A3 foresight meeting in Daejeon

Team A : The mechanism of cellular senescence in aging and chronic diseases: exploration of senescence biomarkers and target molecules for therapeutic potential

Team B: Elucidation of fundamental mechanisms of cellular senescence targeting age-related pathology

March 7-9, 2025

Hotel Onoma in Daejeon, Korea

연세대학교 YONSEI UNIVERSITY

DGIST Daegu Gyeongbuk Institute of Science & Technology

NRF 한국연구재단 National Research Foundation of Korea

Tomocube

Presentations

Regular Talks (15 min talk + 5 min discussion)

Short Talks (12 min talk + 3 min discussion)

Flash Talks (2 min talk)

Please hand your presentation data (USB or laptop) to the staff before the session.

Access / Transportation

For your travel to Daejeon, please follow these steps:

1. From Gimpo Airport:

- Take the Airport Railroad Line to Seoul Station (22 minutes, with some walking).
- From Seoul Station, take the KTX to Daejeon Station (approximately 1 hour).
- From Daejeon Station to Hotel Onoma:
    - Take a taxi (20-25 minutes, around 1300 yen)

2. From Incheon Airport:

- Take the Airport Railroad Line to Seoul Station (about 50 minutes).
- From Seoul Station, take the KTX to Daejeon Station (approximately 1 hour).
- From Daejeon Station to Hotel Onoma:
    - Take a taxi (20-25 minutes, around 1300 yen)

3. From Cheongju Airport:

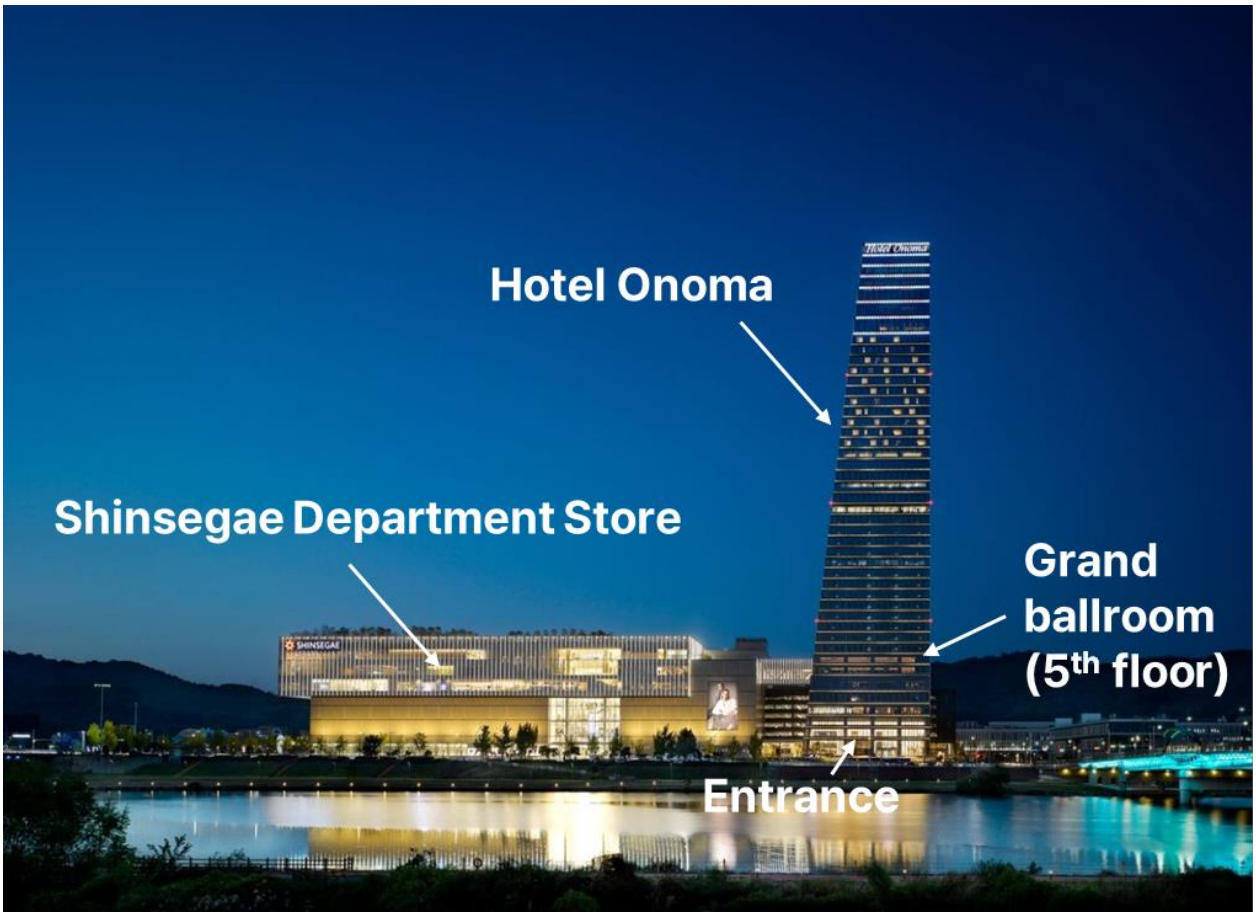
- After exiting from Gate 1, you can board the intercity bus to Yuseong Complex Terminal at the Bus Stop No. 2 (approximately 40 minutes). The bus schedule for March 8th is as follows:

Departure Time	Arrival Time
7:45	8:25
10:35	11:15
14:05	14:45
15:05	15:45
17:05	17:45
19:05	19:45
20:05	20:45
22:05	22:45

- From Yuseong Complex Terminal, take a taxi to Hotel Onoma (about 15 minutes, around 1000 yen).

Hotel Onoma and Grand Ballroom (Conference Venue) location

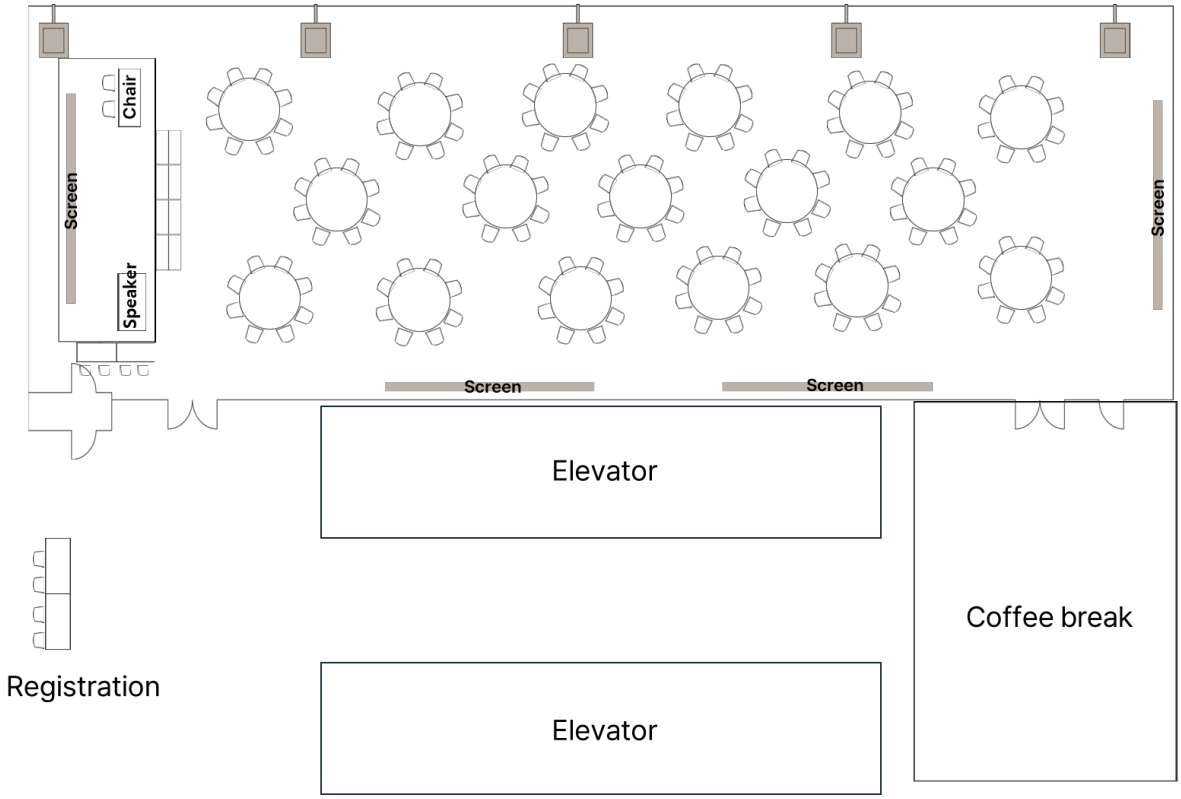
Hotel Onoma is a 37-story building connected to Shinsegae Department Store. There is a passageway that links the department store to the hotel, but you can also easily find an entrance directly into the hotel building. Once you enter, take the elevator to the 5th floor where the Grand Ballroom (the conference venue) is located.



Conference Venue Layout & Meals

- The seating arrangement is designed with tables around the room, facing multiple screens for presentations.

- Dinner on March 7th (18:10–19:30) and **Lunch on March 8th** (11:50–13:10) will be served in the **Grand Ballroom** (the conference room).



Flash Talks

1. **2-minute presentation, no Q&A session.**

- Each presenter will briefly introduce their poster in a 2-minute flash talk without a Q&A session. To keep the session on schedule, please have the next two presenters wait in the front row.
- During the **poster session on March 8 (16:25–17:30)**, presenters will engage with attendees for discussions and Q&A at their respective posters.

2. **Evaluation (Audience Evaluation during poster session)**

- Flash talks will be evaluated by the audience. After the flash talk session, a QR code will be displayed on the screen for voting. Each participant is requested to vote for two outstanding presentations per country. Flash talk voting will take place during the poster session on March 8 (16:25–17:30).

3. **Awards will be presented at the end of the conference (12:15 PM on the Mar, 9th).**

Time Table

Mar, 7 (Fri)		Mar, 8 (Sat)		Mar, 9 (Sun)	
		9:00-10:05	Session IV: Mechanisms of cellular senescence and aging - 1	9:00-10:30	Session VII: Metabolism
		10:05-10:25	Coffee Break	10:30-10:45	Coffee Break
		10:25-11:50	Session V: Mechanisms of cellular senescence and aging - 2	10:45-12:15	Session VIII: Therepeutic Strategy
12:50-13:00	Opening Remarks	11:50-13:10	Lunch (Grand Ballroom@ Onoma Hotel)	12:15-12:40	Closing Remarks
13:00-14:25	Session I: New Hallmarks of Senesent Cells	13:10-14:40	Session VI: Cell Death, Inflammation, and Immunity		
14:20-14:45	Coffee Break	14:40-14:55	Coffee Break		
14:45-16:00	Session II: Stem Cells, Organoids, and Development	14:55-15:35	Flash Talk #1		
		15:35-15:45	Coffee Break		
		15:45-16:25	Flash Talk #2		
16:00-16:20	Coffee Break	16:25-17:30	Poster Session		
16:20-18:10	Session III: Life Span and Healthy Aging	17:30-22:00	Free Time (Dinner Not Provided)		
18:10-19:30	Dinner (Grand Ballroom@ Onoma Hotel)				
19:30-22:00	PI Discussion (7th floor@ Onoma Hotel)				

March 7th (Friday)

Venue	Hotel Onoma, Daejeon
Time	**Program**
12:00 – 12:50	Registration
12:50 – 13:00	Opening remarks Jaehawn Song & Sung Bae Lee (Yonsei University; Daegu Gyeongbuk Institute of Science and Technology)
Session I. New Hallmarks of Senescent Cells Chair **:** Ok Hee Jeon	
13:00 – 13:20	Targeting epigenetic alterations in the cancer microenvironment Akiko Takahashi (Japanese Foundation for Cancer Research, Japan)
13:20 – 13:35	T-CLASS: an online tool for the identification and classification of physiological changes such as aging and senescence using transcriptome data Gee-Yoon Lee (Korea Advanced Institute of Science and Technology, Korea)
13:35 – 13:50	Unraveling Senescence Signatures: Cross-Species Proteomic Analysis of Preadipocytes and Fibroblasts Ju-Bin Kang (Korea Research Institute of Bioscience and Biotechnology, Korea)
13:50 – 14:05	Time-resolved transcriptomic profiling of senescence-associated secretory phenotype (SASP) in multiple senescent cell subtypes Nurhanani Razali (Okinawa Institute of Science and Technology Graduate University, Japan)
14:05 – 14:20	Development of senolytic vaccine through single-cell analysis Goro Katsuumi (Juntendo University Graduate School of Medicine, Japan)
14:20 – 14:45	Coffee break
Session II. Stem Cells, Organoids, and Development Chair **:** Rui Yue	
14:45 – 15:05	Expansion of functional islet cells through MYCL-mediated reprogramming Yasuhiro Yamada (University of Tokyo, Japan)
15:05 – 15:25	Holotomography and artificial intelligence: label-free 3D imaging, classification, and inference of live cells, tissues, and organoids YongKeun Park (Korea Advanced Institute of Science and Technology/Tomocube, Korea)
15:25 – 15:45	Physiological cell competition eliminates defective cells to support the development of functional bodies that maintain long-term health Tohru Ishitani (Osaka University, Japan)
15:45 – 16:00	Interaction between vascular endothelial cells and muscle stem cells during muscle regeneration Hanhao Li (Guangzhou Laboratory, China)
16:00 – 16:20	Coffee break

Session III. Life Span and Healthy Aging Chair : Keiko Kono	
16:20 – 16:40	Targeting DNA repair to extend lifespan Zhiyong Mao (Tongji University, China)
16:40 – 17:00	Minor stem cell population as a key contributor to organism aging Ping Hu (Guangzhou Laboratory, China)
17:00 – 17:20	The role of RNA quality control in healthy aging Seung Jae V. Lee (Korea Advanced Institute of Science and Technology, Korea)
17:20 – 17:35	The changes in epigenetic information by DNA damage induces aging Motoshi Hayano (Keio University, Japan)
17:35 – 17:50	Genetic determinants of centenarian longevity, as quantified by the 'CentPGS' score, are associated with a lower risk of multiple age-related diseases and a longer healthspan Takashi Sasaki (Keio University, Japan)
17:50 – 18:10	USP14 regulates TDP-43 proteinopathies by influencing its stability and localization Min Gu Jo (Daegu Gyeongbuk Institute of Science and Technology, Korea)
18:10 – 18:15	Group Photo Time
18:10 – 19:30	Networking Dinner (@ Hotel Onoma)
19:30 – 22:00	PI Discussion (@ Hotel Onoma, Town House Bar, 7th floor)

March 8th (Saturday)

Venue	Hotel Onoma, Daejeon
Time	**Program**
Session IV: Mechanisms of cellular senescence and aging - 1 Chair : Jinsoo Seo	
09:00 – 09:20	Ca2+-mediated ER mitochondria crosstalk during plasma membrane damage-dependent senescence Keiko Kono (Okinawa Institute of Science and Technology Graduate University, Japan)
09:20 – 09:35	The role of a transcription factor to reverse cellular senescence as a regulator of cell cycle-related genes Jeong-A Hwang (Daegu Gyeongbuk Institute of Science and Technology, Korea)
09:35 – 09:50	Ribonuclease DIS-3 promotes longevity by generating tRNA halves that reduce translation via binding ribosomal proteins Seokjun G. Ha (Korea Advanced Institute of Science and Technology, Korea)

09:50 – 10:05	PAK1 Regulates Vacuole Formation and Macropinocytosis in Cellular Senescence Kamila Kozik (Okinawa Institute of Science and Technology Graduate University, Japan)
10:05 – 10:25	Coffee break
Session V: Mechanisms of cellular senescence and aging – 2 Chair : Ping Hu	
10:25 – 10:40	Mechanoregulation of Skeletal Stem Cells Rui Yue (Tongi University, China)
10:40 – 11:05	Galectin-1 Enhances SOX2 Transcriptional Activity through O-GlcNAcylation Recognition in Cancer Cells Kyung-Hee Chun (Yonsei University, Korea)
11:05 – 11:20	Identification and characterization of skin bacteria involved in skin carcinogenesis in mice Ken Uemura (Osaka University, Japan)
11:20 – 11:35	Spatial transcriptome analysis of multicellular ecosystem in non-viral HCCs Kanae Echizen (Osaka Metropolitan University, Japan)
11:35 – 11:50	A Novel Radiopharmaceutical Pair Targeting mGluR1 for Cancer Diagnosis and Therapy Lin Xie (National Institutes for Quantum Science and Technology, Japan)
11:50 – 13:10	Lunch (Lunch box @ Hotel Onoma)
Session VI: Cell Death, Inflammation, and Immunity Chair : Akiko Takahashi	
13:10 – 13:30	Regulation of T cell senescence by the mammalian COMPASS-like complexes Masakatsu Yamashita (Ehime University, Japan)
13:30 – 13:50	ALDH-dependent survival of autoreactive T cells Shunsuke Chikuma (Keio University, Japan)
13:50 – 14:05	The Role of Ubiquitination in Regulating Necroptosis Jaewhan Song (Yonsei University, Korea)
14:05 – 14:20	ARID5A Orchestrates Cardiac Aging and Inflammation through MAVS mRNA Stabilization Yanling Fan (Chinese Academy of Sciences, China)
14:20 – 14:40	Epigenetic Strategies for Reversing Mammalian Aging Jae-Hyun Yang (Korea Advanced Institute of Science and Technology, Korea)
14:40 – 14:55	Coffee break

Flash Talk & Poster Presentation	
14:55 – 15:35	Flash Talk #1 (1-19) Chair : Eun-Woo Lee
15:35 – 15:45	Coffee break
15:45 – 16:25	Flash Talk #2 (20-38) Chair : Jinho Seo
16:25 – 17:30	Poster Presentation
17:30 –	Free Time (Dinner Not Provied)

March 9th (Sunday)

Venue	Hotel Onoma, Daejeon
Time	**Program**
	Session VII: Metabolism Chair **:** Naoko Ohtani
09:00 – 09:15	A senomorphic screen reveals an unexpected role for senescence metabolism Yekang Heo (Seoul National University, Korea)
09:15 – 09:30	Metabolic changes during the progression phase of replicative senescence in human fetal fibroblasts Yasunori Fujita (Tokyo Metropolitan Institute for Geriatrics and Gerontology, Japan)
09:30 – 09:45	Metabolic changes and tumor suppression by regular exercise Ryota Yamagishi (Osaka Metropolitan University, Japan)
09:45 – 10:00	Role of mitochondrial fatty acid metabolism in the induction of cellular senescence Shota Yamauchi (Japanese Foundation for Cancer Research, Japan)
10:00 – 10:15	Destabilization of E3 ligase MKRN1 protects against metabolic dysfunction-associated steatohepatitis Subin Kang (Yonsei University, Korea)
10:15 – 10:30	CHIP ameliorates MASLD via promoting K63- and K27-linked STX17 ubiquitination to facilitate autophagosome-lysosome fusion Hyunjin Rho (Yonsei University, Korea)
10:30 – 10:45	Coffee break

Session VIII: Therepeutic Strategy Chair : Yong-Ho Lee	
10:45 – 11:05	Exercise mimetic miRNA enhances muscle function by inhibiting PARP1 Kwang-Pyo Lee (Korea Research Institute of Bioscience and Biotechnology, Korea)
11:05 – 11:25	Aging Clock and Its Interventions Weiqi Zhang (Chinese Academy of Sciences, China)
11:25 – 11:40	Local NAD+ Replenishment via Nicotinamide Riboside-Conjugated Triple Hyaluronic Acid Hydrogel Ameliorates Achilles Tendonitis Shibo Wei (Gwangju Institute of Science and Technology, Korea)
11:40 – 11:55	Nicotinamide Riboside Attenuates Ritonavir-induced Lipodystrophy and Systemic Side Effects Yan Zhang (Gwangju Institute of Science and Technology, Korea)
11:55 – 12:15	Senescent hypertrophy: not a mere consequence of senescence, but a functional effector program of senescence Chanhee Kang (Seoul National University, Korea)
Flash Talk Awards and Closing Jaehawn Song & Sung Bae Lee (Yonsei University; Daegu Gyeongbuk Institute of Science and Technology)	