# Hannah Kim

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## Research Interest

DISEASE DYNAMICS | VIRAL EVOLUTION | ALGORITHM DEVELOPMENT

## Education

**Temple University** — *Philadelphia, PA*
PhD Bioinformatics — *2019 - present*
- Advisor: Dr. Sergei L Kosakovsky Pond

**Carnegie Mellon University** — *Pittsburgh, PA*
MS Computational Biology — *2015 - 2016*

**Carnegie Mellon University** — *Pittsburgh, PA*
BS Chemistry — *2010 - 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

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

### Accepted

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:10.1101/2021.01.06.425608

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., Hassan, S. S., Hsu, C., Aghaeepour, N., Stolovitzky, G., Csabai, I., Costello, J. C., **DREAM Preterm Birth Prediction Challenge Consortium**. (2020). Crowdsourcing assessment of maternal blood multi-omics for predicting gestational age and preterm birth. *Cell Reports Medicine*. doi:10.1101/2020.06.05.130971

### 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.

## Teaching Experience

F2021 **BIOL-3111/5111 Genomics in Medicine**, Teaching Assistant
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

## Graduate Coursework

F2021 **BIOL-5128 Genomics and Infectious Disease Dynamics**
F2021 **BIOL-8210 Seminar: "Ecoevo discuss"**
F2021 **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**