Hannah Kim

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Research Interest

DISEASE DYNAMICS │ VIRAL EVOLUTION │ ALGORITHM DEVELOPMENT

Education

Temple University   *Philadelphia, PA*
PhD Bioinformatics   *08/2019 - 05/2024*
- Advisor: Dr. Sergei L Kosakovsky Pond

Carnegie Mellon University   *Pittsburgh, PA*
MS Computational Biology   *08/2015 - 12/2016*

Carnegie Mellon University   *Pittsburgh, PA*
BS Chemistry   *08/2010 - 05/2013*

Relevant Experience

2017-2019	**Bioinformatics Analyst / Software Engineer,** Children's Hospital of Philadelphia
2017	**Research Programmer,** Computational Biology Department, Carnegie Mellon University
2016	**Graduate Researcher,** Computational Biology Department, Carnegie Mellon University
2016	**Course Developer,** Computational Biology Department, Carnegie Mellon University
2013-2014	**Post-Baccalaureate Researcher,** Department of Biological Sciences, Carnegie Mellon University
2012-2013	**Undergraduate Student Researcher,** Department of Chemistry, Carnegie Mellon University
2011	**Student Intern, Summer Research Institute,** Department of Biological Sciences, Carnegie Mellon University

Publications

PUBLISHED

Ding, Y., **Kim, H.,** Madden, K., Loftus, J., Chen, G., Allen, D., Zhang, R., Xu, J., Chen, C., Xu, Y., Tasian, S., Tan, K. (2021). Network Analysis Reveals Synergistic Genetic Dependencies for Rational Combination Therapy in Philadelphia Chromosome-like Acute Lymphoblastic Leukemia. *Clinical Cancer Research*. doi:10.1158/1078-0432.CCR-21-0553

Tarca, A. L., Pataki, B. Á., Romero, R., Sirota, M., Guan, Y., Kutum, R., Gomez-Lopez, N., Done, B., Bhatti, G., Yu, T., Andreoletti, G., Chaiworapongsa, T., **The DREAM Preterm Birth Prediction Challenge Consortium**, Hassan, S. S., Hsu, C., Aghaeepour, N., Stolovitzky, G., Csabai, I., Costello, J. C. (2021). Crowdsourcing assessment of maternal blood multi-omics for predicting gestational age and preterm birth. *Cell Reports Medicine*, 2(6). doi:10.1016/j.xcrm.2021.100323

Ichikawa, Y., Bruno, V. M., Woolford, C. A., **Kim, H.,** Do, E., Brewer, G., Mitchell, A. P. (2021). Environmentally contingent control of Candida albicans cell wall integrity by transcriptional regulator Cup9. *Genetics*. doi: 10.1093/genetics/iyab075

Tao, Y., Rajaraman, A., Cui, X., Cui, Z., Chen, H., Zhao, Y., Eaton, J., **Kim, H.,** Ma, J., Schwartz, R. (2021). Assessing the Contribution of Tumor Mutational Phenotypes to Cancer Progression Risk. *PLOS Computational Biology*, 17(3). doi:10.1371/journal.pcbi.1008777

He, B., Gao, P., Ding, Y., Chen, C., Chen, G., Chen, C., **Kim, H.,** Tasian, S. K., Hunger, S. P., Tan, K. (2020). Diverse noncoding mutations contribute to deregulation of cis-regulatory landscape in pediatric cancers. *Science Advances*, 6(30). doi:10.1126/sciadv.aba3064

Lin, C., Jain, S., **Kim, H.**, Bar-Joseph, Z. (2017). Using neural networks for reducing the dimensions of single-cell RNA-Seq data. *Nucleic Acids Research*, 45(17). doi:10.1093/nar/gkx681

PREPRINT

Tao, Y., Rajaraman, A., Cui, X., Cui, Z., Eaton, J., **Kim, H.**, Ma, J., Schwartz, R. (2019). Improving personalized prediction of cancer prognoses with clonal evolution models. *bioRxiv*. doi:10.1101/761510

Presentations

*presenting author

CONTRIBUTED PRESENTATIONS

Hu, Y., Chen, C., Ding, Y.*, **Kim, H.**, Tan, K. (2019). Synergistic Control Genes in Cancer Gene Networks as Targets for Combination Therapy. Poster: Children's Hospital of Philadelphia Research Poster day and Scientific Symposium, Philadelphia, PA.

Awards, Fellowships, & Grants

2015	**Departmental Merit Fellowship**, Carnegie Mellon University	*$ 3000*
2013	**Mellon College of Science Research Honors**, Carnegie Mellon University	
2012	**Summer Undergraduate Research Fellowship**, Carnegie Mellon University	*$ 3500*

Teaching Experience

*awarded Research Assistantship unless otherwise noted

F2020	**BIOL-3111/5111 Genomics in Medicine**, Teaching Assistant	
S2020	**BIOL-1012 General Biology II**, Teaching Assistant	
F2019	**BIOL-2112 Introduction to Cellular and Molecular Biology**, Teaching Assistant	

Doctoral Coursework

F2020	**BIOL-5128 Genomics and Infectious Disease Dynamics**
F2020	**BIOL-8210 Seminar: "Ecoevo discuss"**
F2020	**STAT-8109 Applied Statistics and Data Science**
S2020	**BIOL-5241 Genomics and Evolutionary Biology of Parasites**
S2020	**CIS-5517 Data-Intensive and Cloud Computing**
S2020	**CIS-5523 Knowledge Discovery and Data Mining**
F2019	**BIOL-5111 Genomics in Medicine**
F2019	**BIOL-5466 Topics in Bioinformatics**
F2019	**BIOL-8210 Seminar Biol 8210 at Center for Computational Genetics and Genomics**

Coding Languages

PYTHON, R, MATLAB, BASH, JAVASCRIPT, GoLang