

Jeongeun Lee

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EDUCATION

- 2014-2023 Seoul National University, Ph.D.
Major: Interdisciplinary Program for Bioengineering
Advisor: Jinwook Choi, M.D. Ph.D. & Murim Choi, Ph.D.
- 2012-2014 Seoul National University, M.S.
Major: Interdisciplinary Program for Bioengineering
Advisor: Jinwook Choi, M.D. Ph.D.
- 2006-2012 Hanyang University, B.A.
Major: Media Communications Engineering (Electrical
Engineering) with an honor of summa cum laude

RESEARCH EXPERIENCE

- 2023-present Postdoctoral Researcher
Biomedical Research Institute, Seoul National University Hospital
Advisor: Soo Heon Kwak, M.D. Ph.D.

PUBLICATIONS

- Lee, H., Christie, H. E., Lee, J. S., Kwon, W. I., Moon, M. K., Choi, S. H., Lee, D. H., Lee, S., Lee, H., Kho, M., Boscolo, F., Dalla Man, C., Cho, N. H., Choi, J., **Lee, J.**, Park, J., Jo, Y., Lee, S., Vella, A., Kwak, S. H., Kim, J. I., & Park, K. S. (2026). The gain-of-function GLP1R R131Q variant preserves β -cell function and enhances response to GLP-1 receptor agonists. *Diabetes Care*, dc260662. doi.org/10.2337/dc26-0662
- Lee, H., Fernandes, M., **Lee, J.**, Merino, J., & Kwak, S. H. (2025). Exploring the shared genetic landscape of diabetes and cardiovascular disease: findings and future implications. *Diabetologia* **68(6)**, 1087-1100. doi.org/10.1007/s00125-025-06403-9

- Lee, J.**, Lee, J., Jeon, S., Lee, J., Jang, I., Yang, J. O., ... & Choi, M. (2022). A database of 5305 healthy Korean individuals reveals genetic and clinical implications for an East Asian population. *Experimental & Molecular Medicine* **54(11)**, 1862-1871. doi.org/10.1038/s12276-022-00871-4
- Park, S., Jang, S. S., Lee, S., Kim, M., Sim, H., Jeon, H., Hong, S. E., Lee, J., **Lee, J.**, ... & Chae, J. H. (2022). Systematic analysis of inheritance pattern determination in genes that cause rare neurodevelopmental diseases. *Frontiers in Genetics* **13**, 990015. doi.org/10.3389/fgene.2022.990015
- Hong, S. E., Kneissl, J., Cho, A., Kim, M. J., Park, S., **Lee, J.**, Woo, S., ... & Choi, M. (2022). Transcriptome-based variant calling and aberrant mRNA discovery enhance diagnostic efficiency for neuromuscular diseases. *Journal of Medical Genetics* **59(11)**, 1075-1081. doi.org/10.1136/jmedgenet-2021-108307
- Lee, Y., Park, S., Lee, J.S., Kim, S.Y., Cho, J., Yoo, Y., Lee, S., Yoo, T., Lee, M., Seo, J., **Lee, J.**, ... & Chae, J. (2020). Genomic profiling of 553 uncharacterized neurodevelopment patients reveals a high proportion of recessive pathogenic variant carriers in an outbred population. *Scientific Reports* **10(1)**, 1-11. doi.org/10.1038/s41598-020-58101-8
- Lee, J.**, Song, H. J., Yoon, E., Park, S. B., Park, S. H., Seo, J. W., ... & Choi, J. (2018). Automated extraction of Biomarker information from pathology reports. *BMC Medical Informatics and Decision Making* **18(1)**, 29. doi.org/10.1186/s12911-018-0609-7
- Cha, S., **Lee, J.**, Shin, J. Y., Kim, J. Y., Sim, S. H., Keam, B., ... & Kim, J. I. (2016). Clinical application of genomic profiling to find druggable targets for adolescent and young adult (AYA) cancer patients with metastasis. *BMC Cancer* **16(1)**, 170. doi.org/10.1186/s12885-016-2209-1
- Yun, J. M., Hwang, S. J., Anh, S. Y., Lee, S. M., Kang, P., **Lee, J.**, ... & Park, P. (2015). Development of biomarker positivity analysis system for cancer diagnosis based on clinical data. *Bio-medical Materials and Engineering* **26(s1)**, S2101-S2111. doi.org/10.3233/BME-151516
- Kim, J. Y., **Lee, J.**, Cha, S., Lee, S. H., & Kim, J. I. (2015). An explorative study using next generation sequencing of papillary renal cell carcinoma, type 2. *International Journal of Scientific and Research Publication* **5(1)** (ISSN: 2250-3153). http://www.ijsrp.org/research-paper-0115.php?rp=P373590
- Choi, S., **Lee, J.**, & Choi, J. (2013). SNUMedinfo at ImageCLEF 2013: Medical Retrieval Task. In *CLEF (Working Notes)*.

CONFERENCE PRESENTATIONS

TALKS

Lee, H., Kho, M., Ham, B., Choi, J., **Lee, J.**, Park, J., Jo, Y., Lee, S., Choi, S., ... (2026). 1043-OR: Integrated metabolomic, proteomic, and genomic biomarkers improve identification of coronary artery disease in East Asians with type 2 diabetes. Talk presented at the *American Diabetes Association Scientific Sessions. Diabetes 75(Supplement_1)*, 1043-OR.

Jo, Y., Lee, H., Park, J., Park, J., Choi, J., **Lee, J.**, Lee, S., & Kwak, S. H. (2025). 335-OR: Polygenic score predicts faster kidney function decline in individuals with and without diabetes. Talk presented at the *American Diabetes Association Scientific Sessions. Diabetes 74(Supplement_1)*, 335-OR.

Lee, J., Song, H. J., Yoon, E., Park, S. B., Park, S. H., Seo, J. W., ... & Choi, J. (2014). Development of Biomarker Knowledge Base from Pathology Reports Using Natural Language Processing Techniques. Talk presented at the *Korean Society of Medical Informatics conference*. Seoul, Republic of Korea

Lee, J., Song, H. J., Yoon, E., Park, S. B., Park, S. H., Seo, J. W., ... & Choi, J. (2013). Biomarker Information Extraction from Non-Structured Immunohistochemistry Reports with Biomarker Thesaurus. Talk presented at the *Korean Society of Medical Informatics conference*. Seoul, Republic of Korea.

POSTERS

Lee, J., Lee, H., Choi, J., Park, J., Jo, Y., Lee, S., Kim, D., Son, S., Kho, M., ... (2026). 3013-LB: Metabolomic and proteomic signatures of difficult-to-control type 2 diabetes in East Asians with type 2 diabetes. Poster presented at the *American Diabetes Association Scientific Sessions. Diabetes 75(Supplement_1)*, 3013-LB.

Lee, S., Kho, M., Lee, S., Lee, H., Lee, H., Choi, J., **Lee, J.**, Park, J., Jo, Y., ... (2026). 2408-P: A metformin-associated proteomic score identifies high-risk clinical traits and predicts cardiometabolic outcomes. Poster presented at the *American Diabetes Association Scientific Sessions. Diabetes 75(Supplement_1)*, 2408-P.

Choi, J., Lee, H., Park, J., **Lee, J.**, Jo, Y., Lee, S., & Kwak, S. H. (2026). 2410-P: Lean body mass polygenic score predicts longitudinal muscle loss: evidence for faster decline in adults with diabetes. Poster presented at the *American Diabetes Association Scientific Sessions. Diabetes 75(Supplement_1)*, 2410-P.

Lee, J., Yang, H., Lee, H., Choi, J., Jo, Y., Lee, S., Park, J., & Kwak, S. H. (2025). 2087-LB: Monogenic diabetes accounts for nearly 2% of cases of diabetes in pregnancy. Poster presented at the *American Diabetes Association Scientific Sessions. Diabetes 74(Supplement_1)*, 2087-LB.

Choi, J., Lee, H., **Lee, J.**, Park, J., Jo, Y., Sung, J., Lee, S., Kwak, S. H., ... (2024). 863-P: Genetically proxied GLP-1 receptor agonism improves kidney function—a Mendelian

randomization study. Poster presented at the *American Diabetes Association Scientific Sessions. Diabetes 73(Supplement_1)*, 863-P.

Lee, H., Park, S., Choi, J., Park, J., **Lee, J.**, Kim, J. I., Park, K. S., ... (2024). 1481-P: Type 2 diabetes is causally associated with increased risk of pulmonary tuberculosis—a Mendelian randomization study. Poster presented at the *American Diabetes Association Scientific Sessions. Diabetes 73(Supplement_1)*, 1481-P.

Lee, J., Lee, J., Jeon, S., Lee, J., Jang, I., Yang, J. O., ... & Choi, M. (2022). A database of 5305 healthy Korean individuals reveals genetic and clinical implications for an East Asian population. *Korean Society for Molecular and Cellular Biology*, Jeju, Republic of Korea

Lee, J., Seo, J., Kim, Y., Mook-Jung, I., Choi, M. (2018). Somatic LINE-1 retrotransposition in the Alzheimer brain genome. Poster presented at *FASEB 2018 Transcription, Chromatin and Epigenetics*, Florence, Italy.

Lee, J., Jazi, A.Y., Seong, M. Choi, J. (2015). Clinical Interpretation Pipeline of Targeted Next-Generation Sequencing Cardiovascular Panels. Poster presented at the *Translational Bioinformatics Conference*, Tokyo, Japan.

Cha, S., **Lee, J.**, Shin, J., Kim, J., Kim, J., Lee, S. (2015) Patient-specific genomic profiling for advanced cancers in young adults. Poster presented at the *American Association for Cancer Research Annual Meeting*, Philadelphia, U.S.

PROJECT EXPERIENCES

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| 2024-present | Clinical characterization of progression from gestational diabetes mellitus to type 2 diabetes |
| 2023-present | Development of an AI platform and model based on bio big data for precise medicine of diabetes and its complications (Project Manager) |
| 2023-present | Research on the development of drug responsiveness prediction technology based on metabolomics and medical big data (Data analysis) |
| 2021-2023 | Population specific sc-eQTL analysis from Asian Immune Diversity Atlas |
| 2021-2023 | Genetic contribution on TCR/BCR clonality and naïve repertoire |
| 2016-2021 | Commercialization of SNUH genomic knowledge DB solution with which clinicians and bioinformaticians can manage patient's report and share novel insights on a case with colleagues |
| 2014-2017 | Development of online resource providing pathology information including biomarker levels, anatomical pathology features, and clinical pathology features |

TEACHING EXPERIENCES

- 2022.07.19. 16th Asian Institute in Statistical Genetics and Genomics. Seoul, Korea
Title 1: “Analysis of single-cell RNA sequencing data”
Title 2: “Analysis of whole genome sequencing data using cloud computing”
- 2021.06.28. (online) 15th Asian Institute in Statistical Genetics and Genomics. Seoul, Korea
Title: “Analysis of whole genome sequencing data”
- 2020.07. (online) Korean Bioinformation Center, Korea
Title: “Analysis of structural variants for whole exome sequencing data”
- 2019.07.15. 14th Asian Institute in Statistical Genetics and Genomics. Seoul, Korea
Title: “Analysis of whole genome sequencing data”
- 2018.07.19. 13th Asian Institute in Statistical Genetics and Genomics. Seoul, Korea
Title: “Genomic data analysis using deep learning algorithm”
- 2014-2016 Seoul National University College of Medicine, Seoul, Korea
Title: “Data processing of medical data”, 1st semester

HONORS AND AWARDS

- 2006-2012 Hanyang University 2010 Full Scholarship.