Medical Data Processing. Mar, 2006.

37. Invited talk at Google Inc., XML – The Research and Implementation. Nov. 2005.

38. Invited talk at Computer & Information Technology Colloquium at Indiana University-Purdue University, Indianapolis (IUPUI). XML – The Research and Implementation. Sep. 2005.

39. Invited talk at Peking University, China, XML Query Processing and Optimization. Jun. 2005.

40. Invited talk at University of Toronto. Tree Logic Class for Efficient XML Query Processing. May 2005.

41. Invited talk at Oakland University. XML Query Processing and Optimization. Oakland University. Mar, 2005.

42. Invited talk at the Women in Computing (WIC) technical colloquium, Storing and Querying Semi-structural (XML) Data. Nov. 2004.

43. Expert panelist at CASCON (IBM Centers for Advanced Studies Conference). Oct. 2002.

TEACHING ACTIVITIES AT POMONA COLLEGE

Courses taught

CSCI 51 – Introduction to Computer Science	Fall14, Sp15 (2), Fall15, Sp16, Fall17(2), Fall20, Sp21(2)
CSCI 51J – Introduction to Computer Science in Java	Fall18
CSCI 51P – Introduction to Computer Science in Python	Fall20
CSCI 54 – Functional Programming and Discrete Math	Sp19 (2), Fall19(2)
CSCI 81 – Computability and Logic	Sp16, Sp17, Sp18, Fall18
CSCI 101 – Introduction to Languages and Computability	Sp20
CSCI 133 – Introduction to Database Systems	Fall14, Fall15, Sp17, Sp18, Sp20, Fall20
CSCI 190 – Computer Science Senior Seminar	Fall15

Research assistants supervised

Eric Campbell	Sp16, Sm16

Independent study supervised

Ross Wollman	Sp16

SURP supervised

Gianna Wu	Sm17
Baiyu Li	Sm17
Carlos Salas	Sm17
Sarp Misoglu	Sm18

Senior projects supervised

Mengting Huang. *Network Analysis with Customer Transaction Data*	AY18-19
Alice Zhang. *Excavation Sites: Art-ifacts of the Millenial Girl Web Development and Blogging Community of the 2000's to the Early 2010's*	AY18-19
Shinjini Nunna. *Using Association Analysis for Medical Diagnoses*	AY15-16
Joanna Finkelstein. *People Pleasers on Social Media*	AY15-16

Michael Cohan. *Predictive Modeling and Statistical Analysis in Sports.*		AY14-15
Hyomin Jeon. *Online Room Draw System*.		AY14-15
Mauricio Molina. *Eventscape: Recommender System Using K-means Clustering*		AY14-15
Matthew Sloane. *Predictive Modeling and Statistical Analysis in Sports.*		AY14-15

Ph.D. research supervised (*as member of Ph.D. committee*)

Jelle Helings	Hasselt University, Belgium *On Tarski's Relation Algebra: Querying trees and chains, and the semi-join algebra.* Ph.D. 2018
Yongmin Luo	Eindhoven University of Technology, Netherlands *Designing Algorithms for Big Graph Datasets: A Study of Computing Bisimulation and Joins* Ph.D. 2015

TEACHING ACTIVITIES AT INDIANA UNIVERSITY

Courses taught   (*Courses with a * are new courses I proposed and designed*)

	Computer Science 561 – Advanced Database Concepts	Fall09, Fall10, Fall11, Fall12, Fall13
*	Computer Science 662 – Database Systems and Internal Design	Sp06, Sp07, Sp08, Sp09, Sp10, Sp11, Sp13
*	Computer Science 669 – Topic in Database and Info Systems	Sp13
*	Computer Science 462 – Database Application Design & Implementation	Sp11
	Informatics 308 – Information Representation	Sp05, Sp06, Sp07, Sp08, Fall09
*	Informatics 399 – Web-based Database Application design & Implementation	Fall06, Fall07, Fall08
	Informatics 500 – Fundamentals of Informatics	Fall04

Guest Lectures

- Invited to teach guest lectures in the courses *Advanced Database Concepts, Introduction to Informatics, Computer Science Undergraduate Honor Seminar, Health Informatics, Seminar in Chemical Informatics* and *Seminar in Teaching in Computer Science.*

Ph.D. Students – as chair of research committee

Yifan Pan
Keyword Search on Graph Data
Ph.D. 2015
Currently senior software engineer, Cruise Inc.

Mo Zhou
Efficient Data Management and Keyword-based Association
Discovery on Graph Data of Large Scale
Ph.D. 2014
Currently principal data science manager, Microsoft Inc.

Sofia Brenes
Structural Summery of XML for Efficient Query processing
Ph.D. 2011
Currently senior software engineer, Google Inc.

Sriram Mohan
ACXESS - A Framework for Designing Specifying and Enforcing Access Control for XML
Ph.D. 2007
Currently Professor, Rose-Hulman Institute of Technology

Ph.D. Students – as member of research committee

Vladomir Bulakh
Online Fraud Economy: Characterization and Defense
Ph.D. 2017

Yiming Sun
From Complex Computational Science Experiments to Preserved Research Objects
Ph.D. 2016

Yuan Luo
Virtual Cluster Management for Analysis of Geographically Distributed and Immovable Data
Ph.D. 2015

You-wei Cheah
Quality, Retrieval and Analysis of Provenance in Large-Scale Data
Ph.D. 2013

Jay Powell
A Generic Web-based Knowledge Discovery Framework for Case-based Reasoning.
Ph.D. 2011

Scott Jensen
An Adaptable Repository for Complex Scientific Metadata
PhD. 2010

Ahmet Sayar
High Performance, Federated, Service-Oriented Geographic Information Systems
Ph.D. 2009

Hui Zhang
Physically Interacting with Four Dimensions
Ph.D. 2008

Yi Huang	*Scalable Web Service-Based XML Message Brokering Across Organizations* Ph.D. 2007
Ying Liu	*Query Optimization for Distributed Stream Processing* Ph.D. 2007

Ph.D. Students – as chair of advisory committee

Yifan Pan	Ph.D. Candidacy 2010
Mo Zhou	Ph.D. Candidacy 2008
Jonathon Klinginsmith	Ph.D. Candidacy 2008

Ph.D. Students – as member of advisory committee

Quan Zhou	Ph.D. Candidacy 2014
Jingya Wang	Ph.D. Candidacy 2014
Yuan Luo	Ph.D. Candidacy 2013
Tak-Lon Wu	Ph.D. Candidacy 2013
Jiaan Zeng	Ph.D. Candidacy 2013
Chris Dunn	Ph.D. Candidacy 2013
Tak-lon Wu	Ph.D. Candidacy 2013
Vahid Jalali	Ph.D. Candidacy 2013
Volodymyr Bulakh	Ph.D. Candidacy 2013
Zong Peng	Ph.D. Candidacy 2013
Dae Wook Kim	Ph.D. Candidacy 2013
Pairog Dattadilok	Ph.D. Candidacy 2012
Youwei Cheah	Ph.D. Candidacy 2012
Heejoon Chae	Ph.D. Candidacy 2009
Jay Powell	Ph.D. Candidacy 2009
Hui Zhang	Ph.D. Candidacy 2009
Scott Jensen	Ph.D. Candidacy 2009
Xiao Dong	Ph.D. Candidacy 2008
Ying Liu	Ph.D. Candidacy 2006

Independent study projects

- Supervised student research projects through *Independent Study, Advanced Research,* and *Thesis Readings and Research* courses for a total of over 200 credit hours. The following are the students with whom I co-authored research articles and demos of software artifacts.

Student	*Publications*
Sofia Brenes	1 journal article, 5 conference articles, 1workshop article, 2 software artifacts, 2 technical reports
Jonathan Klinginsmith	1 journal article, 5 conference articles, 1 workshop article, 1 software artifact, 1 technical report
Huijun Wang	1 journal article
Pablo Santa Cruz	1 conference article
Sriram Mohan	4 conference articles, 2 software artifacts, 2 technical reports
Mo Zhou	2 conference article, 1 workshop article, 1 software artifact, 3 technical reports
Yifan Pan	3 conference article, 1 software artifact, 1 technical report
Vahid Jalali	1 conference article
Hyungdae Yi	1 conference article
Tejas Totade	1 software artifact
Dhaval Damani	1 software artifact
Shijin Joshua	1 software artifact
Michel Salim	1 software artifact
Namrata Lele	1 software artifact
Rashmi Aroskar	1 software artifact
Sharanya Chinnusamy	1 software artifact

PROFESSIONAL SERVICE

Professional Organization

ACM-W (Association of Computing Machinery – Women) Executive Council	2012 – present

• Chair of Communication Committee	2012-2019
• Treasurer	2019-present
CRA-WP (Computing Research Association - Widening Participation) Board of Directors	2016 – 2020
• Co-chair of CREU program	2016-2019
• Co-chair of GHC Research Scholarship program	2019-2020
CRA (Computing Research Association)	
• Undergraduate Research Awards Committee	2020-present

Conference Organization

Publicity chair for Symposium on Principles of Database Systems (PODS)	2010
Workshop local arrangements chair for the ACM SIGMOD International Conference on Management of Data	2010
Local organizer for Midwest Database symposium	2005 - 2008
Organizer of the Indiana Women In Computer Conference (InWIC)	2008

Journal Review

ACM Transactions on Database Systems (TODS)

VLDB Journal (VLDBj)

Data & Knowledge Engineering (DKE)

IEEE Transactions on Knowledge and Data Engineering (TKDE)

World Wide Web journal (WWWj)

Information Systems (IS)

ACM Computing Survey

Information Science (INS)

Journal of Systems and Software (JSS)

ACM Transaction on Internet Technology

Software: Practice and Experience (SPE)

Journal of Electronics and Telecommunication Research Institute (ETRIJ)

Concurrency and Computation: Practice and Experience (CCPE)

Computer Science Review Journal

Journal of Computer Science and Technology (JCST)

Conference Program Committee

ACM International Conference on Management of Data (SIDMOD)	2011, 2015
International Conference on Very Large Data Bases (VLDB)	2009, 2011, 2012, 2014
IEEE International Conference on Data Engineering (ICDE)	2007, 2008, 2009, 2011, 2012, 2013, 2017
IEEE International Conference on Data Theory (ICDT)	2012, 2013
International Conference on Extending Database Technology (EDBT)	2013
ACM Conference on Information and Knowledge Management (CIKM)	2008, 2009, 2010, 2011
Database Programming Language (DBPL)	2019
International Symposium on Foundations of Information and Knowledge Systems (FoIKS)	2016
International Conference on Knowledge Discovery and Data Analysis (KDDA)	2015
Web Information Systems Engineering (WISE)	2013
Web-Age Information Management (WAIM)	2011, 2012, 2013
IEEE Interanational Conference on High Performance Computing (HiPC)	2011
International Conference on Networked Digital Technologies (NDT)	2009
Asia Pacific Web Conference (APWeb)	2008, 2011, 2012, 2013
ACM Conference on Computer And Communication Security	2007
IEEE International Conference on Advanced Information Networking and Application	2007

Workshop Program Committee

Workshop title	Held in conjunction with	Year
International Workshop on Analytics on Evolving Networks (AEN)	International Conference on Artificial Intelligence (ECAI)	2016
ACM International Workshop on Web Information and Data Management	ACM Conference on Information and Knowledge Management (CIKM)	2008

SIGMOD PhD workshop on Innovative Database Research (IDAR)	ACM International Conference on Management of Data (SIGMOD)	2007, 2008
VLDB PhD workshop	International Conference on Very Large Data Bases (VLDB)	2007, 2013
International XML Database Symposium (XSym)	ACM International Conference on Management of Data (SIGMOD)	2005, 2006, 2011
International Workshop on Database Interoperability (InterDB)	IEEE International Conference on Data Engineering (ICDE)	2006
IEEE International Workshop on Mining Evolving and Streaming Data	IEEE International Conference on Data Mining (ICDM)	2006
International Workshop on Web-based Massive Data Processing	International Conference on Web Information System Engineering (WISM)	2006
International Workshop on Conceptual Model-Directed Web Information Integration and Mining (CoMWIM)	International Conference on Conceptual Modeling (ER)	2004

Grant Review

National Science Foundation (NSF)	2013, 2014
Indiana University FRSP (Faculty Research Support Program)	2011, 2012
Kentucky Science and Engineering Foundation	2006

Book Review

WIREs Data Mining and Knowledge Discovery (Wiley)
Security in Decentralized Data Management

Professional Memberships

IEEE Computer Society

Association for Computing Machinery (ACM)

INSTITUTIONAL SERVICE

Pomona College

Steering Committee, Global Pomona Project	2021 – present
Academic Procedure Committee (APC)	2020 – 2021
Chair of Computer Science Department	2017 – 2020
DSR (Director of Sponsored Research) search committee	Sm-Fa 2018
Faculty Personal Committee (FPC)	Spring 2017
Quantitative Skill Center	Spring 2017
Faculty Mentor for Pomona International Student Mentoring Program	2014 – 2015

Computer Science Department, Pomona College

TA coordinator	2015 – 18, 2020 – 21
Enrollment Coordinator	2017 – 21
Study abroad liaison	Spring 2017
Grace Hopper Coordinator	2017-20
Diversity advocate – CS faculty search	2015 – 2016
Colloquium coordinator	2015

Indiana University

Faculty mentor of OWA (Office of Women's Affair)	2011 – 2014
Faculty advisor for AGEP (Alliance for Graduate Education and the Professoriate) of Indiana University	2005 – 2014
Co-founder and Council member of APAFSC (Asian Pacific American Faculty & Staff Community Council)	2005 – 2014

School of Informatics and Computing, Indiana University

Faculty advisor for Asian Information & Computing Community (AICC)	2014 – 2015
Member of School Curriculum Committee	2013 – 2014
Member of Curriculum Committee of Data and Science Program	2013 – 2014
Member of Teaching Award Committee	2011
Member of Globalization Committee	2005 – 2007
Faculty advisor for Women in Computer (WIC)	2004 – 2014

Recruitment visits to universities in China   2005, 2008

Computer Science Department, Indiana University

Director of Graduate Studies   2012 – 2014

Chair of Graduate Program Committee   2012 – 2014

Member of Graduate Program Committee   2010 – 2012

Member of Faculty Affairs Committee   2008 – 2009

Member of Graduate Admission and Awards Committee   2004 – 2012

Member of Systems Prelim Exam Committee   2005 – 2006

Department of Informatics, Indiana University

Member of Graduate Program Committee   2006 – 2007

Member of Graduate Admission Committee   2004 – 2006