

JIWOON PARK

EDUCATION

- 2019 – 2023 Weill Cornell Graduate School of Medical Sciences, CORNELL UNIVERSITY, New York, NY, USA
*Ph.D., **Physiology, Biophysics, and Systems Biology***
- 2013 – 2017 Albert Nerken School of Engineering, THE COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART, New York, NY, USA
*M.Eng., **Chemical Engineering** (2016 – 17)*
*B.Eng., **Chemical Engineering**; minor in Biomedical engineering*

POSITIONS & EMPLOYMENT

- 2023 – Present *Postdoctoral Associate (PI: Dr. George Church),*
Wyss Institute for Biologically Inspired Engineering, HARVARD MEDICAL SCHOOL, Boston, MA, USA
- 2023 – Present *Postdoctoral Associate (PI: Dr. Christopher E. Mason),*
Institute for Computational Biomedicine, WEILL CORNELL MEDICINE, New York, NY, USA
- 2019 – 2023 *Graduate Student (Tri-I joint appointment, PI: Dr. Charles M. Rice),*
Laboratory of virology and infectious disease, ROCKEFELLER UNIVERSITY, New York, NY, USA
- 2019 – 2023 *Graduate Student (PI: Dr. Christopher E. Mason),*
Weill Cornell Graduate School of Medical Sciences, CORNELL UNIVERSITY, New York, NY, USA
- 2017 – 2019 *Lab Manager/Research technician (PI: Dr. Robert E. Schwartz),*
Department of Medicine, WEILL CORNELL MEDICINE, New York, NY, USA
- 2013 – 2017 *Undergraduate Researcher (PI: Dr. Ruben Savizky & Dr. Olivier Medvedik),*
Kanbar Research Center for Bioengineering, THE COOPER UNION, New York, NY, USA
- 2013 *Research Intern (PI: Dr. Hak-zoo Kim),*
Institute of Vascular and Metabolic Research, Severance Hospital Medical Research Center, YONSEI UNIVERSITY, Seoul, South Korea

HONORS & AWARDS

- 2024 – 2025 Life Sciences Technology Innovation Fellowship Program, Cornell University
- 2023 – 2025 Postdoctoral Fellowship, Bumrungrad International Hospital
- 2023 – 2024 NASA STAR (Spaceflight Technology, Applications and Research) Fellowship Program
- 2022 MOGAM Science Fellowship
- 2022 KSEA- Korea-US Science Cooperation Center (KUSCO) graduate scholarship
- 2016 Korean American Scientists and Engineers Association (KSEA) Scholarship
- 2016 William H. Nichols Fellowship, American Chemical Society
- 2014 Gold medal, Foundational Advances, International Genetically Modified Machine Competition (iGEM)
- 2014 Certificate of Excellence, The Korean Federation of Science and Technology Societies
- 2013 – 2017 Dean's list, The Cooper Union for the Advancement of Science and Art
- 2013 – 2017 Full tuition scholarship, The Cooper Union for the Advancement of Science and Art

LEADERSHIP & SERVICE & PROFESSIONAL MEMBERSHIPS

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|----------------|--|----------------------|
| 2024 – Present | Human Cell Atlas (HCA) | Collaborating member |
| 2024 | SpatioTemporal Omics Consortium (STOC) General Meeting | Organizer |
| 2023 – Present | SpatioTemporal Omics Consortium (STOC) A&I Working Group | Co-lead |
| 2023 – 2024 | Society for Neuroscience | Member |
| 2023 – 2024 | International Society for Computational Biology | Member |
| 2023 | American Association of Human Genetics | Member |
| 2022 – Present | NASA GeneLab Multi-Omics Analysis Working Group (AWG) | Active member |

2022	31 st KSEA Northeast Regional Conference	Organizing committee
2021 – 2022	41st Annual Vincent du Vigneaud Memorial Research Symposium	Evaluation committee
2021	KSEA Young Scientists' Night networking event	Organizing committee
2020	Weill Cornell Graduate School information session	Student representative
2019 – 2022	Korean American Scientists and Engineers Association (KSEA)	Publication director (NY Metro)
2019 – 2020	KSEA Young generation technical conference (Ygnite)	Team lead
2018 – 2019	KSEA Young generation technical conference (Ygnite)	Organizing committee
2018 – 2020	KSEA Young Scientists' Night networking event	Organizer
2017 – 2018	Korean American Scientists and Engineers Association (KSEA)	General director (NY Metro)
2016 – Present	Korean American Scientists and Engineers Association (KSEA)	Member
2016 – 2017	Korean Association of Cooper Union	Chapter president
2015 – 2016	Korean Association of Cooper Union	Vice president
2016	KSEA Math Science Olympiad	Student mentor/panelist
2017	Omega Chi Epsilon	Member
2015 – Present	American Association for Cancer Research (AACR)	Associate Member
2014 – 2017	Biomedical Engineering Society (BMES) at Cooper Union	Founding president
2014 – 2017	The Cooper Union Joint Activities Committee	Secretary
2014 – 2017	The Cooper Union Admissions	Student representative
2015 – 2017	Toastmasters International	Chapter president
2013 – 2018	Columbia University Edonation Project	R&D Associate

PUBLICATIONS

Peer-reviewed research articles

- Guarnieri JW, Topper MJ, Beigel K, Haltom JA, Chadburn A, Frere J, An J, Cope H, Borczuk A, Sinha S, Lim C, Kim J, **Park J**, Meydan C, Foox J, Mozsary C, Bram Y, Richard S, Epsi NJ, Agan B, Chenoweth J, Simons M, Tribble D, Burgess T, Dalgard C, Heise MT, Moorman NJ, Baxter VK, Madden EA, Taft-Benz SA, Anderson EJ, Sanders WA, Dickmander RJ, Widjaja GA, Janssen K, Lie T, Murdock D, Angelin A, Albrecht YS, Olali A, Cen Z, Dybas J, Priebe W, Emmett MR, Best SM, Johnson MK, Trovao NS, Clark KB, Zaksas V, Meller R, Grabham P, Schisler JC, Moraes-Vieira PM, Pollett S, Mason CE, Wurtele ES, Taylor D, Schwartz RE, Beheshti A, Wallace DC, Baylin SB. Lethal COVID-19 Associates With RAAS-Induced Inflammation For Multiple Organ Damage Including Mediastinal Lymph Nodes. *Proc. Natl. Acad. Sci. U.S.A.* 121 (49) e2401968121, <https://doi.org/10.1073/pnas.2401968121> (2024).
- McIntyre CA, Grimont A, **Park J**, Meng Y, Sisso WJ, Seier K, Jang GH, Walch H, Aveson VG, Falvo DJ, Fall WB, Chan CW, Wenger A, Ecker BL, Pulvirenti A, Gelfer R, Zafra MP, Schultz N, Park W, O'Reilly EM, Houlihan SL, Alonso A, Hissong E, Church GM, Mason CE, Siolas D, Notta F, Gonen M, Dow LE, Jarnagin WR, Chandwani R. "Distinct clinical outcomes and biological features of specific KRAS mutants in human pancreatic cancer." *Cancer Cell* 2024. 42 (9)
- Jones CW, Overbey EG, Lacombe J, Ecker AJ, Meydan C, Ryon K, Tierney B, Damle N, MacKay M, Afshin EE, Foox J, **Park J**, Nelson TM, ..., Basner M, Mason CE. "Molecular and physiological changes in the SpaceX Inspiration4 civilian crew." *Nature* 2024. 632, 1155–1164. <https://doi.org/10.1038/s41586-024-07648-x>
- Park J**, Overbey EG, Narayanan S, Kim J, Braden BT, Damle N, Najjar D, Ryon KA, Proszynski J, Kleinman A, Hirschberg JW, MacKay M, Afshin EE, Granstein R, Gurvitch J, Hudson BM, Rininger A, Mullane S, Church SE, Meydan C, Church G, Beheshti A, Mateus J, Mason CE. "Spatial multi-omics of human skin reveals KRAS and inflammatory responses to spaceflight" *Nature Communications* 15, 4773 (2024). <https://doi.org/10.1038/s41467-024-48625-2>.
- Mason CE, Green J, Adamopoulos KI, Afshin EA, Baechle JJ, Basner M, Bailey SM, Bielski L, Borg J, ... **Park J**, ... Mateus J, Beheshti A. "A Second Space Age Spanning Omics, Platforms, and Medicine Across Orbits." *Nature* 2024. <https://doi.org/10.1038/s41586-024-07586-8>.
- Tierney BT, Kim J, Overbey EG, Ryon KA, Foox J, Sierra MA, Bhattacharya C, Damle N, Najjar D, **Park J**, Garcia Medina S, Houerbi N, Meydan C, Hershberg JW, Qiu J, Kleinman A, Ghalith GA, MacKay M, Afshin EE, Dhir R, Borg J, Gatt C, Brereton N, Readhead BP, Beyaz S, Venkateswaran KJ, Wiseman K, Moreno J, Boddicker AM, Zhao J, Lajoie BR, Scott RT, Altomare A, Kruglyak S, Levy S, Church G, Mason CE. "Longitudinal multi-omics analysis of host microbiome architecture and immune responses during short-term spaceflight." *Nature Microbiology* 2024. <https://doi.org/10.1038/s41564-024-01635-8>.
- Kim J, Tierney BT, Overbey EG, Dantas E, Fuentealba M, **Park J**, Narayanan S, Wu F, ..., Behesti A, Matei I, Lyden D, Mullane S, Asadi A, Lenz JS, Mzava O, Yu M, Ganaesan S, Vlaminc ID, Melnick A, Barisic D, Winer DA, Zwart SR, Crucian

- BE, Smith SM, Mateus J, Furman D, Mason CE. "Single-cell multi-ome and immune profiles of the Inspiration4 crew reveal conserved, cell-type, and sex-specific responses to spaceflight." *Nature Communications* 15, 4954 (2024). <https://doi.org/10.1038/s41467-024-49211-2>.
8. Overbey EG, Kim J, Tierney BT, **Park J**, Houerbi N, Lucaci AG, Garcia Medina S, Meydan C, Damle N, Najjar D, Grigorev K, Afshin EE, Ryon KA, Sienkiewicz K, Patras L, Klotz R, Ortiz V, MacKay M, ..., Vlaminc ID, Gross S, Bolton KL, Bailey SM, Granstein R, Furman D, Melnick AM, Costes SV, Shirah B, Yu M, Menon AS, Mateus K, Meydan C, Mason CE. "The Space Omics and Medical Atlas (SOMA) and international astronaut biobank." *Nature* 2024. <https://doi.org/10.1038/s41586-024-07639-y>.
 9. Mathyk BA, Tabetah M, Karim R, Zaksas V, Kim J, I AR, Muratani M, Tasoula A, Singh RS, Chen Y, Overbey E, **Park J**, Cope H, Fazelinia F, Povero D, Borg J, Klotz RV, Yu M, Young SL, Mason CE, Szewczyk N, St Clair RM, Karouia F, Beheshti A. "Spaceflight induces changes in gene expression profiles linked to insulin and estrogen." *Communications Biology* 7, 692 (2024). <https://doi.org/10.1038/s42003-023-05213-2>.
 10. McDonald JT, Kim J, Farmerie L, Johnson ML, Trovao NS, Arif S, Siew K, Tsoy S, Bram Y, **Park J**, Overbey EG, Ryon K, Haltom J, Singh U, Enguita FJ, Zaksas V, Guarnieri JW, Topper M, Wallace D, Meydan C, Baylin S, Meller R, Muratani M, Porterfield DM, Kaufman B, Mori MA, Walsh SB, Sigaucho-Roussel D, Mebarek S, Bottini M, Marquette CA, Wurtele ES, Schwartz RE, Galeano D, Mason CE, Grabham P, Beheshti A. "Space radiation damage rescued by inhibition of key spaceflight associated miRNAs" *Nature Communications* 15, 4825 (2024). <https://doi.org/10.1038/s41467-024-48920-y>.
 11. Cope H, Elsborg J, Demharther S, McDonald JT, Wernecke C, Parthasarathy H, Unadkat H, Chatrathi M, Claudio J, Reinsch S, Zwart SR, Smith SM, Heer M, Muratani M, Meydan C, Overbey EG, Kim J, **Park J**, Schisler JC, Mason CE, Szewczyk NJ, Willis CRG, Salam A, Beheshti A. "Transcriptomics analysis reveals molecular alterations underpinning spaceflight dermatology." *Communications Medicine* 4, 106 (2024). <https://doi.org/10.1038/s43856-024-00532-9>.
 12. **Park J**, Zho Y, Zhang F, Zhang S, Kwong AC, Hoffman HH, Bushweller L, Wu X, Ashbrook AW, Stefanovic B, Chen S, Branch A, Mason CE, Jung JU, Rice CM, Wu X. IL6/STAT3 axis dictates the PNPLA3-mediated susceptibility to nonalcoholic fatty liver disease. *J Hepatol.* 2023 Jan;78(1):45-56. doi: 10.1016/j.jhep.2022.08.022. Epub 2022 Aug 30. PubMed PMID: 36049612.
 13. Yang D, Woo H, Tayyebi Z, Shukla A, Luo R, Dixon G, Ursu V, Stransky S, Tremmel DM, Sackett SD, Koche R, Kaplan SJ, Li QV, **Park J**, Zhu Z, Rosen BP, Pulecio J, Shi ZD, Bram Y, Schwartz RE, Odorico JS, Sidoli S, Wright CV, Leslie C, Huangfu D. CRISPR screening uncovers a central requirement for HHEX in pancreatic lineage commitment and plasticity restriction. *Nature Cell Biology.* 24, 1064–1076 (2022). <https://doi.org/10.1038/s41556-022-00946-4>.
 14. **Park J**, Foox J, Hether T, Danko DC, Warren S, Kim Y, Reeves J, Butler DJ, Mozsary C, Rosiene J, Shaiber A, Afshin EE, MacKay M, Rendeiro AF, Bram Y, Chandar V, Geiger H, Craney A, Velu P, Melnick AM, Hajirasouliha I, Beheshti A, Taylor D, Saravia-Butler A, Singh U, Wurtele ES, Schisler J, Fennessey S, Corvelo A, Zody MC, Germer S, Salvatore S, Levy S, Wu S, Tatonetti NP, Shapira S, Salvatore M, Westblade LF, Cushing M, Rennert H, Kriegel AJ, Elemento O, Imielinski M, Rice CM, Borczuk AC, Meydan C, Schwartz RE, Mason CE. System-wide transcriptome damage and tissue identity loss in COVID-19 patients. *Cell Reports Medicine.* 2022 Feb 15;3(2):100522. doi: 10.1016/j.xcrm.2022.100522. Epub 2022 Jan 24. PMID: PMC8784611.
 15. Tiwari-Heckler S, Yee EU, Yalcin Y, **Park J**, Nguyen D, Gao W, Csizmadia E, Afdhal N, Mukamal KJ, Robson SC, Lai M, Schwartz RE, Jiang ZG. Adenosine deaminase 2 produced by infiltrative monocytes promotes liver fibrosis in nonalcoholic fatty liver disease. *Cell Reports* 2021.
 16. Rendeiro AF, Ravichandran H, Bram Y, Chandar V, Kim J, Meydan C, **Park J**, Foox J, Heather T, Warren S, Kim Y, Reeves J, Salvatore S, Mason CE, Swanson EC, Borczuk AC, Elemento O, Schwartz RE. The spatial landscape of lung pathology during COVID-19 progression. *Nature* 2021.
 17. Gupta V, Gupta Y, **Park J**, Bram Y, Schwartz RE. Hedgehog Signaling Demarcates a Niche of Fibrogenic Peribiliary Mesenchymal Cells. *Gastroenterology* 2020.
 18. Galassi TV, Jena PV, Shah J, Ao G, Molitor E, Bram Y, Frankel A, **Park J**, Jessurun J, Ory DS, Haimovitz-Friedman A, Roxbury D, Mittal J, Zheng M, Schwartz RE, Heller DA. An optical nanoreporter of endolysosomal lipid accumulation reveals enduring effects of diet on hepatic macrophages in vivo. *Sci Transl Med.* 2018.10(461).

Reviews and editorials

1. Narayanan SA, Jamison DA, Guarnieri JW, Zaksas V, Topper M, Koutnik AP, **Park J**, Clark KB, Enguita FJ, Leitão AL, Das S, Moraes-Vieira PM, Galeano D, Mason CE, Trovão NS, Schwartz RE, Schisler JC, Coelho-dos-Reis JGA, Wurtele ES, Beheshti A. "A comprehensive SARS-CoV-2 and COVID-19 review, Part 2: host extracellular to systemic effects of SARS-CoV-2 infection." *European Journal of Human Genetics* (2023). <https://doi.org/10.1038/s41431-023-01462-1A>
2. **Park J**, Kim J, Lewy T, Rice CM, Olivier E, Rendeiro AF, Mason CE. Spatial omics technologies at multimodal and single

cell/subcellular level. *Genome Biol* 23, 256 (2022). <https://doi.org/10.1186/s13059-022-02824-6>

- Overbey E, Das S, Cope H, Madrigal P, Andrusivova Z, Frapard S, Klotz R, Bezdan D, Scott R, **Park J**, Chirko D, Galazka JM, Costes SV, Mason CE, Herranz R, Szewczyk NJ, Borg J, Giacomello S. Challenges and considerations for single-cell and spatially resolved transcriptomics sample collection during spaceflight. *Cell Reports Methods* (2022). <https://doi.org/10.1016/j.crmeth.2022.1003256>.
- Bram Y, Nguyen D, Gupta V, **Park J**, Richardson C, Chandar V, Schwartz RE. Cell and Tissue Therapy for the Treatment of Chronic Liver Disease. *Annual Review of Biomedical Engineering* 2021.

Books and chapters

- Han Y, Song S, Kim D, **Park J**, Park S, Lee E, Cho Y, Lee H, Jang M, Ryu H, Kim S, Cho E, Lee H, Kang H. *Review: Aging and Neurodegenerative disease—Alzheimer's disease and Parkinson's disease*. 2013. ISBN 978-89-969393-4-4.

Other research publications, excluding preprints later published in peer-reviewed journals.

- Merdler-Rabinowicz R, Gorelik D, **Park J**, Meydan C, Foox J, Karmon M, Roth HS, Cohen-Fultheim R, Shohat-ophir G, Eisenberg E, Ruppin E, Mason CE, Levanon EY, Elevated A-to-I RNA editing in COVID-19 infected individuals, *NAR Genomics and Bioinformatics*, Volume 5, Issue 4, December 2023, <https://doi.org/10.1093/nargab/lqad092>
- Rosado-Olivieri EA, Razooky B, Le Pen J, De Santis R, Barrows D, Sabry Z, Hoffmann, HH, **Park J**, Carroll TS, Porrier JT, Rice CM, Brivanlou AH. Organotypic human lung bud microarrays identify BMP-dependent SARS-CoV-2 infection in lung cells. *Stem Cell Reports* 2023.
- Frere JJ, Serafini RA, Pryce KD, Golyner I, Panis M, Zimering J, Horiuchi S, Hoagland DA, Moeller R, Oishi K, Ruiz A, Borczuk A, Chandar V, Bram Y, **Park J**, Foox J, Meydan C, Mason CE, Schwartz RE, Zachariou V, TenOever BR., A Molecular Basis of Long COVID-19. 2021. Available at SSRN: <https://ssrn.com/abstract=3885245> or <http://dx.doi.org/10.2139/ssrn.3885245>
- MacPherson D, Bram Y, **Park J**, Schwartz RE. Peptide-based scaffolds for the culture and maintenance of primary human hepatocytes. *Scientific Reports* 2021.

Accepted abstracts

- Mason CE, **Park J**, Kim J, Overbey E, Hirschberg JW, Ci Y, Shelton M, He S, Proszynski J, Ryon K, Collier P, Meydan C, Plummer J, Martelotto LG. Immunological and epigenetic changes induced by high-radiation spacewalks. AGBT General Meeting 2025.
- Chen R, LeRoy E, Sakharkar A, Proszynski J, Kleinman A, Kim J, **Park J**, Arikatla M, Peralta N, Omar S, Mason CE. Microsampling for multi-omic profiling and characterization of individuals undergoing extremely demanding physical activities and its application to marathon runners. AGBT General Meeting 2025.
- Yau R, Deshmukh S, Kim J, **Park J**, Yang Y, Sacca M, Sabri S, Ai T, Gherardini PF, Schroth G, Mason CE, Jin MM. Establishing a multi-modal, cell therapy characterization workflow to identify cell subsets with heightened cytotoxicity. AACR Annual Meeting 2025.
- Agyemang AA, **Park J**, Mason CE, Howell JD. Spatial Transcriptomics for the Investigation of the Tumor Microenvironment. Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS) 2024.
- Mason CE, **Park J**. The Spatial Atlas of Human Anatomy (SAHA) on earth and in space—Comprehensive multi-omics spatial mapping of tissues to improve precision medicine. Cold Spring Harbor Laboratory Biological Data Science Meeting 2024.
- Park J**, Gregorio RD, Robinson B, Hissong E, Patel S, Socciarelli F, Church SE, Killingbeck E, Metzger E, Pan L, Liang Y, Reeves J, Beechem JM, Elemento O, Alonso A, Houlihan SL, Schwartz RE, Mason CE. The Spatial Atlas of Human Anatomy (SAHA) Project: A High content spatial map of the Human Body. ISMB/ECCB 2023.
- Bram Y, Chandar V, **Park J**, Schwartz RE. Hepatitis B virus infection of primary and pluripotent stem cell derived multicellular hepatic spheroids reveals complex intercellular interactions and host responses. *Gastroenterology* 2023 May 1; 164(6):S-1253.
- Park J**, Zhu C, Zhang Z, Zhang Y, Mao X, Yang S, Rice CM, Mason CE. Spatiotemporal landscapes of liver fibrosis and recovery dynamics. AGBT 2023.
- Park J**, Rice CM, Mason CE. Multi-omics modeling of injury-driven microenvironment trajectory in liver cancer. AGBT 2022.
- Gupta V, Gupta I, **Park J**, Bram Y, Schwartz RE. A Niche of Glil+ Peribiliary Mesenchymal Cells Contribute to Cholestatic Fibrosis. *Hepatology* 2020 Nov 1 (Vol. 72, pp. 205A-206A). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.

10. **Melis M, Park J**, Schwartz RE, Gudas LJ. Loss of the Retinoic Acid Receptor Beta Exacerbates Lipotoxicity in Human Hepatocytes. The Liver Meeting Digital Experience. AASLD 2020.
11. Chandar V, **Park J**, Frankel A, **Schwartz RE**. Identification of the Molecular Drivers of Hepatoblastoma using Pluripotent Stem Cell Derived Hepatoblasts and Hepatocyte-like Cells. The Liver Meeting Digital Experience. AASLD 2020.
12. Heckler ST, Yee E, **Park J**, Nguyen D, Gao W, Lai M, Schwartz RE, **Jiang ZG**. Infiltrative monocyte derived adenosine deaminase 2 promotes liver fibrosis via signaling through extracellular inosine. *Journal of Hepatology*. 2020 Aug 1;73:S683-4.
13. Chandar V, **Park J**, Frankel A, **Schwartz RE**. Tu1644 Revealing the Molecular Drivers of Hepatoblastoma using Pluripotent Stem Cell Derived Hepatoblasts and Hepatocyte-like Cells. *Gastroenterology*. 2020 May 1;158(6):S-1142.
14. Chandar V, **Park J**, Frankel A, **Schwartz RE**. 230 Primary and Pluripotent Stem Cell Derived Multicellular Human Hepatic Spheroids Reveal Complex Inter-Cellular Interactions and Metabolic Phenotypes. *Gastroenterology*. 2020 May 1;158(6):S-43.
15. Tiwari-Heckler S, Yee EU, **Park J**, Nguyen D, Gao W, Lai M, Schwartz RE, **Jiang ZG**. Infiltrative Macrophages Secrete Adenosine Deaminase 2 to Modulate Liver Fibrosis in Nonalcoholic Fatty Liver Disease. *Hepatology* 2019 Oct 1 (Vol. 70, pp. 1019A-1020A). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
16. Gupta V, **Park J**, **Schwartz RE**. Cholestatic Injury Activates a Distinct Subpopulation of Fibrogenic Peribiliary Mesenchymal Cells. *Hepatology* 2019 Oct 1 (Vol. 70, pp. 880A-880A). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
17. Bram Y, **Park J**, **Schwartz RE**. Revealing the Hepatocyte Host Factors Regulating the Hepatitis B Viral Life Cycle and Infection. *Hepatology* 2019 Oct 1 (Vol. 70, pp. 178A-179A). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
18. **Park J**, Bram Y, **Schwartz RE**. 155–Primary and Pluripotent Stem Cell Derived Multicellular Human Hepatic Spheroids Reveals Complex Intercellular Interactions and Disease Phenotypes. *Gastroenterology*. 2019 May 1;156(6):S-36.
19. **Park J**, Nguyen D, Bram Y, **Schwartz RE**. Development of Primary and Pluripotent Stem Cell Derived Multicellular Human Hepatic Spheroids Reveals Complex Intercellular Interactions and Disease Phenotypes. *Hepatology* 2018 Oct 1 (Vol. 68, pp. 1067A-1067A). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.
20. Song W, Bram Y, **Park J**, Lu YC, An D, Ma M, **Schwartz RE**. 297-3D Co-Aggregation and Encapsulation Enables Engraftment and Function of Human Pluripotent Stem Cell-Derived Hepatocyte-Like Cells In Vivo. *Gastroenterology*. 2018 May 1;154(6):S-1083.

In press/revision/review/preprints

1. Dezem F, Cook D, **Park J**, Zhang L, Liu Y, Marcao M, Chasteen H, Wani A, Wise K, Morosini N, Jensen K, Roach M, Harvey K, Wang T, De Gregorio R, Alonso A, Houlihan S, Schwartz RE, Hissong E, Snopkowski C, Wrana J, Butler LM, Church G, Swarbrick A, Mason CE, Martelotto L, Plummer J. “Spatial Touchstone: A Comprehensive Assessment of Imaging-Based Spatial Transcriptomics, Reproducibility and Best Practices.” In Revision, *Nature Biotechnology*

Journal Reviews and Other Publishing Experience

1. Invited Guest Editor, *MDPI Life* (Special Issue: Space Medicine Advancements: From Human Health to Biomedical Systems Design, 2025)

Ad hoc reviewer: Nature Computational Science (2025), *ELife* (2025), *Nature Biotechnology* (2025, Co-reviewed with Dr. Christopher Mason), *Bioinformatics* (2024), *Heliyon* (2024), *EBioMedicine* (2023).

PRESENTATIONS

Invited talks and oral presentations

1. GIST Digital Biology Symposium 2025. “Complete Molecular Measurement of Human Cells, Organs, and States.”
2. Horizons in Biosciences & Informatics Seminar Series (HBISS) 2025. “Single-Cell, Multi-Omics Spatial Profiling and Commercial Human Spaceflight.”
3. Abstract-select platform Speaker, American Society of Human Genetics 2024. “The Spatial Atlas of Human Anatomy (SAHA) project: Unveiling cellular landscapes of health and diseases and orchestrating a new paradigm in precision medicine.”

4. Invited Speaker, Precision Medicine Leaders Summit, Advances in Single Cell & Spatial Biology conference 2024. "Mapping Health and Disease on Earth and Beyond."
5. Invited Speaker, Radiation Research Society Annual Meeting 2024. "Genome and clonal hematopoiesis stability contrasts with immune, cfDNA, mitochondrial, and telomere length changes during short duration spaceflight."
6. Invited Speaker, BioTrac Spatial Biology meeting 2024. "Mapping Health and Disease on Earth and Beyond: Spatial Atlas of Human Anatomy (SAHA) & Space Omics and Medicine Atlas (SOMA)."
7. Invited Speaker, Future of Omics Conference 2024. "Mapping Health and Disease on Earth and Beyond: Spatial Atlas of Human Anatomy (SAHA) & Space Omics and Medicine Atlas (SOMA)."
8. Oral presentation, the 45th Committee on Space Research (COSPAR) Scientific Assembly 2024. "Spatial multi-omics of human skin reveals KRAS and inflammatory responses to spaceflight."
9. Invited Speaker, Young Scientists Forum for Korea-US Space Medicine Research 2024. "Mapping Health and Disease on Earth and Beyond: The Spatial Atlas of Human Anatomy (SAHA) and Space Omics Medical Atlas (SOMA)."
10. Invited Speaker, University of Cambridge Lung Cancer Workshop 2024. "Spatial atlas of human anatomy (SAHA) project: multiscale spatial insights into lung cancer and diseases."
11. Invited Speaker, University of Pennsylvania Molecular Pathology and Imaging Core Spatial Biology New Methods Showcase 2024. "Mapping Health and Disease on Earth and Beyond: The Spatial Atlas of Human Anatomy (SAHA) and Space Omics Medical Atlas (SOMA)."
12. Abstract-select speaker, AGBT General Meeting 2024. "The Spatial Atlas of Human Anatomy (SAHA) project: unveiling cellular landscapes and orchestrating a new paradigm in precision medicine."
13. Invited Panelist, Spatial Biology Congress Asia 2023. "Future of Spatial Biology in Human Cell Atlas."
14. Invited Speaker, Spatial Biology Congress Asia 2023. "The Spatial Atlas of Human Anatomy (SAHA) Project."
15. Abstract-select plenary speaker, American Society of Human Genetics 2023. "The Spatial Atlas of Human Anatomy: A High content spatial map of the Human Body."
16. Invited Speaker, Bumrungrad International Hospital Genetics Seminar Series 2023. "Spatial omics and multi omics integration."
17. Invited Panelist, Aerospace Medical Association 93rd Annual Meeting 2023. "The SpaceX Inspiration4 Mission: Results of the Most Comprehensive Multiscale Omics Profiling of Short-Duration Spaceflight to Date."
18. Oral presentation, 7th MetaSUB Annual Conference/Global Metagenomics Summit 2022. "Multi-omics integration of skin spatial transcriptomics, metagenomics, and metatranscriptomics changes during spaceflight."
19. Oral presentation, American Society for Gravitational and Space Research Annual Meeting 2022. "Inspiration4: Spatially Resolved Transcriptomics of the Skin Tissue Before and After Spaceflight Reveals Compartment-Specific Gene Expression Changes."
20. Invited Speaker, Global Engage Spatial Biology Congress Europe 2022. "System-wide transcriptome damage and tissue identity loss in COVID-19."
21. Invited Speaker, Experimental Biology 2022 – Digital Spatial Profiling: Transcriptomics and Proteomics. "System-wide transcriptome damage and tissue identity loss in COVID-19."
22. Oral presentation, The Rockefeller University Stem Cells in Development, Tissue Regeneration, and Cancer Virtual Retreat. "IL6/STAT3 axis dictates the PNPLA3-mediated susceptibility to liver fibrosis."
23. Invited Panelist, Ygnite 2021 "Permanent Changes pre- and post- COVID."
24. Invited Speaker, TEDxCooperUnion "Creating an Overlap: Understanding the world through Communication," video available online.
25. Invited Presenter, From the Lab: Current Research at Cooper, Bioengineering
26. Invited Speaker, Institute of Biological Engineering 2015 Annual Conference "The Micro Toolbox: Open-Source Solutions for DNA Synthesis, Biosafety, and SynBio Education."

Poster presentations

1. AGBT General Meeting 2025. "Immunological and epigenetic changes induced by high-radiation spacewalks."
2. AGBT General Meeting 2025. "The Spatial Atlas of Human Anatomy (SAHA): Comprehensive Multi-Omics Spatial Mapping of Human Organ Systems to Improve Precision Medicine."

3. AACR Annual Meeting 2024. "Spatial Atlas of Human Anatomy (SAHA): A Subcellular, Multiscale Spatial Odyssey of Immune and Gastrointestinal Tissues & Tumors."
4. AGBT General Meeting 2024. "SpatialGPT: Extending pre-trained Transformer Foundation Model in spatial transcriptomics and proteomics."
5. Society of Neuroscience Annual Meeting 2023. "Spatial and Single-cell Multiomics of the Mouse Retina Reveals Cellular and Tissue-Level Changes Induced by Spaceflight."
6. ISMB/ECCB 2023. "The Spatial Atlas of Human Anatomy (SAHA) Project: A High content spatial map of the Human Body."
7. NASA Human Research Project Investigator's Workshop (HRP-IWS) 2023. "Spatially Resolved Transcriptomics of the Skin Tissue Before and After Spaceflight Reveals Compartment-Specific Gene Expression Changes"
8. AGBT General Meeting 2022. "Multi-omics modeling of injury-driven microenvironment trajectory in liver cancer"
9. Neuromodulation: The Science Annual Conference 2016. "Isolation and Analysis of Farnesol from Korean Rice Wine"
10. American Association for Cancer Research Annual Meeting 2016. "Rspodin-1 contributes to tumor cell proliferation via Wnt signaling pathway."

Media coverage

1. Front Line Genomics Multi-Omics Playbook 2024 (<https://frontlinegenomics.com/multi-omics-playbook-2024/>)
2. Genomics symposium lights new paths to health and longevity (<https://www.nationthailand.com/lifestyle/health-wellness/40030107>)
3. Bumrungrad Hospital holds an academic seminar on Genomics and Beyond: the Path to Healthy Longevity (<https://www.bumrungrad.com/th/blog-news/genomics-and-beyond-the-path-to-healthy-longevity>)
4. Genomic medicine' when doctors can predict serious diseases down to the DNA level (<https://www.posttoday.com/lifestyle/698321>)
5. Bumrungrad Hospital Opening the forum to discuss trends in genomic medicine, resurrecting mammoths, reading baby DNA, and analyzing intestinal microorganisms. (<https://thestandard.co/bumrungrad-seminar-on-genome-medicine/>)

TEACHING & MENTORSHIP

Teaching/Mentoring

2024	Korean Society for Biochemistry and Molecular Biology (KSBMB) K-BioX Global Next-generation Biology Talent Camp	Mentor (Bioinformatics/AI)
2023	International School of Brooklyn Outreach	Guest lecturer
2014	Cooper Union STEM Program	Head teaching assistant
2013 – 2015	Columbia University Edonation Project: AP Chemistry	Instructor

Graduate students and Fellows

2025	Tala Qamhie (Medical Student Research Award Fellow, Mason lab)	In-lab mentor
2024	Alex Guo (Rotation student, Krumsiek/Mason lab)	In-lab mentor
2024 – present	Elif Ozcelik (Rotation student, Mason lab)	In-lab mentor
2024	Arina Zadvornaya (Rotation student, Mason lab)	In-lab mentor
2024 – present	Lucy Innes (PhD student, Mason lab)	In-lab mentor

Undergraduate/postbaccalaureate students

2024 – present	Akua Agyemang (Advancing Success and Persistence in Research Education (ASPiRE)/NIGMS R25 PREP program fellow, Mason lab)	In-lab mentor
2024	Tryanni Chiaravalloti (Summer Intern, Mason lab)	In-lab mentor
2024	Natalie Peralta (Summer Intern, Mason lab)	In-lab mentor
2022	Nemanja Kutlesic (Tri-I Mentorship Initiative program)	Mentor
2021 – 2022	Aria Cazeau (Tri-I Mentorship Initiative program)	Mentor
2020 – 2021	Nusrat Islam (CLF NYC fellowship)	Mentor
2019	Raichel Philip (Undergraduate intern, Schwartz lab)	In-lab mentor
2018 – 2019	Sarbjit Birdi (Undergraduate intern, Schwartz lab)	In-lab mentor
2017	Yoni Schoenberg (Undergraduate intern, Schwartz lab)	In-lab mentor

High school students

2024	Aria Suchak (Summer Intern, Englander Institute for Precision Medicine Summer Program)	In-lab mentor
2024	Misha Gujja (Summer Intern, Mason lab)	In-lab mentor
2023 – 2024	Danwoo Kim (Korea Science & Engineering Fair 2023)	Research mentor
2023 – 2024	Uhnyou Kim (Korea Science & Engineering Fair 2023)	Research mentor
2023 – 2024	Hyerin Eileen Kang (Korea Science & Engineering Fair 2023)	Research mentor
2023	Ethan Chang (Tri-I Catalyst Mentorship Program)	Research mentor
2022 – 2023	Seoyoon Hong (Korea Science & Engineering Fair 2022)	Research mentor
2022 – 2023	Minwoo Jeong (Korea Science & Engineering Fair 2022)	Research mentor
2022 – 2023	Jeongwon Oh (Korea Science & Engineering Fair 2022)	Research mentor
2022 – 2023	Ivy Yoon (Korea Science & Engineering Fair 2022)	Research mentor
2022 – 2023	Seohyun Jeong (Korea Science & Engineering Fair 2022)	Research mentor
2022	Alan Portnoy (Tri-I Catalyst Mentorship program)	Mentor
2022	Seoyoon Hong (Youth international Science Fair 2021)	Research mentor
2021 – 2022	Taeyoung Choi (Korea Science & Engineering Fair 2021)	Research mentor
2021 – 2022	Jaeyeon Lim (Korea Science & Engineering Fair 2021)	Research mentor
2021	Dimosthenis Theofilaktidis (Tri-I Catalyst Mentorship program)	Mentor
2017	Lina Yamahara	Mentor
2017	Rahil Mahmood	Mentor