Jianjun Hu

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POSTDOCTORATE HISTORY

- University of Southern California, Postdoc with Prof. Jasmine Zhou, Molecular and Computational Biology Program; Subject: integrative microarray analysis and functional genomics. 2005 – 2007
- Purdue University, Postdoc with Prof. Daisuke Kihara, Department of Computer Science. Subject: DNA regulatory motif analysis. 2004 – 2005

EDUCATION HISTORY

- Michigan State University, Ph.D. in Computer Science, 2004
- Wuhan University of Technology, China, B.S. in Mechanical Engineering, 1995

EMPLOYMENT HISTORY

- 2007 – present: Assistant Professor, University of South Carolina, Columbia
- 2005 – 2007:   Postdoc Research Associate, University of Southern California
- 2004 – 2005:   Postdoc Research Associate, Purdue University
- 2000 – 2004:   Graduate Research Assistant, Michigan State University

HONORS AND AWARDS

- **Breakthrough Rising Stars of Research**, University of South Carolina, 2010
- **NSF CAREER Award**: Computational Analysis and Prediction of Genome-Wide Protein Targeting Signals and Localization. $578,212 from 2009 to 2014
- Invited as faculty member of ACM Upsilon Pi Epsilon, 2008
- Dissertation Fellowship, Graduate School, Michigan State University, 2004.
- Student Travel Grant, American Control Conference (ACC), 2004
- Student Travel Grant, Congress on Evolutionary Computation (CEC), 2004.
- Student Travel Grant, Genetic and Evolutionary Computation Conference, 2004
- Student Travel Grant, College of Engineering, Michigan State University, 2004.
- IEEE Student Travel Grant, World Congress on Computational Intelligence, 2002
- Devlieg/Dean/Engr/Fellowship. College of Eng., Michigan State University, 2000
- Fellowship of Huawei Corporation, Wuhan University of Technology, 1996

RESEARCH SUMMARY

- Published 1 book, 16 refereed journal papers in the area of bioinformatics (all since 2005, including 1 *PNAS*), 11 refereed journal papers in the area of evolutionary computation and machine learning (including 1 in *MIT Evolutionary Computation*), 6 book chapters, and 8 refereed conference papers in bioinformatics (since 2009) and 15 refereed conference papers in evolutionary computation.
- PI for NSF Career Award for $579,818 in total, Co-PI for 1 project and 2 Magellan Scholarships.
- Associate Editor of 2 journals. Technical program committee for 6 conferences. Active reviewer for 19 journals such as BMC Bioinformatics, IEEE SMC, Pattern Recognition, and PLoS One.
- NSF Panelist in Bio-DBI-ABI (Advances in Biological Informatics) program.
- Graduated 1 of my own PhD students and 4 MS students, served on Ph.D. committees for 6 students (1 in Mechanical Engineering). Currently advising 3 PhD students and 1 Postdoc. Supervised 6 undergraduates, two of them received prestigious University Magellan Scholarship.

LIST OF FUNDED RESEARCH AWARDS

- PI: Jianjun Hu, **NSF CAREER Award**: "Computational Analysis and Prediction of Genome-Wide Protein Targeting Signals and Localization", $578,212, 2009 to 2014.
- PI: Hexin Chen, Co-PI: Jianjun Hu, Elsa U. Pardee Foundation Award. "Identification of novel biomarkers for breast cancer stem cells", $100,000; 2009 to 2010 (my portion $4,000)
- PI: Jianjun Hu, "MGS: SMEE:The Protein Sorting Motif Extraction Engine," internal university "Magellan Award", $3033; 2010
- PI: Jianjun Hu, "MGS: Developing Bioinformatics Web Server for Protein Sorting Motif Analysis," internal university "Magellan Award", $3033; 2010

LIST OF REFEREED PUBLICATIONS

The following co-authors are graduate and undergraduate students advised by Jianjun Hu: Jhih-rong Lin, Ananda Mondal, Emrah Atilgan, Jia Xu, Fan Zhang, Rong Liu (postdoc). Electronic copies of all listed publications are available on my web page:
https://cse.sc.edu/~jianjunh/publication.htm

Books and Dissertation
1. S. Li, **J. Hu**, "*Genetic Programming and Creative Design of Mechatronic Systems*" China Machine Press. 2009
2. **J. Hu**. "*Sustainable Evolutionary Algorithms and Scalable Evolutionary Synthesis of Dynamic Systems*", PhD thesis, Department of Computer Science and Engineering, Michigan State University, East Lansing, Michigan, 48823, USA, 2004. Advisor: Erik Goodman

Journal Articles

(In the area of bioinformatics)

1. J. Lin, A. Mondal, R. Liu and **J. Hu**. Minimalist Ensemble Algorithms for Genome-wide Protein Localization Prediction. *BMC Bioinformatics*, 13:157, 2012

2. H. Luo, R. Benner, R. A. Long**, J. Hu**, "Subcellular Localization of Marine Bacterial Alkaline Phosphatases " ***Proceeding of National Academy of Science (PNAS)***, November 19, 2009

3. A. Mondal and **J. Hu**, "Network Based Prediction of Protein Localization Using Diffusion Kernel". *Int. Journal of Data Mining and Bioinformatics*. 2012 (in press)

4. R. Liu and **J. Hu**, "Computational Prediction of Heme-Binding Residues by Exploiting Residue Interaction Network". *PLoS ONE* 6(10): e25560., 2011

5. R. Liu and **J. Hu**, "HemeBIND: a novel method for heme binding residue prediction by combining structural and sequence information", *BMC Bioinformatics*, 2011, 12:207

6. E. Atilgan and **J. Hu**, "Improving Protein Docking Using Sustainable Genetic Algorithms", *International Journal of Computer Information Systems and Industrial Management (IJCISIM)*, Vol 3, 2011

7. R. Liu and **J. Hu**, "Prediction of discontinuous B-cell epitopes using logistic regression and structural information", *Journal of Proteomics & Bioinformatics*, 4: 010-015, 2011

8. **J. Hu** and J. Xu, "Density based Pruning for Identification of Differentially Expressed Genes", *BMC Genomics*, 11(2):S3, 2010

9. **J. Hu** and Fan Zhang, "BayesMotif: De novo Protein Sorting Motif Discovery from Impure Datasets" *BMC Bioinformatics, 11(Suppl 1):S66, 2010*

10. H. Chen, G. Pimienta, Y. Gu, X. Sun, **J. Hu**, M. K. Chaerkady, M. Gucek, R. Cole, S. Sukumar, A. Pandey, "Proteomic characterization of Her2/neu-overexpressing breast cancer cells", *PROTEOMICS*, *10*, 3800–3810, 2010

11. HO. Gonzalez, **J. Hu**, KM. Gaworecki, JA. Roling, WS. Baldwin, Gardea-Torresdey JL, Bain LJ. "Dose-responsive gene expression changes in juvenile and adult mummichogs (Fundulus heteroclitus) after arsenic exposure", *Mar Environ Res*, 70(2): 133-141. 2010

12. CC. Liu, **J. Hu**, M. Kalakrishnan, H. Huang, XJ. Zhou" Integrative Disease Classification Based on Cross-platform Microarray Data", *BMC Bioinformatics*. 2009. 10 (Suppl 1):S25

13. **J. Hu**, Haifeng Li, Michael S Waterman, and Xianghong Jasmine Zhou. "Integrative missing value estimation for microarray data", *BMC Bioinformatics*. 7: 449., 2006

14. **J. Hu**, Yifeng David Yang and Daisuke Kihara, "EMD: an Ensemble Algorithm for discovering regulatory motifs in DNA sequences", *BMC Bioinformatics*, 7:342. 2006

15. Fei Pan, Kiran Kamath, Kangyu Zhang, Sudip Pulapura, Avinash Achar, Juan Nunez-Iglesias, Yu Huang, Xifeng Yan, Jiawei Han, Haiyan Hu, Min Xu, **J. Hu**, Xianghong Jasmine Zhou. K. Kamath et. al. Integrative Array Analyzer: a software package for analysis of cross-platform and cross-species microarray data. *Bioinformatics*, 22: 1665-1667, 2006.

16. **J. Hu**, Bin Li, and Daisuke Kihara, "Limitations and Potentials of Current Motif Discovery Algorithms", ***Nucleic Acid Research*,** 33: 4899-4913, 2005 (**158 citations**)

Journal Articles (cont')

(In the area of evolutionary computation and machine learning)

17. E. Atilgan and **J. Hu**, "Improving Protein Docking Using Sustainable Genetic Algorithms", *International Journal of Computer Information Systems and Industrial Management (IJCISIM)*, Vol 3, 2011

18. **J. Hu**, E. D. Goodman, and R. C. Rosenberg , "Automated Synthesis of Mechanical Vibration Absorbers Using Genetic Programming", *Journal of Artificial Intelligence for Engineering Design, Analysis and Manufacturing*. 22(3), 2008

19. S. Li, X. Chen and **J. Hu**. Study on Sustainable Evolutionary Algorithm Based on Hierarchical Search. *China Mechanical Engineering* (Chinese), 7(11), 2006.

20. **J. Hu**, E. Goodman, K. Seo, Z. Fan, R. Rosenberg, "The Hierarchical Fair Competition (HFC) Framework for Sustainable Evolutionary Algorithms", ***Evolutionary Computation***, 13 (2), MIT Press, 2005.

21. Z. Fan, K. Seo, **J. Hu**, E. Goodman, R. Rosenberg, "A Novel Evolutionary Engineering Design Approach for Mixed-Domain Systems," *Journal of Engineering Optimization*, Volume 36, Number 2, 2004.

22. K. Seo, Z. Fan, **J. Hu**, E. D. Goodman, and R. C. Rosenberg, "Toward an Automated Design Method for Multi-Domain Dynamic Systems Using Bond Graphs and Genetic Programming," *Mechatronics*, 13, (8-9), pp. 851-885, 2003.

23. K. Seo, **J. Hu**, Z. Fan, E. D. Goodman, and R. C. Rosenberg. Automated Design Approaches for Multi-Domain Dynamic Systems Using Bond Graphs and Genetic Programming," *The International Journal of Computers, Systems and Signals*, vol.3, no.1, pp.55-70, 2002.

24. S. Li, **J. Hu**, Q. Xie and H. Zhang. Automated Design of Mechatronic Systems based on Genetic Programming and Bond Graphs. *Journal of System Simulation* (in Chinese), 14 (11): 1513-1516, 2002

25. **J. Hu**, L. Wu, Z. Zhang, Y. Guo. Survey and Prospect of Study on Plane-Generated Double Enveloping Worm Pairs. *Machinery* (in Chinese), No. 1, 2001

26. **J. Hu**, Shuchun Wang, "An Overview of Computational Intelligence Solutions to Intelligent Manufacturing Problems", *Journal of China Mechanical Engineering* (in Chinese*)*. No.1., 1999.

27. **J. Hu**, Zhongfu. Zhang, "Weight Inducement and Hierarchical Training Algorithm of BP Neural Network", *Journal of Computer Science* (in Chinese), No. 1, 1998.

Refereed Conference and Workshop Papers

(in the area of bioinformatics)

1. A. Mondal and **J. Hu**, "Protein Localization by Integrating Multiple Protein Correlation Networks", *Proceeding of 2012 International Conference on Bioinformatics and Computational Biology (BIOCOMP12)*, 2012

2. A. Mondal and **J. Hu**, "Network Based subcellular prediction for multi-label proteins". *The 4th Workshop on Biomolecular Network Analysis* (IWBNA 2011)

3. A. Mondal and **J. Hu**, "NetLoc: Network Based Protein Localization Prediction Using Protein-Protein Interaction and Co-expression Networks", *Proceeding of IEEE International Conference*

on Bioinformatics & Biomedicine (BIBM2010)

4. E. Atilgan and **J. Hu**, "Efficient Protein-Ligand Docking Using Sustainable Evolutionary Algorithms", *Proceeding of the 10th Int. Conference on hybrid intelligence* (HIS2010), Atlanta, GA. USA, 2010

5. F. Zhang and **J. Hu**, "Bioinformatics Analysis of Physichemical Properties of Protein sorting Signals". *Lecture Notes in Computer Science. Bioinformatics and Computational Biology* BiCoB2010. Springer Berlin / Heidelberg, 2010

6. F. Zhang and **J. Hu**, "Bayesian Classifier for Anchored Protein Sorting Discovery", *Proceeding of 2009 IEEE International Conference on Bioinformatics & Biomedicine* (BIBM09: Nov1-4 2009, USA).

7. **J. Hu** and J. Xu, "Improved Identification of Differentially Expressed Genes Using Pareto Gene Pruning", *Proceeding of 2009 International Conference on Bioinformatics and Computational Biology* (BIOCOMP'09: July 13-16, 2009, USA)

8. **J. Hu** and F. Zhang (2009), "Improving Protein Localization Prediction Using Amino Acid Group Based Physichemical Encoding". *Lecture Notes in Computer Science. Bioinformatics and Computational Biology* BiCoB2009. 5462/2009. Springer Berlin / Heidelberg

(In the area of evolutionary computation and machine learning)

9. **J. Hu**, X. Zhong, E. Goodman, "Open-ended Robust Design of Analog filters Using Genetic Programming", *Proc. Genetic and Evolutionary Computation Conference*. (**Best paper nomination**), 2005

10. **J. Hu**, E. Goodman, "Robust and Efficient Genetic Algorithms with Hierarchical Niching and Sustainable Evolutionary Computation Model", *Proc.Genetic and Evolutionary Computation Conference*.2004

11. **J. Hu**, E. Goodman, "Wireless Access Point Configuration by Genetic Programming", *Proc. IEEE Congress on Evolutionary Computation (CEC)* 2004.

12. **J. Hu**, E. Goodman, and R. Rosenberg, "Topological search in automated mechatronic system synthesis using bond graphs and genetic programming", *Proc. of American Control Conference (ACC),* 2004.

13. **J. Hu**, K. Seo, Z. Fan, R. Rosenberg, and E. Goodman, " HEMO: A Sustainable Multi-Objective Evolutionary Optimization Framework", *Proc. 2003 Genetic and Evolutionary Computation Conference*, Chicago, Springer, Lecture Notes in Computer Science, July, pp. 1029-1040, 2003

14. Z. Fan, K. Seo, **J. Hu**, R. Rosenberg, and E. Goodman, " System-Level Synthesis of MEMS via Genetic Programming and Bond Graphs", *Proc. 2003 Genetic and Evolutionary Computation Conference*, Chicago, Springer, Lecture Notes in Computer Science, July, pp. 2058-2071, 2003.

15. K. Seo, Z. Fan, **J. Hu**, E. Goodman, and R. Rosenberg, "Dense and Switched Modular Primitives for Bond Graph Model Design," *Proc. 2003 Genetic and Evolutionary Computation Conference*, Chicago, Springer, Lecture Notes in Computer Science, July, pp. 1764-1775., 2003

16. **J. Hu**, E. D. Goodman, K. Seo, Z. Fan, R. C. Rosenberg, "HFC: A Continuing EA Framework for Scalable Evolutionary Synthesis", *Proceedings of the 2003 AAAI Spring Symposium -*

Computational Synthesis: From Basic Building Blocks to High Level Functionality, Stanford, California, March, 24-26, pp. 106-113, 2003

17. Z. Fan, K. Seo, R. C. Rosenberg, **J. Hu**, E. D. Goodman, "Computational Synthesis of Multi-Domain Systems", *Proceedings of the 2003 AAAI Spring Symposium - Computational Synthesis: From Basic Building Blocks to High Level Functionality*, Stanford, California, March, 24-26, pp. 59-66, 2003

18. E. D. Goodman, K. Seo, Z. Fan, **J. Hu**, R. C. Rosenberg, "Automated Design of Mechatronic Systems: Novel Search Methods and Modular Primitives to Enable Real-World Applications," *2003 NSF Design, Service and Manufacturing Grantees and Research Conference*, January 6-9, Birmingham, Alabama, 2003

19. **J. Hu**, E. D. Goodman, K. Seo, M. Pei, "Adaptive Hierarchical Fair Competition (AHFC) Model for Parallel Evolutionary Algorithms," *Proceedings of the Genetic and Evolutionary Computation Conference*, GECCO-2002, New York, July, pp. 772-779., 2002.

20. **J. Hu**, K. Seo, S. Li, Z. Fan, R. C. Rosenberg, E. D. Goodman, "Structure Fitness Sharing (SFS) for Evolutionary Design by Genetic Programming," *Proceedings of the Genetic and Evolutionary Computation Conference*, GECCO-2002, New York, pp. 780-787. , 2002.

21. Z. Fan, K. Seo, R. C. Rosenberg, **J. Hu**, E. D. Goodman, "Exploring Multiple Design Topologies using Genetic Programming and Bond Graphs", *Proceedings of the Genetic and Evolutionary Computation Conference*, GECCO-2002, New York, July, pp. 1073-1080, 2002

22. **J. Hu**, E. D. Goodman, "Hierarchical Fair Competition Model for Parallel Evolutionary Algorithms," *Proceedings, Congress on Evolutionary Computation*, CEC 2002, IEEE World Congress on Computational Intelligence, Honolulu, Hawaii, May, 2002.

23. Z. Fan, **J. Hu**, K. Seo, E. D. Goodman, R. C. Rosenberg, and B. Zhang, "Bond Graph Representation and GP for Automated Analog Filter Design," 2001 *Genetic and Evolutionary Computation Conference* Late-Breaking Papers, E. Goodman, ed., ISGEC Press, San Francisco, pp. 81-86., 2001.

Book Chapters
1. **J. Hu**, Zhun Fan, Jiachuan Wang, Shaobo Li, Kisung Seo, Xiangdong Peng, Janis Terpenny, Ronald Rosenberg, and Erik Goodman, "GPBG: A Framework for Evolutionary Design of Multi-domain Engineering Systems Using Genetic Programming and Bond Graphs". In Evolution by Design − *Advances in Evolutionary Design*. P. F. Hingston et. al. (ed.) Springer publisher, 2008.

2. **Hu, J.,** S. Li & E. Goodman. "Evolutionary Robust Design of Analog Filters using Genetic Programming," in Evolutionary Computation in Dynamic and Uncertain Environments, Kacprzyk, J. (ed.), Springer, pp. 479-496, 2007

3. **J. Hu**, E. Goodman, "Domain Specificity of Genetic Programming based Automated Synthesis: a Case Study with Synthesis of Mechanical Vibration Absorbers", in *Genetic Programming Theory and Practice*. Rick Riolo and Bill Worzel (eds.). Kluwer Publishers, Boston, MA. 2005.

4. **J. Hu**, E. Goodman, "Evolving robust dynamic systems with genetic programming". In *Genetic Programming Theory and Practice*. Rick Riolo and Bill Worzel (eds.). Kluwer Publishers, Boston, MA. 2004.

5. **J. Hu**, K. Seo, E. Goodman, R. Rosenberg, "Toward efficient topological synthesis of dynamic systems using bond graphs and genetic programming". Nadia Nedjah. (eds). *Evolutionary Machine Design: Methodology and Applications*. Nova Science Publishers, NY, USA, 2004.

6. **J. Hu**, E. Goodman and K. Seo, "Continuous Hierarchical Fair Competition Model for Sustainable Innovation in Genetic programming". In *Genetic Programming Theory and Practice*. Rick Riolo and Bill Worzel (eds.). Kluwer Publishers, Boston, MA. 2003.

LIST OF PAPERS UNDER REVIEW AND IN PREPARATION

1. J. Lin and J. Hu, "Frequent item set mining for protein sorting motif discovery", Bioinformatics, in prep.
2. R. Liu and J. Hu, "Characterizing protein sorting signal binding specific using energertics analysis", in prep.

PROFESSIONAL SERVICE

Journal Editor/Guest Editor

- **Associate Editor**, *International Journal of Computational Bioscience,* since 2009
- **Associate Editor***, Journal of Health & Medical Informatics*, since 2010
- **Guest Editor** *International Journal of Computational Science*, Special Issue on Bioinformatics, 2008

Journal Reviewer

- IEEE Transaction on Bioinformatics and Computational Biology
- IEEE Transaction on Systems, Man, and Cybernetics
- IEEE Periodical Computational Intelligence
- BMC Bioinformatics
- PLoS One
- BioSystems
- Pattern Recognition
- Pattern Recognition Letter
- Amino Acid
- Journal of Biomedical Informatics
- Journal of Franklin Institute
- International Journal of Computational Bioscience
- Journal of Health and Medical Informatics
- Computer Methods and Programs in Biomedicine
- International Journal of Computational Intelligence and Applications
- Journal of Internet and Information Systems
- Genetic Programming and Evolvable Machines
- European Journal of Operational Research
- Journal of Computer Aided Design

Conference Technical Program Committee

- Technical program committee of conferences/workshops:
    - ACM Genetic and Evolutionary Computation Conference (GECCO-2012)
    - ACM Genetic and Evolutionary Computation Conference (GECCO-2011)
    - IASTED International Conference on Computational Bioscience (CompBio 2010)
    - ACM Genetic and Evolutionary computation Conference, GECCO-2007, 2008, 2009, 2010
    - Ibero-American Conference on Artificial Intelligence (IBERAMIA 2008), 11th Ibero-American Conference on AI, Lisbon, Portugal, 10/14-17, 2008
    - IEEE Symposium on Computational Intelligence in Bioinfo and Compu Biology, 2005
    - IEEE Control Systems Society Conference (ACC 2005) Boston
    - Genetic and Evolutionary Computation Conference (GECCO2005)
    - Genetic and Evolutionary Computation Conference (GECCO-2004, Seattle)
    - Genetic and Evolutionary Computation Conference (GECCO-2003, Chicago, USA)

Proposal Reviewer

- Panelist for NSF DBI panel in 2010

RESEARCH SUPERVISION

Supervision of Postdoc Research Associate
    Postdoc advisor of Rong Liu, Ph.D.
    Topic: protein binding residue prediction and binding specificity characterization

Supervision of Doctoral Programs

- <u>Dissertation Director</u> of Ananda Mondal, Ph.D.
  Topic: network based protein subcellular localization prediction
  Dissertation Title: "Network Based Prediction of Protein Localization Using Diffusion Kernel"
  Start Date: Spring 2008
  Graduation Date: Fall 2011
  Current: faculty at Department of Math and Computer Science, Claflin University

- <u>Dissertation Director</u> of Jhih-Rong Lin, Ph.D. Candidate
  Topic: protein localization prediction and sorting signal discovery
  Start Date: Spring 2010
  Expected Graduation Date: 2014

- <u>Dissertation Director</u> of Emrah Atigan, Ph.D. Candidate
  Topic: Transfer optimization using evolutionary algorithms
  Start Date: Fall 2009
  Expected Graduation Date: 2014

- Dissertation Director of Swain, Mrutyunjaya, Ph.D. Candidate
  Topic: Computational material discovery
  Start Date: Fall 2011
  Expected Graduation Date: 2015

Supervision of Masters Research Programs

- Thesis Advisor of Guoyu Lu for M.S.
  Thesis Title: "Evaluate the Knowledge-Based Scoring Function by Using DUD for Benchmark"
  Start Date: Fall 2007
  Graduated in Fall 2008
  Currently employed at Microsoft, Seattle

- Thesis Advisor of Emrah Atilgan for M.S.
  Thesis Title: Improving Protein Docking Using Efficient Sustainable Evolutionary Algorithm
  Start Date: Fall 2008
  Graduated in Fall 2009 (Now Ph.D candidate)

- Advisor of Kevin Chien for M.S.
  Thesis Title: Efficient Global Optimization using Sustainable Evolutionary Algorithms
  Start Date: Spring 2010
  Graduated in Fall 2011

- Thesis Advisor of Mythri Sunkara for M.S.
  Thesis Title: Data Mining of Scientific Literature
  Start Date: Spring 2010
  Graduated in Fall 2011

Undergraduate Student Supervision

- Stephanie: REU student for summer 2009, undergraduate RA (Fall 2009 to Fall 2010. Magellan Scholarship Winner
- Francis Usher: REU student for Summer 2010
- Lewis Cawthorne : REU student for Summer 2010, undergraduate RA (Fall 2010 to Fall 2011. Magellan Scholarship Winner
- Matthew Hamod and James Poston, undergradate RA, Spring 2012
- Nicholas Romito: REU student for Summer 2012

Other Research Supervision

1. Member of MS Thesis Committee of Ryan Yandle from Department of Computer Science and Engineering (advisor: Homay Valafar). Title: "Computational Homologous Protein Structure Identification," Graduation date: Fall 2009. Now in Microsoft
2. Member of Ph.D. Dissertation Committee of Nicholas Goodman from Department of Mechanical Engineering (advisor: Dr. Abdel E. Bayoumi). Title: "Applications of Data Mining for the

Improvement and Synthesis of Diagnostic Metrics for Rotating Machinery," Graduation date: Spring 2011.
3. Member of Ph.D. Dissertation Committee of Yan Zhang from Department of Computer Science and Engineering (advisor: Jason Bakos). Title: "Frequent Itemset Mining on FPGA Co-Processor," Graduation date: Spring 2013.
4. Member of Ph.D. Dissertation Committee of Jimmy Cleveland from Department of Computer Science and Engineering (advisor: John Rose). Title: "algorithms for de novo peptide sequencing," Graduation date: Fall 2013.
5. Member of Ph.D. Dissertation Committee of Yiwei Zhang from Department of Computer Science and Engineering (advisor: Jijun Tang). Title: "Graph optimization algorithms for phylogenetic analysis and computational simulation," Graduation date: Spring 2013.
6. Member of Ph.D. Dissertation Committee of Achraf El Allali from Department of Computer Science and Engineering (advisor: John Rose). Title: "Gene Fining in Genomics and Metagenomics," Graduation date: Fall 2013.
7. Member of Ph.D. Dissertation Committee of Paul Shealy from Department of Computer Science and Engineering (advisor: Homay Valafar). Title: "Multiple Protein Structure Alignment and its Applications," Graduation date: Summer 2012.
8. Member of Ph.D. Dissertation Committee of Mingming Liu from Department of Computer Science, Expected graduation Fall 2014.