


# Hannah Kim

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## Research Interest

DISEASE DYNAMICS | VIRAL EVOLUTION | ALGORITHM DEVELOPMENT

## Education

### Temple University

PHD BIOINFORMATICS

- Advisor: Dr. Sergei L Kosakovsky Pond

Philadelphia, PA

2019 - present

### Carnegie Mellon University

MS COMPUTATIONAL BIOLOGY

Pittsburgh, PA

2015 - 2016

### Carnegie Mellon University

BS CHEMISTRY

Pittsburgh, PA

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., Aghaepour, 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

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\* *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

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|------|---|---------|
| 2015 | <b>Departmental Merit Fellowship</b> , Carnegie Mellon University             | \$ 3000 |
| 2013 | <b>Mellon College of Science Research Honors</b> , Carnegie Mellon University |         |
| 2012 | <b>Summer Undergraduate Research Fellowship</b> , Carnegie Mellon University  | \$ 3500 |

## Teaching Experience

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| F2021 | <b>BIOL-3111/5111 Genomics in Medicine</b> , Teaching Assistant                      |
| F2020 | <b>BIOL-3111/5111 Genomics in Medicine</b> , Teaching Assistant                      |
| S2020 | <b>BIOL-1012 General Biology II</b> , Teaching Assistant                             |
| F2019 | <b>BIOL-2112 Introduction to Cellular and Molecular Biology</b> , Teaching Assistant |

## Doctoral Coursework

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