Jonghyun Yun

Email: jonghyun.yun@gmail.com
Website: https://jonghyun-yun.github.io
Google Scholar
Scopus
Publons

Education

PhD, University of Illinois at Urbana-Champaign, 2012.
Major: Statistics

MA, Yonsei University, 2006.
Major: Applied Statistics

BA, Yonsei University, 2004.
Major: Applied Statistics and Business Administration
Minor: Mathematics

Work History

Assistant professor, University of Texas at Arlington. (November 4, 2016 – August 31, 2019).

Assistant professor, University of Texas at El Paso. (September 1, 2015 - June 30, 2016).

Postdoctoral researcher, UT Southwestern Medical Center. (September 12, 2012 - July 12, 2015).

RESEARCH

Published Intellectual Contributions

Book Chapters

Wang, T., Yun, J., Xie, Y., Xiao, G. (2017). *Finding RNA–Protein Interaction Sites Using HMM Methods in Molecular Biology* (vol. 1552, pp. 177-184).

Refereed Journal Articles

Yun, J., Yang, F., Chen, Y. (2017). Augmented particle filters. *Journal of the American Statistical Association, 112*(517), 300-313.

Ling, C., Li, Q., Yi, D., Yun, J., Yang, X., DeBerardinis, R., Xiao, G. (2017). Genomic Regression Analysis of Coordinated Expression. *Nature Communications, 8*(1), 2187.

Yun, J., Wang, T., Xiao, G. (2014). Bayesian hidden Markov models to identify RNA- protein interaction sites in PAR-CLIP. *Biometrics, 70*, 430-440.

Chen, B., Yun, J., Kim, M. S., Mendell, J. T., Xie, Y. (2014). PIPE-CLIP: a comprehensive online tool for CLIP-seq data analysis. *Genome Biology, 15*(1), R18.

Kwon, I., Xiang, S., Kato, M., Wu, L., Theodoropoulos, P., Wang, T., Xie, Y., Kim, J., Yun, J., McKnight, S. L. (2014). Poly-dipeptides encoded by the C9ORF72 repeats bind nucleoli, impede RNA biogenesis, and kill cells. *Journal of Science, 345*(6201), 1139-45.

Butala, M. D., Yun, J., Chen, Y., Frazin, R. A., Kamalabadi, F. (2008). Asymptotic convergence of the ensemble Kalman filter. *15th IEEE International Conference on Image Processing*, 825-828.

Non-Refereed Journal Articles

Yun, J. and Chen, Y. (2010). Comments on "Particle Markov chain Monte Carlo methods" by C. Andrieu, A. Doucet, and R. Hollenstein. Journal of the Royal Statistical Society: Series B, 72, 332-333.

Software

Yun, J. (2013). A MATLAB toolbox to identify RNA-protein binding sites in HITS-CLIP. https://qbrc.swmed.edu/labs/xiaoxie/download/README1.pdf

Alvarez, H. and Yun, J. (2017). *Baseball statistics collecting functions from HTML tables*. https://github.com/yun-j/brscrap.git

Working papers

Yun, J., and Chen, Y. Localized agumented particle filters. Journal of Computational and Graphical Statistics.

Yun, J., Wang, T., Wang, X., and Xiao, G. Identification of RNA-protein binding sites in HITS-CLIP using heterogeneous logit models via semi-supervised learning.

Yun, J., Wang, T., Wang, X., and Xiao, G. The identification of differential binding sites in CLIP-seq.

Nam, J.H., Yun, J., Jin, I.H., and Chung, D. hubViz: A Novel Tool for Hub-centric Visualization.

Grants (Pending)

2019 "Study on hybrid model combining super learner and physic-based models for SHM in bridges using low-cost BWIM" (CoPI; Ham, S., PI; Chao, S., CoPI), Transportation Consortium o fSouth-Central State (Tran-Set).

2019 "Evaluation of Corrosion Prevention and Mitigation Approaches Used On Texas Bridges 20-017" (CoPI; Ham, S., PI; Chao, S., CoPI), Texas Department of Transportation (TxDOT), $593,254

2019 "Develop Bridge Weigh-in-Motion Approach to Measure Live Loads on Texas Highways 20-008" (CoPI; Ham, S., Chao, S., CoPI), Texas Department of Transportation (TxDOT), $360,511

Grants (Not funded)

2019 “Low-Cost In-Situ Monitoring and Real-Time Warning System for Flash Flooding Using High Sensitivity Ultrasonic Sensor-Based MEMS” (Ham, S., PI; Choi, H., CoPI), Alfred P. Sloan Foundation. $1,698,373

2019 “Improving mobility and safety of wheelchair accessible routes for temporary events: Developing real-time monitoring and evaluation framework” (CoPI; Ham, S., PI; Mattingly, S. P., CoPI), United States Department of Transportation (USDOT), $223,528.25

2019 “Functional Mapping of Peripheral Nerve Stimulation Enabled Hypertension Control” (CoPI; Kim, Y.; Wijesundara, M. B., Fadel, P., CoPIs), National Institutes of Health (NIH), $460,394

2018 “Cost Effective Replacement time Evaluation for Infrastructure using Artificial Intelligence” (CoPI; Ham, S., PI), United States Department of Transportation (USDOT), $300,000

2017 “Transcriptome analyses of dideone compounds for a novel drug treatment” (Consultant; Aguilera, R., PI), Kleberg foundation, $10,000

2016 “Investigating the genomic signature of loss of heterozy-gosity” (CoPI; Xu, S., PI) Cancer Prevention and Research Institute of Texas (CPRIT) HIHR, $200,000

2016 “Transcriptome analyses of dideone compounds for proteasome inhibitor” (Consultant; Aguilera, R., PI), National Institutes of Health (NIH) SCORE, $10,000

2016 “Comprehensive functional mapping of neuroanatomy and neurobiology of organs” (CoPI; Kim, T., PI), National Institutes of Health (NIH) OT1, $200,000

2015 “A system biology understanding of the immune response to inflammatory infectious diseases identifies potential immunotherapeutic targets” (CoPI; Spencer, C., PI), National Institute of General Medical Sciences (NIGMS), $200,000

2015 “E3: Engagement, exploration and experimentation to enhance STEM recruitment and retention” (CoPI; Kristin, G., PI; Ma, L., Lixin, J., Benjamin, B., Robert, T., Schuyler, P., CoPIs), National Science Foundation (NSF) IUSE, $300,000

Presentation Given

Invited Talks

Texas A&M University-Commerce, "Integrative modeling approaches for next-generation sequencing data," Commerce, TX. (February 2017).

International Workshop on Applied Probability, "Model based identification of RNA-protein binding sites," Toronto, Canada. (June 2016).

Border Biomedical Research Center Seminar, "Comparative analysis of CLIP-seq under multiple experimental conditions," UTEP. (October 2015).

Computational and Systems Biology Seminar, "Statistical models to identify RNA-protein binding sites from CLIP experiments," UTSW. (October 2014).

Joint Statistical Meetings, "Statistical strategies for identification of the RNA-protein binding site in CLIP- seq," Boston. (August 2014).

The Robert Bohrer Student Workshop in Statistics, "Augmented particle filters," UIUC. (October 2011).

Poster Presentation

7th Annual Bayesian Biostatistics and Bioinformatics Conference, "Identification for RNA-protein binding sites in CLIP-seq," Houston. (February 2014).

SERVICE

University Service (UTA)

Committee Member, Department advisory committee. (September 1, 2017 - Present).

Committee Member, Math preliminary exam B subcommittees. (September 1, 2016 - Present).

Committee Member, Undergraduate affairs committee. (January 2017 - May 2017).

Committee Member, College of Science Data science working group. (January 2019 – Present).

Judge, College of Science Aces Research Symposium (April, 2018)

University Service (UTEP)

Math Club Zero committee member (Spring 2016)

Referred Journals

Journal of the American Statistical Association.

Journal of Computational and Graphical Statistics.

Computational and Mathematical Methods in Medicine.

Journal of Statistical Software.

Journal of Probability and Statistics.

Bayesian Analysis.

International Journal of Data Science.

Genes

Mathematics

TEACHING

Teaching Experience

The University of Texas at Arlington

Spring 2019	MATH6312 - Data Mining (10 students)
Fall 2018	MATH3316 - Statistical Inference (57 students)
Spring 2018	MATH5358 - Regression Analysis (13 students)
Fall 2017	MATH5312 - Mathematical Statistics I (12 students)
Spring 2017	MATH5392 - Selected Topics in Mathematics (Data Mining) (12 students)
	MATH5313 - Mathematical Statistics II (6 students)
Fall 2016	MATH5312 - Mathematical Statistics I (14 students)

The University of Texas at El Paso

Spring 2016	STAT5474 - Introduction to Data Mining (14 students)
Fall 2015	STAT5354 - Post-genomic Analysis (5 students)
	BINF5113 - Math Seminar for Bioinformatics (4 students)

The University of Illinois at Urbana–Champaign

Spring 2012 STAT200 - Statistical Analysis (51 students)
Summer 2011 STAT100 - Statistics (30 students)
Spring 2010–Spring 2011 (Discussion Section Leader)
- STAT400-Statistics and Probability I (59 students), Fall 2010 (60 students), and Spring 2011 (93 students)

Fall 2006–Fall 2009 (Teaching Assistant)
- STAT100-Statistics, STAT400-Statistics and Probability I, STAT410-Statistics and Probability II, STAT424-Analysis of Variance, STAT429-Time Series Analysis, STAT510- Mathematical Statistics I, and STAT511-Mathematical Statistics II.

Yonsei University

Winter 2005 (Instructor): Preliminary Calculus
Spring 2005–Fall 2005 (Discussion Section Leader)
- STA2101-Calculus (65 students) and STA2102-Linear Algebra (67 students).

Spring 2004–Fall 2004 (Teaching Assistant)
- STA1001-Introductory Statistics, STA1001-Introductory Statistics, STA3102-Multivariate Statistical Analysis, and BC682-Statistical Methods for Behavioral Sciences.

Directed Student Learning (UTA)

Directed Individual/Independent Study, Mathematics. (August 2017 – August 2019).
Advised: Anthony Thomas

Dissertation Committee Member, Mathematics. (August 2019).
Advised: Souad Sosa

Master's Comprehensive Exam Committee Member. (January 2019 - May 2019).
Advised: Daniel Sang Le

Dissertation Committee Member, "Prediction of remaining lifetime distribution from functional trajectories under censoring data," Mathematics. (September 2018 - May 2019).
Advised: Izzet Sozucok

Master's Comprehensive Exam Committee Member. (January 2018 - May 2018).
Advised: Nidhi Kiran Dawda, Zachary Loucks

Undergraduate Supervised Research, "Developing a software package to collect baseball statistics," Mathematics. (January 2018 - May 2018).
Advised: Henry Alvarez

Master's Comprehensive Exam Committee Chair, "Forecasting sales using a finite-state HMM: an inventory control exercise," Mathematics. (August 2017 - December 2017).
Advised: Mario Garza

Dissertation Committee Member, Mathematics. (January 2017 - December 2017).
Advised: Geoffrey Schuette

Dissertation Committee Member. (January 2017 - December 2017).
Advised: Yi Liu

Dissertation Committee Member. (August 2017 – August 2018).
Advised: Mahmoud Jawad

Master's Thesis Committee Member, Mathematics. (January 2017 - May 2017).
Advised: Hongbo Yu

Dissertation Committee Member, Mathematics. (September 2016 - December 2016).
Advised: Piyachart Wiangnak

Development Activities Attended

Workshop, "Open Textbook Workshop - UTA Library." (February 2017 - Present).

Workshop, "CAREER-type award panel discussion," College of Science - UTA. (May 1, 2018).

Workshop, "Grant Writing Workshop," Office of Grant and Contract Services - UTA. (December 2017).

Workshop, "Math Faculty Training and Professional Development Workshop," Department of mathematics - UTA. (August 2016).