Chang In Moon, PhD

Biomedical Data Manager · Sage Bionetworks

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LinkedIn

EDUCATION

Baylor College of Medicine — PhD, Quantitative & Computational Biosciences 2020 – 2024
Mentor: Bing Zhang, PhD

Washington University in St. Louis — MS, Biostatistics 2018 – 2019
Mentor: Angela C. Hirbe, MD, PhD

Purdue University — BS, Genetics 2014 – 2018

EXPERIENCE

Biomedical Data Manager, Sage Bionetworks 2024 – Present
- Managed 40+ database services and monitored usage patterns in Snowflake; developed AI-powered bot agents to automate data annotation workflows.

PhD Intern, Computational Biology, Pacific Northwest National Laboratory 2023 – 2024
- MPNST drug-synergy project — deep-learning approaches for drug response and synergistic drug prediction.

Predoctoral Fellow, Baylor College of Medicine — Lester & Sue Smith Breast Center 2021 – 2024
- ClinicalOmicsDB: exploring molecular associations of oncology drug responses in clinical trials (co-lead author, Nucleic Acids Research).

Graduate Research Assistant, Washington University in St. Louis — Medical Oncology 2018 – 2020
- Showed that high-grade transformation in NF1-MPNST is associated with chromosome 8 amplification (co-lead author, JCI Insight).
- Characterized intra-tumoral heterogeneity and therapy resistance in NF1-MPNST (co-lead author, Genes).

Graduate Intern, Washington University in St. Louis — Developmental Biology 2019
- Thesis: Identification of novel pancreatic-cancer survival-associated DNA methylation sites.

Undergraduate Research Assistant, Purdue University — Speech, Language & Hearing Sciences 2018
- Priming sentence comprehension and construction in aphasia.

Undergraduate Research Assistant, Purdue University — Horticulture & Landscape Architecture 2017 – 2018
- Role of SDG8-mediated histone methylation and RNA processing in the response to nitrate signaling (co-author, Plant Physiology).

Undergraduate Research Assistant, Purdue University — Statistics 2015 – 2016
- Mixed tumor models inferred with generalized linear models from whole-genome sequencing (Fellowship Talk, Art Institute of Chicago).

PUBLICATIONS

** Denotes co-first authors.*

1. Jaehnig EJ, Fernandez-Martinez A, Vashist TD, Holt MV, Williams L, Lei JT, **Moon CI**, Kim BJ, Dou Y, Zhao H, Korchina V, Gibbs RA, Muzny DM, Doddapaneni H, Perou CM, Carey LA, Robles AI, Hyslop T, Wen Y, McCart L, Krek A, Petralia F, Miles G, Kavuri SM, Gillette MA, Mani DR, Carr SA, Zhang B, Ellis MJ, Satpathy S, Anurag M. Proteogenomic analysis of the CALGB 40601 (Alliance) HER2+ breast cancer neoadjuvant trial reveals resistance biomarkers. Cell Rep Med. 2025 Jun 17;6(6):102154. doi: 10.1016/j.xcrm.2025.102154. Epub 2025 Jun 5. PMID: 40480221; PMCID: PMC12208316.

2. Lei JT, Dobrolecki LE, Huang C, Srinivasan RR, Vasaikar SV, Lewis AN, Sallas C, Zhao N, Cao J, Landua JD, **Moon CI**, Liao Y, Hilsenbeck SG, Osborne CK, Rimawi MF, Ellis MJ, Petrosyan V, Wen B, Li K, Saltzman AB, Jain A, Malovannaya A, Wulf GM, Marangoni E, Li S,

Kraushaar DC, Wang T, Damodaran S, Zheng X, Meric-Bernstam F, Echeverria GV, Anurag M, Chen X, Welm BE, Welm AL, Zhang B, Lewis MT. Patient-derived xenografts of triple-negative breast cancer enable deconvolution and prediction of chemotherapy responses. bioRxiv [Preprint]. 2025 Jan 8:2024.12.09.627518. doi: 10.1101/2024.12.09.627518. PMID: 39713418; PMCID: PMC11661147.

3. **Moon CI***, Elizarraras JM*, Lei JT, Jia B, Zhang B. ClinicalOmicsDB: exploring molecular associations of oncology drug responses in clinical trials. Nucleic Acids Res. 2024 Jan 5;52(D1):D1201-D1209. doi: 10.1093/nar/gkad871. PMID: 37811874; PMCID: PMC10767859.
4. Zamora PO, Altay G, Santamaria U, Dwarshuis N, Donthi H, **Moon CI**, Bakalar D, Zamora M. Drug responses in plexiform neurofibroma type I (PNF1) cell lines using high-throughput data and combined effectiveness and potency. Cancers (Basel). 2023 Dec 12;15(24):5811. doi: 10.3390/cancers15245811. PMID: 38136356; PMCID: PMC10742026.
5. Dehner C*, **Moon CI***, Zhang X, Zhou Z, Miller C, Xu H, Wan X, Yang K, Mashl J, Gosline SJ, Wang Y, Zhang X, Godec A, Jones PA, Dahiya S, Bhatia H, Primeau T, Li S, Pollard K, Rodriguez FJ, Ding L, Pratilas CA, Shern JF, Hirbe AC. Chromosome 8 gain is associated with high-grade transformation in MPNST. JCI Insight. 2021 Mar 22;6(6):e146351. doi: 10.1172/jci.insight.146351. PMID: 33591953; PMCID: PMC8026192.
6. **Moon CI***, Tompkins W*, Wang Y, Godec A, Zhang X, Pipkorn P, Miller CA, Dehner C, Dahiya S, Hirbe AC. Unmasking intra-tumoral heterogeneity and clonal evolution in NF1-MPNST. Genes (Basel). 2020 May 1;11(5):499. doi: 10.3390/genes11050499. PMID: 32369930; PMCID: PMC7291009.
7. Hirbe AC, Eulo V, **Moon CI**, Luo J, Myles S, Seetharam M, Toeniskoetter J, Kershner T, Haarberg S, Agulnik M, Monga V, Milhem M, Parkes A, Robinson S, Okuno S, Attia S, Van Tine BA. A phase II study of pazopanib as front-line therapy in patients with non-resectable or metastatic soft-tissue sarcomas who are not candidates for chemotherapy. Eur J Cancer. 2020 Sep;137:1-9. doi: 10.1016/j.ejca.2020.06.016. Epub 2020 Jul 23. PMID: 32712457.
8. Banerjee J, Allaway RJ, Taroni JN, Baker A, Zhang X, **Moon CI**, Pratilas CA, Blakeley JO, Guinney J, Hirbe A, Greene CS, Gosline SJ. Integrative analysis identifies candidate tumor microenvironment and intracellular signaling pathways that define tumor heterogeneity in NF1. Genes (Basel). 2020 Feb 21;11(2):226. doi: 10.3390/genes11020226. PMID: 32098059; PMCID: PMC7073563.
9. Li Y, Brooks M, Yeoh-Wang J, McCoy RM, Rock TM, Pasquino A, **Moon CI**, Patrick RM, Tanurdzic M, Ruffel S, Widhalm JR, McCombie WR, Coruzzi GM. SDG8-mediated histone methylation and RNA processing function in the response to nitrate signaling. Plant Physiol. 2020 Jan;182(1):215-227. doi: 10.1104/pp.19.00682. Epub 2019 Oct 22. PMID: 31641075; PMCID: PMC6945839.

MENTORSHIP

KOFST NET Trainees

Taught sc-multiomics, proteogenomics analysis, and machine-learning practices.

Yeunjung Ko — graduate student, Baylor College of Medicine 2022
Ye Jin Park — graduate student, Baylor College of Medicine 2022
Soo Min Cho — graduate student, Baylor College of Medicine 2022
Kyoungin Kim — graduate student, Baylor College of Medicine 2022
Jeoungmin Park — postdoctoral, UT MD Anderson Cancer Center 2022

Student Trainees

Taught machine-learning practices with clinical-trial omics data.

Byron Jia — undergraduate student, Carleton College 2022

Taught RNA-Seq / WES-Seq processing pipelines and analysis with MPNST samples.

Kuangying Yang — graduate student, Washington University in St. Louis 2020 – 2021
Daniel Schefer — undergraduate student, Washington University in St. Louis 2020
Zhaohe Zhou — graduate student, Washington University in St. Louis 2019 – 2020

AWARDS & HONORS

BCM Grants for Leadership Opportunities in Well-Being (GLOW) Award 2023
KOFST Young Professional Forum (YPF) U.S. Country Representative Finalist 2023
AACR–Sanofi Scholar-in-Training Award 2023
Hack4NF Incubation Prize, Children's Tumor Foundation 2022
Hack4NF 1st Place (Challenge 3), Children's Tumor Foundation 2022

17th Breast Center Research & Education Program — 2nd Best Presentation	2022
NRSA Institutional Predoctoral Training Grant (T32), CTR-CAQ Program	2022
KOFST Next-Generation Net Activity Award	2022
KCPCH Scholarship	2021
NF Conference Poster Session Semi-finalist, Children's Tumor Foundation	2019
NF Hackathon Winning Team, Children's Tumor Foundation / SVAI	2019
DataFest Best in Show Award, American Statistical Association	2016
NSF Statistics Living-Learning Community (STAT-LLC) Fellowship, Purdue University	2015 – 2016

MEMBERSHIP & SERVICE

Invited Speaker, 18th Annual BCM Breast Cancer Retreat	2024
Data Science Coach, NIH All of Us Underrepresented Biomedical Research Summit	2022 – 2024
Data Analysis Working Group, NCI Clinical Proteomic Tumor Analysis Consortium	2021 – 2024
Proctor Volunteer, KSEA National Mathematics & Science Competition	2022
President, KSEA South Texas Chapter Student Body	2021
Teaching Assistant, Cell Structure & Function, Purdue University	2016 – 2017
Video Producer Leader, Korean Presbyterian Church, Purdue University	2015 – 2018