Update:9/9/2020

CURRICULUM VITAE

Yufei Huang, PhD

I. GENERAL INFORMATION

A. Personal Information

Professor
Department of Electrical and Computer Engineering
The University of Texas at San Antonio
One UTSA Circle
San Antonio, TX 78249-0669
Phone: 210-4586270
Email: yhuang@utsa.edu

B. Education:

a. Ph.D. Electrical Engineering, the State University of New York at Stony Brook *1997-2001*
b. M.S. Electrical Engineering, the State University of New York at Stony Brook *1996-1997*
c. B.S. Applied Electronics, Northwestern Polytechnic University, China *1992-1995*

C. Academic Appointments (chronological with latest first):

a. **Associate Chair on Research,** Dept. of Electrical and Computer Engineering The University of Texas at San Antonio *since 9/2017 -*
b. **Professor** Dept. of Electrical and Computer Engineering The University of Texas at San Antonio *since 9/2013 -*
c. **Adjunct Professor** Dept. of Population Health Science, UT Health at San Antonio *since 6/2007-*
d. **Adjunct Professor** Greehey Children's Cancer Research Institute, UT Health at San Antonio *since 6/2007-*
e. **Associate Professor** Dept. of Electrical and Computer Engineering The University of Texas at San Antonio *since 9/2007-8/2013*
f. ***Visiting Professor*** Center of Bioinformatics, Harvard Center for Neurodegeneration & Repair 2006.9 – 2007.1
g. **Assistant Professor** Dept. of Electrical and Computer Engineering The University of Texas at San Antonio *9/2002 - 3/2007*
h. **Postdoctoral Associate**, State University of New York at Stony Brook *9/2001-8/2002*

D. Honors and Awards:

a. **Career Award,** National Science Foundation, 2005
b. **Best Paper Award**, Artificial Neural Networks In Engineering Conference, 2006
c. **Best Paper Award**, IEEE Signal Processing Magazine, 2007
d. **Faculty Research Award,** College of Engineering, UTSA, 2016
e. **Best Paper Award,** IEEE Biomedical Health Informatics, 2017
f. **Presidential Achievement Award in Research,** UTSA, 2018
g. **Academy of Distinguished Researchers,** UTSA, 2019

h. **Distinguished Service Award, International Association of Intelligent Biology and Medicine,** 2019

II. RESEARCH

A. Areas of Research Interest

1. Computational Systems Biology
    i. m^6A and epitranscriptome functions
    ii. cancer genomics and precision oncology
    iii. KSHV biology
2. Artificial Intelligence and deep learning
    i. Interpretable DL models for genomics
    ii. Human reasoning and decision making
3. Brain Computer Interface
    i. EEG-based prediction of cognitive states
    ii. Passive BCI systems

B. Publication

1. Books/Book Chapters

1. J. Meng, **Y Huang**, *Biclustering of Time Series Microarray Data*, in J. Wang (Ed), Next Generation Microarray Bioinformatics, Methods in Molecular Biology, Vol. 802, Springer, 2011
2. J. Meng and **Y. Huang** "Gene Regulation," in Encyclopedia of Systems Biology, Springer, 2013
3. **Y. Huang** and E. Dougherty, “Probabilistic Boolean Networks as Models for Gene Regulation,” in Dehmer, Emmert-Streib (Ed.): Analysis of Microarray Data, Wiley-VCH, 2008

2. Journal Papers (*refereed full length; * corresponding author; IF: impact factor*)

1. P. Xiao, T. Zhang, XN Dong, Y. Han, **Y. Huang***, X. Wang* (2020) Prediction of trabecular bone architectural features by deep learning models using simulated DXA images, *Bone reports*, 100295
2. Panwar, S., Rad, P., Jung, T. P., & **Huang, Y**.* (2020). Modeling EEG data distribution with a Wasserstein Generative Adversarial Network to predict RSVP Events. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2020/7/1, Vol. 28-8, p1720-1730.
3. Salekin S, Mostavi M, Chiu Y, Chen Y, Zhang J*, **Huang Y*** (2020). Predicting sites of epitranscriptome modifications using unsupervised representation learning based on generative adversarial networks. *Front Phys - Computational Physics*; *Machine Learning Applications for Physics-Based Computational Models of Biological Systems,* 8, p. 196
4. Ramirez, R., Chiu, Y.C., Hererra, A., Mostavi, M., Ramirez, J., Chen, Y., Huang, Y. and Jin, Y.F., 2020. Classification of Cancer Types Using Graph Convolutional Neural Networks. *Frontiers in Physics*, *8*, p.203.
5. Mostavi, M., Chiu, Y. C., **Huang, Y**.*, & Chen, Y.* (2020). Convolutional neural network models for cancer type prediction based on gene expression. *BMC Medical Genomics,* 13, 1-13.
6. Gruffaz, M., Zhang, T., Marshall, V., Goncalves, P., Ramaswami, R., Labo, N., Whitby, D., Uldrick, T. S., Yarchoan, R., **Huang, Y.**, & Gao, S.-J.* (2020). Signatures of oral microbiome in

HIV-infected individuals with oral Kaposi's sarcoma and cell-associated KSHV DNA. PLOS PATHOGENS, 16(1).

7. Chiu YC, Chen HI, Gorthi A, Mostavi M, Zheng S, **Huang Y***, Chen Y*. Deep learning of pharmacogenomics resources: moving towards precision oncology. *Briefings in Bioinformatics*. 2019 Dec 8. bbz144, https://doi.org/10.1093/bib/bbz144
8. Zhang S-Y, Zhang S-W, Fan X-N, Zhang T, Meng J, **Huang Y***. FunDMDeep-m6A: identification and prioritization of functional differential m6A methylation genes. *Bioinformatics*. 2019;35(14):i90-i8. doi: 10.1093/bioinformatics/btz316 *
9. Gruffaz, M., Yuan, H., Meng, W., Liu, H., Bae, S., Kim, J.-S., Lu, C., Huang, Y., & Gao, S.-J. (2019). CRISPR-Cas9 Screening of Kaposi's Sarcoma-Associated Herpesvirus-Transformed Cells Identifies XPO1 as a Vulnerable Target of Cancer Cells. MBIO, 10(3).
10. Zhang, L., He, Y., Wang, H., Liu, H., **Huang, Y.**, Wang, X., & Meng, J. (2019). Clustering Count-based RNA Methylation Data Using a Nonparametric Generative Model. CURRENT BIOINFORMATICS, 14(1), 11-23.
11. Chen, J.X., Zhang, P.W., Mao, Z.J., **Huang, Y.F**., Jiang, D.M. and Zhang, Y.N., 2019. Accurate EEG-Based Emotion Recognition on Combined Features Using Deep Convolutional Neural Networks. *IEEE Access*, *7*, pp.44317-44328
12. Tang, Y., Chen, K., Wu, X., Wei, Z., Song, B., Zhang, S., **Huang, Y**. and Meng, J.*, 2019. DRUM: Inference of disease-associated m^6A RNA methylation sites from a multi-layer heterogeneous network. *Frontiers in genetics*, *10*, p.266.
13. Chiu YC, Chen HH, Zhang T, Zhang S, Gorthi A, Wang LJ, **Huang Y***, Chen Y*. Predicting drug response of tumors from integrated genomic profiles by deep neural networks. *BMC Med Genomics*. 2019 Jan 31;12(Suppl 1):18. PubMed PMID: 30704458; PubMed Central PMCID: PMC6357352.
14. Zhang S-Y, Zhang S-W *, Fan X, Meng J, Chen Y, **Huang Y***. Global analysis of N6-methyladenosine functions and its disease association using deep learning and network-based methods. *PLoS Computational Biology, Machine Learning in Health and Biomedicine Collection*, *2019 Jan 2nd.* *corresponding authors
15. Chen H-IH, Chiu Y-C, Zhang T, Zhang S, **Huang Y***, Chen Y*. GSAE: an autoencoder with embedded gene-set nodes for genomics functional characterization. *BMC Systems Biology 12(S8), December 2018,* DOI: 10.1186/s12918-018-0642-2, * corresponding authors
16. Panneerdoss S, Eedunuri VE, Timilsina S, Rajamanickam S, Suryavathi V, Abdelfattah S, Onyeagucha BC, Cui X, Mohammad TA, Huang THM, **Huang Y***, Chen Y*, Rao MK*. Cross-talk among writers, readers, and erasers of m6A regulates cancer growth and progression, *Science Advances,* 4, no. 10, eaar8263. 2018. (IF: 11.51)
17. Salekin S, Zhang JM, **Huang Y***. Base-pair resolution detection of transcription factor binding site by deep deconvolutional network. *Bioinformatics*. 2018 May 10. doi: 10.1093/bioinformatics/bty383. (IF: 5.48)
18. Wei Z, Panneerdoss S, Timilsina S, Zhu J, Mohammad TA, Lu ZL, de Magalhães JP, Chen Y, Rong R, Huang Y, Rao MK. Topological Characterization of Human and Mouse m^5C Epitranscriptome Revealed by Bisulfite Sequencing. *International Journal of Genomics*. 2018; (IF: 1.9)
19. Nayak T, Zhang T, Mao Z, Xu X, Zhang L, Pack DJ, Dong B, Huang Y. Prediction of Human Performance Using Electroencephalography under Different Indoor Room Temperatures. Brain sciences. 2018 Apr;8(4). (IF: 2.57)

20. Liu H, Wang H, Wei Z, Zhang S, Hua G, Zhang S, Zhang L, Gao S-J, Meng* J, Chen* X, **Huang Y*** (2018). MeT-DB V2.0: Elucidating context-specific functions of N6-methyl-adenosine methyltranscriptome. *Nucleic Acids Res*, Jan 2018, 4;46(D1):D281-D287. doi: 10.1093/nar/gkx1080, (IF: 10.162)
21. Tan, B., Liu, H., Zhang, S., da Silva, S. R., Zhang, L., Meng, J., Cui, X., Yuan, H., Sorel, O., Zhang, S., **Huang*, Y**., Gao*, S-J (2018). Viral and Cellular N6-Methyladenosine (m6A) and N6, 2′-O-Dimethyladenosine (m6Am) Epitranscriptomes in KSHV Life Cycle. *Nature Microbiology*, 2018 Jan;3(1):108-120. doi: 10.1038/s41564-017-0056-8 (IF: 14.17)
22. M. Sanchez-Castillo, D. Blanco, I. M. Tienda - Luna, M. C. Carrion, and **Y. Huang**, A Bayesian framework for the inference of Gene Regulatory Networks from time and pseudo-time series data. *Bioinformatics*, Sep 25. 2017 doi: 10.1093/bioinformatics/btx605. (IF: 5.48)
23. Meriño, L., Nayak, T., Kolar, P., Hall, G., Mao, Z., Pack, D. J., & **Huang, Y*.** (2017). Asynchronous control of unmanned aerial vehicles using a steady-state visual evoked potential-based brain computer interface. *Brain-Computer Interfaces*, *4*(1-2), 122-135.
24. Zhang, S., Zhang, S., Liu, L., Meng, J., & **Huang, Y***. (2016). m6A-Driver: Identifying Context-Specific mRNA m6A Methylation-Driven Gene Interaction Networks. *PLOS Computational Biology*, *12*(12), e1005287. (IF: 3.95)
25. Cui, X., Meng, J., Zhang, S., Chen, Y., & **Huang, Y***. A novel algorithm for calling mRNA m^{6}A peaks by modeling biological variances in MeRIP-seq data. *Bioinformatics.* 2016 Jun 15;32(12):i378-i385. doi: 10.1093/bioinformatics/btw281. (IF: 7.307)
26. M. Hajinoroozi, Z. Mao, T-P Jung, C-T Lin, and **Y. Huang*** "EEG-based Prediction of Driver's Cognitive Performance by Deep Convolutional Neural Network," *Elsevier Signal Processing: Image Communication,* DOI: 10.1016/j.image.2016.05.018
27. Land, William M., B. Liu, A. Cordova, M. Fang, **Y. Huang**, and W.X. Yao. "Effects of Physical Practice and Imagery Practice on Bilateral Transfer in Learning a Sequential Tapping Task." *PLOS One* 11, no. 4 (2016): e0152228. (IF: 3.234)
28. Cui, X., Meng, J., Zhang, S., Rao, M. K., Chen, Y., & **Huang, Y***. (2016). A Hierarchical Model for Clustering m6A Methylation Peaks in MeRIP-seq Data. *BMC System Biology* (IF: 3.10)
29. Cui, X, Zhen, W, Zhang L, Liu H, Sun L, Zhang, S., **Huang Y**. Meng J, "Guitar: An R/Bioconductor Package for Gene Annotation Guided Transcriptomic Analysis of RNA-Related Genomic Features," *BioMed Research International*, vol. 2016, Article ID 8367534, 8 pages, 2016. doi:10.1155/2016/8367534. (IF: 1.579)
30. Cui, X., Zhang, L., Meng, J., Rao, M., Chen, Y., & **Huang, Y*.** "MeTDiff: a Novel Differential RNA Methylation Analysis for MeRIP-Seq Data." IEEE/ACM Transactions on Computational Biology and Bioinformatics, Vol:PP, 99, March , 2015, doi: 10.1109/TCBB.2015.2403355 (IF: 1.609)
31. Cui, X., Meng, J., Rao, M. K., Chen, Y., & **Huang, Y***. (2015). HEPeak: an HMM-based exome peak-finding package for RNA epigenome sequencing data. *BMC Genomics*, *16*(Suppl 4), S2. doi:10.1186/1471-2164-16-S4-S2 (IF: 3.86)
32. Zhou, Yi, Hung-I. H. Chen, A. L. Lin, H. Dang, Karin Haack, Shelley A. Cole, **Y. Huang**, H. Yu, Yidong Chen, and Chih-Ko Yeh. "Early Gene Expression in Salivary Gland After Isoproterenol Treatment." *Journal of cellular biochemistry* 116, no. 3 (2015): 431-437. (IF: 3.368)
33. Liu H, Flores MA, Meng J, Zhang L, Zhao X, Rao MK, Chen Y, **Huang Y***. MeT-DB: a database of transcriptome methylation in mammalian cells. *Nucleic Acids Res*. 2015 Jan. 28. pii: gku1024. PubMed PMID: 25378335, doi: 10.1093/nar/gku1024 (IF: 8.378)

34. Yao, Wan X., Jinqi Li, Zhiguo Jiang, Jia-Hong Gao, Crystal G. Franklin, **Yufei Huang**, Jack L. Lancaster, and Guang H. Yue. "Aging interferes central control mechanism for eccentric muscle contraction." *Frontiers in aging neuroscience* 6 (2014).
35. Liu, Lian, Shao-Wu Zhang, Yu-Chen Zhang, Hui Liu, Lin Zhang, Runsheng Chen, **Yufei Huang**, and Jia Meng. "Decomposition of RNA methylome reveals co-methylation patterns induced by latent enzymatic regulators of the epitranscriptome." *Molecular BioSystems* 11, no. 1 (2015): 262-274. (IF:3.18)
36. M. Flores, Y. Chen, **Y. Huang***. TraceRNA: A Web Application for Competing Endogenous RNA Exploration. *Circ Cardiovasc. Genet,* 2014, Aug; 7(4): 548-57. doi: 10.1161/CIRCGENETICS.113.000125 (IF: 6.728)
37. Rosalie Moody, Ying Zhu, **Yufei Huang**, Xiaodong Cui, Tiffany Jones, Roble Bedolla, Xiufen Lei, Zhiqiang Bai, Shou-Jiang Gao. KSHV MicroRNAs Mediate Cellular Transformation and Tumorigenesis by Redundantly Targeting Cell Growth and Survival Pathways. **PLoS Pathogens,** 2014; 9 (12): e1003857 DOI: 10.1371/journal.ppat.1003857, PMID:24385912 (IF: 8.13)
38. Meng J, Lu Z, Liu H, Zhang L, Zhang S, Chen Y, Rao MK, **Huang Y***. A protocol for RNA methylation differential analysis with MeRIP-Seq data and exomePeak R/Bioconductor package. *Methods*. 2014 Oct 1;69(3):274-81. doi: 10.1016/j.ymeth.2014.06.008. Epub 2014 Jun 27. PubMed PMID: 24979058; PubMed Central PMCID: PMC4194139. (IF:4.197)
39. Ma, Chifeng, Hung-I. H. Chen, Mario Flores, **Yufei Huang***, and Yidong Chen. "BRCA-Monet: a breast cancer specific drug treatment mode-of-action network for treatment effective prediction using large scale microarray database." *BMC Systems Biology* 7, no. Suppl 5 (2013): S5. (IF:2.98)
40. J. Meng, L. M. Merino, K. Robbins, **Y Huang*,** "Classification of imperfectly time-locked image RSVP events with EEG device," *Neuroinformatics*, Sept. 2013 DOI 10.1007/s12021-013-9203-4, PMID:24037139 (IF: 3.13)
41. Xuan, P., Han, K., Guo, M., Guo, Y., Li, J., Ding, J., & **Huang, Y***. (2013). Prediction of microRNAs Associated with Human Diseases Based on Weighted k Most Similar Neighbors. *PLoS one*, *8*(8), e70204. (IF:3.73)
42. J. Meng, X. Cui, M. Rao, Y. Chen, **Y. Huang***, *"*Exome-based Analysis for RNA Epigenome Sequencing Data*"* *Bioinformatics,* Apr. 2013; doi: 10.1093/bioinformatics/btt171, PMID:23589649 (IF:5.32)
43. M. Flores, T-H Hsiao, Y-C Chiu, E. Y. Chuang, **Y. Huang***, Y. Chen, "Gene Regulation, Modulation and Their Applications in Gene Expression Data Analysis," *Advances in Bioinformatics*, 2013: 360678, 2013 March 13. doi: 10.1155/2013/360678, PMID:23573084
44. Sanchez-Diaz PC, Hsiao TH, Chang JC, Yue D, Tan MC, Chen HI, Tomlinson GE, **Huang Y**, Chen Y, Hung JY. "De-Regulated MicroRNAs in Pediatric Cancer Stem Cells Target Pathways Involved in Cell Proliferation, Cell Cycle and Development." *PLoS One*. 2013 Apr 17;8(4):e61622. PMID: 23613887, PMCID: PMC3629228 (IF: 4.09)
45. J. Meng, Y. Chen, **Y. Huang***, "Uncover context-specific gene regulation by transcription factors and microRNAs using Bayesian sparse nonnegative factor regression analysis," Journal of Biological Systems, Vol. 20, No. 4 (2012) 377–402 (IF: 0.57)
46. X. Lei, Y. Zhu, T. Jones, Z Bai, **Y. Huang**, and S-J Gao, "A KSHV microRNA targets TGF-β pathway to promote cell survival" *Journal of Virology*, 86:11698–116711, Nov. 2012, doi: 10.1128/JVI.06855-11 (IF: 5.42)

47. J. Meng, L. M. Merino, N. B. Shamlo, S. Makeig, K. Robbins, **Y Huang*** "Characterization and robust classification of EEG signal from image RSVP events with independent time-frequency features," *PLoS ONE*, 7.9 (Sept. 2012): e44464. PMID: 23028544, PMCID: PMC3445552 (IF: 4.09)
48. L. Zhang, J. Meng, H. Liu, Y. **Huang***, "A nonparametric Bayesian approach for clustering bisulfate-based DNA methylation profiles," *BMC Genomics*, 2012;13 Suppl 6:S20. PMID: 23134689, PMCID:PMC3481479
49. D. Yue, Y. Chen, **Y. Huang***, "A Bayesian Decision Fusion Approach for microRNA Target Prediction," *BMC Genomics*, 2012;13 Suppl 8:S13, Dec, 2012, PMID: 23282032, PMCID:PMC3535698
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51. Zhao Z, Zhang B, Shyr Y, **Huang Y**, Xu H, (2012) Genomics in 2012: challenges and opportunities in the next generation sequencing era. *BMC Genomics*, 13 Suppl 8:S1, Dec, 2012, PMID: 23281891, PMCID: PMC3535713
52. D. Yue, J. Meng, M. Lu, P. Chen, M. Guo, **Y. Huang***, "Understanding microRNA regulation: A computational perspective," *IEEE Signal Process Magazine*, 29:1, 77-88, 2012. (IF:6.0)
53. N. Nguyen, Y. Chiao, **Y. Huang**, S-J, Gao, M. Lindsey, Y. Chen, Y. Jin "Temporal clustering of gene expression patterns using short-time segments" *Int. J. Functional Informatics and Personalised Medicine*, Vol 4, No. 1, 2011
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55. Xuan, P; Guo, MZ; Huang, YC; Li, WB; **Huang, Y***, "MaturePred: Efficient Identification of MicroRNAs within Novel Plant Pre-miRNAs", *PLOS ONE*, 6 (11): - NOV 16 2011 (IF: 4.41)
56. J. Meng, J. Zhang, Y. Chen, **Y. Huang***, "Bayesian non-negative factor analysis for reconstructing transcription factor mediated regulatory networks," *Proteome Science*, Volume 9, Supplement 1, 2011 (IF: 2.49)
57. Boutz DR, Collins P, Suresh U, Lu M, Ramírez CM, Fernández-Hernando C, **Huang Y**, de Sousa Abreu R, Le SY, Shapiro BA, Liu AM, Luk JM, Aldred SF, Trinklein N, Marcotte EM, Penalva LO, A two-tiered approach identifies a network of cancer and liver diseases related genes regulated by miR-122, *Journal of Biological Chemistry*, 286: 18066-78, 2011 (IF:5.33)
58. P. Xuan, M. Guo, X. Liu, Y. Huang, W. Li, **Y. Huang***, "PlantMiRNAPred: efficient classification of real and pseudo plant pre-miRNAs" (2011) Bioinformatics 27: 1368-1376 (IF:4.88)
59. J. Meng, J. Zhang, Y. Qi, Y. Chen, **Y. Huang***, "Uncovering Transcriptional Regulatory Networks by Sparse Bayesian Factor Model" *EURASIP Journal of Advances in Signal Processing*, Vol. 2010, doi:10.1155/2010/538919 (IF: 1.01)
60. H Liu, D Yue, Y Chen, S-J Gao, **Y Huang***, "A Bayesian Approach for Identifying miRNA Targets by Combining Sequence Prediction and Gene Expression Profiling," BMC Genomics, 2010, 11 (Suppl 3):S12 doi: 10.1186/1471-2164-11-S3-S12, [PMCID: PMC2999342] (IF: 4.21)
61. J. Zhang, X. Zhou , H. Wang, A. Suffredini, L. Zhang, **Y. Huang**, S. Wong , "Bayesian Peptide Peak Detection for High Resolution TOF Mass Spectrometry." IEEE Transactions on Signal Processing, Nov., 2010, Vol 58:No. 11, 10.1109/TSP.2010.2065226. (IF: 2.65)

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63. J. Meng, Y. Chen, S-J Gao, **Y. Huang***, “Robust inference of the context specific structure and temporal dynamics of gene regulatory network,” BMC Genomics, 2010 11(Suppl 3): S11. doi: 10.1186/1471-2164-11-S3-S11. [PMCID: PMC2999341] (IF: 4.21)
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66. Lei XF, Bai ZQ, Xie JP, Ye FC, Zhou FC, Huang Y and Gao S-J. “Regulation of NF-κB inhibitor IκBα and viral replication by a KSHV microRNA,” Nature Cell Biology, Jan. 2010. [PMICD: PMC2815189] (IF: 19.527)
67. D. Yue, H. Liu, and **Y. Huang***, “Survey of Computational Algorithms for MicroRNA Target Prediction,” *Special Issue on Special Issue on Genomic Signal Processing, Current Genomics*, Volume 10, Number 7, November 2009 , pp. 478-492(15) (IF: 2.48)
68. J. Zhang, Elias Gonzalez, Travis Hestilow, William Haskins, **Y. Huang***, “Review of Peak Detection and Feature Selection Algorithms in Liquid-Chromatography Mass Spectrometry" Special Issue on *Special Issue on Genomic Signal Processing, Current Genomics*, Volume 10, Number 8, Sept., 2009, pp. 388-401(IF: 2.48)
69. J. Meng, S-J Gao, and **Y. Huang*, “**Enrichment Constrained Time-Dependent Clustering Analysis for Finding Meaningful Temporal Transcription Modules", *Bioinformatics*, Jun 15;25(12):1521-7, 2009 (IF:4.877)
70. T. Hestilow, **Y. Huang*** “Clustering Of Gene Expression Data Based On Shape Similarity,” *EURASIP Journal on Bioinformatics and Systems Biology*, 2009:195712
71. T. Wei, **Y. Huang***, and P. Chen “Particle Filtering for Adaptive Sensor Fault Detection and Identification,” IEEE Trans. on Systems, Man, and Cybernetics, Part C, 39(2):201–213. pp. 201-213 , Feb, 2009 (IF: 2.02)
72. Tienda-Luna, I.M. and Perez, M.C.C. and Padillo, D.P.R. and Yin, Y. and **Huang, Y**., “Sensitivity and Specificity of Inferring Genetic Regulatory Interactions with the VBEM Algorithm,” *IADIS International Journal on Computer Science and Information Systems*, Vol4, p 54-63, 2009
73. **Y. Huang***, I. T. Luna, and Y. Wang, “A survey on statistical models for reverse engineering gene regulatory networks,” *IEEE Signal Processing Magazine*, Jan 2009. (IF:6.0),
74. I. T. Luna , Y. Yin, **Y. Huang***, D. P. R. Padillo, and Y. Wang, “Uncovering gene networks using variational Bayesian variable selection,” *Special Issue of Computational Biology, the Artificial Life Journal*, January, 2008.
75. I. T. Luna, Y. Yin, **Y. Huang***, D. P. R. Padillo, H. Cai, M. Sanchez, and Y. Wang, “Inferring the Skeleton Cell Cycle Regulatory Network in Malaria Parasite using Comparative Genomic and Bayesian Approaches,” *Genetica*, Vol 132, No. 2, pp 131-142, June 2007.
76. I. T. Luna, Y. Yin, **Y. Huang***, D. P. R. Padillo, and Y. Wang, “Uncovering gene regulatory networks from time series microarray data with variational Bayesian structural expectation maximization,” *EURASIP Journal on Bioinformatics and Systems Biology*, June, 2007.

77. **Y. Huang***, J. Wang, J. Zhang, M. Sanchez, and Y. Wang, "Bayesian Inference of Genetic Regulatory Networks from Time Series Microarray Data Using Dynamic Bayesian Networks," *Journal of Multimedia*, Vol3. No 2, pp 46-56, June 2007
78. **Y. Huang***, J. Zhang, I.Tienda-Luna, P. M. Djurić, and D. P. Ruiz "Adaptive blind multiuser detection over flat fast fading channels using particle filtering," *EURASIP Journal on Wireless Communications and Networking*, 2005:2, 130-140, 2005
79. **Y. Huang***, J. Zhang, and P. M. Djurić, "Bayesian Detection for BLAST," *IEEE Transactions on Signal Processing,* vol. 53, no. 3, pp. 1086-1096, March, 2005.
80. **Y. Huang*** and P. M. Djurić, "A blind particle filtering detector of signals transmitted over flat fading channels," vol. 52, no. 7, pp. 1891-1900, July, *IEEE Transactions on Signal Processing*, 2004.
81. **Y. Huang** and P. M. Djurić, "A hybrid importance function for particle filtering," *IEEE Signal Processing Letters*, Feb., 2004.
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83. **Y. Huang** and P. M. Djurić, "Variable selection by perfect sampling," *EURASIP Journal of Applied Signal Processing*, no. 1, pp. 38-45, January, 2002.
84. **Y. Huang** and P. M. Djurić, "Multiuser detection of synchronous Code-Division Multiple-Access signals by perfect sampling," *IEEE Transactions on Signal Processing*, vol. 50, no. 7, pp. 1724-1734, July, 2002
85. P. M. Djurić, **Y. Huang**, and T. Ghirmai, "Perfect Sampling: A review and its applications to signal processing," *IEEE Transactions on Signal Processing*, vol. 50, no. 2, pp. 345-356, February, 2002.
86. P. M. Djurić and **Y. Huang**, "Estimation of a Bernoulli parameter *p* from imperfect trials," *IEEE Signal Processing Letters*, vol. 7, no. 6, pp. 160--163, 2000.

3. Conference Papers

1. Liu Z., Mock J, **Huang Y**, Golob E. Predicting Auditory Spatial Attention from EEG using Single- and Multi-task Convolutional Neural Networks. IEEE International Conference on Systems Man and Cybernetics 2019 (SMC'19).
2. Panwar S, Rad P, Quarles J, Golob E, **Huang Y***. A Semi-Supervised Wasserstein Generative Adversarial Network for Classifying Driving Fatigue from EEG signals. IEEE International Conference on Systems Man and Cybernetics 2019 (SMC'19).
3. Panwar S, Rad P, Quarles J, **Huang Y***. Generating EEG signals of an RSVP Experiment by a Class Conditioned Wasserstein Generative Adversarial Network, IEEE International Conference on Systems Man and Cybernetics 2019 (SMC'19).
4. Liu, Z., Mock, J. R., **Huang, Y.**, & Golob, E. (2019). Predicting Auditory Spatial Attention from EEG using Single- and Multi-task Convolutional Neural Networks. 2019 IEEE International Conference on Systems, Man and Cybernetics (SMC). IEEE. http://dx.doi.org/10.1109/smc.2019.8913910
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8. I. A. Corley, and **Y. Huang** "Deep EEG Super-resolution: Upsampling EEG Spatial Resolution with Generative Adversarial Networks," IEEE Biomedical and Health Informatics and the Body Sensor Networks Conference, Las Vegas, March 4-7, 2018
9. Y. Lee, and **Y. Huang**, "Generating Target/non-Target Images of an RSVP Experiment from Brain Signals in by Conditional Generative Adversarial Network," IEEE Biomedical and Health Informatics and the Body Sensor Networks Conference, Las Vegas, March 4-7, 2018
10. Hasib, M.M., T. Nayak, and **Y. Huang**. "A hierarchical LSTM model with attention for modeling EEG non-stationarity for human decision prediction. in Biomedical & Health Informatics (BHI)", IEEE Biomedical and Health Informatics and the Body Sensor Networks Conference, Las Vegas, March 4-7, 2018
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14. M. Hajinoroozi, Z. Mao, **Y. Huang**, "*Deep Transfer Learning for Cross-Subject and Cross-Experiment Prediction of Image Rapid Serial Visual Presentation Events from EEG Data*," Human Computer Interface Conference, 2017
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61. T. Wei, Y. Huang and P. Chen, Sensor validation for flight control by particle filtering, (Invited), European Signal Processing Conference, Sept. 2005
62. T. J. Hestilow, T. Wei and Y. Huang, Sensor scheduling and target tracking using expectation propagation," IEEE Workshop on Statistical Signal Processing, July 2005
63. M. Tienda-Luna, D. P. Ruiz, M. C. Carrion, and Y. Huang Iterative decoding in Factor Graph representation using Particle Filtering," IEEE workshop on Signal Processing Applications in Wireless Communications, New York, June, 2005
64. Y. Huang, Y. Wang, J. Wang and J. Zhang, Bayesian Inference of Cell Cycle Regulatory Networks," IEEE/EURASIP International Workshop on. Genomic Signal Processing and Statistics, May, 2005
65. Y. Huang, Y. Yin and J. Zhang, Belief-Directed Sequential Probabilistic Data Association Multiuser Detector," IEEE International Conference on Acoustics Speech and Signal Processing, March, 2005.
66. T. Wei, Y. Huang and Y. Qi, Symbol Detection with Time-varying Unknown Phase by Expectation Propagation," IEEE International Conference on Acoustics Speech and Signal Processing, March, 2005.
67. Y. Yin, Y. Huang, and J. Zhang, Joint symbol detection and timing estimation with Stochastic M-algorithm," in Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2004
68. Y. Huang, and J. Zhang, A Generalized Probabilistic Data Association Multiuser Detector for CDMA systems," in Proceedings of the IEEE International Symposium on Information Theory , June, 2004
69. Y. Yin, Y. Huang and J. Zhang, Turbo Equalization using Probabilistic Data Association, in Proceedings of IEEE Globecom, Dec. 2004
70. Y. Huang, J. Zhang, I. T. Luna, P. M. Djuriic and D. P. R. Padillo, Adaptive Blind Multiuser Detection over Flat Fast Fading Channels using Particle Filtering, in Proceedings of IEEE Globecom, Dec. 2004
71. Y. Huang and J. Zhang, Lower bounds on the variance of deterministic signal parameter estimators using Bayesian inference," in Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, April, 2003.

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73. Y. Huang, P. M. Djuric, and J. Zhang, Joint velocity estimation and symbol detection in non-stationary fading channels by particle filtering," in Proceedings of the IEEE CLOBECOM conference, Dec, 2003.
74. Y. Huang and P. M. Djuric, A new importance function for particle ¯filtering and its application to blind detection in °at fading channels," in Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2002.
75. Y. Huang and P. M. Djuric, A blind particle ¯filtering detector for joint channel estimation, tracking and data detection over at fading channels," in Proceedings of European Signal Processing Conference, 2002.
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77. P. M. Djuric, J. Zhang, T. Ghirmai, Y. Huang, and J. Kotecha, Applications for Particle ¯filtering to communications: A review," in Proceedings of the European Signal Processing Conference, 2002.
78. J. Zhang, Y. Huang and P. M. Djuric, Joint channel estimation and multiuser detection using particle filtering," in Proceedings of the Conference on Information Sciences and Systems, 2002.
79. Y. Huang and P. M. Djuric, Multiuser detection of synchronous Code-Division Multiple-Access signals by the Gibbs coupler," in Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, Salt Lake City, UT, 2001.
80. Y. Huang and P. M. Djuric, Variable selection by perfect sampling," in Proceedings of the IEEE - EURASIP Workshop on Nonlinear Signal and Image Processing, Baltimore, MD, 2001.
81. Y. Huang and P. M. Djuric, A new perfect sampling algorithm on binary state spaces and its applications to signal processing (invited)," in Proceedings of the ICSA Applied Statistics Symposium, Chicago, IL, 2001.
82. Y. Huang, T. Ghirmai and P. M. Djuric, The rejection Gibbs coupler: A perfect sampling algorithm and its application to truncated multivariate Gaussian distributions," in Proceedings of the 11th IEEE Workshop on Statistical Signal Processing, 2001.
83. Y. Huang and P. M. Djuric, Bayesian detection of transient signals in colored noise," in Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing, Istanbul, Turkey, 2000.
84. Y. Huang and P. M. Djuric, Choosing priors for an important class of signal processing problems," in Proceedings of the European Signal Processing Conference, Tampere, Finland, 2000.
85. P. M. Djuric and Y. Huang, Estimation of probability of events from imperfect Bernoulli trials," in Proceedings of the SPIE International Symposium on Mathematical Modeling, Bayesian Estimation, and Inverse Problems, Denver, CO, 1999, vol. 3816, pp. 68{76}.
86. Y. Huang and P. M. Djuric, A Bayesian approach to direction-of-arrival estimation of coherent signals," in Proceedings of the IEEE Signal Processing Workshop on High Order Statistics, Caesarea, Israel, 1999, pp. 371{374}.

C. Invited Lectures, Seminars

1. The University of Texas Health San Antonio, PRISM, “Elucidating N6-methyladenosine (m^6A) functions using machine learning,” Apr, 2019
2. The University of Texas Health Houston, “Global analysis of N6-methyladenosine (m6A) functions and its disease association using deep learning and network-based methods,” Sept, 2018

3. Northwestern Polytechnical University, “Uncover differential methylation in breast cancer,” July, 2014
4. Shanxi Normal University, “exomePeak: uncovering the dynamics of transcriptome-wide RNA methylation,” Dec, 2013
5. Northwestern Polytechnical University, “exomePeak: uncovering the dynamics of transcriptome-wide RNA methylation,” Dec, 2013
6. Army Research Lab, “ Classification of image raid serial visual presentation events with deep learning,” Nov. 2013
7. Prairie View A&M University, “Uncover Context-Specific Gene Regulation by Transcription Factors and microRNAs using Bayesian Sparse Nonnegative Factor Regression Analysis,” Apr., 2013, Huston, Texas.
8. University of Texas, M&D Anderson Cancer Center, “Uncover Context-Specific Gene Regulation by Transcription Factors and microRNAs using Bayesian Sparse Nonnegative Factor Regression Analysis,” March, 2013, Huston, Texas.
9. Texas Tech University, “Uncovering Co-Regulatory Networks by miRNA and Transcription Factors by Sparse Bayesian Factor Model”, Oct. 2011, Lubbock, Texas.
10. Harbin Institute of Technology,” Uncovering Co-Regulatory Networks by miRNA and Transcription Factors by Sparse Bayesian Factor Model”, July. 2011, Harbin, China
11. Northwestern Polytechnic University, “Constructing a Mode-of-Action networks for effective prediction of drug effectiveness”, July. 2011, Xian, China
12. Beijing Normal University, “Uncovering Co-Regulatory Networks by miRNA and Transcription Factors by Sparse Bayesian Factor Model”, July. 2011, Beijing, China
13. Northwestern Polytechnic University, “Uncovering Time Varying Transcriptional Regulatory Networks”, Dec. 2010, Xian, China
14. Beijing Normal University, “Uncovering Transcriptional Regulatory Networks by Sparse Bayesian Factor Model”, Nov. 2010, Beijing, China
15. Beijing Institute of Technology, “Uncovering Transcriptional Regulatory Networks by Sparse Bayesian Factor Model”, Nov. 2010, China
16. Greehey Children’s Cancer Institute, Univ. of Texas Health Science Center at San Antonio, “Constructing a Compound Mode-of-Action Network for Personalized Drug Effectiveness Prediction,” Aug, 2010
17. Department of Cellular & Structural Biology, Univ. of Texas Health Science Center at San Antonio “Computational Prediction of Genome-wide MicroRNA Targets,” March, 2009
18. Zhejiang Univ., China “Signal Processing for computational biology,”, June, 2008
19. Xi’an Jiaotong Univ. China “Signal Processing for computational biology,”, July, 2008
20. Northwestern Polytechnical Univ. China, “Signal Processing for computational biology,”, July, 2008
21. Shangdong Univ. China, “Signal Processing for computational biology,”, July, 2008
22. UTSA, Dept of Statistics, “Inferring the Skeleton Cell Cycle Regulatory Network of Malaria Parasite," Nov 2007
23. University of Florida, “Inferring the Skeleton Cell Cycle Regulatory Network of Malaria Parasite," May 2007
24. University of Granada, “Bayesian Signal Processing for Computational Genomics," May 2007
25. Texas A&M University, “Inferring the Skeleton Cell Cycle Regulatory Network of Malaria Parasite," April 2007
26. Northeastern University, “Inferring the Skeleton Cell Cycle Regulatory Network of Malaria Parasite," March 2007

27. Harvard Medical School, “Metabolic networks: An overview of modeling, reconstruction, and analysis, " Oct. 2006
28. University of Central Florida, “Uncovering Gene Regulatory Networks from Microarray Data: A Bayesian Approach," Apr. 2006
29. Translational Genomics Research Institute, “A Bayesian Data Integration Framework for Gene Networks Discovery," 2006 University of New Hampshire, A blind particle filtering detector for joint channel estimation and symbol detection over °at fading channels," 2004

D. Research Support

Current

Predicting drug response from genomic data using deep learning methods
CPRIT RP190346, Cancer Prevention & Research Institute of Texas (PI: Y. Chen)
09/01/2019 – 08/31/2022
$900K (UTSA share: $300K)
Goal: we propose a study with a new deep learning model termed “Supervised Adversarially Learned Inference” (SALI) and a unique “transfer learning” module to transfer learned knowledge from cancer cell-lines to patient tumor cells, a major effort to bring *in vitro* experiment results to actual tumor samples.
Role: CoPI

Cyberwell: a closed loop system using deep learning and fused physiologic signals in HMDs to enable
personalized, real-time cybersickness reduction
Intel Corp, (PI: J. Quarles)
9/1/2019-8/30/2020
$200K
Major goal: The project develops personalized cybersickness detection and reduction system using Brain-Computer Interface and deep learning.
Role: CoPI

Cognition and Neuroergonomics Collaborative Technology Alliance
Army Research Laboratory, Co-PI (PI: K. Robbins)
9/1/2010-8/30/2021
$25M (UTSA share: $2.46M)
Major goal: This project studies the human cognition and neuroergonomics to develop human-systems interaction systems to improve human performance and decision in complex real environments.
Role: CoPI

Mitochondrial Metabolism and RNA Methylation in Cancer
Cancer Prevention & Research Institute of Texas, Senior Personnel (PI: Aguiar)
3/1/2019 – 2/19/2022
Major goal: Examine in vitro and in vivo the effects of MYC on m6A levels; Characterize the role of the mitochondrial enzymes D2HGDH and L2HGDH on MYC- mediated control of RNA methylation; Define the contribution of FTO and ALKBH5 to MYC regulation of m6A levels and describe the MYC driven methylRNA signature in B-cells. The proposed study is significant and innovative because it will establish MYC as a master (de)regulator of RNA methylation in cancer, which may lead to the testing of RNA demethylase inhibitors in MYC-dependent tumors.

Role: KP

Completed

Agency: NIGMS/NIH 1 R01 GM113245-01
Title: **Graphical models for characterizing global RNA methylation**
Amount: $1.08M
Duration: 09/14-07/18
Role: PI

Agency: San Antonio Life Science Institute
Title: **A Cloud Computing Pipeline for Precision Medicine**
Peer Reviewed (Y/N): Y
Date (start-end): 5/1/2016-4/30/2019
Total amount: $100K
Role: PI

Agency: Army Research Lab
Title: **Controlling Cooperative UAVs using Brain Waves**
Amount: $282,945
Duration: 5/15/2104-9/30/2015
Role: Co-PI

Agency: National Institute of Health
Title: Identification and Characterization of mRNA Methylation in Breast Cancer
Amount: $100,000 (UTSA Share: $44,326)
Role: Co-PI (UTSA PI)

Agency: NCI/NIH 1P20 CA165589 01A1
Title: **The Cancer Bioinformatics Initiative: A UTSA/UTHSCSA Partnership**
Amount: $575K
Duration: 09/12-08/15
Role: Co-PI

Agency: NIH NCRR 2G12RR013646-11
Title: **Advanced Data Processing for Capillary LC/MS Data**
Peer Reviewed (Y/N): Y
Date (start-end): 2011-2016
Total amount: $649,193 (My share: $100K)
Role: Co-PI

Agency: University of Texas System
Title: **SASLI: Medical Data Analytics and Visualization Cluster**
Amount: $150,000
Role: Co-PI

Agency: Department of Defense, W911NF1410043
Title: **Acquisition of High Resolution Electroencephalogram Systems for Advancing Brian-Machine Interaction Research**
Amount: $408,322

Duration: 2/1/2014 -1/31/2015
Role: PI

Agency: National Science Foundation, CCF-1246073
Title: **Bayesian Factor Modeling of Context-Specific Gene Regulation**
Total amount: $296,859
Duration: 8/12012 – 2/31/2015
Role: PI

Agency: NIH/NIGMS SCORE
Title: **Systems Biology of *Plasmodium falciparum*: Building and Exploring Network Models,**
Peer Reviewed (Y/N): Y
Date (start-end): 9/1/2007-8/31/2012,
Total amount: $1,235,583 (My share: ~60K)
Role: Co-PI

Agency: NIH/NCI R01CA096512-06
Title: **Cell Model for KSHV Infection and Genetic Manipulation**
Peer Reviewed (Y/N): Y
Date (start-end): 07/01/09-06/30/13
Total amount: $1,235,583 (UTSA share: $224,892)
Role: Co-PI

Office of the Provost and Vice President for Academic Affairs
Title**: 2013 EVP/SIO UTSA International Initiatives Grant**
Amount: $2,500
Duration: 6/1/2013-8/31/2013
Role: PI

Collaborative Research Seed Grant Program, UTSA VP Research
Title: **Uncovering global mRNA methylation in breast cancer using a high throughput approach**
Duration: 9/1/2013 – 8/31/2014
Total amount: $30,000
Role: PI

Agency: San Antonio Life Sciences Institute
Title: A **computational proteomics approach for genome-wide identifying microRNA targets**
Peer Reviewed (Y/N): Y
Date (start-end): 02/01/10-08/31/11
Total amount: $172,113
Role: Co-PI

Agency: NIH NIAID
Title: **Accelerating Metabolic Discovery using Characterization Data**
Peer Reviewed (Y/N): Y
Date (start-end): 2006-2008

Total amount: $206,955
Role: Co-PI

Agency: NSF
Title**: Bayesian Signal Processing for Uncovering Gene Regulatory Networks**
Peer Reviewed (Y/N): Y
Date (start-end): 2005-2011
Total amount: $400,000
Role: PI

Agency: Air Force Office of Scientific Research Role
Title: **Innovative Methods for Engine Health Monitoring**
Peer Reviewed (Y/N): Y
Date (start-end): 2003-2004
Total amount: $1M
Role: Co-PI

Agency: UTHSCSA
Title: Consultative Computational Biology and Bioinformatics Services
Peer Reviewed (Y/N): N
Date (start-end): 2007-20010
Total amount: $94,817
Role: PI

Agency UTSA
Title: **A Bayesian Graphical Modeling Approach for Inference of Gene Networks**
Peer Reviewed (Y/N): Y
Date (start-end): 2005
Total amount: $5K
Role: PI

Agency: National Science Foundation
Title: **GENSIPS'12 Conference: Fostering Interdisciplinary Research and Education in Computational Biology**
Date (start-end): 8/12012 – 7/31/2013
Amount: $12,000
Role: PI

Agency: Qatar National Research Fund, NPRP 09 -874-3-235
Title: **Assessing the Genomic Signature of Breast Cancer in Qatar**
Peer Reviewed (Y/N): Y
Date (start-end): 2010-2013
Total amount: $125,000
Role: PI

E. Professional Activities:

1. Current Professional and Scientific Organizations/Societies

IEEE Signal Processing Society, IEEE Engineering in Medicine and Biology Society

2. Professional Activities

Editor/Editorial Board Member

Associate Editor: IEEE Transactions on Biomedical Health Informatics, 2018 –
Associate Editor: BMC Systems Biology, 2012 –
Associate Editor: EURASIP Journal on Bioinformatics and Systems Biology 2007-
Associate Editor: IEEE Transactions on Signal Processing, 2009 –2014
Associate Editor: Neurocomputing, 2019 -
Associate Editor: International Journal Machine Leaning and Cybernetics. 2010 -2016
Associate Editor: Int. Journal of Data Mining & Bioinformatics, 2011 - 2016

Society Committees

Biomedical and Health Informatics Committee, IEEE Engineering in Medicine and Biology Society
Financial committee, IEEE Engineering in Medicine and Biology Society

Guest editor

2012 BMC Systems Biology Supplement issue "Advances in Intelligent Biology and Medicine: Selected papers from 2012 ICIBM Conference".
2012 BMC Genomics Supplement issue "Advances in Intelligent Biology and Medicine: Selected papers from 2012 ICIBM Conference".
2012 International Journal of Computational Biology and Drug Design (IJCBDD) special issue "Advances in Intelligent Biology and Medicine: Selected papers from 2012 ICIBM Conference".
2009 Special Issue on Genomic Signal Processing, Current Genomics, 2009
2009 Special Issue on Applications of Signal Processing Techniques to Bioinformatics, Genomics, and Proteomics. EURASIP Journal on Bioinformatics and Systems Biology, 2009

International Conference/Meeting/Symposium Organizer/Chairmanship

2018 Finance Chair, IEEE Conference on Biomedical and Health Informatics/Body Sensor Networks
2017 Finance Chair, IEEE Conference on Biomedical and Health Informatics/Body Sensor Networks
2016 Award Committee, IEEE International Conference on Bioinformatics and Biomedicine
2012 Program committee co-chair, IEEE Workshop on Genomic Signal Processing and Statistics, 2012
2012 Program committee co-chair, The International Conference on Intelligent Biology and Medicine, 2012
2011 Poster Co-Chair, IEEE International Conference on Bioinformatics and Biomedicine, 2011
2011 General Co-Chair, IEEE Workshop on Genomic Signal Processing and Statistics, 2011
2009 Finance co-chair: IEEE International Conferences on SMC, 2009
2008 Publication Chair, IEEE Workshop on Genomic Signal Processing and Statistics, 2007, 2008
2006 Publicity Chair, IEEE Workshop on Genomic Signal Processing and Statistics, 2006
2008 Program committee vice chair, IEEE International conference on Bioinformatics and Biomedicine, Sept. 2008

International Conference/Meeting/Symposium Technical Committee

IEEE Biomedical Health Informatics, 2016-2020
The International Conference on Intelligent Biology and Medicine, 2009, 2010-2014
IEEE International Conference on Bioinformatics and Biomedicine, 2008-2015
IEEE International Conference on Signal Processing, Communications and Computing, 2011
IEEE Workshop on Genomic Signal Processing and Statistics, 2007-2010
International Conference on Intelligent Computing, 2010

Session Chair/Organizer

2011 Special Session on Advanced Signal Processing for Systems Biology, IEEE International Conference on Acoustics, Speech, and Signal Processing, Prague, Czech, May 2011
2011 Session on Signal Processing for Bioinformatics, IEEE Statistical Signal Processing Workshop, June, 2011
2010 Workshop of microRNA and Disease, International Conference on Bioinformatics & Biomedicine, December, 2010
2008 Special session on Signal Processing for Systems Biology, IEEE Conference on Signal Processing, Oct. 2010
2009 International Joint Conferences on Bioinformatics, Systems Biology and Intelligent Computing, Shanghai, Aug.
2010 Workshop on Systems Biology and Medicine, Special session on machine learning for computational biology, International Conference on Machine Learning and Cybernetics, Kunming, China, July
2007 IEEE Statistical Signal Processing Workshop, Special Session on Genomic Signal Processing
2006-2008 IEEE Workshop on Genomic Signal Processing and Statistics,
2005 IEEE Workshop on Signal Processing Advances in Wireless Communications,

Reviewer for Journals

Bioinformatics, BMC Bioinformatics, PLOS One, PLOS Pathogen, EURASIP Journal on Bioinformatics and Systems Biology, IEEE Transactions on Signal Processing, IEEE Transactions on Wireless Communications,
IEEE Transactions on Communications, IEEE Transactions on Fuzzy Systems, IEEE Signal Processing Letters, IEEE Communication Letters, and EURASIP Journal on Applied Signal Processing

Grant Review Panels

National Science Foundation: SBIR 2003,
National Science Foundation: CCF, 2006, 2007, 2010, 2012,2013, 2014
National Science Foundation: CBET, 2010
National Institute of Health: GCAT, 2009; BCHI, 2018

F. Research Publicity

A UTSA Tapped for high-tech research on soldier performance, *San Antonio Business Journal*

A UTSA Researchers to Work with Army on High-Tech Brain Monitoring, *Texas Public Radio*

2011 Army Research Laboratory Awards UTSA $2.4 Million to Develop Real-time Cognitive Monitoring Tools, *UTSA Today*

2013 13 "Unraveling the Transcriptome," Genetic Engineering & Biotechnology News, Volume 33, No. 13, July

2014 NEWS COVERAGE of EEG to support BMI Research

- **San Antonio Business Journal**
  8/4/14
  http://www.bizjournals.com/sanantonio/news/2014/08/04/dod-taps-utsa-to-advance-developments-in-brain.html

- **BioNews Texas**
  8/5/14
  http://bionews-tx.com/news/2014/08/05/new-high-performance-eeg-systems-help-advance-brain-research-at-utsa/

2014 NEWS COVERAGE: Brain-controlled UAV Research

- **San Antonio Express-News (paid version)**
  9/2/14
  http://www.expressnews.com/news/education/article/UTSA-researchers-seek-to-develop-brain-operated-5727184.php#/0

- **San Antonio Express-News (free version)**
  9/3/14
  http://www.mysanantonio.com/news/local/communities/helotes/article/UTSA-researchers-study-using-brain-signals-to-5726910.php

- **International Business Times**
  9/4/14
  http://www.ibtimes.co.uk/mind-controlled-uav-drones-being-developed-texas-us-military-1463980

- **Deccan Chronicle**
  9/5/14
  http://www.deccanchronicle.com/140905/technology-latest/article/drones-can-be-operated-brain-signals

- **BioNews Texas**
  9/6/14
  http://bionews-tx.com/news/2014/09/06/utsa-using-new-300000-dod-contract-advance-brain-controlled-drone-technology/

- **San Francisco Chronicle**
  9/3/14
  http://video.sfgate.com/San-Antonio-researchers-seek-to-develop-brainoperated-drones-26570749?playlistId=6700#.VA3lLEhwv9A

- **Government Technology**
  9/9/14
  http://www.govtech.com/question-of-the-day/Question-of-the-Day-for-090914.html

- **Roll Call**
  9/10/14
  http://blogs.rollcall.com/five-by-five/brain-controlled-drone-yes-brain-controlled-drone/

- **Brain-controlled drones**
  Aero News Network
  9/11/14

http://www.aero-news.net/index.cfm?do=main.textpost&id=c73aa167-1bb2-41e3-adbd-f0069ce49baf

- **Brain-controlled drones**
  KENS 5
  Aired at 6pm on 9/11/14;

A NEWS COVERAGE: Breast Cancer Research

- **Brest Cancer Research**
  UTSA Today
  12/2/14
  http://www.utsa.edu/today/2014/12/nihgrant.html

- **UTSA, Health Science Center team wins contract to advance breast cancer research**
  San Antonio Business Journal
  http://www.bizjournals.com/sanantonio/news/2014/12/16/utsa-health-science-center-team-wins-contract-to.html

- **NIH Grants $1.08 Million to UTSA Engineering Research on Breast Cancer**
  Bio News Texas
  http://bionews-tx.com/news/2014/12/18/nih-grants-1-08-million-to-utsa-engineering-research-on-breast-cancer/

III TEACHING

A. **Classroom/Laboratory:**

Date	Course	Level
Fa' 2002 and 2003;	Random Signals and Noise	G
Sp, 2003, 2005, 2006, Fa' 2005, Fa'2011	Digital Signal Processing	U
Sp' 2004	Graduate Seminar	G
Sp'2004, Fa' 2005	Det. And Est. Theory	G
Fa'2004	Monte Carlo Bayes. Sig. Proc.	G
Fa'2006, Sp'2007	Bayesian Signal Processing	G
Sp' 2007, 2008	Signals and Systems I	U
Fa' 2007	Computational Genomics	G
Fa' 2008	Fundament Comm.	U
Sp' 2009, 2011	Patt. Recog. Comp. Bio.	G
Sp' 2010	Signals and Systems II	U
Sp' 2012	High throughput genomics and proteomics data processing	G
Fa'2012	High throughput genomics and proteomics data processing	G
Sp'2013	Digital Signal Processing	U
Fal'2013	Signals & Systems I	U
Sp'2014	Random Sig. & Systems	U
Fa'2014	Random Sig. & Systems	U
Sp'2015	Random Sig. & Systems	U
Fa'2015	Random Sig. & Systems	U
Sp'2016	Random Sig. & Systems	U
Fa'2016	Random Sig. & Systems	U

Fa'2016	Random Sig. & Systems	G
Sp'2017	Deep Learning	G
Fa'2017	Deep Learning	G
Sp'2018	Deep Learning	G
Fa'2018	Random Sig. & Systems	G
Sp'2019	Deep Learning	G
Fa'2019	Random Sig. & Systems	G

Level: Undergraduate (U), Graduate (G)

B. Instructional Development:

1. Courses Developed (Course number, title, date)

a. EE5263 Detection and Estimation Theory, Spring 2004
b. EE5263 Monte Carlo Bayesian Signal Processing, Fall, 2004
c. EE5263 Bayesian Signal Processing, Fall, 2006
d. EE5263 Computational Genomics, Fall 2007
e. EE5263 Pattern Recognition for Computational Biology, Spring, 2009
f. EE 5263 High throughput genomics and proteomics data analysis, Spring, 2011
g. EE 5263 Deep Learning, Spring 2017

C. Masters' Theses and Ph.D. Dissertations Directed

1. Masters

a. *Tinghe Zhang,* Prediction of Human Performance from Brain Signal driven by Different Indoor Room Temperatures, Spring, 2017
b. *Manli Zhu,* Classification Of Eeg Recordings without Perfect Time-Locking*,* Aug, 2012
a. *Melissa L. Macintyre*, Investigation Of Data Processing Pipeline For High Supersequence Based Methylation (Methyl-Seq), May 2012
b. *Chifeng Ma,* Developing a Mode-of-Action Network for Drug Effectiveness Prediction, May 2010.
c. *Jia Meng,* "Enrichment constrained time dependent clustering analysis of time series data," MS, August 2008.
d. Elias Gonzalez, MS Thesis, Aug. 2008.
e. *Jiayin Wang*, Bayesian Inference of Cell Cycle Regulatory Networks using Dynamic Bayesian Networks, MS, May, 2006
f. *Chia-ping Wei*, Multiuser detection by probabilistic data association, MS, May, 2004;
g. *Khanh Quoc Vu*, Outliers detection using the Gini's mean difference, MS, July, 2004;

2. **Ph.D. Dissertation**

1. Hung-I Harry Chen, "Statistical modeling of cell heterogeneity with single-cell RNA-seq data," PhD, Summer, 2018

2. Sirajul Salekin, “Deep learning models for predicting genomic and transcriptomic functional sites,” PhD, Spring, 2018
3. Mehdi Hajinoroozi, ”Deep learning for predicting drivers’ mental states from electroencephalogrpahy (EEG),” PhD, Fall, 2017
4. Zijing Mao, “Deep Learning for Rapid Serial Visual Presentation (RSVP) Event Prediction from Electroencephalography (EEG) Signal,” PhD, Fall, 2016 (*Current employment:* Tianjing Institute of Biomedical Research and Drug Development)
5. Xiaodong Cui, “Prediction and analysis for transcriptome m6a methylation sites on MeRIP-seq data,” PhD, Fall, 2015 (*Current employment: Associate Prof., Northwestern Polytech U.)*
6. Chifeng Ma, “Advanced Statistical Modeling for Phenotype Prediction based on High Throughput Genomic Data,” Fall, 2015 (*Current employment: GB Health)*
7. Mario Flores, “COMPUTATIONAL PREDICTION AND PERTURBATION ANALYSIS OF ceRNA NETWORKS IN CANCER,” PhD, Fall, 2015 (*Current employment: Postdoc Associate, NIH*)
8. Dong Yue, “Computational approaches for predicting microRNA target.” PhD, Spring, 2012; (*Current employment:Informatica)*
9. Mingzhu Lu, “Machine learning approaches for biomedical applications,” PhD, Spring, 2012; (*Current employment: American Express)*
10. *Jia Meng,* “Uncovering Gene Regulatory Network Using Sparse Bayesian Factor Model,” PhD, May 2011. (*Current employment: Picower Institute for Learning and Memory, Massachusetts Institute of Technology)*
11. Travis Hestilow, “Signal Processing in Computational Biology,”, PhD, 2010 (*Current employment: Syracuse Research Corp)*
12. Isabel Tienda Luna, “Bayesian Signal Processing in Communications and Genomics" PhD, co-advising with Dr. Diego Pablo Ruiz Padillo from University of Granada, Spain, July, 2006. (*Current employment: Assistant professor, University of Granada)*
13. Yufang Yin, Bayesian Signal Processing in Communications and Genomics PhD, May 2007
14. Tao Wei, Expectation Propagation Algorithm for Inference in Dynamic Systems PhD, Dec, 2007 (*Current employment: Lead Control Test Engineer, Cummins Inc*)

D. Membership on Graduate Committees

1. Masters

a. *Alla Srikrishna*, Novel Method of Image Reconstruction Using Tensor Representation -Its Applications in Positron Emission Tomography," MS thesis defense
b. *Shih-Chia Liu* “Method of Tensor Representation for Reconstruction of Image from Projections," MS thesis defense
c. *Jung-Hua Liao*, “New Methods of Filtering for 1-D Signals by the Paired Transform," MS thesis defense
d. *Pavan Kumar Darvemula*, Content-based MPEG video indexing using hierarchical petrinets," MS thesis defense
e. *Chris Woodland*, Optimal Control Using Chebyshev Pseudo-spectral Method with Application to Raptor Helicopter," MS thesis defense

2. Ph.D. Dissertation

a. *Jeniffer Neary*, Genome Evolution and Metabolic Networks in Enterobacteriaceae," PhD defense
b. *Madhusudhan-Reddy Musku*, Game Theoretic Approach to Quality of Service and Resource Management in Wireless Systems." PhD preliminary proposal defense
c. *Prasad Yaddanapudi*, Multi-user Ultra Wideband Communication Systems", PhD preliminary proposal defence
d. *Chris Smith*, Parametric techniques and their use in information hiding and recovery," PhD preliminary proposal defense
e. *Fatma Arslan*, Image Enhancement and Directional Denoising by Paired Transform,"PhD preliminary proposal defense
f. *Hong Cai*, New Blind Steganalysis Methods," PhD defense
g. Long Chen
h. Catalin Lacatus
i. Madhusudhan Reddy Musku
j. Jie Yu (CS)
a. Santish Penmatsa (CS)
b. Jian Cui, “Alignment algorithms for Liquid chromatography–mass spectrometry,” PhD preliminary, Dec. 2012

E. Undergraduate Students (Research) Supervised

a. Robert voorhis
b. James R. Perez (NSF LSAMP)
c. Adrian Alfonso (NIH MARC Program)
d. Renan Moreira (NIH MARC Program)

IV. SERVICE

A. Committees:

1. Department

2017 -	*Associate Chair on Research*
2019 -2020	*Member, AR/VR cluster hire search committee*
2018-2019	*Chair, AI search committee*
2017 -	*Chair, TA and Grader Committee*
2017 -	*Chair, DSP Concentration*
2017 -	*Chair, F&A Committee*
2017-2018	*Chair, Machine learning search committee*
2011-2017	*Chair, Graduate program*
2016 -	*Ad hoc 3year review committee*
2015	*Chair, Bioinformatics search committee*
2009 -2011,	*Chair, Dept. Award committee*
2008	*Curriculum committee*
2007-	*Faculty Library Liaison*
2007 -	*Departmental search committee*

2004 - Departmental ad hoc committee
2002 - Departmental Signal Processing Curriculum committee
2002 - Departmental Graduate committee
2005 - 2006 Departmental Computer Engineering Committee
2005 Departmental Laboratories Committee

2. College:

2019 - Faculty advisory committee
2018 - Space committee
2011-2012 affirmative action affidavit Dept of CE Faculty Search Committee
2010, 2014- CFRAC P&T
2010, 2015 College workload task force
2009-2010 affirmative action affidavit Dept of ME Faculty Search Committee
2008-2009; 2014- Faculty Advisory
2009 Curriculum committee

3. University:

2012, 2014- Grievance committee
2014- COS CFRAC P&T
2014 GREAT Proposal review panel

B. Advising, counseling and other student activities

Summer 2014 Faculty advisor, Alamo Colleges LSAMP summer research program