

JUNSOO KIM

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EDUCATION

Seoul National University, Korea Ph.D Student in Bioinformatics Advisor: Hyesik Chang, PhD.	2021 - Present
University of Oxford, UK M.Phil in Integrated Immunology Advisor: Jan Rehwinkel, PhD.	2012 - 2013
University of Edinburgh, UK B.Sc (Hons) in Biological Sciences (Biotechnology)	2008 - 2012

PROFESSIONAL EXPERIENCE

Macrogen, Inc., Seoul, Korea <i>Senior Researcher, Data Strategy Team</i>	2019 - 2020
Seegene, Inc., Seoul, Korea <i>Associate Researcher, In silico Team</i>	2018 - 2019
Macrogen, Inc., Seoul, Korea <i>Researcher, Bioinformatics Division (Compulsory Military Service)</i>	2013 - 2017

ACADEMIC AWARDS AND GRANTS

AI for All Fellowship	Youlchon Foundation, 2024
JW Basic Scientist Scholarship	JW Foundation, 2023
Outstanding Oral Presentation Award	The Microbiological Society of Korea, 2023
AI Young Researcher Scholarship	Youlchon Foundation, 2022
Full Tuition Scholarship	Samil Foundation, 2022
Top 5 Biological Research Achievement in Korea	BRIC, 2016
Undergraduate Research Scholarship	KAIST, 2010

PUBLICATIONS

* The marked authors contributed equally

1. Seo JS*, Rhie A*, **Kim J***, Lee S*, *et al.*, De novo assembly and phasing of a Korean human genome. *Nature*. 538, 243-247 (2016). <https://doi.org:10.1038/nature20098> (IF=64.8)
2. **Kim J***, Youn D*, Choi S*, *et al.*, SARS-CoV-2 infection engenders heterogeneous ribonucleoprotein interactions to impede translation elongation in lungs. *Exp. Mol. Med.* 55, 2541-2552 (2023). <https://doi.org:10.1038/s12276-023-01110-0> (IF=12.8)

CONFERENCE PRESENTATIONS

1. **The Microbiological Society of Korea** Oral, 2023
“SARS-CoV-2 Infection Engenders Heterogeneous Ribonucleoprotein Interactions to Impede Translation Elongation in Lungs”
2. **Cold Spring Harbor Asia** Poster, 2023
“Heterogeneous RNPs and impeded translation elongation in SARS-CoV-2-infected lungs”
3. **Centre for RNA Workshop, Institute for Basic Science** Oral, 2023
“Heterogeneous RNPs and impeded translation elongation in SARS-CoV-2-infected lungs”
4. **Korean Society for Bioinformatics** Poster, 2022
“Aberrant RNA association and compromised translation manifest in the respiratory tissues of SARS-CoV-2 pathology”
5. **Advances in Genome Biology and Technology** Poster, 2015
“De Novo Assembly of an Asian Diploid Genome using SMRT sequencing”

RESEARCH EXPERIENCE

1. **Exploring RNA Lifecycle Dynamics at the Single-Molecule Level** 2024
Developed a deep learning model for distinguishing metabolic labels in RNA at single-molecule resolution, revealing dynamic m6A patterns during acute inflammatory response.
2. **SARS-CoV-2 Infection: Disruption of Translation Integrity** 2023
Employed tissue-optimized ribosome profiling to elucidate the translational landscape in SARS-CoV-2 infected lung tissues, revealing novel mechanisms of viral evasion and host response.
3. **De Novo Assembly and Phasing of a Korean Human Genome** 2016
Achieved the most contiguous diploid human genome assembly, focusing on mapping structural variants, haplotyping clinically relevant alleles, and analyzing population-specific genetic variations.
4. **PA-X and RIG-I: How Flu Modulates the Innate Immune Response** 2013
Studied the influenza virus’s inhibition of the RIG-I mediated antiviral response, delineating molecular mechanisms employed to suppress type I interferon production.
5. **Identification of *B. pseudomallei* Factors That Subvert Cellular Actin Pathways** 2012
Investigated molecular strategies employed by *B. pseudomallei* to manipulate host cell actin dynamics, identifying novel effector proteins implicated in the pathogen’s ability to hijack cellular machinery.
6. **The Induction of M1 to M2 Macrophage Transition Using IL-4 Treatment** 2011
Explored the plasticity of macrophage phenotypes in response to IL-4 stimulation, providing insights into regulatory mechanisms governing macrophage polarization.
7. **Differentiation of Human Embryonic Stem Cells to Dopaminergic Neurons** 2010
Developed a protocol for the efficient differentiation of human embryonic stem cells into functional dopaminergic neurons, demonstrating the potential for stem cell-based therapies in neurodegenerative disorders.