Eun Young Jeon

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EDUCATION

Seoul National University, Seoul, Republic of Korea
Joint Masters and PhD Program student (Jan 2018 – current)

Smith College, Northampton, MA, USA
Bachelor of Arts in Biological Sciences, May 2017

RESEARCH PAPERS

Eun Young Jeon, Yejin Kwak, Hyeji Kang, Hanbyeol Kim, Se Young Jin, Soojin Park, Ryeo Gyeong Kim, Dayoung Ko, Jae-Kyung Won, Anna Cho, Inkyung Jung, Chul-Hwan Lee, Jeongbin Park, Hyun-Young Kim, Jong-Hee Chae, Murim Choi. Inhibiting EZH2 complements steroid effects in Duchenne muscular dystrophy. *Science Advances, in press*.

Eun Young Jeon*, Jeongha Lee*, Liyang Yu*, Hye-Yeong Jo, Sang Cheol Kim, Woong-Yang Park, Hyun-Young Park, Siming Zhao, Murim Choi. Integrated analysis of COVID-19 multi-omics data for eQTLs reveals genetic mechanisms underlying disease severity. *Under review in Nature Communications*.
*Equal contributions

Eun Young Jeon*, Jiho Park*, Moses Lee, Dong Hoon Lee, Soong Deok Lee, Hae Yong Yoo, Murim Choi. Loss-of-function mutations in *ZNF750* contribute to acanthotic type of seborrheic keratosis. *in preparation*.

Jiho Park*, **Eun Young Jeon***, HoeEun Lim*, Hee Jung Lim, Jiye Kang, Moses Lee, Murim Choi, Hae Yong Yoo. Activating mutations in *PIK3CA* cause hyperkeratotic seborrheic keratosis. *in preparation*.

PATENT

Eun Young Jeon, Jong-Hee Chae, Murim Choi.
2024. Use of EZH2 inhibition in muscular diseases. Korean Patent Application No. 10-2024-0096174, filed on July 22, 2024. Patent pending.

RESEARCH EXPERIENCE

Graduate Student, Department of Biomedical Sciences, Seoul National University College of Medicine.

1. To assess the roles of common variants that influence COVID-19 susceptibility, I managed and processed 195 cytokine protein data and more than 700 COVID-19 single-cell RNA sequencing (scRNA-seq) datasets. During the processes, I utilized various software tools for conducting QTL analyses to evaluate quantitative evaluation of each SNP to COVID-19 susceptibility.
2. To elucidate molecular genetic mechanisms underlying Duchenne muscular dystrophy progression, I created and analyzed scRNA-seq and spatial transcriptomics data from human patients and mutant mice. I also performed mouse and mammalian cell-based experiments, such as CRISPR-based genetic manipulation and utilized various software for data analysis.
3. To identify novel genetic factors engaged in skin diseases, specifically seborrheic keratosis, I performed whole exome sequencing-based analysis for somatic variant search. I also conducted experiments involving mouse models. During the process, I utilized various software for scRNA-seq, RNA-seq, ATAC-seq, and whole-exome sequencing analyses.

Intern,

1. Systems Epidemiology Lab, Seoul National University (July 2017 – Oct 2017): Performed a systematic review and meta-analysis with a pharmacogenetic approach to compare outcomes to chemotherapies in various cancer with genetic polymorphisms of ATP-binding cassette and solute carrier transporter
2. Genomic Medicine Institute, Seoul National University (Jun 2016 – Aug 2016): Performed a computational analysis of exome sequencing and RNA sequencing to identify lung squamous cancer related genes
3. Department of Comparative Plant and Fungal Biology, Royal Botanic Gardens, Richmond, UK (Jun 2015 – August 2015): Performed DNA extraction, PCR amplification, sequencing, and preliminary phylogenetic analysis to analyze species relationships in an angiosperm clade of c.200 species

PRESENTATIONS

"Inhibiting EZH2 complements steroid effects in Duchenne muscular dystrophy"
Presented at ASHG 2023, Washington D.C., USA, Nov 2023

"Single-nucleus RNA-seq reveals key contributors in Duchenne muscular dystrophy"
Presented at GCAC collaborative seminar of Seoul National University and Korea University, Seoul, Republic of Korea, March 2023 (Oral presentation)

"Single-nucleus RNA-seq reveals key contributors in Duchenne muscular dystrophy"
Presented at International Conference of the Genetics Society of Korea 2021 Medical Genetics Session, Virtual, Oct 2021 (Oral presentation)

"*ZNF750* loss of function contributes to acanthotic type of seborrheic keratosis"
Presented at KSBMB International Conference 2021, Busan, Republic of Korea, May 2021 (Poster presentation)

"Genetic polymorphisms of transporter genes predict response of chemotherapies: A systematic review and meta-analysis"

Presented at The 26th International Korea Genome Organization Annual Conference, Seoul, Republic of Korea, Sept 2017 (Poster presentation)

"The analysis of genome-wide changes in gene expression in Enteropathogenic *E. coli* upon environmental stimulation"
Presented at Boston Bacterial Meeting 2017, Harvard University, MA, US, June 2017 (Poster presentation)

"Computational Analysis of Exome and RNA Sequencing Data to Identify Lung Squamous Cell Carcinoma Related Genes"
Presented at Seoul National University 18th Student-intern-researcher Presentation, Seoul National University, Republic of Korea, August 2016 (Oral presentation)

"Our Phage Phamily Three years Later: Mycobacteriophage Captured on Smith College Campus"
Presented at Howard Hughes Medical Institute 6th Annual SEA-PHAGES Symposium, Ashburn VA, US, June 2014 (Poster presentation)

AWARDS AND SCHOLARSHIPS

Young Scientist Program 2025 Fellowship

Brain Korea 21 Scholarship (Mar 2018 – Feb 2022, Mar 2023 – Feb 2024)

Seoul National University Graduate Student Scholarship (Mar 2020, Sept 2019, Mar 2019, Sept 2018)

1st place, Korea Clinical Datathon (hosted by Korea National Enterprise for Clinical Trials, Seoul National University Hospital, Korea Drug Development Fund, Medical Data Research Center, supervised by Korea National enterprise for Clinical Trials, MIT Critical Data, National University of Singapore), Seoul, Republic of Korea, Sept 2019

Best Poster Presentation, The 26th International Korea Genome Organization Annual Conference, Seoul, Republic of Korea, Sept 2017

Scholar Athlete, Smith College, May 2017

LEADERSHIP EXPERIENCE AND ACTIVITIES

Crossfitter, Maru Crossfit, Seoul, Republic of Korea (Fall 2018 – current)
Achieved the status of a 3rd place within our gym community by participating at Crossfit Open 2023; 4.5 hours/week

Student Academic Adviser, Smith College, Northampton, MA, USA (Fall 2014 – Spring 2015)
Conducted meetings for 22 members, discussed academic questions and progress with students

Captain, Smith College Squash Team, Smith College, Northampton, MA, USA (Fall 2016 – Spring 2017)
Won the MVP award, led practices with the coach, promoted a positive attitude and team interactions; 15 hours/week

Was a member of the squash team for 4 years, was a varsity squash player (Fall 2013 – Spring 2015)

Culture/Social Chair, Korean-American Students of Smith, Smith College, Northampton, MA, USA (Fall 2014 – Spring 2016)
Created awareness and understanding of Korean identity and culture by coordinating events on and off campus

Skills: Python, R
Languages: Fluent in English and Korean