

HANNAH KIM, M.S.

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WHO AM I?

- A passionate researcher in Bioinformatics-HCI with a decade of experience in bioinformatics who is on the job market for Summer 2026.
- A community builder who is good at initiating and facilitating collaborations.
- An academic hybrid with a strong desire to foster an inclusive interdisciplinary learning environment.

EDUCATION

PhD in Bioinformatics, Temple University 2019 - present
Advisor: Dr. Sergei L Kosakovsky Pond
Co-Advisor: Dr. Stephen MacNeil
Dissertation Topic: Harnessing interdisciplinarity in the investigation of nucleotide sequence evolution

MS in Computational Biology, Carnegie Mellon University 2015 - 2016
Relevant Coursework: Computational Genomics, Machine Learning, and Algorithms & Advanced Data Structures

BS in Chemistry, Carnegie Mellon University 2010 - 2013
Relevant Coursework: Principles of Computing, and Modern Analytical Instructions

MAJOR CERTIFICATES

08/2023 **Teaching in Higher Education Certificate** Temple University - Center for the Advancement of Teaching
08/2023 **MicroMBA** University of California, San Diego Extended Studies - Rady School of Management

PUBLICATION

[C1] **Kim, H.**, Kosakovsky Pond, S. L., MacNeil, S. (2025). Conversations over Clicks: Impact of Chatbots on Information Search in Interdisciplinary Learning. *2025 IEEE Frontiers in Education Conference (FIE)*, 1-9.
doi:TBD
- FIE 2025 [[Preprint](#) | [Teasers](#) | [Slide](#) | [Video](#) | [Recap](#)]

[W2] **Kim, H.**, Kosakovsky Pond, S. L., MacNeil, S. (2024). WIP: Identifying Tutorial Affordances for Interdisciplinary Learning Environments. *2024 IEEE Frontiers in Education Conference (FIE)*, 1-5.
doi:[10.1109/FIE61694.2024.10893187](https://doi.org/10.1109/FIE61694.2024.10893187)
- FIE 2024 [[Preprint](#) | [Slide](#) | [Video](#) | [Recap](#)]

[W1] **Kim, H.** (2023). Running a summer journal club for an interdisciplinary community: how to maintain engagement when members have disparate prior knowledge. *The Journal for Research and Practice in College Teaching*, 8(2). <https://journals.uc.edu/index.php/jrpct/article/view/8150/6710>

[J7] Huzar, J., **Kim, H.**, Kumar, S., Miura, S. (2022). MOCA for integrated analysis of gene expression and genetic variation in single cells. *Frontiers in Genetics*, 13:831040. doi:[10.3389/fgene.2022.831040](https://doi.org/10.3389/fgene.2022.831040)

[J6] 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*, 27(18). doi:[10.1158/1078-0432.CCR-21-0553](https://doi.org/10.1158/1078-0432.CCR-21-0553)

[J5] 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](https://doi.org/10.1016/j.xcrm.2021.100323)

[J4] 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*, 218(3). doi:[10.1093/genetics/iyab075](https://doi.org/10.1093/genetics/iyab075)

[J3] 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](https://doi.org/10.1371/journal.pcbi.1008777)

[J2] 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](https://doi.org/10.1126/sciadv.aba3064)

[P1] 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](https://doi.org/10.1101/761510)

[J1] 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](https://doi.org/10.1093/nar/gkx681)

PRESENTATION

Posters

- Ahmed, M., Kashyap, D., **Kim, H.**, Duy, C. (2025, April 25-30). *DNMT1 promotes escape from chemotherapy-induced senescence in acute myeloid leukemia* [Abstract]. In Proceedings of the 116th Annual Meeting of the American Association for Cancer Research. Chicago, IL: AACR. Abstract nr 0293 / 2.
- **Kim, H.*** (2024). *It Takes a Village: Understanding the Community Aspects of Interdisciplinary Tutorials* Poster: 2024 ASEE/IEEE Frontiers in Education Conference, Washington, D.C.
- **Kim, H.***, Kosakovsky Pond, S. L. (2023). *PRSuite: PRoperty Informed Models of Evolution (PRIME), the Imputation (PREI), and the Visualization (PReC)*. Poster: The Society for Molecular Biology and Evolution 23 Conference, Ferrara, Italy.
- **Kim, H.***, Shank, S., Kosakovsky Pond, S. L. (2022). *PRoperty Informed Models of Evolution (PRIME)*. Poster: The 31st KSEA Northeast Regional Conference, Virtual.
- 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.

Talks

- **Kim, H.*** (2024). *Characterization of Disciplinary Hybridization in Bioinformatics Software Tutorials*. Seminar: Philadelphia Korean Scholars Association, Philadelphia, PA.
- **Kim, H.*** (2023). *Using HyPhy package on comparative sequence analysis*. Workshop: Temple Bioinformatics Studio, Philadelphia, PA.
- **Kim, H.*** (2023). *Data Analysis in Bioinformatics Research (in academia)*. Seminar: Philadelphia Developer Group, Virtual.

- **Kim, H.***, Kosakovsky Pond, S. L. (2022). *PRIME Evolutionary Imputation (PREI)*. Flash Talk: International Conference on Intelligent Biology and Medicine, Philadelphia, PA.

TEACHING EXPERIENCE

Client Temple University	Jan 2025 - Apr 2025 <i>Projects In Computer Science (CIS-4398)</i>
<ul style="list-style-type: none">• Provided feedback to a project as a client in Professor Ian Tyler Applebaum's senior capstone class for 6 weeks [Class Website Team Documentation Website Client Pitch Project Final Demo].• Team size: 7.	
Co-Coordinator/Reflective Practicum Completion for THE Certificate Temple University	May 2023 - July 2023 <i>Deep Learning for the Life Sciences Journal Club</i>
<ul style="list-style-type: none">• Co-organized a 10-week summer journal club with Dr. Enzo Carnevale for researchers of diverse levels of expertise (undergraduate students, graduate students, postdocs, alumni, visitors, and professors).• Built a unique inter-departmental community in the College of Science and Technology.• Discussed teaching methods and reflections with Dr. Jay Lunden (reflective practicum mentor) for 7 weeks.• Wrote [W1] Personal Narratives of Works in Progress based on this experience.• Group size: 35.	
Course Completion for Teaching in Higher Education (THE) Certificate Temple University	Aug 2022 - Dec 2022 <i>Teaching in Higher Education (EPSY-8985)</i>
<ul style="list-style-type: none">• Developed syllabi, assignments, and assessments using the principles of integrated course design.• Applied the current theories of teaching in different contexts.• Used a variety of effective teaching methods to address learners universally.• Discussed a reflective and purposeful approach to teaching with other instructors.	
Teaching Assistant Temple University	Aug 2020 - Dec 2020 <i>Genomics in Medicine (BIOL-3111/5111)</i>
<ul style="list-style-type: none">• Generated formative and summative assessment materials and provided timely feedback (Youtube/Introduction).• Class size: 150.	
Teaching Assistant Temple University	Aug 2019 - May 2020 <i>Wet Lab Courses (BIOL-2112 and BIOL-1012)</i>
<ul style="list-style-type: none">• Gave a short lecture in the beginning of every lab, monitored student performance, and provided guidance.• Graded lab reports and generated quizzes.• Class size: 20 (x 2 sections) each.<ul style="list-style-type: none">– BIOL-1012 General Biology II, Spring 2020 was an introductory wet lab course for non-biology majors.– BIOL-2112 Introduction to Cellular and Molecular Biology, Fall 2019 was a lab for biology majors.	
Course Developer Carnegie Mellon University	Feb 2016 - Aug 2016 <i>Programming for Scientists (02201/02601)</i>
<ul style="list-style-type: none">• Generated open-source course materials (codes and instructions) with Drs. Phillip Compeau and Carl Kingsford for Go-lang beginners.	

TUTORIAL

- [T2] **Kim, H.** [Hannah Kim in Comp Bio]. (2025, May 28). *#summer2025 #hci [Research Project Teaser]* *Bioinformatics Software Tutorial Supporting Chatbot* [Video]. YouTube. <https://youtu.be/cfTl6e58DPU>
- [T1] **Kim, H.** [GalaxyProject]. (2024, Sep 13). *GTN Tutorial: Chloroplast Genome Assembly* [Video]. YouTube. <https://youtu.be/gIcbY9kXdTo?si=FrJLLb0aWNOk-Ck>

PROFESSIONAL EXPERIENCE

Project Lead Temple University ACME Group & Temple University HCI lab	Feb 2024 - present <i>Philadelphia, PA</i>
<ul style="list-style-type: none">Identified gaps in knowledge and proposed ideas that can make data and method work together.Reconciled different research interests of stakeholders involved.Designed a user study, drafted a protocol approved by the institutional review board, and ran the study.Leading a research team since Spring 2025.<ul style="list-style-type: none">Team: SP (01/2025-05/2025 & 09/2025-present); HP (05/2025-present); RN (05/2025-present); EJ (05/2025-present); JS (01/2025-present); RAN (01/2025-present); KB (01/2025-05/2025); MD (01/2025-05/2025)	
Bioinformatics Engineer Lifetime Omics	Oct 2021 - Jan 2022 <i>Remote</i>
<ul style="list-style-type: none">Automated cutting-edge methods and analyzed COVID-19 metagenomics data in the Google Cloud environment.Developed detailed standard operating procedure for reproducibility.Took initiatives to solve problems and demonstrated dedication for the project in the startup environment.	
Bioinformatics Analyst/Software Engineer Children's Hospital of Philadelphia – Kai Tan lab	Jul 2017 - Jun 2019 <i>Philadelphia, PA</i>
<ul style="list-style-type: none">Investigated RNA-Seq and microarray data from B-Cell Acute Lymphoblastic Leukemia subtypes using differential gene expression analysis, Gene Ontology enrichment analysis, and other relevant bioinformatics methods.Identified cancer-specific genetic interactions that led to publications in high-impact journals.Facilitated communication in the interdisciplinary environment of doctors and wet-lab and dry-lab researchers.	
Research Programmer Carnegie Mellon University – Russell Schwartz lab	Feb 2017 - Jun 2017 <i>Pittsburgh, PA</i>
<ul style="list-style-type: none">Investigated clinical and genomic data to create a cancer progression analysis pipeline using machine learning.	
MS Graduate Researcher Carnegie Mellon University – Ziv Bar-Joseph lab	Jan 2016 - Dec 2016 <i>Pittsburgh, PA</i>
<ul style="list-style-type: none">Curated and analyzed single-cell gene expression data.	
Post-Baccalaureate Researcher (Chemistry/Biology) Carnegie Mellon University – Drs. Fred Lanni, Aaron Mitchell, and Luisa Hiller	Aug 2013 - Jun 2014 <i>Pittsburgh, PA</i>
<ul style="list-style-type: none">Tested various polymer surface coatings for the prevention and destruction of biofilms using red/NIR light.	
Undergraduate Student Researcher (Chemistry) Carnegie Mellon University – Kevin Noonan lab	Jan 2012 - Aug 2013 <i>Pittsburgh, PA</i>

- Characterized pyrylium and pyridinium salts by modifying functional groups.

Student Researcher (Biology)

Carnegie Mellon University – 2011 Summer Research Institute

Jun 2011 - Aug 2011
Pittsburgh, PA

- Analyzed interactions among three ribosomal assembly factors in *Saccharomyces cerevisiae*.
- 1 of 12 student researchers selected for the program.

AWARDS, FELLOWSHIPS, & GRANTS

2023 Best Poster Award, 2nd Place (Computer and Information Sciences), The 36th US-Korea Conference

2022&2023 Selected Attendee Support, Scientists and Engineers Early Career Development Workshop

2022 KSEA Excellent Poster Award, The 31st KSEA Northeast Regional Conference

2022 CST Three-Minute Thesis Competition 2nd Place Award, Temple University (College-level)

2015 Departmental Merit Fellowship, Carnegie Mellon University

2013 Mellon College of Science Research Honors, Carnegie Mellon University

2012 Summer Undergraduate Research Fellowship, Carnegie Mellon University

UNIVERSITY SERVICE

Panelist

Oct 2024 - Aug 2025

- **CST Graduate Orientation, 08/2025**, Graduate Admissions Team in College of Science and Technology
 - Shared graduate school tips and tricks with the new graduate students.
- **Publishing Journal Articles: A Panel Discussion, 10/2024**, Temple University Graduate School
 - Served as one of four panelists. Shared my solo- and first-author experiences with graduate students across the community.

College of Science and Technology-Graduate Student Organization Board Member Dec 2021 - May 2024

- **Media Chair**

May 2023 - May 2024

- Advertised the organization events on social media. Communicated with members from different departments. Supported organization social events and generated flyers.
- Organized **Graduate Student Fall and Spring** social events each with 30+ attendees with the board members.

- **DEI Representative**

Dec 2021 - Apr 2023

- Identified potential DEI topics within the organization and suggested appropriate strategies.
- Facilitated the success of the yearly PhD/MS alumni panelist event involving all six departments within college for two years in a row.

Student Representative

Nov 2021 - Aug 2023

Temple University College of Science and Technology Diversity, Equity, and Inclusion (CST-DEI) Committee

- Discussed the promotion of DEI within college at the bi-weekly committee meetings.
- Provided feedback for a wide array of DEI topics and addressed current issues with other members.

Vice President Temple University Biology Graduate Student Society (BGSS)	Sep 2021 - Sep 2023
<ul style="list-style-type: none"> Facilitated communication between the department and the graduate school. Evaluated travel grant applications with the president and the treasurer. Led action plans to address diverse career needs within the department of biology and organized regular meetings with the graduate school directors. Generated databases for student placements after graduation. Supported the on-boarding process for the first-year students in the department of biology. Planned and oversaw activities for the Fall 2022 departmental retreat. 	

LEADERSHIP EXPERIENCE

Education Standards Committee IEEE Standard Guide for Responsible AI in Higher Education	Nov 2025 - present
Bridge Organizing Committee 2nd AI for Scholarly Communication (AI4SC) - the 40th Annual AAAI Conference on Artificial Intelligence (AAAI-26)	Sep 2025 - present
<ul style="list-style-type: none"> Contributed to the program document drafts, generated recruitment materials, and attended bi-weekly meetings. Co-managed bridge submissions as a section editor on the TIB Open Conference Proceedings platform. 	
Alumni Network Leader Carnegie Mellon University Philadelphia Network	Apr 2025 - present
<ul style="list-style-type: none"> Hosted local events (Globally Plaid Recap, Sep 2025) for the alumni and affiliates. 	
KITEE Leadership	Jan 2023 - present
<ul style="list-style-type: none"> Young Generation Director I (PhD level) <ul style="list-style-type: none"> Supported organizing KITEE events and promoting membership drive. The 33rd KSEA NRC Steering Committee Member & PR Director <ul style="list-style-type: none"> Planned the conference in the weekly committee meeting with PIs and staff from academia and industry. Discussed conference planning with other members; an emphasis on diversity and inclusion (i.e. accessibility & childcare support). Supported onsite facilitation on the day of event with >80 attendees. Event Director <ul style="list-style-type: none"> Connected with graduate students in the northeast region in the US to promote KITEE events. Brainstormed ideas during event meetings and supported all registration-related endeavors. Organized KITEE Entrepreneurship Forum 2023 (>80 attendees) as part of the committee. The 2023 KITEE-FELIX Hackathon Committee Secretary <ul style="list-style-type: none"> Organized the hackathon in the weekly committee meeting. Reached out to universities and engineer communities in the Philadelphia region. Supported the onsite activities. The 32nd KSEA NRC Committee Philadelphia Young Generation Director <ul style="list-style-type: none"> Jan 2023 - Apr 2023 	Aug 2025 - present Jan 2024 - Apr 2024 Oct 2023 - Dec 2024 Feb 2023 - Apr 2023 Jan 2023 - Apr 2023

- Planned the Northeast Regional Conference (NRC) conference in the bi-weekly committee meeting with PIs and staff from academia and industry.
- Operated as the public relations and promotion chief for the pre-networking event before the conference.
- Promoted networking (e.g. networking bingo) and facilitated the event flow onsite (104 registrants).

COMMUNITY INVOLVEMENT

Ad Hoc Reviewer

- 2026 IEEE Global Engineering Education Conference (EDUCON) TPC, *12/2025*
 - Reviewed two full papers (2) and provided detailed feedback on machine learning models, including GenAI.
- Virus Evolution (2024 IF=4.0), *11/2025*
 - Commented as a reviewer drawing on the experience in evolutionary biology.
- 2025 IEEE Frontiers in Education Conference (FIE) Technical Program Committee (TPC), *04/2025*
 - Reviewed and provided feedback on full papers (2), each with a strong focus on statistics and algorithms.
- 2025 IEEE Global Engineering Education Conference (EDUCON) TPC, *11/2024*
 - Reviewed and provided feedback on full papers (3) about Multidisciplinary and Transdisciplinary Education.
- 2024 IEEE Frontiers in Education Conference (FIE) Technical Program Committee (TPC), *07/2024 & 03/2024*
 - Reviewed and provided feedback on FIE conference abstracts (3) & papers (2).
- Temple University CST Diversity Innovation Initiative (DII) Fund, *03/2024*
 - Scrutinized the funding proposals and provided feedback to the DII committee.
- [Scientific Reports \(2021 IF=4.996\)](#), *04/2023*
 - Commented as a reviewer using the experience in cancer, evolutionary biology and single-cell transcriptomics.
- [Frontiers in Oncology \(2021 IF=5.738\)](#), *06/2022*
 - Commented as a reviewer for an academic journal using my experience in cancer research and bioinformatics.

Science Fair Judge

- George Washington Carver Science Fair, *03/2025, 04/2024, 03/2023 & 03/2022*
 - Judged science fair projects done by students in grades 4 and 5 (04/2024) and grades 6 to 12 (03/2025, 03/2022 & 03/2023) with a group of educators.
 - Judged Behavior and Social Sciences category in 03/2025.

PROFESSIONAL MEMBERSHIPS

- [Knowledge Knocking for Your Universe \(KKYU\)](#), *05/2025-present*
- [PhillyCHI](#), *01/2025-present*
- [Galaxy Training Network Contributor](#), *07/2024-present*
- [Temple Asian American and Pacific Islander \(AAPI\) Faculty & Staff Affinity Group](#), *02/2024-present*
- [Korean-American Women in Science and Engineering \(KWise\)](#), *08/2023-present*
- [Philadelphia Developer Group](#), *04/2023-present*
- An Affiliate Member of Temple University [Human-Computer Interaction \(HCI\) Lab](#), *03/2023-present*
- Collab with researchers from [Fox Chase Cancer Center](#) at Temple University Hosp., *12/2022-11/2024*
- Collab with (current and previous) researchers from [Institute for Genomics and Evolutionary Medicine at Temple University](#), *08/2022-11/2024*
- [Korean American Society in Biotech and Pharmaceuticals \(KASBP\)](#), *10/2022-07/2024*
- [Korean-American Innovative Technology Engineers and Entrepreneurs \(KITEE\)](#), *04/2022-present*

- AnitaB.org, 09/2021-present
- Korean-American Scientists and Engineers Association (KSEA), 02/2020-present
- Rotations in Zoran Obradovic, Sergei L. Kosakovsky Pond, and Sudhir Kumar Labs, 08/2019-05/2020
- Philadelphia Korean Scholars Association (PKSA), 06/2019-present

DOCTORAL COURSEWORK

Fall 2020 Genomics and Infectious Disease Dynamics *BIOL-5128*
Fall 2020 Seminar: "Ecoevo discuss" *BIOL-8210*
Fall 2020 Applied Statistics and Data Science *STAT-8109*
Spring 2020 Genomics and Evolutionary Biology of Parasites *BIOL-5241*
Spring 2020 Data-Intensive and Cloud Computing *CIS-5517*
Spring 2020 Knowledge Discovery and Data Mining *CIS-5523*
Fall 2019 Genomics in Medicine *BIOL-5111*
Fall 2019 Topics in Bioinformatics *BIOL-5466*
Fall 2019 Seminar Biol 8210 at Center for Computational Genetics and Genomics *BIOL-8210*

MASSIVE OPEN ONLINE COURSE CERTIFICATES

11/2022 The Inclusive STEM Teaching Project *InCLU1x*
10/2022 Business Foundations *UBCx*
09/2022 Cancer Biology Specialization Courses *Coursera*
03/2022 Matrix Algebra for Engineers *Coursera*
02/2022 Viruses & How to Beat Them: Cells, Immunity, Vaccines *IsraelX*

PERSONAL PROJECTS

- **HearU: Bridging the Gap in Korean-American Mental Health Care**, Voted "Second Place" by the audience in the KITEE-FELIX Ideathon Pitch. Ideated by PhD students each from NJIT, Penn, and Temple., 04/2023
- **Colorblindness Image Enhancer**, "Most Technically Impressive" in OwlHacks 2023, 02/2023

MEDIA APPEARANCES

- **Graduate Student Spotlight** by Temple University Center for the Advancement of Teaching, My unique publication experience during the reflective practicum for the Teaching in Higher Education Certificate was spotlighted on the Center for the Advancement of Teaching web page in Summer 2024., 05/2024
- **Graduate Student Feature** by Temple University Graduate School, 1 of 12 graduate students at Temple University to be featured on the Graduate School web page and social media in Spring 2024. It was a great opportunity to share my research and show gratitude for the opportunities I got at Temple., 02/2024

CODING LANGUAGES

python, R, MATLAB, bash, JavaScript, Go-lang

Last Updated – 2025-12-13.