

Kun Huang

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Research Interest:

- Computational biology and translational bioinformatics
- Cancer informatics
- Bioimage informatics and digital pathology
- Biomedical data and network mining
- High throughput data analysis and management
- Computer vision and machine learning

Education:

- University of Illinois at Urbana-Champaign, **Ph.D. in Electrical and Computer Engineering**, October 2004.
Dissertation: *Geometric Principles of Visual Sensor Networks*
Committee: Drs. P. R. Kumar (chair), Yi Ma (advisor), Thomas Huang, Robert Fossum, and Yizhou Yu.
- University of Illinois at Urbana-Champaign, **M.S. in Mathematics**, December 2002.
- University of Illinois at Urbana-Champaign, **M.S. in Electrical Engineering**, October 2000
(Advisor: Dr. P. R. Kumar).
- University of Illinois at Urbana-Champaign, **M.S. in Molecular and Systems Physiology**, May 1998 (Advisor: Dr. Rhanor Gillette).
- Tsinghua University, Beijing, China, **B.S. in Biology**, July 1996.
- Tsinghua University, Beijing, China, **B.Engr. in Computer Science**, July 1996.

Academic Positions:

- Associate Professor with Tenure, *Department of Biomedical Informatics*, The Ohio State University, 2010 – present
- Assistant Professor, *Department of Biomedical Informatics*, The Ohio State University, 2004 – 2010
- Adjunct Faculty Member, *Department of Computer Science and Engineering*, The Ohio State University, 2005 – Present.
- Graduate Faculty Member, *Biophysics Graduate Program*, The Ohio State University, 2008 – Present.

- Graduate Faculty Member, *Department of Pathology*, The Ohio State University, 2008 – Present.
- Adjunct Faculty Member, *Department of Biomedical Engineering*, The Ohio State University, 2005 – Present.
- Graduate Faculty Member, *Department of Electrical and Computer Engineering*, The Ohio State University, 2005 – Present.
- Graduate Faculty Member, *Integrated Biomedical Graduate Program (IBGP)*, 2004 – Present.

Administrative Positions and Services:

- Member of College Assembly, The Ohio State University College of Medicine, 2013 – present.
- BMI representative to Faculty Council of the Ohio State University College of Medicine, 2012 – present.
- Chair, Translational Bioinformatics Faculty Search Committee, Department of Biomedical Informatics at OSU, 2012 – present.
- Bioinformatics Area Leader, The Biomedical Science Graduate Program at OSU, 2012 – Present.
- Member, Systems Committee, Department of Biomedical Informatics at OSU, 2012 – present.
- OSU Comprehensive Cancer Center Shared Resources Committee Member, 2010 – Present.
- Co-Director, OSU Comprehensive Cancer Center Biomedical Informatics Shared Resources, 2008 – Present.
- Member, Graduate Study Committee, The Ohio State University College of Medicine, 2007 – present.
- Member, Graduate Study Committee, The Biomedical Science Graduate Program at OSU, 2011 – present.
- BMI representative (alternate) to Faculty Council of the Ohio State University College of Medicine, 2010 – 2012.
- BMI representative in Graduate Interdisciplinary Specialization Comprehensive Engineering & Science of Biomedical Images (CESBMI), 2006 – present.

Awards and Scholarships:

- IEEE SciVis Contest Winner, 2013.
- Distinguished Paper Award, AMIA Summit of Translational Bioinformatics, 2010.
- The National Institute of Drug Addiction Travel Award, 2010.
- The OSU Medical Center Teaching Excellence Award, 2010.

- Nominated for Packard Foundation Fellowship in Science and Engineering by OSU (two faculty members were nominated), 2007.
- IEEE Computer Society Student Travel Grant, 2004.
- Best Teaching Assistant Elected by Students, University of Illinois, 1998.
- Distinguished Graduate Medal, Tsinghua University, 1996.
- Outstanding Student Award in Science and Technology Areas, City of Beijing, 1995.
- Guanghua Scholarship, Tsinghua University, China, 1994.
- Excellent Student Scholarship, Tsinghua University, China, 1993.
- First Award in the 1st Chinese Mathematics Olympiad, 1991.

Grants:

- **Ongoing:** PI – Integrated Morphological and Genome Analysis for Computer-Aided Diagnosis and Computer Intervened Personalized Treatment for Lung Cancer, (UK CCTS & OSU CCTS Joint Pilot Award, PIs – Huang/OSU, Lin/UK), 9/1/2012-2/28/2014.
- **Ongoing:** PI – Cloud Computing and Visualization Tools for Kbase, (Department of Energy SBIR grant, PIs – Baumes/KitWare, Huang/OSU), 2/20/2012-11/19/2012.
- **Ongoing:** PI – Integrative lifecourse and genetic analysis of military working dogs, (Department of Defense, PIs – Alveraz, Huang, Couto), 9/1/2011-8/31/2014.
- **Ongoing:** PI - Informatics methods for identifying breast cancer control genes and proteins (multi-PI NIH R01, PIs – Jeffrey Parvin, Kun Huang, Umit Catalyurek), 6/1/2009-4/30/2014.
- **Ongoing:** co-Investigator – Expression Genetics in Drug Therapy (NIDA 1U01GM092655-01, PI: Sadee), 7/1/2010-6/31/2015.
- **Ongoing:** co-Investigator – Center for Integrated Cancer Biology Program (NCI U54 CA113001-04 PPG Leader: Tim Huang), 9/30/2004 - 2/28/2015.
- **Ongoing:** co-Investigator - Lymphocyte functions in the injured spinal cord (NIH R01, PI-Philip Popovich), 09/30/2003 – 01/31/2014.
- **Ongoing:** co-Investigator - The Ohio State University Comprehensive Cancer Center (NCI CCSG P30 grant, PI: Michael Caligiruri).
- **Completed:** co-Investigator - Alginate oligomers to treat infectious microbial biofilms (Department of Defense, PI: Sen), 6/1/2011-5/31/2012.
- **Completed:** co-PI - A comprehensive workflow for large histology segmentation and visualization (NLM contract, PI – Machiraju, Huang), 7/1/2010-12/31/2011.
- **Completed:** co-PI – A comprehensive workflow for robust characterization of microstructure for cancer studies (NLM contract, PI – Machiraju, Huang), 5/1/2011-9/23/2011.
- **Completed:** co-PI - PhenoLIMS – a laboratory information system (LIMS) for gleaning molecular and morphological phenotypes in clinical outcomes (OSU CCTS New Methodology Grant, PI – Machiraju, Huang), 9/1/2010-8/31/2011.

- **Completed:** PI – Build 3D Models for Biomedical Samples at Micron Resolution (The Ohio Supercomputing Center Grant PAS0328-1, 2007, Award: 10000 Resource Units.).
- **Completed:** PI – Experimental and Computational Tools for Analyzing Microcircuitry Development of Ontogenic Radial Units in Mouse Neocortex (multi-PI NIH R21, other PI: Songhai Shi), 7/01/2008-5/31/2011.
- **Completed:** PI - Multi-Resolution Analysis and Visualization of ChIP-seq Data in Genome-Wide Study on the Roles of Estrogen Receptor in Breast Cancer (PhARMA Foundation Young Investigator Grant), 2/1/2009-1/31/2011.
- **Completed:** co-Investigator - Role of PTEN in the tumor microenvironment (Department of Defense BCRP, PI: Gustavo Leone), 10/2006 – 6/15/2009.
- **Completed:** co-Investigator - NIH-BISTI center for grid-enabled medical image analysis (GEMIAC) (PI: Joel Saltz), 07/01/2003 - 07/30/2007.

Publications:

- **Peer-reviewed journal papers (impact factors are based on the year of publication)**
1. Gao P, Postiglione MP, Krieger TG, Hernandez L, Wang C, Han Z, Streicher C, Papisheva E, Insolera R, Chugh K, Kodish O, **Huang K**, Simons BD, Luo L, Hippenmeyer S, Shi SH. Deterministic progenitor behavior and unitary production of neurons in the neocortex. *Cell*, 159(4): 775-788, 2014.
 2. Liu B, Liu J, Wang G, **Huang K**, Li F, Zheng Y, Luo Y, Zhou F. A novel electrocardiogram parameterization algorithm and its application in myocardial infarction detection. *Computers in Biology and Medicine*, S0010-4825(14): 00212-1, 2014.
 3. Hu Y, Wang Chao, **Huang K**, Xia F, Parvin JD, Mondal N. Regulation of 53BP1 Protein Stability by RNF8 and RNF168 Is Important for Efficient DNA Double-Strand Break Repair. *PLoS One*, 9 (10):e110522, 2014.
 4. Ding H, Wang C, **Huang K**, Machiraju R. A visual analytic system for integrative genomics based cancer patient stratification. Accepted to *BMC Bioinformatics* Special Issue for BioVis 2014.
 5. Moldovan L, Anghelina M, Kantor T, Jones D, Ramadan E, Xiang Y, **Huang K**, Kolipaka A, Malarkey W, Ghasemzadeh N, Mohler P, Quyyumi A, Moldovan N. A module of human peripheral blood mononuclear cell transcriptional network containing primitive and differentiation markers is related to specific cardiovascular health variables. *PLoS One*, 9(4):e95124, 2014.
 6. Xu H-T, Han Z, Gao P, He S, Li Z, Shi W, Kodish O, Shao W, Brown KN, **Huang K**, Shi S-H. Distinct lineage-dependent structural and functional organization of the hippocampus. Accepted to *Cell*, 2014.
 7. Kotian S, Tapahsama B, Lockhart A, **Huang K**, Catalyurek U, Parvin J. NUSAP1 influences the DNA damage response by controlling BRCA1 protein levels. Accepted to *Cancer Biology & Therapy*, 2014. [IF: 5.243]

8. Wang C, Machiraju R, **Huang K**. Breast Cancer Patient Stratification using a Molecular Regularized Consensus Clustering Method. *Methods* (In Press), 2014. [IF: 3.641]
9. Li Q, **Huang K**, Machiraju R. 2013 IEEE Visualization Contest Winner: Observing Genomics and Phenotypical Patterns in the Developing Mouse Brain. Accepted to *IEEE Computer Graphics and Applications Magazine*, 2014. [IF: 1.760]
10. Deiliulis J, Mihai G, Zhang J, Taslim C, Varghese JJ, Maiseyeu A, **Huang K**, Rajagopalan S. Renin-sensitive microRNAs correlate with atherosclerosis plaque progression. Accepted to *Journal of Human Hypertension*, 2013. [IF: 2.818]
11. Wu Y, Kwak K J, Agarwal K, Marras A, Wang C, Mao Y, Huang X, Ma J, Yu B, Lee R, Vachani A, Marcucci G, Byrd J, Muthusamy N, Otterson G, **Huang K**, Castro C, Paulaitis M, Nana-Sinkam S P, Lee, L. Detection of extracellular RNAs in cancer and viral infection via tethered cationic lipoplex nanoparticles containing molecular beacons. Accepted to *Analytical Chemistry*, 2013. [IF: 5.695]
12. Ren K, Lai A, Mukhopadhyay A, Machiraju R, **Huang K**, Xiang Y. Effectively processing medical term queries on the UMLS Metathesaurus by Layered Dynamic Programming. Accepted to *BMC Medical Genomics*, 2013. [IF: 3.47]
13. Liebner D, **Huang K**, Parvin J. MMAD: Microarray Micro-dissection with Analysis of Differences is a computational tool for deconvoluting cell type specific contributions from tissue samples. Accepted to *Bioinformatics*, 2013. [IF: 5.4]
14. Zhang Y, Guan Z, Reader B, Shawler T, Mandrekar-Colucci S, **Huang K**, Weil Z, Bratasz A, Wells J, Powell N, Sheridan J, Whitacre C, Rabchevsky A, Nash M, Popovich P. Autonomic dysreflexia causes chronic immune suppression after spinal cord injury, *Journal of Neuroscience*, 33(32): 12970-12981, 2013. [IF: 7.115]
15. Xiang Y, Zhang J, **Huang K**. Mining tissue-tissue gene co-expression network for tumor microenvironment study and biomarker prediction, accepted to *BMC Genomics* special issue for InCoB, 2013. [IF: 4.4]
16. Wolock S, Yates A, Petrill SA, Blair C, Li N, Bohland JW, Machiraju R, **Huang K**, Bartlett CW. Gene x smoking interactions on human brain gene expression: finding common mechanisms in adolescents and adults, *Journal of Child Psychology and Psychiatry*, 54(10): 1109-1119, 2013. [IF: 4.281]
17. Hu J, Chen C, **Huang K**, Mitchell T. A distribution pattern assisted method of transcription factor binding site discovery for both yeast and filamentous fungi. *Advances in Bioscience and Biotechnology*, 4:509-517. doi: 10.4236/abb.2013.44067, 2013.
18. Wang C, Pecot T, Zynger D, Shapiro C, Machiraju R, **Huang K**. Identifying survival associated morphological features of triple negative breast cancer using multiple datasets, accepted to *Journal of American Medical Informatics Association* (JAMIA), 2013. [IF: 3.609]
19. Taggart D, Camerlengo T, Harrison JK, Sherrer S, Kshetry A, Taylor J, **Huang K**, Suo Z. A High-Throughput and Quantitative Method to Assess the Mutagenic Potential of Translesion DNA Synthesis, accepted to *Nucleic Acid Research*, 2013. [IF: 8.026]
20. Wang J, Lan X, Hsu P-Y, Hsu H-K, **Huang K**, Parvin JD, Huang T, Jin VX. Genome-wide

analysis uncovers high frequency, strong differential chromosomal interactions and their associated epigenetic patterns in E2-mediated gene regulation, accepted to *BMC Genomics*, 2013. [IF: 4.07]

21. Webb A, Papp AC, Sanford JC, **Huang K**, Parvin JD, Sadee W. Expression of mRNA transcripts encoding membrane transporters detected with whole transcriptome sequencing of human brain and liver, *Pharmacogenetics and Genomics*, 23(5): 269-278, 2013. [IF: 3.485]
22. Kalluru V, Machiraju R, **Huang K**. Identify condition specific gene co-expression networks, *International Journal of Computational Biology and Drug Design*, 6(1-2): 50-59, 2013.
23. Zhang J, Ni S, Xiang Y, Parvin J, Yang Y, Zhou Y, **Huang K**. Gene co-expression analysis predicts chromosomal aberration loci associated with colon cancer metastasis, *International Journal of Computational Biology and Drug Design*, 6(1-2): 60-71, 2013.
24. Chen HZ, Ouseph MM, Li J, Pecot T, Chokshi V, Kent L, Bae S, Byrne M, Duran C, Comstock G, Trikha P, Mair M, Senapati S, Martin CK, Gandhi S, Wilson N, Liu B, Huang Y-W, Thompson JC, Raman S, Singh S, Leone M, Machiraju R, **Huang K**, Mo X, Fernandez S, Kalaszczynska I, Wolgemuth DJ, Sicinski P, Huang T, Jin V, Leone G. Canonical and atypical E2Fs regulate the mammalian endocyte, *Nature Cell Biology*, 11(14):1192-1202, 2012. [IF: 19.527]
25. Yoon SO, Park DJ, Ryu JC, Ozer HG, Tep C, Shin YJ, Lim TH, Pastorino L, Junwar AJ, Walton JC, Nagahara AH, Lu KP, Nelson RJ, Tuszynski MH, **Huang K**. JNK3 perpetuates metabolic stress induced by Ab peptides, *Neuron*, 75(5): 824-837, 2012. [IF: 14.736]
26. Liu H-W, Zhang J, Heine G, Arora M, Ozer HG, Onti-Srinivasan R, **Huang K**, Parvin J. Chromatin modification by SUMO-1 stimulates the promoters of translation machinery genes, *Nucleic Acid Research*, 40(20): 10172-10186, 2012. [IF: 8.026]
27. Arora M, Zhang J, Heine G, Ozer HG, Liu H-W, **Huang K**, Parvin J. Promoters Active in Interphase are Bookmarked during Mitosis by Ubiquitination, *Nucleic Acid Research*, 40(20): 10187-10202, 2012. [IF: 8.026]
28. Zhang J, Lu K, Xiang Y, Islam M, Kotian S, Kais Z, Lee C, Arora M, Liu H-W, Parvin JD, **Huang K**. Weighted frequent gene co-expression network mining to identify genes involved in genome stability, *PLoS Computational Biology*, 8(8): e1002656, 2012. [IF: 5.215]
29. Yu Y-C, He S, Chen S, Fu Y, Brown KN, Yao X-H, Ma J, Gao KP, Sosinsky GE, **Huang K**, Shi S-H. Preferential electrical coupling regulates neocortical lineage-dependent microcircuit assembly, *Nature*, 486(7401):113-117, 2012. [IF: 31.08]
30. Xiang Y, Fuhry D, Kaya K, Jin R, Catalyurek U, **Huang K**. Merging network patterns: a general framework to summarize biomedical network data, accepted to *Network Modeling Analysis in Health Informatics and Bioinformatics*, 1(3): 103-116, 2012.
31. Taslim C, **Huang K**, Lin S, Huang T. Genome-wide novel promoters prediction and chromatin signature analysis using finite mixture models, *BMC Genomics*, 13(S6): S3, 2012. [IF: 4.21]
32. Xu RX, Allen D, Hu J, Gnyawali S, Melvin J, Elgharably H, Gordillo G, **Huang K**, Bergdall V, Litorja M, Rice J, Hwang J, Sen CK. Developing digital tissue phantoms for hyperspectral imaging of ischemic wounds, *Biomedical Optics Express*, 3(6): 1433-1445, 2012. [IF: 2.333]

33. Zhang P, Mourad R, Xiang Y, **Huang K**, Huang T, Nephew K, Liu Y, Li L. A dynamic time order network for time-series gene expression data analysis, *BMC Systems Biology*, 6(S3): S9, 2012. [IF: 3.57]
34. Ozer HG, Parvin J, **Huang K**. DFI: gene feature discovery in RNA-seq experiments from multiple sources, *BMC Genomics*, 13(S8): S11, 2012. [IF: 4.21]
35. Zhang J, Parvin J, **Huang K**. Redistribution of H3K4me2 on neural tissue specific genes during mouse brain development, *BMC Genomics*, 13(S8): S5, 2012. [IF: 4.21]
36. Taslim C, Chen Z, **Huang K**, Huang T, Wang Q, Lin S. Integrated analysis identifies a class of androgen responsive genes regulated by short combinatorial long-range mechanism facilitated by CTCF, *Nucleic Acid Research*, 40(11): 4754-4764, 2012. [IF: 8.026]
37. Ouseph MM, Li J, Chen H-Z, Pecot T, Wenzel P, Thompson J, Comstock G, Chokshi V, Byrne B, Forde B, Chong J-L, **Huang K**, Machiraju R, de Bruin A, Leone G, Atypical E2F repressors and activators coordinate placental development, *Developmental Cell*, 22(4):849-862, 2012. [IF: 13.946]
38. Han Z, Lu T, Pecot T, Huang T, Machiraju R, **Huang K**. A signal processing approach for enriched region detection in RNA polymerase II ChIP-seq data, *BMC Bioinformatics*, 13(Suppl 2): S2, 2012. [IF: 3.03]
39. Xiang Y, Zhang CQ, **Huang K**. Predicting glioblastoma prognosis networks using weighted gene co-expression network analysis on TCGA data, *BMC Bioinformatics*, 13(Suppl 2), S12, 2012. [IF: 3.03]
40. Taslim C, **Huang K**, Huang T, Lin S. Analyzing ChIP-seq data: preprocessing, normalization, differential identification, and binding pattern characterization. *Methods in Molecular Biology*, 802: 275-291, 2012. [IF: 13.9]
41. Brown KN, Chen S, Han Z, Lu C-H, Tan X, Ding L, Zhang X-J, Cruz AL, Saur D, Anderson SA, **Huang K**, Shi S-H. Clonal production and organization of inhibitory interneurons in the neocortex, *Science*, 334(6055): 480-486, 2011. [IF: 31.364]
42. Xiang Y, Lu K, James S, Bowlasky T, **Huang K**, Payne P. K-neighborhood decentralization: a comprehensive solution to index the UMLS for large scale knowledge discovery, *Journal of Biomedical Informatics*, 45(2): 323-336, 2012. [IF: 1.719]
43. Taccioli C, Chen H, Jiang Y, Liu XP, **Huang K**, Smalley KJ, Farber JL, Croce CM, Fong LY. Dietary zinc deficiency fuels esophageal cancer development by inducing a distinct inflammatory signature, advanced online publication, *Oncogene*, 2011. [IF: 6.373]
44. Beyer S, Zhang X, Jimenez R, Lee M-L, Richardson A, **Huang K**, Jhiang S. Microarray analysis of genes associated with cell surface NIS protein levels in breast cancer. *BMC Research Notes*, 4:397, 2011.
45. Xu C, Schmitt JM, Akasaka T, Kubo T, **Huang K**. Automatic detection of stent struts with thick neointimal growth in intravascular optical coherence tomography image sequences, *Physics in Medicine and Biology*, 56(20): 6665, 2011. [IF: 3.056]
46. Kais Z, Barsky SH, Mathsyaraja H, Zha Alicia, Ransburgh D, He G, Pilarski R, Shapiro C, **Huang K**, Parvin J. KIAA0101 interacts with BRCA1 and regulates centrosome number, *Molecular Cancer Research*, 9(8):1091-1099, 2011. [IF: 4.16]

47. Li R, Ackerman WE 4th, Summerfield TL, Yu L, Gulati P, Zhang J, **Huang K**, Romero R, Kniss DA. Inflammatory gene regulatory networks in amnion cells following cytokine stimulation: translational systems approach to modeling human parturition, *PLoS One*, 6(6): e20560, 2011. [IF: 4.35]
48. Xiang Y, Payne PRO, **Huang K**. Transactional database transformation and its application in prioritizing human disease genes, *IEEE/ACM Transactions on Bioinformatics and Computational Biology*, 9(1): 294-304, 2012. [IF: 2.46]
49. Ozer HG, Huang, Y-W, Wu J, Parvin J, Huang T, **Huang K**. Comparing multiple ChIP-sequencing experiments, *Journal of Bioinformatics and Computational Biology*, 9(2):269-282, 2011.
50. Wang G, Wang Y, Shen C, Huang, Y-W, **Huang K**, Huang T, Nephew KP, Li L, Liu Y. RNA polymerase II binding patterns reveal genomic regions involved in microRNA gene regulation, *PLoS One*, 5(11):e13798, 2010. [IF: 4.35]
51. Wan SG, Taccioli C, Jiang Y, Chen H, Smalley KJ, **Huang K**, Liu XP, Farber JL, Croce CM, Fong LY. Zinc deficiency activates S100A8 inflammation in the absence of COX-2 and promotes murine oral-esophageal tumor progression, *International Journal of Cancer*, 129(2): 331-345, 2011. [IF: 4.722]
52. Zhang J, Xiang Y, Ding L, Keen-Circle K, Borlawsky T, Ozer HG, Jin R, Payne PRO, **Huang K**. Using gene co-expression network analysis to predict biomarkers for chronic lymphocytic leukemia special issue on AMIA Summit of Translational Bioinformatics, *BMC Bioinformatics*, 11(suppl 9): S5, 2010. [IF: 3.43]
53. Payne PRO, **Huang K**, Keen-Circle K, Kundu A, Zhang J, Borlawsky T. Multi-dimensional discovery of biomarker and phenotype, special issue on AMIA Summit of Translational Bioinformatics, *BMC Bioinformatics*, 11(suppl 9): S3, 2010. [IF: 3.43]
54. Xu R, **Huang K**, Qin R, Huang J, Xu JS, Ding L, Gnyawali US, Gnyawali SC, Sen CK, Dual-mode imaging of cutaneous tissue oxygenation and tissue vascular thermal reactivity, *Journal of Visual Experiments*, 46: 2095, 2010.
55. Li J, Guo Y, Yuan C, Tian F, **Huang K**, Weghorst C, Tsai, M-D. Contributions of conserved TPLH tetrapeptides to the conformational stability of ankyrin repeat proteins, *Journal of Molecular Biology*, accepted, 2010. [IF: 4.2]
56. Zabuawala T, Taffany D, Shama SM, Merchant A, Adair B, Rosol T, Fernandez S, **Huang K**, Leone K, Ostrowski MC. An ets2-driven transcriptional program in tumor-associated macrophages promotes tumor metastasis, *Cancer Research*, 70(4): 1323-1333, 2010. [IF: 7.514]
57. Schwartzbaum J, **Huang K**, Lawler S, Ding B, Yu J. Allergy and inflammatory transcriptome is predominantly negatively correlated with CD133 expression, *Neuro-Oncology*, in press, 2010. [IF: 5.00]
58. Taslim C, Wu J, Yan P, Singer G, Parvin J, Huang T, Lin S, **Huang K**. Comparative study on ChIP-seq data: normalization and binding pattern characterization, *Bioinformatics*, 25(18): 2334-2340, 2009. [IF: 4.328, the third most read article in Bioinformatics in September 2009]

59. Cooper L, Sertel O, Kong J, **Huang K**, Gurcan M. Feature-based registration of distinct stained histopathology images: an application for computerized follicular lymphoma prognosis, *Computer Methods and Programs in Biomedicine*, 96(3):182-192, 2009. [IF: 1.22]
60. Yu J, Ershler M, Yu L, Wei M, Hackanson B, Yokohama A, Mitsui T, Liu C, Mao C, Liu S, Liu Z, Liu C-G, Liu X, **Huang K**, Visser J, Guido M, Plass C, Belyavsky A, Caligiuri M. TSC-22 contributes to hematopoietic stem cell proliferation and repopulation and is epigenetically silenced in large granular lymphocyte leukemia, *Blood*, 113(22): 5558-5567, 2009. [IF: 10.432]
61. Rybaczyk L, Rozmiarek A, Circle K, Grants I, Needleman B, Wunderlich JE, **Huang K**, Christofi FL. New bioinformatics approach to analyze gene expressions and signaling pathways reveals unique purine gene dysregulation profiles that distinguish between CD and UC, *Inflammatory Bowel Diseases*, 15(7): 971-984, 2009. [IF: 4.975]
62. Ruiz A, Ujaldon M, Cooper L, **Huang K**. Non-rigid registration for large sets of microscopic images on graphics processors, *Journal of Signal Processing Systems*, 55(1-3): 229-250, 2009. [IF: 0.779]
63. Mosaliganti K, Janoos F, Irfanoglu O, Ridgway R, Machiraju R, **Huang K**, Saltz J, Leone G, Ostrowski M. Tensor classification of N -point correlation function features for histology tissue segmentation, *Medical Image Analysis*, 13(1): 156-166, 2009. [IF: 3.602]
64. Janoos F, Mosaliganti K, Xu X, Machiraju R, Wong S, **Huang K**. Robust 3D reconstruction and identification of dendritic spines from optical microscopy imaging, *Medical Image Analysis*, 13(1): 167-179, 2009. [IF: 3.602]
65. Mosaliganti K, Cooper L, Sharp R, Machiraju R, Leone G, **Huang K**, Saltz J. Reconstruction of cellular biological structures from optical microscopy data, *IEEE Transactions on Visualization and Computer Graphics*, 14(4): 863-876, 2008. [IF: 2.445]
66. Mosaliganti K, Sharp R, Machiraju R, **Huang K**, Leone G. Geometry-driven visualization of microscopic structures in biology, *Computer Graphics Forum, the International Journal of the Eurographics Association*, 27(3): 871-878, 2008. [IF: 1.86]
67. Mosaliganti K, Pan T, Ridgway R, Sharp R, Cooper L, Culacy A, Sharma A, Irfanoglu O, Machiraju R, Kurc T, Wenzel P, deBruin A, Leone G, Saltz J, **Huang K**. An imaging workflow for characterizing phenotypical change in terabyte sized mouse model datasets, *Journal of Biomedical Informatics*, 41(6): 863-873, 2008. [IF: 1.924]
68. Rybaczyk L, Bashaw M, Pathak D, **Huang K**. An indicator of cancer: downregulation of monoamine oxidase-A in multiple organs and species, *BMC Genomics*, 9: 134, 2008. [IF: 3.93, Designated as Highly Accessed]
69. Mosaliganti K, Janoos F, Sharp R, Ridgway R, Machiraju R, **Huang K**, Wenzel P, deBruin A, Leone G, Saltz J. Detection and visualization of surface-pockets to enable phenotyping studies. *IEEE Transactions on Medical Imaging*, 26(9):1283-1290, 2007. [IF: 4.004]
70. Wenzel PL, Wu L, de Bruin A, Chong JL, Chen WY, Dureska G, Sites E, Pan T, Sharma A, **Huang K**, Ridgway R, Mosaliganti K, Sharp R, Machuraju R, Saltz J, Yamamoto H, Cross JC, Robinson ML, Leone G. *Rb* is critical in a mammalian tissue stem cell population. *Genes and Development*, 21:85-97, 2007. [IF: 14.795]

71. Sharp R, Ridgway R, Mosalignati K, Wenzel P, Pan T, de Bruin A, Machuraju R, **Huang K**, Leone G, Saltz J. Volume rendering phenotype differences in mouse placenta microscopy data. *Computing in Science & Engineering*, 9(1):38-47, 2007. [IF: 0.71]
72. Hong W, Wright J, **Huang K**, Ma Y. A multi-scale hybrid linear model for lossy image representation. *IEEE Transaction on Image Processing*, 15(12):3655-3671, 2006. [IF: 3.315]
73. Yang AY, Rao S, **Huang K**, Hong W, Ma Y. Symmetry-based 3-D reconstruction from perspective images, *Computer Vision and Image Understanding (CVIU)*, 99(2): 210-240, August 2005. [IF: 2.22]
74. Hastings S, Ribeiro M, Langella S, Oster S, Catalyurek U, Pan T, **Huang K**, Ferreira R, Saltz J, Kurc T, XML database support for distributed execution of data-intensive scientific workflows, *ACM SIGMOD Record*, 34(3): 50-55, 2005. [IF: 1.455]
75. Mosaliganti K, Pan T, Machiraju R, **Huang K**, Saltz J, ITK-based registration of large images from light microscopy: a biomedical application, *The Insight Journal*, 19, 2005.
76. **Huang K**, Hong W, Ma Y. Symmetry-based photo editing, *Pattern Recognition*, 38(6): 825-834, 2004. [IF: 3.279]
77. Hong W, Yang AY, **Huang K**, Ma Y. On symmetry and multiple view geometry: structure, pose, and calibration from a single image, *International Journal Computer of Vision*, 60(3): 241-265, 2004. [IF: 5.358]
78. Ma Y, **Huang K**, Vidal R, Kosecka J, Sastry S. Rank conditions of the multiple-view matrix in multiple-view geometry, *International Journal of Computer Vision*, 59(2):115-137, 2004. [IF: 5.358]

- **Peer-reviewed papers in conference proceedings**

1. Yates A, Webb A, Chamberlin H, **Huang K**, Machiraju R. Visualizing Relationships in Multidimensional Data with Glyph SPLOMs and Necessity Graphs. Accepted to *Proceedings of the EuroVis Conference*, 2014.
2. Wang Y, Ozer GH, Huang K, Agrawal G. Removing Sequential Bottlenecks in Analysis of Next-Generation Sequencing Data. Accepted to *Proceedings of the IEEE International Parallel and Distributed Processing Symposium: Workshop on High Performance Computational Biology (HiCOMB)*, 2014.
3. Wang C, Machiraju R, **Huang K**. Cancer Patient Integrative Stratification via a Two-step Consensus Clustering of Molecular Expression and Clinical Attributes. *Proceedings of the AMIA Summit of Translational Bioinformatics (In Press)*, 2014.
4. Xiang Y, Fuhry D, Jin R, Zhao Y, **Huang K**. Visualizing clusters in parallel coordinates for visual knowledge discovery, *Lecture Notes in Computer Science*, 7301/2012: 505-516 (*Proceedings of the 16th Pacific-Asia Conference on Knowledge Discovery and Data Mining*), 2012. [Peer Reviewed, acceptance rate less than 30%]
5. Pecot T, Singh S, Caserta E, **Huang K**, Machiraju R, Leone, G. Non-parametric cell nuclei segmentation based on tracking over depth from 3D fluorescence confocal images, accepted

to *Proceedings of IEEE International Symposium on Biomedical Imaging*, Barcelona, Spain, 2012.

6. Camerlengo T, Ozer HG, Onti-Srinivasan R, Yan P, Huang T, Parvin J, **Huang K**. From sequencer to supercomputer: an automatic pipeline for managing and processing next generation sequencing data. Accepted to *Proceedings of the AMIA Summit on Translational Bioinformatics*, San Francisco, 2012. [Peer Reviewed]
7. Wenzke K, Cantemir C, Zhang J, Marsh C, **Huang K**. Defining genes and networks in multi-organ fibrosis. Accepted to *Proceedings of the AMIA Summit on Translational Bioinformatics*, San Francisco, 2012. [Peer reviewed]
8. Taslim C, Lin S, **Huang K**. Chromatin signature analysis and prediction of genome-wide novel promoters using finite mixture model. Accepted to *Proceedings of the IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS)*, San Antonio, 2011. [Peer Reviewed]
9. Zhang J, Ni S, Parvin J, Yang Y, **Huang K**. Predicting Parkinson's disease related genes using frequent gene co-expression analysis. Accepted to *Proceedings of the IEEE Bioinformatics and Biomedicine (BIBM)*, Atlanta, 2011. [Editor Reviewed]
10. Zhang J, Knobloch T, Parvin J, Weghorst C, **Huang K**. Identifying smoking associated gene co-expression networks related to oral cancer initiation. Accepted to *Proceedings of the IEEE Bioinformatics and Biomedicine (BIBM)*, Atlanta, 2011. [Editor Reviewed]
11. Singh S, Janoos F, Pecot T, Caserta E, Rittscher J, Leone G, **Huang K**, Machiraju R. Non-parametric Population Analysis of Cellular Phenotypes. Accepted to *Proceedings of the 14th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Toronto, Canada, Sep 2011. [Peer Reviewed, acceptance rate ~30%]
12. Cooper L, Saltz J, Catalyurek U, **Huang K**. Acceleration of two point correlation function calculation for pathology image, accepted to *Proceedings of IEEE Conference on Health Informatics and Systems Biology*, San Jose, California, 2011. [Peer Reviewed, oral presentation, acceptance rate less than 30%]
13. Cooper L, **Huang K**, Ujaldon M. Parallel automatic registration of large scale microscopic images on multiprocessor CPUs and GPUs, accepted to *Proceedings of the 12th IEEE International Workshop on Parallel and Distributed Scientific and Engineering Computing (PDSEC)*, Anchorage, 2011. [Peer Reviewed]
14. Ding L, Insolera R, Shi S, **Huang K**. Detecting cellular events in brain cortex using time-lapse microscopy, in *Proceedings of the IEEE International Symposium on Biomedical Imaging (ISBI)*, 1553-1556, Chicago, 2011. [Peer Reviewed, oral presentation]
15. Wu H-Y, Zhang J, **Huang K**. Peak detection on ChIP-Seq data using wavelet transformation, in *Proceedings of the Workshop on Data Mining in Next Generation Sequencing Data* in IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Hong Kong, 2010. [Peer Reviewed]
16. Ozer H-G, Wu J, Huang Y-W, Parvin J, Huang T, **Huang K**. Comparing multiple protein binding profiles in ChIP-seq experiments, in *Proceedings of the Computational Systems Bioinformatics (CSB)*, Palo Alto, California, 2010. [Peer Reviewed, acceptance rate less than 30%].

17. Hong H, Xiang Y, Jin R, **Huang K**. Frequent pattern mining, in *Proceedings of the ACM SIGKDD Frequent Patter Mining Workshop*, Washington DC, 2010. [Invited with Peer Review]
18. Uppalapati P, Yang X, **Huang K**. Predicting prognostic markers for glioma using gene co-expression network analysis, in *Proceedings of the Workshop of Gene Network and Pathway Generation and Analysis* in ACM Bioinformatics and Computational Biology Conference, 2010. [Peer Reviewed]
19. Cooper L, Saltz J, Machiraju R, **Huang K**. Two-point correlation functions: feature space manifolds and correlation updating, in *Proceedings of the Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA)* in IEEE International Conference of Computer Vision and Pattern Recognition (CVPR), 2010. [Peer Reviewed]
20. Zhang J, Ding L, Keen-Circle K, Borlawsky T, Xiang Y, Ozer HG, Jin R, Payne PRO, **Huang K**. Predicting biomarkers for chronic lymphocytic leukemia using gene co-expression network analyses for ZAP70, in *Proceedings of the AMIA Summit of Translational Bioinformatics*, 2010. [Peer Reviewed, selected to be published in *BMC Bioinformatics*]
21. Payne PRO, **Huang K**, Keen-Circle K, Kundu A, Zhang J, Borlawsky T. Multi-dimensional discovery of biomarker and phenotype complexes, in *Proceedings of the AMIA Summit of Translational Bioinformatics*, 2010. [Peer Reviewed]
22. Qin R, Huang J, Xu J, Gnyawali S, Ding L, Sen C, **Huang K**, Xu R. Multi-modal quantitative imaging of wound tissue oxygenation and perfusion, in *Proceedings of the SPIE Photonics West*, 2010. [Abstract of this paper was peer reviewed]
23. Ruan N, Jin R, Lee V, **Huang K**. A sparsification approach for temporal graphical model decomposition, in *Proceedings of the IEEE International Conference on Data Mining (ICDM)*, 2009. [Peer Reviewed, Acceptance Rate: 8.9%]
24. Kundu A, Ozer HG, Borlawsky T, Circle K, **Huang K**, Payne P. Clinical attribute network for chronic lymphocytic leukemia, in *Proceedings of the IEEE International Conference on Bioinformatics & Biomedicine (BIBM)*, 297-282, 2009. [Peer Reviewed, Acceptance Rate: 35%]
25. Camerlengo T, Ozer HG, Teng M, Perez F, Yan P, Li L, Parvin J, Huang T, Kurc T, Liu Y, **Huang K**. Enabling data analysis on high-throughput data in large data depository using web-based analysis platform – a case study on integrating QUEST with GenePattern in epigenetics research, in *Proceedings of the IEEE International Conference on Bioinformatics & Biomedicine (BIBM)*, 392-395, 2009. [Peer Reviewed, Acceptance Rate: 35%]
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27. Zhang J, Xiang Y, Jin R, **Huang K**. Using frequent co-expression network to identify gene clusters for breast cancer prognosis, in *Proceedings of the ISIBM International Joint Conferences on Bioinformatics, Systems Biology and Intelligent Computing*, 428-434, IEEE Press, 2009. [Peer Reviewed]
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33. Ruiz A, Ujaldon M, Andrades JA, Becerra J, **Huang K**, Pan T, Saltz J. The GPU on biomedical image processing for color and phenotype analysis, in *Proceedings of IEEE 7th International Symposium on Bioinformatics & BioEngineering (BIBE'07)*, 1124-1128, IEEE Press, Cambridge, Massachusetts, October 2007. [Peer Reviewed, Acceptance Rate: 13%]
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35. Cooper L, Naidu S, Leone G, Saltz J, **Huang K**. Registering high resolution microscopic images with different histochemical stainings - a tool for mapping gene expression with cellular structures, in *Proceedings of International Workshop on Microscopic Image Analysis with Applications in Biology (MIAAB'07)*, New Jersey, September 2007. [Peer Reviewed]
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37. Mosaliganti K, Janoos F, Xu X, Machiraju R, Wong STC, **Huang K**. Temporal matching of dendritic spines in confocal microscopy images of neuronal tissue, in *Proceedings of the Microscopic Image Analysis with Applications in Biology (MIAAB) Workshop in MICCAI*, October 2006. [Peer Reviewed]
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42. Prescott J, Clary M, Wiet G, Pan T, **Huang K**. Automatic registration of large set of microscopic images using high-level features, in *Proceedings of the IEEE International Symposium on Medical Imaging (ISBI)*, 1284-1287, IEEE Press, Arlington, VA, April 2006. [Peer Reviewed]
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44. Catalyurek U, Hastings S, Huang K, Kumar VS, Kurc T, Langella S, Narayanan S, Oster S, Pan T, Rutt B, Zhang X, Saltz J. Supporting large scale medical and scientific datasets, *Proceedings of the International Conference ParCo*, 33:3-14, 2005. [Peer Reviewed,]
45. Cooper L, Liu J, **Huang K**. Spatial segmentation of temporal texture using mixture linear models, in *Proceedings of the Dynamical Vision Workshop in the International Conference of Computer Vision, Lecture Notes in Computer Science*, 4358:142-150, Springer-Verlag, Beijing, China, October 2005. [Peer Reviewed, *Acceptance Rate: 12.5%*]
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47. Pan T, **Huang K**. Virtual mouse placenta: tissue layer segmentation, in *Proceedings of the IEEE EMBC*, 3112-3116, IEEE Press, September 2005. [Peer Reviewed]
48. **Huang K**, Wagner A, Ma Y. Hybrid linear system identification via subspace embedding and segmentation, in *Proceedings of the 43th IEEE Conference on Decision and Control*, 3:3227-3234, Nassau, Bahamas, December 2004. [Peer Reviewed]
49. **Huang K**, Yang AY, Ma Y. Image representation with hybrid and adaptive linear models, in *Proceedings of the International Conference on Image Processing*, 2: 1231-1284, IEEE Press, Singapore, October 2004. [Peer Reviewed, Top 15% papers]

50. **Huang K**, Ma Y. Robust GPCA algorithm with applications in video segmentation via hybrid system identification, in *Proceedings of the Sixteenth International Symposium on Mathematical Theory of Networks and Systems (MTNS2004)*, Leuven, Belgium, July 2004. [Peer Reviewed]
 51. **Huang K**, Vidal R, Ma Y. Minimum effective dimension for mixtures of subspaces: a robust GPCA algorithm and its applications, in *Proceedings of the IEEE International Conference on Computer Vision and Pattern Recognition (CVPR'04)*, 631-638, IEEE Press, Washington DC, June 2004. [Peer Reviewed, *Acceptance Rate: 23.6%*]
 52. **Huang K**, Hong W, Yang AY, Ma Y. Large baseline matching and reconstruction from symmetry cells, in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA'04)*, 2:1418-1423, New Orleans, USA, April 2004. [Peer Reviewed]
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 55. Brand M, **Huang K**. A unifying theorem for spectral embedding and clustering, in *Proceedings of the 9th International Conference on Artificial Intelligence and Statistics*, Key West, Florida, January, 2003. [Peer Reviewed]
 56. **Huang K**, Fossum R, Ma Y. Generalized rank conditions in multiple view geometry with application to dynamic scenes, in *Proceedings of the 6th European Conference on Computer Vision, Lecture Notes in Computer Science*, 2:201-216, Copenhagen, Denmark, May 2002. [Peer Reviewed, *Acceptance Rate: 30.2%*]
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 59. **Huang K**, Kumar PR. Hierarchical and integrated algorithms: comparison and applications in motion estimation and recognition, in *Proceedings of the 39th IEEE Conference on Decision and Control*, 1: 674-679, IEEE Press, Sydney, Australia, December 2000. [Peer Reviewed]
- **Editorial**
 - 1. Zhao Z, Sanfilippo A, **Huang K**. Gene network and pathway generation and analysis, *International Journal of Computational Biology and Drug Design*, 4(1):1-4, 2011.
 - **Book chapters**

1. **Huang K**, Mosaliganti K, Cooper L, Machiraju R. Quantitative phenotyping using microscopic images, in *Microscopic Image Analysis for Life Science Applications*, Artech House Publishers, 2008.
2. Cooper L, Ruiz A, Ujaldon M, **Huang K**. Scalable image registration and 3D reconstruction at microscopic resolution, in *High Throughput Image Reconstruction and Analysis*, Artech House Publishers, 2008.
3. Ribeiro M, Kurç T, Pan T, **Huang K**, Çatalyürek U, Zhang X, Langella S, Hastings S, Oster S, Ferreira R, Saltz J. 2006. Tools for efficient subsetting and pipelined processing of large scale, distributed biomedical image data. In *Grid Computing: The New Frontier Of High Performance Computing*. Advances in Parallel Computing. Vol. 14. Edited by Grandinetti L. Amsterdam, Netherlands: Elsevier Science.
4. **Huang K**, Ma Y. A survey on geometric vision, in *Handbook of Robotics*, CRC Press, 2004.

- **Abstracts**

1. **Huang K**, Leung A, Zhang J, Zhang CQ. Tissue-tissue gene co-expression network for tumor microenvironment study. Accepted to *Proceedings of the AMIA Summit of Translational Bioinformatics*, San Francisco, March, 2010. [Peer Reviewed]
2. Taslim C, **Huang K**, Lin S, Huang T. Chromatin signature analysis and prediction of genome-wide novel proximal/distal promoters. In *Proceedings of the Cold Spring Harbor Laboratory Genome Informatics*. CSHL Press: Cold Spring Harbor, October, 2009. [Editor Reviewed]
3. Taslim C, Huang T, Lin S, **Huang K**. Comparative analysis of ChIP-seq data using mixture model, in Critical Assessment of Massive Data Analysis Conference (CAMDA2009), Chicago, October, 2009. [Peer Reviewed]
4. Bozdag D, Camerlengo T, Ozer HG, Trgovicich J, Meulia T, **Huang K**, Catalyurek U. Parallel computing strategies for sequence mapping of NGS data, in Critical Assessment of Massive Data Analysis Conference (CAMDA2009), Chicago, October, 2009. [Peer Reviewed]
5. Xiang Y, Zhang J, Ruan N, Jin R, Parvin J, **Huang K**. A study on frequent co-expression networks in cancers, *AMIA Annual Summit on Translational Bioinformatics*, San Francisco, March 2009. [Peer Reviewed]
6. **Huang K**, Wu J, Zhang J, Huang T, Parvin J. GenomeScape: a universal 3D visualization tool for genomic data, *AMIA Annual Summit on Translational Bioinformatics*, San Francisco, March 2009. [Peer Reviewed]
7. Cooper L, Wright J, Singh S, Bluestein E, Ma Y, **Huang K**. GeneSubspace - a tool for clustering the gene expression profiles using mixture linear models, *AMIA Annual Summit on Translational Bioinformatics*, San Francisco, March 2009. [Peer Reviewed]
8. Rybaczyk L, Pathak D, Cooper L, Circle K, **Huang K**. Four common gene expression changes across multiple cancers in multiple species. *AAO annual meeting* (Abstract#4266), 2008. [Peer Reviewed]

9. Rybaczyk L, Wunderlich J, Circle K, Needleman B, Melvin S, Cardounel A, Grants I, **Huang K**, Christofi F. Differential dysregulation of ADORA3, ADORA2A, ADORA2B, and P2RY14 expression profiles from 37 purine genes in mucosal biopsies and peripheral blood mononuclear cells in IBD, *Gastroenterology* 132: Suppl. 2, A-246, 2007. [Peer Reviewed]
 10. Circle K, Rybaczyk L, Grants I, Wunderlich J, **Huang K**, Christofi F: A new comparative analysis of gene expression and selection (CAGES) reveals purine gene signature profiles that distinguish between crohn's and ulcerative colitis. *6th Annual Advances in the Inflammatory Bowel Diseases*, 2007. [Peer Reviewed]
 11. **Huang K**, Sharma A, Cooper L, Pan T, Gurcan M, Saltz J. A novel image registration pipeline for 3-D reconstruction from microscopy images, *Advancing Practice, Instruction and Innovation Through Informatics (APIII)*, Vancouver, Canada, August 2006. [Peer Reviewed]
 12. Sharma A, **Huang K**, Pan T, Gurcan M, Saltz J. A parallel image registration framework for terabyte sized microscopy datasets, *Advancing Practice, Instruction and Innovation Through Informatics (APIII)*, Vancouver, Canada, August 2006. [Peer Reviewed]
 13. Pan T, Sharma A, Gurcan M, **Huang K**, Leone G, Saltz J. GridCAD Microscopy: a caBIG based system for image processing and quantitative analysis, *Advancing Practice, Instruction and Innovation Through Informatics (APIII)*, Vancouver, Canada, August 2006. [Peer Reviewed]
 14. **Huang K**, Iyengar S, Radecki R, Mahmoud AM, Twa MD, Lembach RG, Roberts CJ. Comparison of corneal scattering properties pre- and post-LASIK using orbscan images, in *Proceedings of the 2006 Annual Meeting for Research in Vision and Ophthalmology (ARVO)*, Fort Lauderdale, FL, April 2006. [Peer Reviewed]
 15. Pan T, Masaliganti K, Sharp R, Ridgeway R, **Huang K**, Machuraju R, Saltz J. Virtual placenta: computational phenotyping through image analysis, *Advancing Practice, Instruction and Innovation through Informatics (APIII)*, Vancouver, Canada, August 2005. [Peer Reviewed]
 16. **Huang K**, Moroz LL, Sudlow L, Gillette R. Nitric oxide and 5-HT may regulate feeding network arousal state via intracellular Ca²⁺ and H⁺ in *Pleurobranchae Californica*, in *Abstracts of 28th Annual Meeting of Society for Neuroscience*, Los Angeles, USA, October 1998. [Editor Reviewed]
- **Technical reports**
 1. **Huang K**, Hong W, Yang AY, Rao S, Ma Y. Symmetry-based 3-D reconstruction from perspective images (Part I and II), *Technical Report*, UILU-ENG-03-2204, April, 2003.
 2. Brand M, **Huang K**. A Unifying Theorem for spectral embedding and clustering, *Technical Report of Mitsubishi Electric Research Laboratory*, TR2002-42, October, 2002.
 3. Fossum R, **Huang K**, Ma Y. General Rank conditions in multiple view geometry, *Technical Report*, UILU-ENG-01-2222, October 8, 2001.

4. Ma Y, **Huang K**, Vidal R, Kosecka J, Sastry S. New rank conditions of the multiple view matrix in multiple view geometry, *Technical Report*, UILU-ENG-01-2214 (DC-220), June 18, 2001.
5. Ma Y, Vidal R, **Huang K**, Sastry S. New rank deficiency condition for multiple view geometry of point features, *Technical Report*, UILU-ENG-01-2208 (DC-200), May 8, 2001.
6. Ma Y, **Huang K**, Kosecka J. New rank deficiency condition for multiple view geometry of line features, *Technical Report*, UILU-ENG-01-2209 (DC-201), May 8, 2001.

- **Thesis and dissertations**

1. **Huang K**, Geometric principles of visual sensor networks, Ph.D. Dissertation, University of Illinois, 2004.
2. **Huang K**, Hierarchical and integrated algorithms: comparison and applications in motion estimation and recognition, Master Thesis, University of Illinois, 2000.
3. **Huang K**, Computer-aided analysis of electrophysiological signals, Bachelor Degree Thesis, Tsinghua University, 1996.

Professional Activities:

- **Invited presentations**

1. University of North Carolina at Charlotte, Department of Bioinformatics, Charlotte, North Carolina, March, 2013.
2. University of Georgia, Department of Computer Science, Athens, Georgia, October, 2012.
3. Methodist Hospital, Department of Systems Medicine and Bioengineering, Houston, Texas, October, 2012.
4. Soochow University, Department of Electrical Engineering, Suzhou, China, December, 2012.
5. Biomedical Informatics Research Institute, Shanghai, China, September, 2012.
6. National Key Laboratory of Systems Biology, Shanghai, China, September, 2012.
7. Tongji University, Department of Automation, Shanghai, China, September, 2012.
8. University of Science and Technology of China, Department of Bioengineering, Hefei, China, September 2012.
9. Soochow University, Institute of Systems Biology, Suzhou, China, September, 2012.
10. Chinese Academy of Science Shenzhen Advanced Research Institute, Shenzhen, China, September, 2012.

- **Conference and meeting presentations**

1. Bioimage Informatics Session (Invited Speaker), Biomedical Engineering Society Annual Conference, Atlanta, GA, October, 2012.
2. International Conference on Translational Bioinformatics (Invited Speaker), Taicang, China, December, 2012.

3. AMIA Annual Summit on Translational Bioinformatics, San Francisco, California, March, 2012.
 4. AMIA Annual Summit on Translational Bioinformatics, San Francisco, California, March, 2012.
- **Working group and committee**
 1. National Cancer Institute Integrative Cancer Biology Program (ICBP) Data Sharing Working Group, 2010 – Present.
 - **Editorial position**
 1. Associate editor, BMC Medical Genomics, 2011 – present.
 2. Guest editor, Special issue on Gene Network and Pathway Generation and Analysis for the International Journal of Computational Biology and Drug Design, January 2011.
 - **Conference organizer**
 1. Chair of Workshop on Next Generation Sequencing Data Analysis and Applications, in International Conference on Intelligence in Biology and Medicine (ICIBM), Nashville, TN, 2013.
 2. Program co-Chair of the Sino-US Workshop on Bioinformatics at Soochow University, 2013
 3. Industry and Exhibition co-Chair for IEEE BioVis Symposium, 2012.
 4. Co-Chair of the Zing Conference on Computational Biology, 2012.
 5. Publicity co-Chair for IEEE International Conference on Health Informatics and Systems Biology (HISB), 2012.
 6. Workshop co-Chair for IEEE International Conference on Bioinformatics in BioMedicine (BIBM) 2012.
 7. Chair of Workshop on Next Generation Sequencing Data Analysis and Applications, in International Conference on Intelligence in Biology and Medicine (ICIBM) 2012.
 8. Co-Chair of Workshop on Data Mining in Next Generation Sequencing in IEEE International Conference on Bioinformatics in BioMedicine (BIBM) 2011.
 9. Co-Chair of Workshop on Microscopic Image Analysis with Applications in Biomedicine (MIAAB) in ACM Conference on Bioinformatics and Computational Biology (BCB) 2011.
 10. Co-Chair of Workshop on Data Mining in Next Generation Sequencing in IEEE International Conference on Bioinformatics in BioMedicine (BIBM) 2010.
 11. Co-Chair of Workshop on Gene Network and Pathway Analysis in ACM International Conference on Biocomputing and Bioinformatics (ACM BCB) 2010.
 12. Organizer of the Massive Parallel Sequencing session in OCCBIO 2009.
 - **Session chair**
 1. Special session on Computational Epigenetics, IEEE Workshop on Genome Signal Processing (GENSIP), 2011.

2. Chair of Brain Imaging session in the IEEE International Symposium of Biomedical Imaging (ISBI) 2011.
3. Chair of the Systems Biology session in the ISIBM International Joint Conferences on Bioinformatics, Systems Biology and Intelligent Computing (IJCBS) 2009.
4. Chair of the Massive Parallel Sequencing session in OCCBIO 2009.

- **Conference tutorial**

1. Tutorial on Epigenomics at IEEE GENSIP, San Antonio, TX, 2011.
2. Tutorial on Epigenomics at IEEE BIBM, Hong Kong, 2010.
3. Tutorial on Analysis of ChIP-seq Data at ACM BCB, Niagara Falls, NY, 2010.
4. Tutorial on Epigenetics and ChIP-seq Data Analysis at International Conference on Computational Systems Bioinformatics (CSB), Stanford University, CA, 2010.

- **Program committee member**

1. Program committee in the IEEE International Conference on Health Informatics (ICHI) 2013.
2. Program committee in the IEEE International Conference in Intelligent Computing (ICIC) 2013.
3. Program committee in the International Conference on Bioinformatics and Computational Biology (BIcoB), 2013.
4. Program committee in the IEEE International Conference on Computer Vision and Pattern Recognition (CVPR) 2012.
5. Program committee in the IEEE International Conference in Intelligent Computing (ICIC) 2012.
6. Program committee in the International Conference on Bioinformatics and Computational Biology (BIcoB), 2012.
7. Program committee in the ACM Conference on Bioinformatics and Computational Biology (BCB) 2011.
8. Program committee in the IEEE International Conference in Intelligent Computing (ICIC) 2011.
9. Program committee in the IEEE International Conference in Computer Vision (ICCV) 2011.
10. Program committee in the IEEE International Conference in Computer Vision and Pattern Recognition (CVPR) 2011.
11. Program committee in the 3rd International Conference on Bioinformatics and Computational Biology (BICoB) 2011.
12. Program committee in the International Conference on Information Science and Technology (ICIST) 2011.

13. Program committee in the 4th International Workshop on Mining Multiple Information Sources in conjunction with the IEEE International Conference on Data Mining (ICDM) 2010.
14. Program committee in the International Conference on Intelligent Computing (ICIC) 2010.
15. Program committee of the IEEE Pacific Rim Symposium on Image Video and Technology (PSIVT'09).
16. Program committee of the Dynamical Vision Workshop of the 2009 International Conference in Computer Vision (ICCV'09).
17. Program committee of the Workshop on Microscopic Image Analysis with Applications in Biomedicine (MIAAB'09).
18. Program committee of the 2008 IEEE International Conference in Computer Vision and Pattern Recognition (CVPR'08).
19. International program committee of the International Symposium on Volume Graphics (VG'08) in the 2008 EUROGRAPHICS Conference.
20. Program committee of the Workshop on Microscopic Image Analysis with Applications in Biomedicine (MIAAB'08).
21. Program committee of the Dynamical Vision Workshop of the 2007 International Conference in Computer Vision (ICCV'07).
22. Program committee of the 2007 International Conference in Computer Vision (ICCV'07).
23. International program committee of the International Symposium on Volume Graphics (VG'07) in the 2007 EUROGRAPHICS Conference.
24. Program committee of the Microscopic Image Analysis with Application in Biomedicine Workshop (MIAAB'07).
25. Program committee of the IEEE Pacific Rim Symposium on Image Video and Technology (PSIVT'07).
26. Program committee of the International Conference on Computer Vision Theory and Applications (VISAPP'07).
27. Program committee of the 2006 European Conference in Computer Vision (ECCV'06).
28. Program committee of the 2006 IEEE International Conference in Computer Vision and Pattern Recognition (CVPR'06).
29. Program committee of the Dynamical Vision Workshop of the 2006 European Conference in Computer Vision (ECCV'06).
30. Program committee of the 2005 IEEE International Conference in Computer Vision and Pattern Recognition (CVPR'05).
31. Program committee of the Dynamical Vision Workshop of the 2005 International Conference in Computer Vision (ICCV'05).

- **Book reviewer**

MIT Press.

- **Referee**

Bioinformatics. (Journal)

BMC Systems Biology. (Journal)

International Journal on Alzheimer Research. (Journal)

Gene, Chromosomes and Cancer. (Journal)

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI). (Journal)

IEEE Transactions on Robotics and Automation. (Journal)

IEEE Transaction on Image Processing (TIP). (Journal)

SPIE Optical Engineering. (Journal)

Journal of Image Engineering. (Journal)

Journal of Neuroscience Methods. (Journal)

Journal of Proteome. (Journal)

Information Sciences. (Journal)

IEEE Signal Processing Letters. (Journal)

Journal of Optical Society American A. (Journal)

Journal of Biomedical Informatics. (Journal)

International Journal of Pattern Recognition. (Journal)

International Journal of Computer Vision (IJCV). (Journal)

Journal of Visual Communication and Image Representation. (Journal)

Neurocomputing. (Journal)

IEEE Transactions on Circuits and Systems for Video Technology. (Journal)

International Journal of Biomedical Imaging. (Journal)

IEEE International Conference on Computer Vision. (Papers In Proceedings)

European Conference on Computer Vision. (Papers In Proceedings)

IEEE International Conference on Computer Vision and Pattern Recognition. (Papers In Proceedings)

IEEE International Conference on Decision and Control. (Papers In Proceedings)

IEEE International Conference on Robotics and Automation. (Papers In Proceedings)

AMIA Summit on Translational Bioinformatics. (Papers In Proceedings)

Pacific Symposium on Biocomputing (PSB). (Papers In Proceedings)

International Conference on Computer Vision Theory and Applications (VISAPP). (Papers In Proceedings)

Maryland Industrial Partnership (MIPS) Grant. (Grant)

National Institute of Health RC4 Grant - 2010. (Grant)

National Science Foundation review panel – 2011. (Grant)

National Institute of Health ZDE1 study section – 2012. (Grant)

- **Professional Societies**

Institute of Electrical and Electronics Engineers (1999 – Current).

Teaching (2012 – 2013):

- **Course lead**

1. BMI5730 (2013) – 20 lectures (1.5 hours each), 14 students

- **Co-taught courses and guest lectures**

1. BMI5740 (2013) – one lecture (1.5 hours each)

2. IBGP7000 (2012) – two lectures (2 hours each)

3. CSE5544 (Scientific Visualization, 2012) – two lectures (1 hour each)

4. BMI5710 (2012) – two lectures (1.5 hours each)

Trainees:

- **PhD students**

1. Chao Wang – Electrical and Computer Engineering

2. Nan Meng (co-advised with Dr. Machiraju) – Computer Science and Engineering

3. Hao Ding (co-advised with Dr. Machiraju) – Computer Science and Engineering

4. Qihang Li (co-advised with Dr. Machiraju) – Computer Science and Engineering

5. Raghuram Onti-Srinivasan (co-advised with Dr. Machiraju) – Computer Science and Engineering

6. Andrew Yates – Biomedical Sciences

7. Brian Arand (co-advised with Dr. Machiraju) – Computer Science and Engineering

8. Parchamon Kaewprag (co-advised with Dr. Machiraju) – Computer Science and Engineering

9. Hao Ding (co-advised with Dr. Machiraju) – Computer Science and Engineering

10. Shantanu Singh (PhD 2011, co-advised with Dr. Machiraju) – currently Postdoctoral Researcher in Broad Institute.

11. Lee Cooper (PhD 2009) – currently Assistant Professor in Biomedical Informatics at Emory University.

12. Kishore Mosaliganti (PhD 2008, co-advised with Dr. Machiraju) – currently Postdoctoral Researcher in Harvard Medical School.

13. Leszek Rybaczyk (PhD 2008) – currently Postdoctoral Researcher in Nationwide Children's Hospital.

- **MS students**

1. Terry Camerlengo (2008 – current) - Biophysics
2. Jinchao Di (2012-2013) – Electrical and Computer Engineering
3. Zhiwei Ma (2011-2012) – Biophysics, currently Ph.D. student in University of Massachusetts
4. Vikram Kalluru (2011-2012) – Electrical and Computer Engineering, currently engineer in Boston area
5. Lizhi Li (2011) – Biophysics

- **Postdoctoral researchers and fellows**

1. Amy Webb (2010 – current) – co-supervised with Dr. Parvin
2. David Liebner (2011 – current) – co-supervised with Dr. Parvin
3. Cenny Taslim (2008 – current) – co-supervised with Dr. Geyer
4. Theirry Pecot (2009 – current) – co-supervised with Dr. Machiraju
5. Dias Kurmshev (2011 – 2013) – co-supervised with Dr. Ostrowski
6. Yang Xiang (2010 – 2012, NSF CIFellow) – currently Research Assistant Professor in Biomedical Informatics at the Ohio State University
7. Hatice Gulcin Ozer (2008 – 2012) – currently Research Scientist in Biomedical Informatics at the Ohio State University
8. Liya Ding (2009 – 2010) – currently Postdoctoral Researcher in Harvard Medical School.

- **Undergraduate and high school volunteers**

1. Muzi Zhang (2012) – senior in Mathematics, OSU
2. Zhiyan Gu (2012 – 2013) senior in Mathematics, OSU
3. Shiman Liu (2012 – 2013) – senior in Actuarial Sciences, OSU
4. Junyi Zhang (2013 – current) – senior in Actuarial Sciences, OSU
5. Laura Lin (2012) – junior in Dublin High School