

Korea-EU Horizon Europe Researchers Networking Forum on Advanced Biotechnology- Korean Participants

<2025.05.27. Korea-EU Research Centre>

#	Name	Position / Organization
0	Kisung Ko	NCP for Cluster 1 & 6 / Professor Chung-Ang University
1	Joon Ho Kang	Assistant Professor Seoul National University (SNU)
2	Jaewon Ko	Professor/Director Daegu Gyeongbuk Institute of Science and Technology (DGIST)
3	Yun Kyung Kim	Principal Research Scientist Korea Institute of Science & Technology (KIST)
4	Hong Sook Kim	Associate Professor Sungkyunkwan University (SKKU)
5	Min-Jun Baek	Assistant Professor Korea Advanced Institute of Science and Technology (KAIST)
6	Sangwook Oh	Assistant Professor Hallym University
7	Eok-Soo Oh	Professor Ewha Womans University
8	Seung Hun Lee	Assistant Professor Dongguk University
9	Seung-Hee Lee	Associate Director/Associate Professor IBS/KAIST
10	Yong-Seok Lee	Professor Seoul National University (SNU) College of Medicine
11	Jin-A Lee	Professor Hannam University
12	Hae Woong Choi	Associate Professor Korea University (KU)

*Korean Alphabetical Order

1. Joon Ho Kang

Name	Joon Ho Kang
Position	Assistant Professor
Organization	Seoul National University
Biography	<p>I earned my Ph.D. in Physics from the Massachusetts Institute of Technology (MIT), where I developed suspended microchannel resonator (SMR) technology for high-sensitivity measurements of mass, volume, and stiffness in biological samples. During my doctoral studies, I was supported by the Samsung Scholarship (2012–2017). Prior to that, I received a B.A. in Physics, with a minor in Mathematics, from Columbia University, where I was awarded the Presidential Scholarship for Overseas Studies (2008–2012), a distinction granted to only ten students nationwide. Following my Ph.D., I worked as a Research Scientist and later Senior Research Scientist at the Brain Science Institute of the Korea Institute of Science and Technology (KIST) (2019–2023). Since Fall 2023, I have been an Assistant Professor in the Department of Mechanical Engineering at Seoul National University (SNU), where I lead the Precision Bioinstrumentation Laboratory (KANG LAB).</p>
Research Area	<p>My primary research area is bioinstrumentation and biophysics, with a focus on developing advanced tools to monitor and analyze the physical and functional properties of living cells. My lab takes an interdisciplinary approach, integrating MEMS, microfluidics, and optical systems to achieve real-time, high-resolution analysis of cellular properties.</p> <p>A distinctive aspect of our approach is the quantitative analysis of single-cell mechano-physical properties, such as shape, volume, density, mass, and stiffness. In particular, we are interested in capturing and interpreting the mechanical vibration signatures of individual cells. These signals provide a label-free, non-invasive means of classifying cells and uncovering diverse biophysical traits that are often overlooked by conventional biochemical assays.</p> <p>The overarching goal of our work is to enable precise diagnosis and phenotyping of cellular states, with broad applications in disease monitoring (e.g., cancer, immunological conditions), neurological disorder research, and quality control for cell-based therapies.</p>
Personal link	kanqlab.snu.ac.kr
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-01-TOOL-01: Enhancing cell therapies with synthetic biology • HORIZON-HLTH-2025-01-TOOL-05: Boosting the translation of biotech research into innovative health therapies

2. Jaewon Ko

Name	Jaewon Ko
Position	Professor/Director
Organization	Daegu Gyeongbuk Institute of Science and Technology
Biography	<ul style="list-style-type: none"> • 2023.08-2024.07 Visiting Professor, Dept. of Neurology, Stanford Univ., Stanford, CA, USA • 2022.08-present Director, Center for Synapse Diversity and Specificity, DGIST, Daegu, Korea • 2022.03-present Professor, Dept. of Brain Sciences, DGIST, Daegu, South Korea • 2018.09-2022.02 Professor, Dept. of Brain & Cognitive Sciences, DGIST, Daegu, South Korea • 2017.02-2018.08 Associate Professor (Tenured), Dept. of Brain & Cognitive Sciences, DGIST, Daegu, South Korea • 2015.03-2017.01 Associate Professor, Dept. of Biochemistry, College of Life Sci. & Biotech., Yonsei Univ., Seoul, South Korea • 2014.03-2017.01 Adjunct Professor, Dept. of Psychiatry, College of Medicine, Yonsei Univ., Seoul, South Korea • 2011.09-2015.02 Assistant Professor, Dept. of Biochemistry, College of Life Sci. & Biotech., Yonsei Univ., Seoul, South Korea • 2008.06-2011.08 Postdoctoral Researcher, Dept. of Mol. & Cell. Physiology, Stanford Univ., Palo Alto, CA, USA (Advisor: Dr. Thomas C. Südhof [2013 Nobel Laureate]) • 2007.11-2008.05 Research Fellow, Dept. of Neuroscience, UT Southwestern Medical Center, Dallas, TX, USA (Advisor: Dr. Thomas C. Südhof [2013 Nobel Laureate]) • 2005.03-2007.10 Postdoctoral Researcher, Dept. of Biological Sciences, KAIST, Daejeon, South Korea (Advisor: Dr. Eunjoon Kim)
Research Area	<ul style="list-style-type: none"> • Neuroscience • synapse biology • brain disorders
Personal link	https://jaewonkolaboratory.org
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-01-TOOL-01: Enhancing cell therapies with synthetic biology • HORIZON-HLTH-2025-01-DISEASE-02: Advancing innovative interventions for mental, behavioural and neurodevelopmental disorders

3. Yun Kyung Kim

Name	Yun Kyung Kim
Position	Principal Research Scientist
Organization	Korea Institute of Science & Technology
Biography	<p>Yun Kyung Kim, Ph.D. is a tenured Principal Research Scientist at the Korea Institute of Science and Technology (KIST) and a Professor at the University of Science and Technology (UST). She received her B.S. and M.S. degrees in Biological Sciences from KAIST, and earned her Ph.D. in Chemical Biology from New York University, where she focused on the development of molecular disease platforms designed to monitor and modulate disease progression in real time—laying a solid foundation for her translational research in neurodegeneration. Dr. Kim’s research is primarily devoted to tauopathies, a heterogeneous group of neurodegenerative disorders characterized by pathological tau protein aggregation. She is internationally recognized for developing the tau-BiFC (Bimolecular Fluorescence Complementation) platform, a patented imaging technology that enables real-time visualization of tau oligomerization in living cells and in vivo models. This innovation has become a critical tool for both mechanistic investigation and therapeutic development. She holds over 100 patents related to diagnostics and therapeutics for neurodegenerative diseases. In particular, her tau-BiFC-based cell and mouse models have been successfully licensed to multiple pharmaceutical and biotechnology companies for use in drug discovery and preclinical evaluation. Among her most notable translational outcomes is the development of DA-7503, a first-in-class tau aggregation inhibitor co-developed with Dong-A ST, which is currently undergoing clinical evaluation and was selected as one of Korea’s Top 10 Government-Funded Research Achievements in 2020. In recognition of her scientific leadership and translational impact, Dr. Kim has received numerous national honors, including two Prime Minister’s Commendations for Excellence in Science and Technology (2018, 2024), the KIST Grand Prize (2021), and selection as both a KIST Young Fellow (2018) and a tenured principal investigator (2023). Her work continues to bridge fundamental discovery with clinical application, driving the development of innovative solutions for neurodegenerative brain disorders.</p>
Research Area	<p>Dr. Yun Kyung Kim’s primary research focus is tauopathy, a clinically and pathologically heterogeneous group of neurodegenerative disorders characterized by the aberrant aggregation of tau protein. Tauopathies, including Alzheimer’s disease, progressive supranuclear palsy (PSP), and corticobasal degeneration (CBD), present with diverse neuropsychiatric symptoms such as cognitive decline, executive dysfunction, personality changes, and motor impairment. This complexity reflects the spatial and cellular heterogeneity of tau pathology, posing significant challenges for early diagnosis and targeted treatment. To address these unmet needs, Dr. Kim has developed a bimolecular fluorescence complementation (BiFC)-based tau sensor system and a corresponding tau-BiFC transgenic mouse model, which together enable real-time, in vivo visualization of tau oligomerization at the earliest pathological stages. These proprietary platforms have proven powerful for dissecting disease mechanisms and screening therapeutic compounds. Her team successfully identified DA-7503, a potent tau-targeting small molecule currently undergoing clinical evaluation, demonstrating the translational potential of the BiFC system. Building upon this foundation, Dr. Kim is now advancing a next-generation therapeutic discovery program aimed at developing isoform-selective agents that differentiate between 3-repeat (3R) and 4-repeat (4R) tau species—paving the way for precision therapeutics tailored to specific tauopathy subtypes. Looking ahead, she aims to leverage the tau-BiFC platform to drive early-stage, mechanism-informed, and disease-modifying interventions for tau-driven neurodegeneration.</p>
link	https://sites.google.com/chembiol.re.kr/profyunkyungkim/
Call topic	<ul style="list-style-type: none"> HORIZON-HLTH-2025-01-DISEASE-02: Advancing innovative interventions for mental, behavioural and neurodevelopmental disorders

4. Hong Sook Kim

Name	HONG SOOK KIM
Position	Associate professor
Organization	Sungkyunkwan university
Biography	<p>Dr. Hong Sook Kim is an Associate Professor at the Department of Biological Sciences, Sungkyunkwan University, South Korea. She earned her Ph.D. in Molecular Medicine from Seoul National University College of Medicine, and completed her postdoctoral training at the University of California, San Diego, focusing on epigenetic gene regulation and regulatory genomics. Her academic training spans molecular biology, genomics, and biomedical informatics.</p> <p>She has over 10 years of experience in next-generation sequencing (NGS)-based genomic and epigenomic research.</p> <p>She utilized patient-derived samples to generate various types of genomic data such as whole genome sequencing, RNA-seq, single cell RNA-seq, ATAC-seq and others, and integrates these multi-omics datasets to identify diagnostic and therapeutic biomarkers for human disease. Her research further explores the molecular mechanism underlying these diseases using a combination of cellular, molecular and bioinformatic approaches. Her methodologies have been applied to diverse disease areas, including cancer, fibrosis, neuroinflammation and Alzheimer disease. In her recent work, she combines AI-based identification and experimental validation of non-coding variants and neo-genes to elucidate causal mechanisms in human disease.</p> <p>She has led several national projects and serves as a Co-PI on a multi-institutional project that employs both bioinformatic tools and molecular/biochemical techniques. She is also experienced in international collaborations and academic-industrial interface projects.</p> <p>Dr. Kim has published as first or corresponding authors in top-tier journals such as <i>Nature</i>, <i>Nature Communications</i> and <i>Annals of Oncology</i>.</p> <p>She is committed to advancing precision medicine through the identification of diagnostic and therapeutic markers and by elucidating the regulatory networks and molecular mechanisms that drive human disease.</p>
Research Area	<p>Dr. Kim's research focuses on three main areas.</p> <ol style="list-style-type: none"> Biomarker Discovery: She is actively engaged in biomarker discovery, aiming to identify diagnostic, prognostic and therapeutic markers through multi-omics data analyses of both tissue and liquid biopsy samples. Her research focuses not only on marker discovery but also on elucidating their underlying molecular mechanisms and functions. This includes the development of non-invasive biomarkers for disease monitoring and therapeutic response assessment. Genomic and Epigenetic Regulation: She investigates the regulatory mechanisms of gene expression in human diseases, with a particular emphasis on integrative analysis of DNA mutation, chromatin accessibility, histone modifications, and transcription factor networks. Her work seeks to uncover how these regulatory layers contribute to disease onset and progression. Precision Medicine and Therapeutic Stratification: She leads studies in precision medicine, classifying molecular subtypes of human disease and predicting drug responsiveness using integrated genomic, transcriptomic, and clinical datasets. Her group applies advanced computational pipelines, machine learning models, and statistical frameworks combined with in vitro/in vivo functional validation. <p>Recently, she has focused on identifying non-coding mutations as biomarkers using AI-based methods and experimental approaches. She also develops customized pipelines to discover novel neo-genes involved in human disease. Through these</p>

	efforts, Dr. Kim aims to contribute to the development of personalized and targeted therapeutic strategies in human disease.
Personal link	<ul style="list-style-type: none"> • https://professor.skku.edu/researcher_eng/professorList.do?mode=view&perId=LZStrl4JwtgggKgrAGgYzAlwGIBkBSB2AdgThgHUIAPAVwEEBeaoA%20&categoryId=U&jojikCode1=3172 • http://bio.skku.edu/bbs/board.php?bo_table=F1&wr_id=20
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-03-ENVHLTH-01: The impact of pollution on the development and progression of brain diseases and disorders • HORIZON-HLTH-2025-03-ENVHLTH-02: Advancing knowledge on the impacts of micro- and nanoplastics on human health • HORIZON-HLTH-2025-01-DISEASE-03: Development of antibodies and antibody-derived proteins for the prevention and treatment of infectious diseases with epidemic potential • HORIZON-HLTH-2025-01-DISEASE-07: Tackling high-burden for patients and under researched medical conditions • HORIZON-HLTH-2025-01-TOOL-03: Leveraging multimodal data to advance Generative Artificial Intelligence applicability in biomedical research (GenAI4EU), • HORIZON-HLTH-2025-01-TOOL-05: Boosting the translation of biotech research into innovative health therapies

5. Min-Jun Baek

Name	MIN-JUN BAEK
Position	Assistant Professor
Organization	Korea Advanced Institute of Science and Technology (KAIST)
Biography	<p>Dr. Min-Jun Baek, Pharm.D., Ph.D., is an Assistant Professor in the Department of Bio and Brain Engineering (BBE) at the Korea Advanced Institute of Science and Technology (KAIST). His research focuses on engineering next-generation organic nanocarriers for precision drug/gene editor delivery, disease imaging, and phototherapy. Dr. Baek earned both his Pharm.D. and Ph.D. from the College of Pharmacy at Seoul National University, where he conducted extensive research in pharmaceutical sciences using nanoparticles. Following his doctoral studies, he worked as a research fellow at the Gordon Center for Medical Imaging at Massachusetts General Hospital and Harvard Medical School, where he focused on the near-infrared fluorophores for image-guided theranostics.</p> <p>His work lies at the intersection of pharmaceutical nanotechnology and biomedical imaging, particularly in developing organic nanocarriers for targeted drug delivery and phototherapy. His research has been published in leading journals, including Nature Nanotechnology, ACS Nano, Journal of Controlled Release and Clinical and Translational Medicine.</p> <p>Dr. Baek has received numerous honors, including the K-Medi Fellowship, the KASBP Fellowship, the Outstanding Young Researcher Award from the Pharmaceutical Society of Korea, and multiple Academic Awards.</p>
Research Area	<ul style="list-style-type: none"> • Drug delivery system • Nanomedicine • Phototherapy • Gene Editor Delivery • Bioimaging
Personal link	https://scholar.google.com/citations?user=cizzqdkAAAAJ&hl=ko
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-01-TOOL-05: Boosting the translation of biotech research into innovative health therapies

6. Sangwook Oh

Name	Sangwook Oh
Position	Assistant Professor
Organization	Hallym University
Biography	<p>I am an Assistant Professor at Hallym University in South Korea and currently serve as the Chief Technology Officer at EIONCELL Inc. I earned my Ph.D. in Biological Sciences from Seoul National University, where I investigated transcriptional regulation in T cell development. Following this, I advanced my expertise in immunotherapy as a postdoctoral researcher and later as a Senior Research Investigator at the University of Pennsylvania, where I focused on developing engineered T cell therapies for autoimmune diseases. My work contributed to the establishment of Chimeric Autoantibody Receptor T (CAAR-T) cell therapy, demonstrating antigen-specific B cell depletion in myasthenia gravis, and has been published in leading journals such as Nature Biotechnology and Science Advances. At Hallym University, I lead the Immunotherapy Lab, focusing on next-generation cellular immunotherapies for autoimmune diseases. I actively engage with global scientific communities and maintain collaborative partnerships with academic and industry leaders. In addition to my research activities, I am dedicated to mentoring young scientists and fostering multidisciplinary research that bridges basic immunology and clinical applications. I am eager to contribute to Horizon Europe's mission through collaborative and translational research that addresses critical challenges in immune-mediated diseases.</p>
Research Area	<p>My research focuses on developing next-generation CAR and CAAR-T cell therapies to treat cancer, autoimmune, and inflammatory diseases. I am particularly interested in designing CAR/CAAR constructs that enable selective and efficient elimination of pathogenic cells while minimizing off-target effects. A key area of my work involves dissecting the signaling pathways downstream of CAR and CAAR activation, aiming to optimize their persistence, functionality, and clinical efficacy. By understanding and modulating these intracellular signaling cascades, I seek to overcome therapeutic challenges such as antigen heterogeneity, immune exhaustion, and treatment durability. My interests also extend to translating these mechanistic insights into clinically relevant models and human trials. Through interdisciplinary collaborations, I aim to bridge basic immunology and therapeutic innovation, ultimately advancing precision immunotherapies for patients with difficult-to-treat diseases.</p>
Personal link	https://sites.google.com/view/sangwookohlab/home
Call topic	<ul style="list-style-type: none"> HORIZON-HLTH-2025-01-TOOL-01: Enhancing cell therapies with synthetic biology

7. Eok-Soo Oh

Name	Oh, Eok-Soo
Position	Professor
Organization	Ewha Womans University
Biography	After completing my PhD in cell biology at the University of Alabama at Birmingham, I completed postdoctoral training at Harvard Medical School and became a faculty member at Ewha Womans University in 1999. My research focuses on oncogenic signaling networks in the tumor microenvironment and cancer diagnosis and treatment. I am currently working on the development of anti-inflammatory and anticancer drugs based on the signaling mechanisms of ECM molecules.
Research Area	<ul style="list-style-type: none"> • Extracellular matrix • Inflammation • Cancer • Therapeutic agent • Signal transduction
Personal link	http://my.ewha.ac.kr/ohes/
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-01-DISEASE-03: Development of antibodies and antibody-derived proteins for the prevention and treatment of infectious diseases with epidemic potential

8. Seung Hun Lee

Name	Seung Hun Lee
Position	Assistant Professor
Organization	Dongguk University
Biography	<p>Prof. Seung Hun Lee is an Assistant Professor and head of the Biomedical Tissue Engineering Lab at Dongguk University, South Korea. His research focuses on tissue engineering, biomaterials, stem cell engineering, and 3D biofabrication for regenerative medicine applications. He has particular expertise in injectable hydrogels, scaffold-based drug delivery systems, and iPSC-derived organoid and humanized mouse models. Prof. Lee received his PhD in Tissue Engineering from ETH Zurich, where he worked on stem cell–scaffold interactions and functional biomaterial design. He completed his MS in Bioengineering at Seoul National University and earned his BS in Biomedical Engineering from Boston University, establishing a multidisciplinary foundation across molecular biology, materials science, and biomedical device development. Prior to his academic appointment, Prof. Lee worked at Siemens Healthineers and Olympus as a Cardiac Angiography Product Specialist and Medical Education Trainer, gaining valuable insight into clinical needs, imaging systems, and translational challenges. This industry experience continues to inform his research, which bridges academic innovation and practical application. He has led and contributed to international collaborations across Switzerland, Sweden, Germany, Japan, and the U.S., and remains active in the academic community through peer review, invited talks, and graduate student mentorship.</p>
Research Area	<p>Prof. Lee’s research lies at the intersection of tissue engineering, biomaterials science, and stem cell technology, with a focus on developing clinically translatable platforms. His lab specializes in hydrogels, scaffold-guided tissue regeneration, and controlled drug delivery systems. He actively explores iPSC-derived organoids and humanized mouse models. Ongoing projects involve synthetic biomaterials for osteochondral and musculoskeletal repair, 3D printed constructs for skeletal muscle modeling, and modular platforms for stem cell differentiation. Prof. Lee is particularly interested in translational applications and international collaboration across academia and industry to bridge regenerative science and real-world impact.</p>
Personal link	www.linkedin.com/in/seung-hun-lee-57b07941
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-01-TOOL-01: Enhancing cell therapies with synthetic biology • HORIZON-HLTH-2025-01-TOOL-02: Advancing cell secretome-based therapies • HORIZON-HLTH-2025-01-TOOL-05: Boosting the translation of biotech research into innovative health therapies • HORIZON-HLTH-2025-01-IND-01: Optimising the manufacturing of Advanced Therapy Medicinal Products (ATMPs) • HORIZON-HLTH-2025-01-DISEASE-07: Tackling high-burden for patients and under researched medical conditions

9. Seung-Hee Lee

Name	Seung-Hee Lee
Position	Associate Director/Associate Professor
Organization	IBS/KAIST
Biography	<p>Dr. Seung-Hee Lee is an Associate Professor at KAIST and Associate Director of the Center for Synaptic Brain Dysfunction at the Institute for Basic Science (IBS) in South Korea. A leading neuroscientist in the field of circuit-level brain function, her research focuses on the mechanisms underlying sensory perception, multisensory integration, and cognitive flexibility. Her work is especially relevant to understanding and intervening in mental, behavioral, and neurodevelopmental disorders such as autism spectrum disorder and Alzheimer's disease. Dr. Lee's interdisciplinary approach combines optogenetics, large-scale in vivo recordings, calcium imaging, neurogenetics, and human–mouse chimeric models. She has published extensively in top-tier journals including Nature Neuroscience, Neuron, Nature Communications, and Science Advances, and has received numerous international honors, including the ALBA–Elsevier Award Lecture and the Amgen–KAST Biotechnology Award. Dr. Lee is actively participating in global research networks and international symposia aimed at advancing neuroscience and brain health.</p>
Research Area	<p>Dr. Seung-Hee Lee investigates the neural circuit mechanisms underlying multisensory integration and top-down modulation, with a particular focus on how dysfunctions in these processes contribute to mental disorders. Through projection-specific optogenetics, circuit mapping, and in vivo behavioral paradigms, her team uncovers how distinct brain regions communicate to guide perceptual decisions and goal-directed actions.</p> <p>Employing in vivo extracellular recordings and calcium imaging, Dr. Lee maps the functional architecture of sensory circuits during naturalistic and cognitively demanding behaviors. These functional approaches are complemented by whole-brain anatomical tracing and projection-specific optogenetic perturbations with viral and chemical tools, enabling dissection of long-range cortical-subcortical communication. She also leverages human neuron transplantation into mouse brains to study disease-relevant mechanisms in a humanized context.</p> <p>Dr. Lee is particularly interested in circuit-level pathophysiology underlying autism and Alzheimer's disease, and in identifying intervention points for rebalancing disrupted neural computations. Her work directly aligns with the Horizon Europe mission to develop innovative, mechanism-based interventions for brain disorders, and she seeks to expand EU–Korea partnerships through translational neuroscience, neurotechnology, and comparative cross-species modeling.</p>
Personal link	https://sites.google.com/site/leelab2013
Call topic	<ul style="list-style-type: none"> HORIZON-HLTH-2025-01-DISEASE-02: Advancing innovative interventions for mental, behavioural and neurodevelopmental disorders

10. Yong-Seok Lee

Name	Yong-Seok Lee
Position	Professor
Organization	Seoul National University College of Medicine
Biography	Yong-Seok Lee is a professor at Seoul National University College of Medicine, specializing in memory mechanisms. He also served as a Visiting Affiliated Professor at the University of Iowa. He earned his Ph.D. in Neuroscience under the supervision of Dr. Bong-Kiun Kaang at Seoul National University and completed postdoctoral research in Dr. Alcino Silva's lab at UCLA, contributing to groundbreaking studies on cognitive impairments in neurodevelopmental disorders. His research focuses on cell type-specific RAS signaling dysregulation in mouse models of Rasopathy including Noonan syndrome and CFC syndrome, social recognition memory, and cerebellar mechanisms in fear learning in mice. His laboratory is utilizing multiple technologies such as ex vivo and in vivo electrophysiology, in vivo calcium imaging, and behavioral analyses. He is an active member of neuroscience societies, including the Korean Society for Brain and Neural Sciences, Society for Neuroscience, and Molecular and Cellular Cognition Society.
Research Area	My laboratory examines the mechanisms and potential treatments for learning and memory deficits associated with RASopathies, a group of neurodevelopmental disorders linked to mutations in the RAS-MAPK signaling pathway such as Noonan syndrome and CFC syndrome. We have been showing that mutations associated with RASopathies affect distinct cell types in the nervous system. For example, Braf mutation in CFC syndrome affects astrocytes (Kang et al., JCI 2025), whereas Ptpn11 mutation in Noonan syndrome affects excitatory neurons (Ryu et al., Sci Signaling 2019). I want to extend our research on cell-type-specific signaling networks in RASopathies to develop individualized therapeutic strategies in collaboration with European scientists.
Personal link	https://scholar.google.com/citations?hl=ko&user=-Rrr4VQAAAAJ&view_op=list_works&sortby=pubdate
Call topic	<ul style="list-style-type: none"> HORIZON-HLTH-2025-01-DISEASE-02: Advancing innovative interventions for mental, behavioural and neurodevelopmental disorders

11. Jin-A Lee

Name	Jin-A Lee
Position	Professor
Organization	Hannam University
Biography	<p>Dr. Jin-A Lee is a Professor at Hannam University and CEO of PhagytechBio, specializing in molecular mechanisms of neurodegenerative diseases, including ALS and frontotemporal dementia. She received her Ph.D. in neuroscience from Seoul National University and completed postdoctoral training at UCSF. Her research focuses on autophagy, stress granule dynamics, and the development of iPSC/3D-organoid models for brain disease. Dr. Lee has published extensively in leading journals such as Nature Communications, Molecular Brain, and Autophagy. She holds multiple patents for autophagy-based diagnostic tools and has contributed to international research initiatives across the U.S., Japan, and Europe. She serves on the editorial boards of Scientific Reports, Molecular Brain, and Frontiers in Genetics. Dr. Lee has been invited to speak at over 20 international symposia and was awarded the L'Oréal-UNESCO Fellowship for Women in Science. Her current work aims to bridge advanced cellular models with therapeutic discovery through cross-border biotechnology collaborations.</p>
Research Area	<ul style="list-style-type: none"> • Molecular and cellular mechanisms underlying neurodegenerative diseases, including ALS and frontotemporal dementia • Autophagy regulation in neuronal homeostasis and disease progression • Stress granule dynamics and phase separation in neurodegeneration • Development of live-cell imaging tools and autophagy biosensors • Human iPSC-derived 3D cerebral organoids and neuronal disease models • Pathogenic protein aggregation and selective autophagy mechanisms • High-content screening platforms for autophagy modulators • Translational applications of autophagy in diagnostics and therapeutics • CRISPR-based neuronal disease modeling and mechanistic dissection • International collaboration on cellular biotechnology and neurotherapeutics
Personal link	https://my.hnu.kr/html/profDetail.html?param=882272
Call topic	<ul style="list-style-type: none"> • HORIZON-HLTH-2025-01-DISEASE-02: Advancing innovative interventions for mental, behavioural and neurodevelopmental disorders

12. Hae Woong Choi

Name	Hae Woong Choi
Position	Associate Professor
Organization	Korea University
Biography	<p>Dr. Hae Woong Choi is an Associate Professor in the Division of Life Sciences and Associate Dean of University College at Korea University in Seoul, South Korea. He received his Ph.D. in Pathology from Duke University, where he also earned a certificate in Cell and Molecular Biology under the mentorship of Dr. Soman N. Abraham. Prior to that, he completed his M.S. and B.S. in Life Sciences at Korea University.</p> <p>Dr. Choi's research centers on the molecular and immunological mechanisms of bacterial infections, with a primary focus on urinary tract infections (UTIs), host-pathogen interactions, and mast cell biology. His pioneering work has illuminated how uropathogenic <i>E. coli</i> evade immune responses, and how commensal microbiota modulate host defense in the urinary bladder. He has also contributed significantly to the understanding of mast cell function in anaphylaxis and septic shock.</p> <p>Before returning to Korea University as a faculty member in 2019, Dr. Choi held academic appointments at Duke University, including Research Scientist and Medical Instructor in the Department of Pathology. He has authored over 30 peer-reviewed publications in leading journals such as <i>Science</i>, <i>Immunity</i>, <i>PNAS</i>, and <i>PLOS Pathogens</i>, many as corresponding author.</p> <p>Dr. Choi currently serves on multiple academic committees, including the Basic Research Committee on UTIs of the Korean Association of Urogenital Tract Infections and Inflammation, and has delivered invited lectures at international and national symposia on microbiome-host interactions and innate immunity. He is a recipient of several honors, including the POSCO Science Fellowship and research grants from the National Research Foundation of Korea and the U.S. National Institutes of Health. His interdisciplinary research aims to identify novel therapeutic targets for recurrent bacterial infections and inflammatory disorders.</p>
Research Area	<ul style="list-style-type: none"> ● Innate Immunity and Host-Pathogen Interactions Investigating the molecular mechanisms by which innate immune cells, including mast cells and NK cells, recognize and respond to bacterial pathogens, with a focus on urinary tract infections (UTIs) and mucosal immunity. ● Microbiome-Immune Crosstalk in the Urinary Tract Exploring the role of bladder-resident commensal microbes in modulating host immunity, particularly how <i>Lactobacillus</i> species enhance epithelial defense and prevent pathogenic colonization. ● Mast Cell Biology in Infection and Inflammation Studying the dual role of mast cells in allergic reactions and bacterial infections, including their contribution to epithelial barrier integrity, neuroimmune signaling, and systemic inflammatory responses such as sepsis and anaphylaxis. ● Recurrent UTI Pathogenesis and Chronic Bladder Pain Elucidating how repeated UPEC infections lead to neuroimmune remodeling, axonal sprouting, and chronic pelvic pain through bladder sensory circuit sensitization and immune cell activation. ● Therapeutic Target Discovery Identifying and validating novel molecular targets (e.g., ORAI1, SLC7A11, PIEZO1) and pathways for therapeutic intervention in infectious diseases and inflammatory disorders, using in vivo models and translational approaches.
Personal link	(ORCID) https://orcid.org/0000-0001-9372-1875 (Lab website) https://faculty.korea.ac.kr/kufaculty/ibp/index.do
Call topic	<ul style="list-style-type: none"> ● HORIZON-HLTH-2025-01-DISEASE-01: Randomised controlled trials to test safety and efficacy of phage therapy for the treatment of antibiotic-resistant bacterial infections

