

CURRICULUM VITAE
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EDUCATION and TRAINING

8/2001	University of Houston Houston, TX	MS Applied Mathematics
12/2003	University of Houston at Clear Lake Clear Lake, TX	MS Computer Science
12/2009	Texas A&M University College Station, TX	PhD Computer Science Jianer Chen and Sing-Hoi Sze GPA 4.0

APPOINTMENTS and POSITIONS

8/1999 - 7/2001	University of Houston Houston, TX	Teaching Assistant Mathematics
8/2001 - 12/2003	University of Houston at Clear Lake Clear Lake, TX	Teaching Assistant Mathematics
8/2004 - 8/2008	Texas A&M University College Station, TX	Research Assistant Computer Science
8/2008 - 5/2009	Eastern Kentucky University Richmond, KY	Assistant Professor Computer Science

8/2009 - 7/2010	Medicine Medical University of South Carolina Charleston, SC	Postdoctoral Associate Biochemistry & Molecular Biology
8/2010 - 8/2015	Medicine University of Pittsburgh Pittsburgh, PA	Postdoctoral Associate Biomedical Informatics
9/2015 - Present	School of Medicine University of Pittsburgh Pittsburgh, PA	Assistant Professor Biomedical Informatics

HONORS and AWARDS

2012	DREAM 7 Challenge. Breast Cancer Challenge: Team “PittTransMed” placed second for Metabric phase of the Challenge.
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PUBLICATIONS

Peer-reviewed Publications

Publications in Bioinformatics

1. **Lu S**, Lu KN, Cheng SY, Hu B, Ma X, Nystrom N, Lu X. *Identifying Driver Genomic Alterations in Cancers by Searching Minimum-Weight, Mutually Exclusive Sets*. PLoS Computational Biology. 2015 Aug; 11 (8):e1004257. PMID: PMC4552843. PMID: 26317392. doi: 10.1371/journal.pcbi.1004257.
2. Montefusco DJ, Chen L, Matmati N, **Lu S**, Newcomb B, Cooper GF, Hannun YA, Lu X. *Distinct signaling roles of ceramide species in yeast revealed through systematic perturbation and systems biology analyses*. Science Signaling. 2013 Oct 29; 6 (299):rs14. PMID: PMC3974757. PMID: 24170935. doi: 10.1126/scisignal.2004515.
3. **Lu S**, Lu X. *Using graph models to find transcription factor modules: the hitting set problem and an exact algorithm*. Algorithms For Molecular Biology : AMB. 2013; 8 (1):2. PMID: PMC3622577. PMID: 23324335.
4. **Lu S**, Jin B, Cowart LA, Lu X. *From data towards knowledge: revealing the architecture of signaling systems by unifying knowledge mining and data mining of systematic perturbation data*. PloS One. 2013; 8 (4):e61134. PMID: PMC3634064. PMID: 23637789.
5. **Lu S**, Lu X. *Integrating genome and functional genomics data to reveal perturbed signaling pathways in ovarian cancers*. AMIA Joint Summits on Translational Science Proceedings AMIA Summit on Translational Science. 2012; 2012:72-8. PMID: PMC3392049. PMID: 22779056.

6. Feng H, Hu B, Liu KW, Li Y, Lu X, Cheng T, Yiin JJ, **Lu S**, Keezer S, Fenton T, Furnari FB, Hamilton RL, Vuori K, Sarkaria JN, Nagane M, Nishikawa R, Cavenee WK, Cheng SY. *Activation of Rac1 by Src-dependent phosphorylation of Dock180(Y1811) mediates PDGFR α -stimulated glioma tumorigenesis in mice and humans*. The Journal of Clinical Investigation. 2011 Dec; 121 (12):4670-84. PMID: 22080864. PMCID: PMC3223070.
7. **Lu S**, Lu X. *A graph model and an exact algorithm for finding transcription factor modules*. In: Proc ACM-BCB 2011. 2nd ACM Conference on Bioinformatics, Computational Biology and Biomedicine; 2012 Jul 31-Aug 3; Chicago, IL 2011. p.355-59.
8. **Lu S**, Zhang F, Chen J, Sze S. *Finding Pathway Structures in Protein Interaction Networks*. Algorithmica. 2007; 48 (4):363-74.
9. Sze S, **Lu S**, Chen J. *Integrating Sample-Driven and Pattern-Driven Approaches in Motif Finding*. In: Lecture Notes in Computer Science 3240. WABI 2004; p.84-95.

Publications in the Theory of Algorithm

1. Chen J, Liu Y, **Lu S**, Sze S, Zhang F. *Iterative Expansion and Color Coding: An Improved Algorithm for 3D-Matching*. ACM Transactions on Algorithms. 2012; 8 (1):6.
2. Chen J, Feng Q, Liu Y, **Lu S**, Wang J. *Improved Deterministic Algorithms for Weighted Matching and Packing Problems*. Theoretical Computer Science. 2011; 412 (23):2503-12. doi: 10.1016/j.tcs.2010.10.042.
3. Feng Q, Liu Y, **Lu S**, Wang J. *Improved Deterministic Algorithms for Weighted Matching and Packing Problems*. In: Lecture Note in Computer Science 5532. Theory and Applications of Models of Computation; 2009 May 18-22; Changsha, China 2009. p.211-20.
4. Chen J, Liu Y, **Lu S**. *An Improved Parameterized Algorithm for the Minimum Node Multiway Cut Problem*. Algorithmica. 2009; 55 (1):1-13.
5. Chen J, **Lu S**. *Improved Parameterized Set Splitting Problem: A Probabilistic Approach*. Algorithmica. 2009; 54 (4):472-89.
6. Chen J, Kneis J, **Lu S**, Mölle D, Richter S, Rossmanith P, Sze S, Zhang F. *Divide-and-Conquer for Path and Packing Problems*. SIAM Journal on Computing. 2009; 38 (6):2526-47.
7. Chen J, Liu Y, **Lu S**, O'Sullivan B, Razgon I. *A Fixed-Parameter Algorithm for the Directed Feedback Vertex Set Problem*. Journal of the ACM. 2008; 55 (5). doi: 10.1145/1411509.1411511.
8. Chen J, Liu Y, **Lu S**, O'Sullivan B, Razgon I. *A Fixed-Parameter Algorithm for the Directed Feedback Vertex Set Problem*. In: Proc STOC 2008. 40th annual ACM Symposium on Theory of Computing; 2008 May 17-20; Victoria, British Columbia, Canada 2008. p.177-86.

9. Chen J, Fomin F, Liu S, **Lu S**, Villanger Y. *Improved Algorithms for the Feedback Vertex Set Problems*. J Comp Sys Sci. 2008; 74 (7):1188-98.
10. Chen J, **Lu S**, Sze S, Zhang F. *Improved Algorithms for Path, Matching, and Packing Problems*. In: Proc SODA 2007. 18th Annual ACM-SIAM Symposium on Discrete Algorithms; 2007 Jan 7-9; New Orleans, Louisiana 2007. p.298-307.
11. Chen J, Liu Y, **Lu S**. *Directed Feedback Vertex Set Problem is FPT*. Structure Theory and FPT Algorithmics for Graphs, Digraphs and Hypergraphs; 2007.
12. Chen J, **Lu S**. *Improved Algorithms for Weighted and Unweighted Set Splitting Problem*. In: Lecture Note in Computer Science 4598. COCOON 2007; 2007 Jul 16-19; Banff, Alberta, Canada 2007. p.537-47.
13. Chen J, Fomin F, Liu Y, **Lu S**, Villanger Y. *Improved Algorithms for Feedback Vertex Set Problem*. In: Lecture Note in Computer Science 4619. Workshop on Software Architectures for Dependable Systems; 2007 Aug 15-17; Halifax, Nova Scotia, Canada 2007. p.422-33.
14. Chen J, Liu Y, **Lu S**. *An Improved Parameterized Algorithm for the Minimum Node Multiway Cut Problem*. In: Lecture Note in Computer Science 4619. Workshop on Software Architectures for Dependable Systems; 2007 Aug 15-17; Halifax, Nova Scotia, Canada 2007. p.495-506.
15. Liu Y, **Lu S**, Chen J, Sze S. *Greedy Localization and Color-Coding: Improved Matching and Packing Algorithms*. In: Lecture Note in Computer Science 4169. IWPEC 2006; p.84-95.

Note: As a tradition, theory papers usually use last name as author order.
All papers have been cited for more than 800 times by Sep. 2015.

RESEARCH

Current research support

Funding Agency:	NIH
Grant Number:	4R00LM011673
Title of Grant:	Developing graph models and efficient algorithms for the study of cancer disease mechanisms
Principal Investigator:	Songjian Lu
Lu Role on Grant:	PI (sole)
Years Inclusive:	9/1/2015 - 8/31/2018
Total Amount Awarded:	\$740,000

Past research support

Funding Agency: NIH
Grant Number: 5K99 LM011673
Title of Grant: Developing graph models and efficient algorithms for the study of cancer disease mechanisms
Principal Investigator: Songjian Lu
Lu Role on Grant: PI (sole)
Years Inclusive: 2/2014 - 8/2015
Total Amount Awarded: \$140,000

OTHER SCHOLARLY ACTIVITIES

Other Review Activities

2007 Referee, Algorithmica and SIAM Journal on Computing
2008 Referee, Information Processing Letters
2013 Referee, BioMed Research International
2013 Referee, MFCS-2013: 38 International Symposium on Mathematical Foundations of Computer Science
2014 Panel Member, NIH K99/R00 Award Workshop at the University of Pittsburgh
2015 Referee, FAW-2015: 9th International Frontiers of Algorithmics Workshop