KSABC International Symposium 2025

2025년도
(사)한국응용생명화학회 국제학술대회
안내서 : 발표논문일람

한국응용생명화학회
The Korean Society for Applied Biological Chemistry

KSABC International Symposium 2025

Hosted by

한국응용생명화학회
The Korean Society for Applied Biological Chemistry

Co-organized by

한국과학기술연구원 강릉 천연물연구소

생명자원과학과 GreenBio Science

FOUR JEJU NATIONAL UNIVERSITY BK21 제주대학교

제주대학교 바이오헬스소재개발연구지원센터
Bio-Health Materials Core-Facility

KFRI 한국식품연구원

강원 천연물소재 전주기 표준화 허브
(강원도, 강릉시)

경북대학교 농산물품질·안전성평가연구소

경북대학교 생물소재 특성화대학원 사업

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조선대학교 G-LAMP 사업단
CHOSUN UNIVERSITY G-LAMP

항노화 바이오소재 세포공장 지역혁신연구센터
Anti-aging Bio Cell factory RLRC (ABC-RLRC)

전북대학교 농업과학기술연구소

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JEJU TOURISM ORGANIZATION

nist 한국천연물과학기술연구소
Korea Natural Product Institute of Science and Technology

G.O.research

SKYGENe

Microalgae Ask Us
(주)마이크로알지 에스크 어스

Cell care for Health care
HAN BIO

biodot

JEJU CHUNJI
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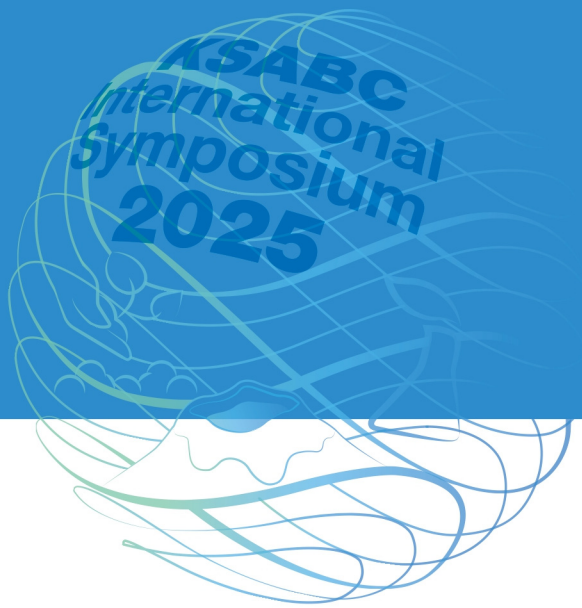
ATNT (주)분석기술과 미래
Analysis Technology and Tomorrow

This work is supported by the 'Lottery Fund' of the 'Ministry of Strategy and Finance' and the 'Science and Technology Promotion Fund' of the 'Ministry of Science and ICT', contributing to the realization of social value and the development of national science and technology.

KSABC
International Symposium
2025

Applied Biological Chemistry
- The key solutions for life and the environment

Contents



I. 2025 (사)한국응용생명화학회 국제학술대회 일정

행사명	**KSABC International Symposium 2025** 2025년도 (사)한국응용생명화학회 국제학술대회 및 정기총회 https://ksabc.kr/04_symposium/symposium0102.htm
주제	**Applied Biological Chemistry** **- The key solutions for life and the environment**
일자	**2025년 6월 29일(일) ~ 7월 1일(화)**
장소	**제주국제컨벤션센터 (ICC JEJU)**
주최	한국응용생명화학회 The Korean Society for Applied Biological Chemistry
초록접수	**2025년 4월 1일(화) - 6월 5일(목)**
사전등록	**2025년 4월 1일(화) - 6월 9일(월)**
참가국수	**10개국** (미국, 캐나다, 네팔, 인도네시아, 스위스, 중국, 일본, 대만, 베트남, 대한민국)

프로그램 구성

PL	Plenary Lecture
SL	Special Lectures
AL	Award Lectures
S	Symposia
YS	Young Scientist Presentation
GS	Graduate Student Presentation
K	K-Inno:Ven Star Audition (대학원생 창업경진대회)
	Poster Presentation
	Exhibition

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Program at a Glance

June 29 (Sun)

Time \ Venue	Samda Hall A	Samda Hall B	Lobby
13:00-	Registration		Poster
14:00-14:50	SL-1		
15:10-17:50	GS1	GS2	
18:00-19:30	Networking I (for Graduate Student) / Ocean View, 5F		

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Exhibition

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Program at a Glance

June 30 (Mon)

Time \ Venue	Halla Hall A	Halla Hall B	Samda Hall A	Samda Hall B	303	301	Lobby
09:00-10:40	S1 Biochemistry · Molecular Biology – Synthetic Biology Based on Structural Biology (AlphaFold)	S2 Natural Products · Bioactive Materials · Biomedical Sciences / KIST	S3 Environmental Sciences	S5 식품오염물질과 미세플라스틱	S7 미래선도 그린바이오 융합기술 및 인재양성	S9 Natural Bioactives for Disease Modulation and Metabolic Regulation	Poster & Exhibition
10:50-12:30			S4 Applied Microbiology	S6 산업바이오	S8 한국생명공학연구원 천연물 클러스터		
12:30-14:00	Lunch						
14:00-14:20	Award Ceremony						
14:20-15:00	PL						
15:00-15:40	SL-2						
15:40-15:50	*Break*				S10 천연물소재의 건강기능식품 사업화 전략		
15:50-16:50	AL						
16:50-17:40	Poster Presentation						
17:40-18:00	General Assembly						
18:00-19:30	Networking II (for PI) / Ocean View, 5F						

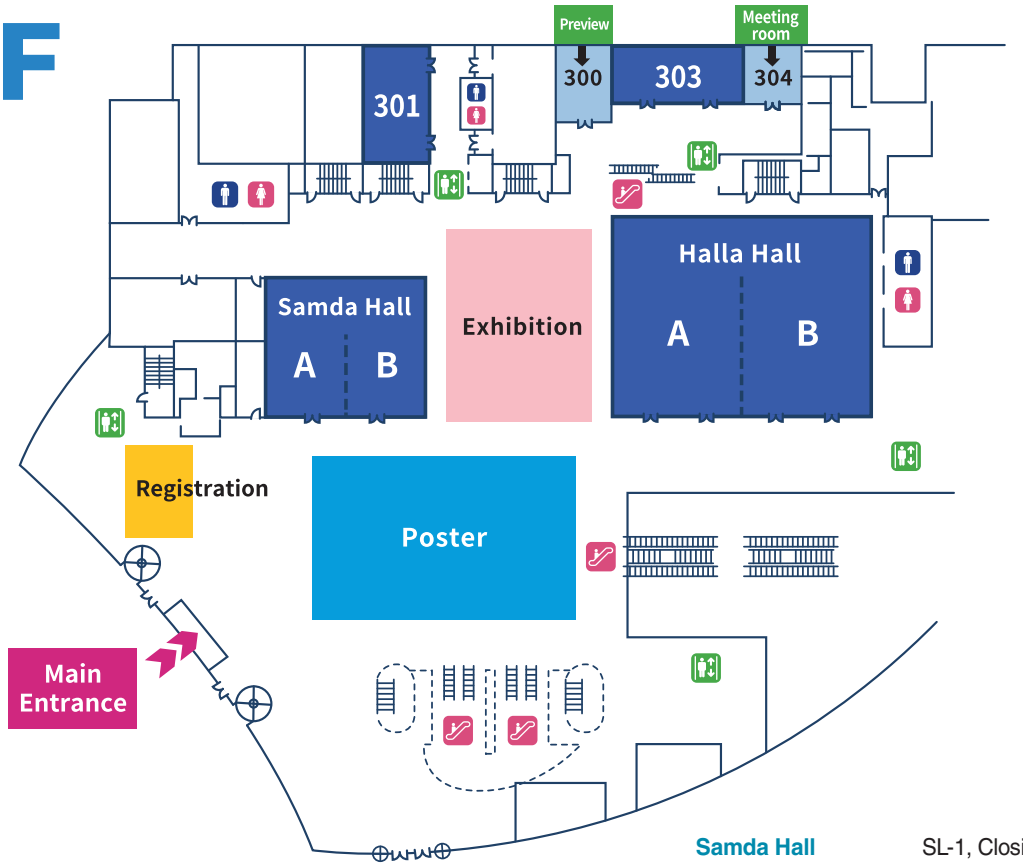
July 1 (Tue)

Time \ Venue	Samda Hall A	Samda Hall B	303	Lobby
09:10-11:40	YS1	YS2	K-Inno:Ven Star Audition (대학원생 창업경진대회)	Exhibition
11:40-12:00	Closing Ceremony			

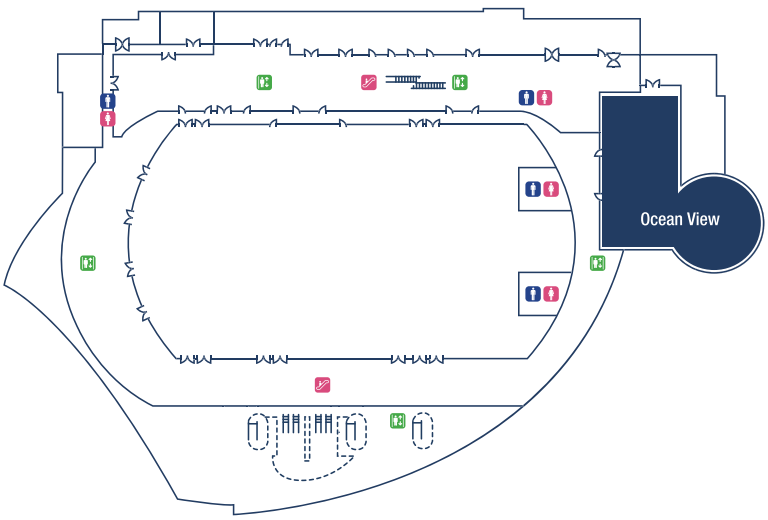
I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Floor Plan

3F



5F



Samda Hall	SL-1, Closing Ceremony
Halla Hall	Award Ceremony, PL, SL-2, AL
Halla Hall A	S1
Halla Hall B	S2
Samda Hall A	S3, S4, YS1, GS1
Samda Hall B	S5, S6, YS2, GS2
303	S7, S8, S10, K-Inno:Ven Star Audition
301	S9
Lobby	Poster, Exhibition

Ocean View	Networking Ⅰ, Ⅱ

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Plenary Lecture

June 30 (Mon), Halla Hall

Chair: Moonjae Cho (Jeju Nat'l University)

PL **14:20-15:00**

Chemical modifications on RNAs: a potent mechanism of gene regulation

Hunseung Kang

Department of Applied Biology, Chonnam National University, Gwangju 61186, Republic of Korea

Epitranscriptomic chemical RNA modifications have recently emerged as a new layer of post-transcriptional gene regulation. Recent advancements in methylated RNA immunoprecipitation sequencing (m^6A-seq) and mass spectrometry have revealed widespread chemical modifications on diverse RNAs, including mRNA, tRNA, rRNA, microRNA, and long-noncoding RNA. Currently, > 170 RNA modifications have been identified in living organisms. Among them, N6-methyladenosine (m^6A) is the most prevalent modification found in eukaryotic mRNAs. In recent years, cellular factors adding, deleting, and interpreting m^6A marks, designated as "writers" (methyltransferases), "erasers" (demethylases), and "readers" (m^6A-binding proteins), respectively, have been identified in plants and animals. An emerging body of evidence shows that methylation on mRNAs affects diverse aspects of RNA metabolism, including stability, splicing, nucleus-to-cytoplasm export, alternative polyadenylation, and translation. In particular, the roles of writers, readers, and erasers in plants are rapidly uncovered, which clearly demonstrates that they are essential for plant growth and abiotic stress responses. In this talk, I will introduce several key findings via analyzing the mutants of m^6A writers, erasers, and readers, which emphasizes the crucial roles of epitranscriptomic chemical mRNA methylation in the plant growth, development, and stress responses.

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Special Lectures

June 29 (Sun), Samda Hall

Chair: Yeon Jong Koo (Chonnam Nat'l University)

SL-1 14:00-14:50

Integrating Generative AI in Academic Research: From Idea Generation to Data Analysis Automation

Hyun-Soo Ahn

R&BD Partners, Yong-In, Republic of Korea

The rapid advancement of generative AI technologies has significantly transformed the landscape of academic research. This lecture aims to provide a comprehensive overview of how researchers can strategically incorporate AI tools throughout the entire research process—from ideation and literature review to writing, data analysis, and automation.

The first half of the curriculum focuses on **research ideation and academic writing using generative AI**. Participants will explore how AI models such as GPT can assist in the initial stages of research design by facilitating idea generation, topic refinement, and research planning. Through case-based demonstrations, attendees will learn to outline a research proposal, create a logical table of contents, and draft abstracts using AI assistance. Emphasis will be placed on the use of AI tools like Perplexity and Consensus for literature search, and Markdown for structuring academic documents. Practical sessions will guide participants through the process of creating a research topic and draft outline using AI prompts.

In the second half, attention shifts toward **data analysis and automation using AI and Python**. The session begins with foundational data handling techniques, where GPT is applied for spreadsheet-based tasks such as cleaning, normalization, and pattern analysis. The curriculum then delves into advanced statistical analysis, including regression and correlation, with an introduction to Python libraries like Pandas and Matplotlib for visualization and computation. Finally, the lecture covers **Google Colab integration**, demonstrating how researchers can automate data workflows—loading, preprocessing, modeling, and saving results—by combining Colab notebooks with GPT-generated code snippets.

Throughout the session, real-time demonstrations and hands-on activities will provide participants with the skills necessary to apply generative AI tools effectively in their own academic research. By the end of the lecture, attendees will gain not only technical know-how but also strategic insights into the ethical and practical use of AI in scholarly environments.

This session is ideal for early-career researchers, graduate students, and academic professionals seeking to leverage AI for enhanced productivity, creativity, and data-driven insight in their research processes.

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Special Lectures

June 30 (Mon), Halla Hall

Chair: **Hyung Won Ryu** (Korea Research Institute of Bioscience and Biotechnology)

SL-2 **15:00-15:40**

Knowing, Synthesizing, Applying Bugs for Creativity

Eungbin Kim

Department of Systems Biology, Yonsei University, Seoul 03722, Republic of Korea

Microorganisms are increasingly recognized not only as subjects of scientific investigation but also as catalysts for creative expression across disciplines. This presentation explores how microbiological knowledge and techniques are being integrated into artistic, educational, and design contexts, reframing microbes as active participants in cultural production. Recent developments in synthetic biology and microbial engineering have enabled novel applications such as agar art, which utilizes pigment-producing bacteria as living media, and bacterial sound research, which translates microbial activity into auditory forms through biosensing and sonification. These examples highlight the potential of microorganisms to serve as both material and metaphor in creative processes. By emphasizing the role of microbes in transdisciplinary innovation, this work proposes a new paradigm that bridges science and the arts. Such convergence not only broadens the scope of microbiological engagement but also encourages new ways of thinking about sustainability, collaboration, and the invisible networks that shape life and culture.

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Award Lectures

June 30 (Mon), Halla Hall

Chair: **Tatsuya Unno** (Chungbuk Nat'l University)

학술상 1967년도 제정

AL-1 **15:50-16:10**

Happiness from the Art of Natural Products

Sanghyun Lee

Department of Plant Science and Technology, Chung-Ang University, Anseong 17546, Republic of Korea

Throughout history, humans have long sought answers in nature to cure diseases and ensure survival. Natural product research is an academic journey aimed at scientifically identifying biological resources and applying them to sustain life and promote healing. My scientific journey is what I call *Natural Product Research*. Groundbreaking drugs such as penicillin, streptomycin, and tamoxifen were derived from natural products and have become major drivers of modern pharmacology and drug discovery. Since the 1980s, advances in isolation and structural identification techniques—especially LC-MS/MS and HPLC—have enabled the identification of natural compounds and the discovery of new drugs. My research has focused on developing foods, nutraceuticals, and medicinal materials by discovering bioactive compounds with antioxidant, anti-inflammatory, anti-diabetic, and immune-enhancing properties from short-cycle forest plants.

However, large pharmaceutical companies have come to prefer synthetic compounds or biologics due to the complex structures of natural products, their low yields, and challenges in commercialization. In addition, the overexploitation of natural resources and the decline in biodiversity threaten the sustainability of natural product research. Furthermore, the gap between mechanistic analysis and clinical application remains a major challenge. The convergence of omics technologies and AI is enabling more precise analysis of in vivo mechanisms of action and accelerating drug discovery in terms of both speed and accuracy. Meanwhile, the rise of synthetic biology is dramatically enhancing the potential for the commercialization of natural products. The climate crisis and the need to conserve biodiversity now point the way forward for natural product research: sustainable resource utilization, ethical extraction, and collaboration with local traditional communities.

Today's natural product researchers must adopt an integrated perspective that encompasses advanced analytical technologies and bioethics. This is essential not only for scientifically grounded functional validation and international credibility but also for bridging the gap between industrialization and public health. Natural products still hold great promise. To realize their full potential, deeper research, greater social empathy, and strategic technological convergence must come together. The K-Milk Thistle localization project involved years of research to domesticate milk thistle and led to the development of

Award Lectures

a high-silydianin variety called *Silyqueen,* for which a plant patent has been registered. The launch of K-Milk Thistle as a national brand—alongside K-Pop and K-Beauty—laid the foundation for entering both domestic and global markets. By identifying interactions and genetic diversity among silymarin complex components, the project succeeded in differentiating high value-added functionalities.

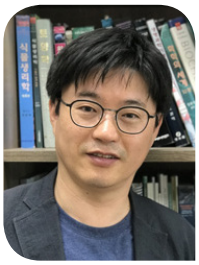
Natural Product Chemistry is a science, an art, and a way of life. I read nature's messages and translate them into health, industry, and human well-being. My research leads to industrialization, my success is returned to society, and my work serves as a key to unlocking the future for younger generations.

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Award Lectures

June 30 (Mon), Halla Hall

Chair: Tatsuya Unno (Chungbuk Nat'l University)



기창(基倉)과학상 기창(基倉) 한태룡 전임회장의 후원으로 2010년도 제정

AL-2 **16:10-16:30**

Recent Trends and Technological Advancements in Plant Proteomics: From DDA to 4D-DIA

Sun Tae Kim

Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea

Proteomics has become a vital tool in plant science, providing critical insights into the molecular mechanisms governing growth, development, and stress responses. Traditional data-dependent acquisition (DDA) mass spectrometry enabled deep protein identification but suffers from limited reproducibility and a bias toward abundant peptides. The advent of data-independent acquisition (DIA) has addressed these limitations by systematically fragmenting all peptide ions, allowing for highly reproducible and quantitative proteome profiling. In rice (*Oryza sativa*), DIA has significantly improved the detection of low-abundance regulatory proteins involved in stress signaling and adaptation. The recent development of four-dimensional DIA (4D-DIA), which integrates ion mobility as an additional separation dimension, further enhances resolution, sensitivity, and proteomic coverage. This approach enables the quantification of over 10,000 proteins in a single run and supports detailed analysis of post-translational modifications, such as phosphorylation, which are crucial in plant immunity and environmental stress responses. When combined with advanced computational tools, these next-generation technologies are transforming plant proteomics, accelerating systems-level understanding of plant biology. Together, DDA, DIA, and 4D-DIA are enabling precision breeding strategies for developing climate-resilient and high-yielding plant cultivars, offering new avenues for sustainable agriculture.

I. 2025 (사)한국응용생명화학회 국제학술대회 일정

Award Lectures

June 30 (Mon), Halla Hall

Chair: Tatsuya Unno (Chungbuk Nat'l University)

HAN BIO Award 한바이오 그룹 후원으로 2022년도 제정

AL-3 **16:30-16:50**

Protopanaxadiol Attenuates Palmitate-Induced Lipotoxicity and Restores Pancreatic β-Cell Function in INS-1 Cells

Ki Sung Kang

College of Korean Medicine, Gachon University, Seongnam 13120, Republic of Korea

Free fatty acid (FFA)-induced lipotoxicity plays a critical role in the dysfunction of pancreatic β-cells, a key factor in the development of diabetes. In this study, we evaluated the protective effects of ginsenosides against palmitic acid (PA)-induced β-cell death and impaired glucose-stimulated insulin secretion (GSIS) using INS-1 pancreatic β-cells. Through screening, we identified protopanaxadiol (PPD) as a potent therapeutic candidate that effectively prevented PA-induced cytotoxicity and GSIS dysfunction. The protective effects of PPD appeared to result from the reduction of apoptosis and intracellular lipid accumulation. Mechanistically, PPD attenuated the PA-induced increase in apoptotic markers, including B-cell lymphoma-2-associated X protein (Bax), B-cell lymphoma 2 (Bcl-2), cleaved poly (ADP-ribose) polymerase (PARP), and cleaved caspase-3. Furthermore, PPD restored insulin secretion by enhancing the activation of key signaling molecules such as phosphatidylinositol 3-kinase (PI3K), peroxisome proliferator-activated receptor γ (PPARγ), insulin receptor substrate-2 (IRS-2), protein kinase B (Akt), and pancreatic and duodenal homeobox-1 (PDX-1). Collectively, these findings suggest that PPD alleviates PA-induced lipotoxicity and β-cell dysfunction by modulating apoptotic pathways and promoting critical insulin signaling cascades. Therefore, PPD holds promise as a therapeutic agent for preventing or mitigating β-cell dysfunction in metabolic diseases such as type 2 diabetes.

Ⅱ. 공지 사항

1. 2025년도 학회상 수상자

포상명	수상자 (소속)
제43회 학술상	이상현 교수 (중앙대학교)
제15회 기창(基倉)과학상	김선태 교수 (부산대학교)
제27회 젊은과학자상	송대근 박사 (한국과학기술연구원)
	오태우 박사 (한국한의학연구원)
제15회 기술상	(주)분석기술과미래 (김태화 대표이사)
제4회 HAN BIO Award	강기성 교수 (가천대학교)
제4회 Biodot Award	김지현 (부산대학교)
	이수연 (한국생명공학연구원)
제3회 NIST 미래인재 장학금	강시헌 (중앙대학교)
	김수현 (가천대학교)
	정지인 (건국대학교)
ABCH 공로상	이상현 교수 (중앙대학교)
ABCH 우수편집위원상	구연종 교수 (전남대학교)
ABCH 우수심사위원상	류형원 박사 (한국생명공학연구원)
JABC 우수논문상	김원찬 교수 (경북대학교)
JABC 우수심사위원상	김정윤 교수 (경상국립대학교)
감사패	오세량 박사 (한국생명공학연구원) / 2024년도 회장
	최문성 교수 (서울과학기술대학교) / 2024년도 운영위원장

2. [2025년 K-Inno:Ven Star Audition] 본선 진출팀

아이템명	팀명	팀원
Upcycling Fish Processing By-Products into Functional pet food for Companion Animals	MBEL (순천향대학교)	김욱철(대표), 이윤수, 정서린
팽미(米)	Space G (경상국립대학교)	정종빈(대표), 장무연, 김다현, 방도윤, 김혜림, 정예림
식물 조직배양 기반 커피 내 생리활성 물질 생산 연구	Cellffee (부산대학교)	김효정(대표) 김지현, 이상민
망팜 (망을 이용한 수경재배)	CKP (UST-KIST스쿨)	김혜민(대표), 차형호, 박나윤
정유성분/화산석을 활용한 천연항균 수건 건조기	혼저 옵서예 (중앙대학교)	이상윤

II. 공지 사항

3. 등록비

Type	Member		Non-member	
	Regular	Students	General Participants	Students
Pre-Registration	250,000	150,000	310,000	180,000
On-site Registration	270,000	170,000	330,000	200,000

※ 등록자만 발표장에 입장하실 수 있습니다.
※ Networking 참석 안내 : 사전등록 시 신청자에 한함.
- Networking I (학생만 참석) : 6.29(일), 18:00~19:30 / 랜덤 상품 나눔 및 레크리에이션 진행
- Networking II (PI만 참석) : 6.30(월), 18:00~19:30

4. 교통 및 숙소 안내

ICC JEJU
제주특별자치도 서귀포시
중문관광로 224(중문동)

주차안내
최초 1시간은 무료이며, 그 후 30분마다 1,000원씩 증가하여 일일 최대 5,000원까지 발생합니다 (중/소형 차량 기준, 1일권 구매 불가).

교통정보 바로가기 →

숙소 및 여행정보 바로가기 →

5. 이벤트

II. 공지 사항

6. 행사장 입장 안내

한국응용생명화학회(KSABC)는 제주특별자치도 그린마이스(Green MICE) 캠페인 참여를 위한 친환경 행사의 일환으로 비닐 명찰집과 일회용 컵을 사용하지 않습니다. 종이 이름표와 리유저블 텀블러를 사용하는 것이 다소 불편하더라도 참가자 여러분의 협조를 부탁드립니다.

'The Korean Society for Applied Biological Chemistry (KSABC)' does not use plastic name tag and disposable cups as part of an environmentally friendly event to participate in Jeju Special Self-Governing Province's Green MICE campaign. We kindly ask for your understanding and cooperation in using paper name tags and reusable tumblers, even if it may cause some inconvenience.

1

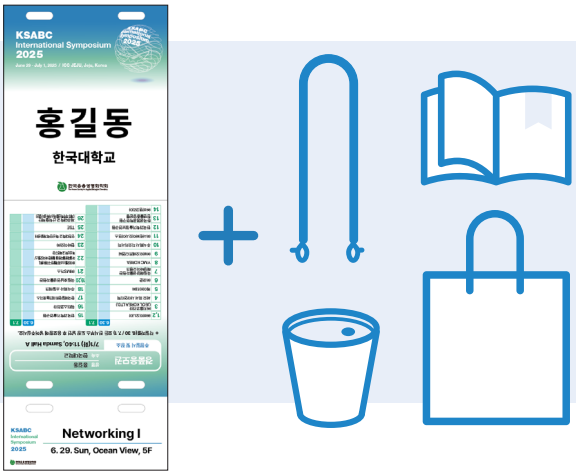
사전 전달받은 QR코드를 스캐너에 스캔 후 모니터에 표시된 본인 정보를 확인해주세요.

2

본인 정보가 출력된 명찰지와 등록 Kit를 수령해주세요.

Kit 구성: 명찰+경품응모권, 명찰줄, 프로그램북, 리유저블 텀블러,가방

* 만찬쿠폰은 사전 신청자에 한해서 출력됩니다.



3

명찰줄 작업대에서 샘플을 참고하여 명찰줄을 끼운 후 패용해주세요.

III. 포스터 발표 안내

- 학술대회 프로그램북의 부피 및 무게를 최소화하기 위해 초록은 인쇄하지 않습니다. 이에, 초록 내용은 행사기간 동안 학회 홈페이지에서 다운로드하시기 바랍니다.

  Please download the abstract from the KSABC website during the symposium period.

  홈페이지 바로가기 →

- 작성 언어 : 영어
- Poster는 지정된 시간동안 게시하며, 발표자는 발표 시간에 포스터 보드 앞에 있어야 합니다.
- Poster board의 크기는 **90cm (가로) × 150cm (세로)**이므로, 포스터의 전체 넓이가 상기 면적을 초과하지 않도록 준비합니다.
- Poster board의 맨 위쪽에 발표논문의 제목 (전치사, 관사, 접속사를 제외한 단어의 첫머리는 대문자로 표기), 발표자의 성명 및 소속을 작성합니다.
- Poster의 내용은 Abstract, Objectives, Materials & Methods, Results (Figures 및 Tables), Conclusion, References (대표적인 것 5개 정도)의 순으로 구성합니다.
- 모든 Poster는 게시 시간 종료 후 발표자가 직접 철거합니다.
  (게시 종료 후 철거되지 않은 포스터는 사무국에서 철거 및 폐기합니다.)

- The poster must be written in English.
- All posters will be displayed on the board for a designated period of time. Additionally, the presenter is required to be by their poster during the presentation time.
- The dimensions of the poster board are **90 cm (width) × 150 cm (height)**.
- At the top of the poster, include the title of the presentation (capitalizing the first letter of all words except prepositions, articles, and conjunctions), along with the presenter's name and affiliation.
- The poster content should be organized in the following order: Abstract, Objectives, Materials & Methods, Results (including Figures and Tables), Conclusions, and References (approximately five key references).
- All posters must be removed by the presenter once the posting period has concluded.
  Posters not removed after the designated time will be taken down and discarded by the Secretariat.

Ⅲ. 포스터 발표 안내

Poster Presentation

Poster Category

PBM	Biochemistry · Molecular Biology
PNB	Natural Products · Bioactive Materials · Biomedical Sciences
PES	Environmental Sciences
PFS	Food Sciences
PAM	Applied Microbiology
PBD	Bio-health/Drug development

Posting Time

Posting time for all Posters
June 29 (Sun) 14:00 ~ June 30 (Mon) 18:00

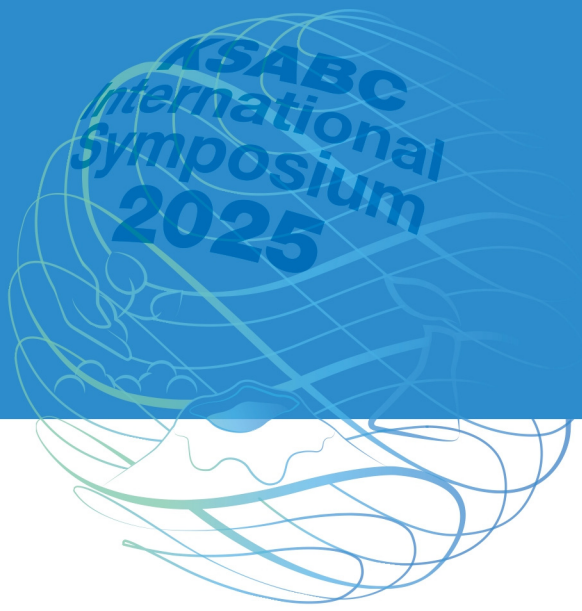
Poster Session

Date \ Category		PBM	PNB	PES	PFS	PAM	PBD
June 30 (Mon)	16:50-17:40	1-54	1-130	1-75	1-23	1-44	1-33
Place		Lobby (3F)					

KSABC
International Symposium
2025

Applied Biological Chemistry
- The key solutions for life and the environment

Ⅳ. 발표논문일람



KSABC
International Symposium
2025

Contents

KSABC
International Symposium 2025

Plenary Lecture

Plenary Lecture

June 30 (Mon), Halla Hall A

Chair: Moonjae Cho (Jeju Nat'l University)

PL **14:20-15:00**

Chemical modifications on RNAs: a potent mechanism of gene regulation

Hunseung Kang

Department of Applied Biology, Chonnam National University, Gwangju 61186, Republic of Korea

Epitranscriptomic chemical RNA modifications have recently emerged as a new layer of post-transcriptional gene regulation. Recent advancements in methylated RNA immunoprecipitation sequencing (m^6A-seq) and mass spectrometry have revealed widespread chemical modifications on diverse RNAs, including mRNA, tRNA, rRNA, microRNA, and long-noncoding RNA. Currently, > 170 RNA modifications have been identified in living organisms. Among them, N6-methyladenosine (m^6A) is the most prevalent modification found in eukaryotic mRNAs. In recent years, cellular factors adding, deleting, and interpreting m^6A marks, designated as "writers" (methyltransferases), "erasers" (demethylases), and "readers" (m^6A-binding proteins), respectively, have been identified in plants and animals. An emerging body of evidence shows that methylation on mRNAs affects diverse aspects of RNA metabolism, including stability, splicing, nucleus-to-cytoplasm export, alternative polyadenylation, and translation. In particular, the roles of writers, readers, and erasers in plants are rapidly uncovered, which clearly demonstrates that they are essential for plant growth and abiotic stress responses. In this talk, I will introduce several key findings via analyzing the mutants of m^6A writers, erasers, and readers, which emphasizes the crucial roles of epitranscriptomic chemical mRNA methylation in the plant growth, development, and stress responses.

KSABC
International Symposium 2025

Special Lectures

Special Lectures

June 29 (Sun), Samda Hall A

Chair: **Yeon Jong Koo** (Chonnam Nat'l University)

SL-1 **14:00-14:50**

Integrating Generative AI in Academic Research: From Idea Generation to Data Analysis Automation

Hyun-Soo Ahn

R&BD Partners, Yong-In, Republic of Korea

The rapid advancement of generative AI technologies has significantly transformed the landscape of academic research. This lecture aims to provide a comprehensive overview of how researchers can strategically incorporate AI tools throughout the entire research process—from ideation and literature review to writing, data analysis, and automation.

The first half of the curriculum focuses on **research ideation and academic writing using generative AI**. Participants will explore how AI models such as GPT can assist in the initial stages of research design by facilitating idea generation, topic refinement, and research planning. Through case-based demonstrations, attendees will learn to outline a research proposal, create a logical table of contents, and draft abstracts using AI assistance. Emphasis will be placed on the use of AI tools like Perplexity and Consensus for literature search, and Markdown for structuring academic documents. Practical sessions will guide participants through the process of creating a research topic and draft outline using AI prompts.

In the second half, attention shifts toward **data analysis and automation using AI and Python**. The session begins with foundational data handling techniques, where GPT is applied for spreadsheet-based tasks such as cleaning, normalization, and pattern analysis. The curriculum then delves into advanced statistical analysis, including regression and correlation, with an introduction to Python libraries like Pandas and Matplotlib for visualization and computation. Finally, the lecture covers **Google Colab integration**, demonstrating how researchers can automate data workflows—loading, preprocessing, modeling, and saving results—by combining Colab notebooks with GPT-generated code snippets.

Throughout the session, real-time demonstrations and hands-on activities will provide participants with the skills necessary to apply generative AI tools effectively in their own academic research. By the end of the lecture, attendees will gain not only technical know-how but also strategic insights into the ethical and practical use of AI in scholarly environments.

This session is ideal for early-career researchers, graduate students, and academic professionals seeking to leverage AI for enhanced productivity, creativity, and data-driven insight in their research processes.

Special Lectures

June 30 (Mon), Halla Hall A

Chair: **Hyung Won Ryu** (Korea Research Institute of Bioscience and Biotechnology)

SL-2 15:00-15:40

Knowing, Synthesizing, Applying Bugs for Creativity

Eungbin Kim

Department of Systems Biology, Yonsei University, Seoul 03722, Republic of Korea

Microorganisms are increasingly recognized not only as subjects of scientific investigation but also as catalysts for creative expression across disciplines. This presentation explores how microbiological knowledge and techniques are being integrated into artistic, educational, and design contexts, reframing microbes as active participants in cultural production. Recent developments in synthetic biology and microbial engineering have enabled novel applications such as agar art, which utilizes pigment-producing bacteria as living media, and bacterial sound research, which translates microbial activity into auditory forms through biosensing and sonification. These examples highlight the potential of microorganisms to serve as both material and metaphor in creative processes. By emphasizing the role of microbes in transdisciplinary innovation, this work proposes a new paradigm that bridges science and the arts. Such convergence not only broadens the scope of microbiological engagement but also encourages new ways of thinking about sustainability, collaboration, and the invisible networks that shape life and culture.

KSABC
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Award Lectures

Award Lectures

June 30 (Mon), Halla Hall

Chair: Tatsuya Unno (Chungbuk Nat'l University)

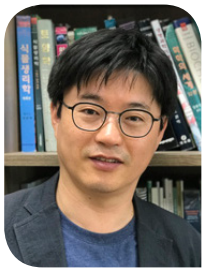
학술상 1967년도 제정

AL-1 15:50-16:10

Happiness from the Art of Natural Products

Sanghyun Lee

Department of Plant Science and Technology, Chung-Ang University, Anseong 17546, Republic of Korea



기창(基倉)과학상 기창(基倉) 한태룡 전임회장의 후원으로 2010년도 제정

AL-2 16:10-16:30

Recent Trends and Technological Advancements in Plant Proteomics: From DDA to 4D-DIA

Sun Tae Kim

Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea

HAN BIO Award 한바이오 그룹 후원으로 2022년도 제정

AL-3 16:30-16:50

Protopanaxadiol Attenuates Palmitate-Induced Lipotoxicity and Restores Pancreatic β-Cell Function in INS-1 Cells

Ki Sung Kang

College of Korean Medicine, Gachon University, Seongnam 13120, Republic of Korea

KSABC
International Symposium 2025

Symposia

Symposia

S1 Biochemistry · Molecular Biology – Synthetic Biology Based on Structural Biology (AlphaFold)

June 30 (Mon), Halla Hall A

Chair: **Bong-Gyu Mun** (Chungbuk Nat'l University)

S1-1 09:00-09:30

Machine learning-based sequence optimization for protein structures

Keunwan Park

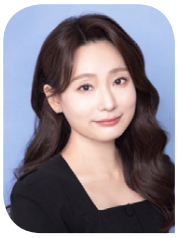
Center for Natural Product Systems Biology, Korea Institute of Science and Technology, Gangneung 25451, Republic of Korea

S1-2 09:30-10:00

Daily Rhythms in Metabolism and Sleep Cycle Are Made by a Phosphotimer

Choogon Lee

Department of Biomedical Sciences, Program in Neuroscience, College of Medicine, Florida State University, Tallahassee, USA



S1-3 10:00-10:30

Glycan-Mediated Host-Pathogen Interactions: How *Salmonella* AB Toxins Adapt to Hosts

Sohyoung Lee

[1]Department of Biology, University of Louisiana at Lafayette, Lafayette, LA 70503, USA, [2]Department of Microbiology and Immunology, Cornell University, Ithaca, NY 14853, USA

June 30 (Mon), Halla Hall A

Chair: Young Hun Song (Seoul Nat'l University)

S1-4 **10:50-11:15**

Uptake characterization of soil arsenic species and its effects on nitrogen cycle in Soybean (*Glycine max*(L.) Merrill) Cultivation: A Comparison with Cadmium

Goon-taek Lee

[1]Department of Agricultural Biotechnology, [2]Department of Applied Biology and Chemistry, College of Agricultural and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea

S1-5 **11:15-11:40**

Gene Discovery and Functional Insights to Improve Plant Nitrogen Utilization

Jun Sung Seo

Crop Science and Biotechnology, Dankook University, Cheonan 31116, Republic of Korea

S1-6 **11:40-12:05**

Transcriptomic Approach to Elucidate Molecular Targets of Humic Acid and Their Biological Functions in Plants

Joon-Yung Cha

Division of Applied Life Science(BK21four), Plant Biological Rhythm Research Center, Research Institute of Life Science, Gyeongsang National University, Jinju 52828, Republic of Korea

S1-7 **12:05-12:30**

Daytime-Specific Mechanisms of *FT* Regulation in Photoperiodic Flowering: Morning or Evening?

Young Hun Song

Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea

S2 Natural Products · Bioactive Materials · Biomedical Sciences / KIST

Co-organized by 한국과학기술연구원 강릉 천연물연구소 제주한의약연구원 JEJU INSTITUTE OF KOREAN MEDICINE

June 30 (Mon), Halla Hall B

Chair: Dae-Geun Song (Korea Institute of Science and Technology)

S2-1 09:00-09:30

Identification of novel genes and Korean medicine as regulators of the p53-MDM2 feedback loop

Ji Hoon Jung

College of Korean medicine, Kyung Hee University, Seoul 02447, Republic of Korea

S2-2 09:30-10:00

Synthetic Biology-Based Precision Fermentation CDMO: Accelerating Bio-Material Innovation

Eun Ji Kim

Team of Foundry, Division of Strategy & Planing, CJ CheilJedang, Seoul 04560, Republic of Korea

S2-3 10:00-10:30

Medicinal plants from Nepal as potential inhibitors of Aβ-aggregation and BACE1

Bishnu Prasad Pandey

[1]Department of Chemical Science and Engineering, Kathmandu University, PO Box No. 6250, Dhulikhel, Kavre, Nepal, [2]Department of Pharmacy, College of Pharmacy, Sunchon National University, Suncheon 57922, Republic of Korea

S2-4 10:30-11:00

Development of medicinal plants for herbal medicine and plant derived drugs from traditional to modern approaches

Elfahmi

School of Pharmacy, Bandung Institute of Technology, Jl. Ganesha 10 Bandung, West Java Indonesia, Indonesia

June 30 (Mon), Halla Hall B

Chair: **Jin-Soo Park** (Korea Institute of Science and Technology)

S2-5 **11:10-11:40**

Enzymatic Tailoring and Bioengineering of Aromatic Polyketides

Robin Teufel

Department of Pharmaceutical Sciences, University of Basel, 4056 Basel, Switzerland

S2-6 **11:40-12:10**

Elucidating Biochemical Pathway of Neoclerodane Diterpene, Salvinorin A, in *Salvia divinorum*

Dae-Kyun Ro

Department of Biological Sciences, University of Calgary, Calgary, Alberta, Canada

S2-7 **12:10-12:40**

Efficient Synthesis of AMF from Biomass-Derived Carbohydrate via Heterogeneous Flow Chemistry

Se Won Bae

Department of Chemistry, Jeju National University, Jeju 63243, Republic of Korea

S3 Environmental Sciences

June 30 (Mon), Samda Hall A

Chair: **Eun Hea Jho** (Chonnam Nat'l University)

S3-1 **09:00-09:25**

When Biorefinery Meets Evolutionary Engineering: Integrated Valorization of Defatted Microalgal Biomass

Jin-Ho Yun

[1]Cell Factory Research Center, Korea Research Institute of Bioscience and Biotechnology, Daejeon 34141, Republic of Korea,
[2]Department of Environmental Biotechnology, KRIBB School of Biotechnology, University of Science & Technology (UST), Daejeon 34113, Republic of Korea,
[3]Department of Integrative Biotechnology, College of Biotechnology and Bioengineering, Sungkyunkwan University, Suwon, Gyeonggi-do 16419, Republic of Korea

S3-2 **09:25-09:50**

Hydrogen Production and Real Wastewater Treatment in Zero-gap Bipolar Membrane Microbial Electrolysis Cell (BPM-MEC)

Eunjin Jwa

Convergence Research Center of Sector Coupling & Integration, Korea Institute of Energy Research, Jeju 63359, Republic of Korea

S3-3 **09:50-10:15**

Fe-Mn biochar design for reducing environmental burden of wastewater treatment

Daniel C. W. Tsang

Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, China

S3-4 **10:15-10:40**

Environmental Benefits of Microalgal Biotechnology: Bioremediation and Potential Applications

Sang-Ah Lee

[1]Faculty of Biotechnology, College of Applied Life Sciences, [2]Bio-Health Materials Core-Facility Center, [3]Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Jeju National University, 102 Jejudaehak-ro, Jeju 63243, Republic of Korea

S4 Applied Microbiology

June 30 (Mon), Samda Hall A

Chair: Tatsuya Unno (Chungbuk Nat'l University)

S4-1 **10:50-11:15**

Unveiling Hidden Worlds: Single-Cell Multi-Omics in Environmental Microbiology

Haruko Takeyama

Department of Life Science and Medical Bioscience, Waseda University, Waseda Center for a Carbon Neutral Society, Research Organization for Nano & Life Innovation, Waseda University, Japan

S4-2 **11:15-11:40**

Application of eDNA in Ecological Surveys of Marine Microbiomes

Dukki Han

Department of Marine Bioscience, Gangneung-Wonju National University, 7, Jukheon-gil, Gangneung-si, Gangwon-do 25457, Republic of Korea

S4-3 **11:40-12:05**

Prevention of Shiga toxin production in enterohemorrhagic *Escherichia coli*

Masayuki Hashimoto

Institute of Molecular Medicine, College of Medicine, National Cheng Kung University, Tainan 70456, Taiwan

S4-4 **12:05-12:30**

Understanding aerosolization of indoor bacterial communities and antibiotic resistomes in swine farms

Keunje Yoo

Department of Environmental Engineering, Korea Maritime and Ocean University, Busan 49112, Republic of Korea

S5 식품오염물질과 미세플라스틱

June 30 (Mon), Samda Hall B

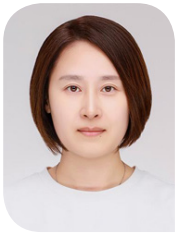
Chair: Hae Won Jang (Sungshin Women's University)

S5-1 09:00-09:25

The Content of Nitrosamines in Processed Food and the Health Risk Associated with N-nitrosodimethylamine (NDMA)

Cao-Son Tran

[1]Vietnam Center for Food Safety Risk Assessment, National Institute for Food Control, Hanoi, Vietnam, [2]Department of Toxin and Drug Testing, Hanoi University of Pharmacy, Hanoi, Vietnam



S5-2 09:25-09:50

Microplastics in the Environment: Occurrence, Transport, and Ecotoxicological Concerns

Eun-Hee Lee

[1]Department of Microbiology, [2]Institute for Future Earth, Pusan National University, Busan 46241, Republic of Korea

S5-3 09:50-10:15

Polystyrene Nanoplastics Promote Premature Cellular Senescence through Skeletal Myoblast Dysfunction in Myoblasts

Yung Hyun Choi

[1]Basic Research Laboratory for the Regulation of Microplastic-Mediated Diseases, [2]Department of Biochemistry, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

S5-4 10:15-10:40

The effects of microplastics on neurodevelopment in mice

Eui-Man Jung

[1]Department of Molecular Biology, College of Natural Sciences, [2]Institute for Future Earth, Pusan National University, Busan 46241, Republic of Korea

S6 산업바이오

Co-organized by 강원 천연물소재 전주기 표준화 허브 (강원도, 강릉시)

June 30 (Mon), Samda Hall B

Chair: Moonhyuk Kwon (Gyeongsang Nat'l University)

S6-1 10:50-11:15

Plant Cell Culture-Driven Breakthroughs in Reverse Aging

Sang Hyun Moh

Plant Cell Research Institute, BIO-FD&C Co., Ltd, Incheon 21990, Republic of Korea

S6-2 11:15-11:40

Antioxidant foods derived from microalgae

Cheol-Ho Pan

Microalgae Ask Us Co. Ltd., 30 Hanam-gil, Gangneung 25441, Republic of Korea

S6-3 11:40-12:05

딥테크 창업기업의 성공적인 성장 전략 (초기 기업 중심)

최고

시너지IB투자㈜

S6-4 12:05-12:30

New Concept of Aeroponic System

Sang-June Nam

Aalsmeer Lab, Agricultral Corporation JEJU-CHUNJI, Jeju 63036, Republic of Korea

S7 미래선도 그린바이오 융합기술 및 인재양성

June 30 (Mon), 303

Chair: Ki-Ho Son (Gyeongsang Nat'l University)

S7-1 **09:00-09:25**

Fermented aged mountain cultivated ginseng sprout and compound K alleviate allergic asthma and acute lung injury through macrophage polarization modulation

Dawon Kang

[1]Department of Physiology, College of Medicine, [2]Department of Convergence Medical Science, [3]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52727, Republic of Korea

S7-2 **09:25-09:50**

Protective effects of *Lonicerae Flos* against OGD-induced damage in bEnd.3 cells with active ingredient prediction via network pharmacology

Ki Sung Kang

College of Korean Medicine, Gachon University, Seongnam 13120, Republic of Korea

S7-3 **09:50-10:15**

Green Bio-Based Integration of Quality Grading and Smart Distribution for Horticultural Products

Sooyeon Lim

Postharvest Technology Division, National Institute of Horticultural Herbal Science, RDA, Wanju 55365, Republic of Korea

S7-4 **10:15-10:40**

Patent Acquisition and Commercialization Strategy for Biomaterials

Chan-Joo Kim

Korean Patent Attorney, IPON Co., Ltd, Daejeon 35233, Republic of Korea

S8 한국생명공학연구원 천연물 클러스터

June 30 (Mon), 303

Chair: **최상호** (한국생명공학연구원)

S8-1 **10:50-11:00**

The role of Natural Product Cluster in Korea

Sei-Ryang Oh

Natural Product Central Bank, Korea Research Institute of Bioscience and Biotechnology, Cheongju-si, Chungcheongbuk-do 28116, Republic of Korea

S8-2 **11:00-11:10**

A Base Bank for Korean Native Plants

Jaeyoung Kwon

KIST Gangneung Institute of Natural Products, Korea Institute of Science and Technology, Gangneung 25451, Republic of Korea

S8-3 **11:10-11:20**

Plant-derived natural product resource base bank

Jun Lee

Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), Naju 58245, Republic of Korea

S8-4 **11:20-11:30**

A Base Bank for Plant-derived Food Resources

Sang Yoon Choi

Korea Food Research Institute, Wanju 55365, Republic of Korea

S8-5 **11:30-11:40**

Establishment of the cooperation center for securing characteristic information of natural compounds to advance Natural Product Cluster and maximize utilization of strategic materials

Young-Won Chin

College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Seoul 08826, Republic of Korea

S8-6 11:40-11:55

Advancing natural product data management platform to be more user-friendly by implementing AI-driven efficacy prediction service

Heejae Yang

Cocoon Inc., Cheongju 28161, Republic of Korea

S8-7 11:55-12:10

Application Strategy of an AI-Based Support Program for Analyzing the Relationships Among Natural Product Components, Diseases, and Targets

Daesik Jeong

Sangmyung University, 5works Inc., Seoul 06094, Republic of Korea

S8-8 12:10-12:25

Korea Forest Plant Essential Oil Bank

Hwan Myung Lee

Department of Biotechnology, College of Life and Health Sciences, Hoseo University, Asan 31499, Republic of Korea

S9 Natural Bioactives for Disease Modulation and Metabolic Regulation

June 30 (Mon), 301

Chair: Young-Ok Son (Jeju Nat'l University)

S9-1 **09:00-09:25**

4-Methylthiobutyl isothiocyanate Potentiates the Efficacy of Chemotherapy in Drug-Resistant Breast Cancer Cells

Ji Soo Kim

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea

S9-2 **09:25-09:50**

Distinctive ecophysiological Traits of *Nitrosocosmicus* Ammonia-Oxidizing Archaea

Seongwook Kim

Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea

S9-3 **09:50-10:15**

NOX-derived ROS hyperstabilize HIF-1α under normoxia, revealing a target in pulmonary fibrosis

JinHyuk Choi

Department of Biochemistry, College of Medicine, Jeju National University, Jeju 63241, Republic of Korea

S9-4 **10:15-10:40**

ACF-1: A Novel Small Molecule for Targeted Inhibition of HIF-1α in Idiopathic Pulmonary Fibrosis

Hiruni Nilshi Indeevarie Abeysiriwardhana

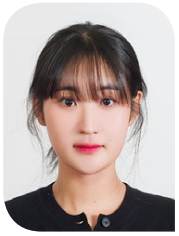
Department of Advanced Convergence Technology and Science, Jeju National University, Jeju-Si 63241, Republic of Korea

S9-5 10:50-11:15

Toward Optimizing Growth Medium for *Haematococcus lacustris*: Effects of Different Media on Growth and Microbial Dynamics

Mehwish Taj

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea



S9-6 11:15-11:40

Exploring the Anti-Inflammatory Properties of *Tetragonia tetragonoides* (Pall.) Kuntz in Mouse Macrophages

Yoon-A Kang

College of Pharmacy and Jeju Research Institute of Pharmaceutical Sciences, Jeju National University, Jeju 63243, Republic of Korea

S9-7 11:40-12:05

***p*-Coumaric acid prevents hepatic inflammation and fibrosis by suppressing NLRP3 inflammasome activation involved in TLR4 knockout fed a high-fat and high-sucrose diet**

Thi My Tien Truong

[1]*Interdisciplinary Graduate Program in Advanced Convergence Technology and Science,* [2]*Department of Food Science and Nutrition, Jeju National University, Jeju 63243, Republic of Korea*

S9-8 12:05-12:30

Investigation of Antioxidant Activities and Chemical Profiles of *Idesia polycarpa* Leaves for Potential Applications

Minseo Jeon

Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju 63243, Republic of Korea

S10 천연물소재의 건강기능식품사업화 전략

June 30 (Mon), 303

Chair: **Min Young Um** (Korea Food Research Institute)

S10-1 **15:20-15:45**

Introduction and Outcomes of Technical Support for Smart Commercialization of Health Functional Ingredients

Eunju Kim

International Life Science Institute of Korea, Seoul 04778, Republic of Korea

S10-2 **15:45-16:10**

Organoid-Based Platforms for Functional Food Development: Applications and Future Perspectives

Sang Keun Ha

Functional Food Platform Research Group, Food Functionality Research Division, Korea Food Research Institute, Wanju 55365, Republic of Korea

S10-3 **16:10-16:35**

Advancing Natural Product Research with FloraGenesis: Large-Scale Spectral Databases and Deep Learning-Based Functional Analysis

Sangwon Lee

Bioinformatics & Molecular Design Research Center, 209, Veritas A Hall, Yonsei University, 85 Songdogwahak-ro, Yeonsu-gu, Incheon, Republic of Korea

S10-4 **16:35-17:00**

R&D of a Sleep-Promoting Ingredient Derived from Lime Peel for Global Commercialization

Suengmok Cho

Major of Food Science & Technology, Pukyong National University, Busan 48513, Republic of Korea

KSABC
International Symposium 2025

Young Scientist Presentation

Young Scientist Presentation

YS1 Biochemistry · Molecular Biology / Natural Products · Bioactive Materials · Biomedical Sciences

July 1 (Tue), Samda Hall A

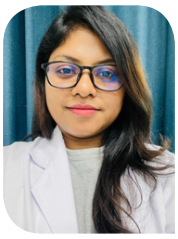
Chair: Choonkyun Jung (Seoul Nat'l University)

YS1-1 09:10-09:30

Type I IFN receptor blockade alleviates the liver fibrosis through the macrophages derived STAT3 signaling

Soo-Jeung Park

Beirne B. Carter Center for Immunology Research, University of Virginia, Charlottesville, Virginia, USA



YS1-2 09:30-09:50

TrkB-Mediated Neuritogenic and Synaptogenic Potential of Coriandrum sativum: An Integrated *In Vitro* and Network Pharmacology Study

Yeasmin Akter Munni

[1]Department of Anatomy, Dongguk University College of Medicine, [2]Department of Physiology, College of Korean Medicine, Dongguk University, Gyeongju 38066, Republic of Korea

YS1-3 09:50-10:10

Evolution and diversification of the ACT-like domain associated with plant basic helix–loop–helix transcription factors

Yun Sun Lee

[1]Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI 48823, USA, [2]Crop Biotechnology Institute, Institutes of Green-bio Science and Technology, Seoul National University, [3]Department of International Agricultural Technology, Seoul National University, Pyeongchang 25354, Republic of Korea

July 1 (Tue), Samda Hall A

Chair: **Jongmin Ahn** (Korea Research Institute of Bioscience and Biotechnology)

YS1-4 **10:20-10:40**

Flavonoid profiling of Freshwater Bioresources Culture Collection (FBCC) extracts using LC-MS/MS and their anti-obesity properties by regulating hypothalamic neuropeptides

Tae Jin Kim

Using Technology Development Department, Bio-resources Research Division, Nakdonggang National Institute of Biological Resources, Gyeongsangbuk-do 37242, Republic of Korea

YS1-5 **10:40-11:00**

Furanocoumarin enriched *Angelica acutiloba* by metabolite farming based on ethylene and their monoamine oxidase inhibition

Yong Hyun Lee

Division of Applied Life Science (BK21 four), Institute of Agricultural and Life Science (IALS), Gyeongsang National University, Jinju 52828, Republic of Korea

YS1-6 **11:00-11:20**

Sustainable extraction of antioxidant and anti-inflammatory compounds from *Polygonum multiflorum* using natural deep eutectic solvents (NADES)

Kyeong-Ok Choi

Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), 111 Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea

YS1-7 **11:20-11:40**

Anti-Inflammatory Dimeric and Trimeric Flavonoids from the Roots of *Pistacia weinmannifolia*

Hyoung-Geun Kim

Natural Product Research Center and Natural Product Central Bank, Korea Research Institute of Bioscience and Biotechnology, Chungcheungbuk-do 28116, Republic of Korea

YS2 Environmental Sciences / Applied Microbiology / Food Sciences

July 1 (Tue), Samda Hall B

Chair: Youri Yang (Kangwon Nat'l University)

YS2-1 09:10-09:30

Unlocking Carbon Pathways: Integrating Soil Biochemistry and Physical Structure as the Basis for Carbon Farming

Kyungmin Kim

Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea

YS2-2 09:30-09:50

Genomic Insights into the Dissemination of Antibiotic Resistance Genes in *E. coli* from Veterinary Clinics and Animal Farms in South Korea

Hokyung Song

Department of Environmental Engineering, Chosun University, Gwangju 61452, Republic of Korea

YS2-3 09:50-10:10

Environmental Hazards of Cement Production: Alterations in Soil Microbiomes Due to Heavy Metal Contamination

Ve Van Le

Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, 102 Jejudaehak-ro, Jeju 63243, Republic of Korea

July 1 (Tue), Samda Hall B

Chair: **Min Jung Kim** (Korea Food Research Institute)

YS2-4 **10:20-10:40**

Navigating the Aquatic Microbial Universe: Absolute Quantification of Microbial Communities through Advanced Metagenomic Approaches

Min-Ji Kim

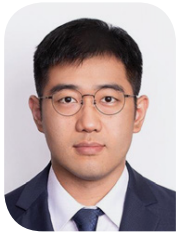
NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

YS2-5 **10:40-11:00**

Crosstalk Between Long-Chain Fatty Acids and Taste GPCRs: Distinct Modulatory Effects on Bitter, Sweet, and Umami Signaling Pathways

Dong-Uk Shin

Division of Food Functionality Research, Korea Food Research Institute, Wanju-gun 55365, Republic of Korea



YS2-6 **11:00-11:20**

Saccharomyces cerevisiae GILA induces the alleviation of intestinal inflammation in mouse with colitis

Bum Ju Kil

[1]Biomodulation Major, and Center for Food and Bioconvergence, Seoul National University, Seoul 08826, Republic of Korea, [2]Department of Agricultural Biotechnology, and Research Institute of Agriculture and Life Sciences, Seoul National University, Seoul 08826, Republic of Korea, [3]Department of Food and Nutrition, and Bionanocomposite Research Center, Kyung Hee University, Seoul 02447, Republic of Korea

YS2-7 **11:20-11:40**

Exploring the Potential of Food By-products for the Prevention of Cardiovascular Disease

Hana Lee

Department of Food Science and Biotechnology, Chungbuk National University, Cheongju 28644, Republic of Korea

KSABC
International Symposium 2025

Graduate Student Presentation

Graduate Student Presentationn

GS1 Biochemistry · Molecular Biology / Natural Products · Bioactive Materials · Biomedical Sciences

June 29 (Sun), Samda Hall A

Chair: **Su Yeon Seo** (Korea Institute of Oriental Medicine)

GS1-1 **15:10-15:20**

Inhibition of glutamate-induced cell death in HT22 cells by mixed extracts of *Dioscorea batatas* and *Zingiber officinale*

Seung-Woo Im[1,2], Tea-Woo Oh[1,2*]

[1]Korean Medicine (KM)-Application Center, Korea Institute of Oriental Medicine (KIOM), Daegu 41062, Republic of Korea, [2]Department of Korean Convergence Medical Science, University of Science & Technology (UST), 1672 Yuseongdae-ro, Yuseong-gu, Daejeon 34054, Republic of Korea

GS1-2 **15:20-15:30**

Enhancing Plant Stress Tolerance through Subcellular Targeting of Catalase

Euyeon Kim, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University, Gwangju, Republic of Korea

GS1-3 **15:30-15:40**

Non-secreted peptide OsRALF5 regulate pollen tube growth in *Oryza sativa*

Hyo-Jeong Kim[1], Ji-Hyun Kim[1], Eui-Jung Kim[2], Ye-Jin Son[1], Ki-Hong Jung[2], Yu-Jin Kim[1*]

[1]Department of Life Science and Environmental Biochemistry, and Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [2]Graduate School of Green Bio Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea

GS1-4 **15:40-15:50**

Tongue tissue endoplasmic reticulum stress response in a DSS-induced colitis model from an oral-gut axis perspective

Young Ju Do[1,2], Su Yeon Seo[1,2*]

[1]Department of Oriental Medicine Research Division, Korea Institute of Oriental Medicine, Republic of Korea, [2]Department of Korea Convergence Medical Science, University of Science & Technology (UST), Republic of Korea

GS1-5 **15:50-16:00**

Development of a Method to Discriminate the Geographical Origins of Peanut (*Arachis hypogaea*) Using Physicochemical and Metabolomic Analyses

Sanghwa Kang, Jiyoung Shin, Junho Yang, Beom-Su Cho, Gangmi Nam, Yeonhwa Park, Jisoo Han, Ji-Young Yang*

Department of Food Science and Technology, Pukyong National University, Busan 48513, Republic of Korea

GS1-6 **16:00-16:10**

Integrated CPC–QM–qNMR Platform for Evaluation of Antibacterial Synergy among the Coumarins from *Cnidium monnieri*

Sangmin Lee[1,2], Young Ho Seo[2], Yerim Joo[1,2], Eunbeen Shin[1,2], Mi Kyeong Lee[3], Saemee Song[4*], Seon Beom Kim[1,2,5*]

[1]Department of Food Science and Technology, College of Natural Resources and Life Science, Pusan National University, Miryang 50463, Republic of Korea, [2]Institute for Future Earth, Pusan National University, Busan 46241, Republic of Korea, [3]College of Pharmacy, Chungbuk National University, Cheongju 28160, Republic of Korea, [4]Department of Infectious Diseases Research, Korea Research Institute of Chemical Technology, Daejeon 34114, Republic of Korea, [5]Food Tech Innovation Center, Life and Industry Convergence Research Institute, Pusan National University, Miryang, Republic of Korea

GS1-7 **16:10-16:20**

Development of Quarantine Disinfestation Methods for *Carposina sasakii* in Fresh Apples

Hwee-Seung Ji[1], So-Yeon Kim[1], Jae-Won Yoon[2], Min-Goo Park[2*]

[1]Department of Agricultural Chemistry, Jeonbuk National University, Jeonju 54896, Republic of Korea, [2]Department of Bioenvironmental Chemistry, Jeonbuk National University, Jeonju 54896, Republic of Korea

June 29 (Sun), Samda Hall A

Chair: Jihye Kim (Hannam University)

GS1-8 **16:30-16:40**

Exploring the molecular mechanism that mediates N-induced stem growth in tomato plants

So-hyun Kim, Zion Lee, Seung-won Park, Min-seo Kim, Jae-Sung Shim*

School of Biological Sciences and Technology, Chonnam National University, Gwangju 61186, Republic of Korea

GS1-9 **16:40-16:50**

Anti-inflammatory and Antioxidant Activities of *Platycodon grandiflorum* Root Extract Fermented with *Weissella cibaria* HY207

Min-Jung Park, Sun-Chul Kang*

Department of Biotechnology, Daegu University, Gyeongsan 38453, Republic of Korea

GS1-10 **16:50-17:00**

Isolation and identification of chemical constituents from aerial part of *Lespedeza cyrtobotrya* Miq.

Su-Ah Lee[1,2], Hyoung-Geun Kim[1], Taehoon Oh[3], Sung-Kyun Ko[3], Jung-Hee Kim[1], Su-Yeon Lee[1], In-Seo Heo[1], Seon Min Oh[1], Jongmin Ahn[1], Hyung Won Ryu[1], Dongho Lee[4*], Sei-Ryang Oh[1*]

[1]Natural Product Research Center and Natural Product Central Bank, KRIBB, 30-Yeongudanji-ro, Ochang-eup, Cheongwon-gu, Cheongju-si, Chungbuk 28116, Republic of Korea, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University, 52, Ewhyeodae-gil, Seodaemun-gu, Seoul 03760, Republic of Korea, [3]Chemical Biology Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Cheongju 28116, Republic of Korea, [4]Department of Plant Biotechnology, Collede of Life Sciences and Biotechnology, Korea University, Seoul 02841, Republic of Korea

GS1-11 **17:00-17:10**

Applying *in vitro* propagation and smart farming for the conservation and sustainable production of *Polygonum multiflorum*

Kenneth Happy[1,2], Youngmin Kang[1,2*]

[1]Korean Medicine Convergence Science Major of KIOM School, University of Science and Technology (UST), Daejeon 34113, Republic of Korea, [2]Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), 111 Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea

GS1-12 **17:10-17:20**

Schisandrin C Originating from *Schisandra chinensis* Alleviates Depression by Modulating Gut-Brain Axis

Son Hung Tran[1,2], Hyeonseong Lee[1], Siqi Zhang[1,2], Keunwan Park[1], Emmanuel Hitayezu[1], Won Kyu Kim[1,2], Uyen Tran Tu Nguyen[1,2], Sohyun Lee[1,2], Kwanghyun Cha[1,2], Jaeyoung Kwon[1,2], Joonki Kim[1,2], Kyungsu Kang[1,2*]

[1]Gangneung Institute of Natural Products, Korea Institute of Science and Technology, Gangneung, Gangwon-do 25451, Republic of Korea, [2]Natural Product Applied Science, KIST School, University of Science and Technology (UST), Gangneung, Gangwon-do 25451, Republic of Korea

GS1-13 **17:20-17:30**

Anti-Inflammatory Effect of Fermented and Aged Mountain-Cultivated Ginseng Sprout and Its Major Component, Compound K, in an LPS-induced Acute Respiratory Distress Syndrome Mouse Model

Dang Long Cao[1,2], Min-Seok Woo[1], Eun-Jin Kim[1], Sang Soo Kang[2,3], Kye Man Cho[4], Dawon Kang[1,2*]

[1]Department of Physiology and Institute of Medical Sciences, College of Medicine, Gyeongsang National University, Jinju 52727, Republic of Korea, [2]Department of Convergence Medical Science, Gyeongsang National University, Jinju 52727, Republic of Korea, [3]Department of Anatomy and Institute of Health Sciences, College of Medicine, Gyeongsang National University, Jinju 52727, Republic of Korea, [4]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52727, Republic of Korea

GS1-14 **17:30-17:40**

Development of an Alginate-based Hydrogel Incorporating Alginate Oligomers and Antibacterial Peptides for Wound Healing Applications

Yu Bin Kim, Yeon Jong Koo*

Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea

GS1-15 **17:40-17:50**

Optimization of Peanut Sprout Extract for its potential lipid-lowering effects via AMPK activation in murine and canine adipose tissue derived mesenchymal stem cells

Jihye Choi[1], Hyun-jin Jang[1], Fang Feng[1], Sujin Kim[1], Thi My Tien Truong[1,2], Sihoon Park[3], Hyun Jung Kim[4], Ji Hee Lim[5], Inhae Kang[1,2*]

[1]Department of Food Science and Nutrition, Jeju National University, Jeju 63243, Republic of Korea, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea, [3]Department of Food and Nutrition, Chosun University, Gwangju 61452, Republic of Korea, [4]Department of Food Bioengineering, Jeju National University, Jeju 63243, Republic of Korea, [5]OLAOLAB, Jeju 63359, Republic of Korea

GS2 Environmental Sciences / Applied Microbiology / Food Sciences

June 29 (Sun), Samda Hall B

Chair: Sang-Ah Lee (Jeju Nat'l University)

GS2-1 **15:10-15:20**

Perfluorooctanoic Acid Alters Ligand Affinity in Human Serum Albumin Without Structural Unfolding

Jihye Ahn[1], Moonsung Choi[2*]

[1]Department of Optometry, Seoul National University of Science & Technology, Seoul 01811, Republic of Korea, [2]Department of Biomedical Sciences, SeoulTech-KIRAMS Graduate Medical Sciences, Seoul National University of Science & Technology, Seoul 01811, Republic of Korea

GS2-2 **15:20-15:30**

Effect of co-digestion and thermal hydrolysis pretreatment on methane production from cow feces and tomato waste

Jae Gyeong Kim[1], Jeong Min Heo[1], Xin Zhao[3], Jin-Kyung Hong[4], Eun Hea Jho[1,2*]

[1]Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [2]Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [3]Department of Civil and Environmental Engineering, Seoul National University, Seoul 08826, Republic of Korea, [4]Department of Environment and Energy Engineering, Chonnam National University, Gwangju 61186, Republic of Korea

GS2-3 **15:30-15:40**

Production of Poultry Manure Biochar and Evaluation of Its Potential as an Organic Fertilizer

Ikhyeong Lee[1], Han-Na Cho[1], Chang-Gon Lee[2], Ji-Min Song[2], Se-Won Kang[1,2*]

[1]Department of Agricultural Chemistry, Sunchon National University, Suncheon 57922, Republic of Korea, [2]Department of Agricultural Life Science, Scunchon National University, 57922, Republic of Korea

GS2-4 **15:40-15:50**

Development of Biochar Treatment Technology for Cyanobacteria Control

Jung-Mok Lee, Jae-Hoon Lee, Jun-Suk Rho, Seul-Rin Lee, Seung-Hoon Lee, Dong-Cheol Seo*

Division of Applied Life Science(BK21 Four) & Institute of Agricultural and Life Sciences, Gyeongsang National University, Jinju 52828, Republic of Korea

GS2-5 **15:50-16:00**

Can Ammonium Sulfate Reduce Ammonia Volatilization from a Rice Paddy Soil Compared to Urea

Jasmin Melendez[1], Yeomyeong Lee[1], Sohee Yoon[1], Sang Yoon Kim[1,2]*

[1]Department of Agricultural Chemistry & Interdisciplinary Program in IT-Bio Convergence System, Sunchon National University, Suncheon 57922, Republic of Korea, [2]Department of Agricultural Life Science, Sunchon National University, Suncheon 57922, Republic of Korea

GS2-6 **16:00-16:10**

Machine Learning-Based Prediction of Soil Nutrients Levels from Electrical Conductivity

Seung Jun Lee, Han Na Kim, Jeong Yeon Kim, Su Kyeong Shin, Ye Eun Lee, Jin Hee Park*

Department of Environmental Biological Chemistry, Chungbuk National University, Cheongju 28644, Republic of Korea

GS2-7 **16:10-16:20**

Suppression of Fusarium Wilt of *Cnidium officinale* Using Biocontrol Agents

Seok Hui Lee, Jun Yeong Park, Jun Won Kang*

Department of Forestry, Kyungpook National University, Daegu 41566, Republic of Korea

June 29 (Sun), Samda Hall B

Chair: Ji-Hoon Lee (Jeonbuk Nat'l University)

GS2-8 **16:30-16:40**

Impact Of Soil Amendments on Soil Microbiota and Plant Defense System: A Study on Beneficial Bacterium and Salicylic Acid in Cucumber Cultivation

Sandamali Harshani Kumari Hathurusinghe[1], Anushree Joshi[1], Tino Bashizi[1], Minsoo Jeong[1], Min-Ji Kim[1], Jae-Ho Shin[1,2*]

[1]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

GS2-9 **16:40-16:50**

Laccase-producing Bacterium *Pseudomonas palmensis* strain MSK1 isolated from a Plastisphere and its Potential for Decolorization of Synthetic Dyes

Miso Kim[1], Haeun Kim[2], Youri Yang[1,2*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon 24341, Republic of Korea, [2]School of Natural Resources and Environmental Sciences, Department of Biological Environment, Kangwon National University, Chuncheon 24341, Republic of Korea

GS2-10 **16:50-17:00**

Exploration of Nitrogen-fixing and Nitrous oxide-reducing Bacteria from Legume Roots and Soils

Seung Hwa Jeong[1], Hyeyeon Park[1], Yejin Seon[1], Sujin Lee[2], Yeonjong Koo[1*]

[1]Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [2]Department of Environment and Energy Engineering, Gwangju Institute of Science and Technomogy, Gwangju, Republic of Korea

GS2-11 **17:00-17:10**

Microbial Community Dynamics in Municipal Wastewater and Livestock Manure Treatment Plants

Geon Choi[1], Hokyung Song[2], TatsuyaUnno[1*]

[1]Department of Biological Sciences and Biotechnology, Chungbuk National University, Seowon-Gu, Cheongju 28644, Republic of Korea, [2]Department of Environmental Engineering, Chosun University, Chosundae 5-gil 60, Dong-gu, Gwangju 61452, Republic of Korea

GS2-12 **17:10-17:20**

Metabolomic Insights into Korean Red Peppers across Cultivars and Postharvest Conditions

Hahyeong Yu[1], Kyung-Hyung Ku[2], Jeong-Ho Lim[3], Jihyun Lee[4*]

[1]Department of Food Science and Technology, Chung-Ang University, Anseong 17546, Republic of Korea, [2]Enterprise Solution Research Center, Korea Food Research Institute, Wanju 55365, Republic of Korea, [3]Smart Manufacturing Research Group, Korea Food Research Institute, Wanju 55365, Republic of Korea, [4]Department of Food and Nutrition, Seoul National University, Seoul 08826, Republic of Korea

GS2-13 **17:20-17:30**

Characterization and Immunomodulatory Effects of Alginate and *Sargassum fulvellum* Oligosaccharides Degraded by Crude Enzymes from *Shewanella oneidensis* PKA 1008

Ha-Young Lee, Dong-Hyun Ahn*

Department of Food Science and Technology, The Graduate School, Pukyong National University, Busan 48513, Republic of Korea

GS2-14 **17:30-17:40**

Comprehensive Evaluation and Field Validation of Chlorine Dioxide Washing Technology for Safety and Quality Maintenance in Red Pepper Powder

Jae-Yun Jo, In-Ung Jeong, Hyang-Hee Kim, Hyo-Sub Lee*

Chemical Safety Division, Agro-Food and Crop Protection Department, NAS, Wanju, Republic of Korea

GS2-15 **17:40-17:50**

Optimization of Heat-Moisture Treatment for Manufacturing Resistant Starch from Red Bean (*Vigna angularis* var. *nipponensis*)

Gangmi Nam, Jiyoung Shin, Junho Yang, Beom-Su Cho, Sanghwa Kang, Jisoo Han, Yeonhwa Park, Ji-Young Yang*

Department of Food Science and Technology, Pukyong National University, Busan 48513, Republic of Korea

KSABC
International Symposium 2025

K-Inno:Ven Star Audition

K-Inno:Ven Star Audition

July 1 (Tue), 303

Chair: Moonsung Choi (Seoul Nat'l University of Science &Technology)

K-1 09:10-09:30

Upcycling Fish Processing By-Products into Functional pet food for Companion Animals

김욱철, 이윤수, 정서린

MBEL (순천향대학교 의료과학과)

K-2 09:30-09:50

팽미(米)

정종빈, 장무연, 김다현, 방도윤, 김혜림, 정예림

Space G (경상국립대학교 생명자원과학과)

K-3 09:50-10:10

식물 조직배양 기반 커피 내 생리활성 물질 생산 연구

김효정, 김지현, 이상민

Cellffee (부산대학교 생명환경화학과)

K-4 10:20-10:40

망팜 (망을 이용한 수경재배)

김혜민, 차형호, 박나윤

CKP (UST–KIST스쿨 천연물응용과학 전공)

K-5 10:40-11:00

정유성분/화산석을 활용한 천연항균 수건 건조기

이상윤

혼저 옵서예 (중앙대학교 식물생명공학과)

KSABC
International Symposium 2025

Poster Presentation

Poster Presentation

Poster Category

PBM	Biochemistry · Molecular Biology
PNB	Natural Products · Bioactive Materials · Biomedical Sciences
PES	Environmental Sciences
PFS	Food Sciences
PAM	Applied Microbiology
PBD	Bio-health/Drug development

Posting Time

Posting time for all Posters
June 29 (Sun) 14:00 ~ June 30 (Mon) 18:00

Poster Session

Date \ Category		PBM	PNB	PES	PFS	PAM	PBD
June 30 (Mon)	16:50-17:40	1-54	1-130	1-75	1-23	1-44	1-33
Place		Lobby (3F)					

PBM Biochemistry · Molecular Biology

PBM-1 Neuroprotective of Isoflavone-Enriched Soybean Leaves (Glycine Max) on the Scopolamine-Induced Memory Deficits in C57BL6 Mice via Antioxidative Mechanisms

Tae Woo Oh[1,2*], Seung-Woo Im[1,2]

[1]Korean Medicine (KM) Application Center, Korea Institute of Oriental Medicine (KIOM), [2]Korean Convergence Medicine Major KIOM, University of Science and Technology (UST)

PBM-2 Neuroprotective Effects of Dioscorea bulbifera L. Extract Against Glutamate-Induced Oxidative Stress and Apoptosis in HT22 Hippocampal Cells

Tae Woo Oh[1,2*], Seung-Woo Im[1,2]

[1]Korean Medicine (KM)-Application Center, Korea Institute of Oriental Medicine (KIOM), [2]Department of Korean Convergence Medical Science, University of Science & Technology (UST)

PBM-3 Tissue-Specific Expression and Developmental Regulation of *FAD2* and *FAD3* Genes Involved in Fatty Acid Biosynthesis in Milk Thistle

Hyun Uk Kim*, Je-Hyeong Hong

Bioindustry and Bioresource Engineering, Sejong University

PBM-4 Study on the production of foot-and-mouth disease recombinant vaccine candidates using plant expression systems

Juho Lee*, Woo-Hyun Jeong, Seon-Kyeong Lee, Kyeong-Ryeol Lee

National Institute of Agricultural Sciences, Rural Development Administration

PBM-5 Generation and validation of a LDL receptor reporter cell line for screening small molecules to treat hypercholesterolemia

Heungsop Shin[1*], Choogon Lee[2*], Jisun Lee[1], Jiyoung Park[2]

[1]Department of Chemical Engineering and Biotechnology, Tech University of Korea, [2]Department of Biomedical Sciences, Florida State University

PBM-6 Immunomodulatory potential of gamma-irradiated macrophage-derived exosomes

Hanui Lee[1], Gyeong Han Jeong[1], So-Yeun Woo[1], Hyoung-Woo Bai[1,2*], Byung Yeoup Chung[1*]

[1]Research division for Biotechnology, Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy Research Institute (KAERI), [2]Radiation Biotechnology and Applied Radioisotope Science, University of Science and Technology (UST)

PBM-7

Enhancement of Tomato Fruit Sweetness by Targeted ALS1 Gene Editing

So Hee Yang, Yeonjong Koo*
Department of Agricultural Chemistry, Chonnam National University, Gwangju

PBM-8

Quantitative analysis of DNA-binding to UidR by fluorescence spectroscopy

Hyo Jin Song, Che-Hun Jung*
Department of Chemistry, Chonnam National University

PBM-9

***PEP-associated protein 3* is a Key Regulator of Chloroplast Development in Rice**

Deok Hyun Seo, Geupil Jang*
School of Biological Sciences and Technology, Chonnam National University

PBM-10

***Bacillus velezensis* Enhance Drought Tolerance in Rice**

Dongryeol Park, Jinwoo Jang, Deok Hyun Seo, Geupil Jang*
School of Biological Sciences and Technology, Chonnam National University

PBM-11

Tongue tissue endoplasmic reticulum stress response in a DSS-induced colitis model from an oral-gut axis perspective

Young Ju Do[1,2], Su Yeon Seo[1,2*]
[1]Department of Oriental Medicine Research Division, Korea Institute of Oriental Medicine, [2]Department of Korea Convergence Medical Science, University of Science & Technology

PBM-12

Interactions of Isocitrate Dehydrogenase with DNA and guanine nucleotides

Jimin Min, Che-Hun Jung*
Department of Chemistry, Chonnam National University

PBM-13

Effects of Polysaccharide (Polycan) derived from Black Yeast in TNF-α induced Inflammation in the Intestinal Epithelial Cells and Loperamide- induced Constipation Models

Min Jeong Cho[1], Young-Suk Kim[1*], Bon-Hwa Ku[1], Seon Min Lee[2], Tae Woo Oh[3,4*]
[1]R&D Center, Glucan co., [2]Center for Bio-Health Research, Korea Institute of Toxicology, [3]Korean Medicine (KM)-Application Center, Korea Institute of Oriental Medicine (KIOM), [4]Department of Korean Convergence Medical Science, University of Science & Technology(UST)

PBM-14

Genetic engineering-driven overexpression of *SlVTE3* resulted in enhanced vitamin E accumulation in tomatoes

Ah Young Kim[1], Han Yong Lee[2*]

[1]Institute of Well-Aging Medicare & Chosun University G-LAMP Project group, Chosun University, [2]Department of Biology Science, College of Natural Science, Chosun University

PBM-15

Regulation of Rice Pollen Tube Growth by S1P-mediated Processing of pollen-expressed OsRALF peptides

Ji-Hyun Kim[1], Hyo-Jeong Kim[1], Ye-Jin Son[1], Eui-Jung Kim[2], Ki-Hong Jung[2], Yu-Jin Kim[1*]

[1]Department of Life Science and Environmental Biochemistry, and Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [2]Graduate School of Green Bio Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea

PBM-16

OsRALF4, a RALF peptide conserved in Poaceae species, functions as a key regulator of rice grain development via CrRLK1L signaling

Ji-Hyun Kim[1], Hyo-Jeong Kim[1], Ga-Young Noh[1], Ye-Jin Son[1], Do-Hyeon Kim[1], Eui-Jung Kim[2], Riya Tari[2], Woo-Jong Hong[2,3], Cheol Woo Min[4], Da Eun Kim[5], Byoung Il Je[5], Sun Tae Kim[4], Wanqi Liang[6], Ki-Hong Jung[2], Yu-Jin Kim[1*]

[1]Department of Life Science and Environmental Biochemistry, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [2]Graduate School of Green Bio-Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea, [3]Department of Smart Farm Science, Kyung Hee University, Yongin 17104, Republic of Korea, [4]Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [5]Department of Horticultural Bioscience, College of Natural Resource and Life Science, Pusan National University, Miryang 50463, Republic of Korea, [6]Joint International Research Laboratory of Metabolic & Developmental Sciences, State Key Laboratory of Hybrid Rice, School of Life Sciences and Biotec, Shanghai Jiao Tong University, Shanghai, China

PBM-17

An Albino Seedling-Lethal Mutant Reveals a Key Regulator of Chloroplast Development in *Arabidopsis thaliana*

Jinhyeong Kim, Geupil Jang*

School of Biological Sciences and Technology, Chonnam National University

PBM-18

Non-secreted peptide OsRALF5 regulate pollen tube growth in *Oryza sativa*

Hyo-Jeong Kim[1], Ji-Hyun Kim[1], Eui-Jung Kim[2], Ye-Jin Son[1], Ki-Hong Jung[2], Yu-Jin Kim[1*]

[1]Department of Life Science and Environmental Biochemistry, and Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [2]Graduate School of Green Bio Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea

PBM-19

Enhancing Plant Stress Tolerance through ROS Control and Subcellular Targeting of Catalase

Yeonjong Koo*, Euyeon Kim

Agricultural Chemistry, Chonnam National University

PBM-20

Exploring the molecular mechanism that mediates N-induced stem growth in tomato plants

So Hyun Kim, Zion Lee, Seung Won Park, Min Seo Kang, Jae Sung Shim*

School of Biological Sciences and Technology, Chonnam National University

PBM-21

An *Ehd1*-independent short-day flowering pathway mediated by OsJAZ11 and OsMYC2 in rice

Gibeom Baek[1], Janghyun Choi[2], Hyeok Chan Kown[2,3], Jinmi Yoon[2,3], Lae-Hyeon Cho[1*]

[1]Department of Plant Bioscience, Pusan National University, Miryang 50463, Korea, [2]Department of Biological Sciences, Inha University, Incheon, Republic of Korea, [3]Department of Biological Sciences and Bioengineering, Inha University/Industry-Academia Interactive R&E Center for Bioprocess Innovation, Inha University, Incheon, Republic of Korea

PBM-22

The Role of the Nitrogen Use Efficiency-Related Gene HNI9 in Regulating Plant Growth under Salt Stress

Juyeon Park, Quang Tri Le, Hojoung Lee*

Department of Plant Biotechnology, College of Life Sciences and Biotechnology, Korea University, Anam-dong 5-ga, Seongbuk-gu, Seoul 136-713, Republic of Korea

PBM-23

Comparative leaf metabolomics of soybeans across seed coat colors and developmental stages

Vimalraj Mani[1], Soyoung Park[1], Sukhee Kim[2], Kong-Sik Shin[1], Kihun Ha[2*]

[1]Plant Biomaterials and Biotechnology division, National Institute of Agricultural Sciences, [2]National Institute of Agricultural Sciences, Plant Biomaterials and Biotechnology division

PBM-24

Physiological and Cytological Responses of Sweet Potato 'Tongchaeru' to Irrigation Water Salinity in the Saemangeum Reclaimed Land

Young Tae Shin[1], Hyeoun Suk Cho[1*], Gyung Ran Do[2], Mi Nam Chung[3]

[1]Reclaimed Land Agriculture Research Center, National Institute of Crop Science, [2]Postharvest Technology Division, National Institute of Horticultural and Herbal Science, [3]Value Crop Research Institute, National Institute of Crop Science

PBM-25

UGT74E2 Negatively Regulates Salt Stress Tolerance in Arabidopsis by Modulating IBA Glycosylation

Eun Kyu Ko, Hojoung Lee*

Department of Plant Biotechnology, College of Life Sciences and Biotechnology, Korea University, Anam-dong 5-ga, Seongbuk-gu, Seoul 136-713, Republic of Korea

PBM-26

Neurotrophic Effects of *Foeniculum vulgare* Ethanol Extracts on Hippocampal Neurons: Role of Anethole in Neurite Outgrowth and Synaptic Development

Sarmin Ummey Habiba[1,2*], In-Jun Yang[3], Il Soo Moon[4], Ho Jin Choi[5,6], Yeasmin Akter Munni[7], Tran Khoa Nguyen[7], Mac Gia Linh[3]

[1]Physiology, Department of Physiology, College of Korean Medicine, Dongguk University, [2]Medicine, Department of Anatomy, College of Medicine, Dongguk University, Gyeongju 38066, Republic of Korea, [3]Department of Physiology, Department of Physiology, College of Korean Medicine, Dongguk University, [4]Department of Neuroanatomy, College of Medicine, Dongguk University, Gyeongju 38066, Republic of Korea, [5]Department of Anatomy, College of Medicine, Dongguk University, Gyeongju 38066, Republic of Korea, [6]Department of Chemistry, Pohang University of Science and Technology (POSTECH), Pohang 37673, South korea, [7]Department of Physiology, College of Korean Medicine, Dongguk University

PBM-27

Venom gland profiling of three korean *Gloydius* species and recombinant expression of major toxins

Park Hyo Sun[1], Yeon-Jong Koo[1*], Su-Jin Lee[2]

[1]Agricultural Chemistry, Chonnam National University, [2]Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST)

PBM-28

Natural variation-driven regulation of temperature- and photoperiod-responsive flowering by FLC and FLC family genes: A potetntial regulatory hub for combating climate change

Zeeshan Nasim*, Nouroz Karim, Ji Hoon Ahn, Eunkyoo Oh*

Department of Molecular Life Sciences, Korea University, Seoul, South Korea

PBM-29

Development of Recombinase Polymerase Amplification (RPA) method for detection of Herbicide-resistant GM crops

Su-Jin Song, An-Cheol Chang, Doh-Won Yun, Jong-Chan Park, Sung Dug Oh*

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences

PBM-30

Mutation of *SlNRTF3* promotes growth under N-limiting conditions through activation of nitrogen assimilation pathway

Zion Lee, So-Hyun Kim, Min-Seo Kang, Seung-Won Park, Jae-Sung Shim*

School of Biological Sciences and Technology, Chonnam National University

PBM-31

CRISPR-Cas9 Genome Editing in Tomato Using In Vivo Cas9/tracrRNA Expression and Exogenous crRNA

Yaerim Lee, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University

PBM-32

***Aureimonas Altamirensis* DSM 21988 as a Dual-Function Agent: Promoting Rice Growth and Inducing Systemic Resistance Against Bacterial Blight**

Navid Iqbal[1], Youngchul Yoo[1], Sang Won Lee[1,2*]

[1]Department of Genetic Engineering and Biotechnology, Kyung Hee University, Yongin 17104, Korea, [2]Department of Green-Bioscience, Kyung Hee University, Yongin 17104, Korea

PBM-33

Enhancement of Growth and Bioactive Compound Accumulation in Licorice Sprouts through Symbiotic Association with the Newly Isolated *Mixta theicola* QC88-366

Yong-Sung Park, Jin Ryeol Jeon, Sang-Mo Kang, In-Jung Lee*

Dep. of Applied Biosciences, Kyungpook National University

PBM-34

Determination of Platydin D Content by Cultivation Period of *Platycodon grandiflorum* through Plug Seedling Transplantation

Dong Yeol Lee[1*], Yun Sook Kim[2], Sang Eun Lee[2], Won Min Jeong[1], Yeong In Choe[1], Dong Kyu Jeong[1]

[1]Research & Development Team, Gyeongnam Anti-Aging Research Institute, [2]Institute of Medicinal Resources, Gyeongsangnam-do Agricultural Research and Extension Services

PBM-35

Cadmium Stress Alleviation in Soybean(*Glycine max* L.) via Chitosan–Melatonin Nanoparticles: Hormonal and Metabolomic Mechanistic Analysis

Jin Ryeol Jeon, Ji-In Woo, Hye-Jin Kwon, Jun-Hwi Ha, Yong-Sung Park, Sang-Mo Kang, In-Jung Lee*

Dep. of Applied Biosciences, Kyungpook National University, Daegu 41566, Korea

PBM-36

Natural antisense transcript *OsDof2NAT* enhances early heading and drought tolerance by activating *Dof2* expression in rice

Choonkyun Jung*

Department of International Agricultural Technology, Seoul National University

PBM-37

Methyl Jasmonate Preharvest Treatment Activates Plant Defense System and Induces Glucosinolate Production in Wasabi (*Wasabia japonica* Matsum) Leaves

To Quyen Truong[1], Yeong Bin Choi[1,2], Phuong Kim Huynh[1,2], Sang Min Kim[1,2*]

[1]Smart Farm Research Center, Korea Institute of Science and Technology (KIST) Gangneung Institute of Natural Products, Gangneung 25451, Republic of Korea, [2]Natural Product Applied Science, KIST School, University of Science and Technology, Gangneung 25451, Republic of Korea

PBM-38

Stage-Specific Effects of Sulfur Fertilization on Glucosinolate Production in *Wasabia japonica* Leaves

Ye Lin Kim[1], To Quyen Truong[1], Yeong Bin Choi[1,2], Phuong Kim Huynh[1,2], Sang Min Kim[1,2*]

[1]Smart Farm Research Center, Korea Institute of Science and Technology (KIST) Gangneung Institute of Natural Products, Gangneung 25451, Republic of Korea, [2]Natural Product Applied Science, KIST School, University of Science and Technology, Gangneung 25451, Republic of Korea

PBM-39

In rice, Actin-related protein 2/3 complex 2B subunit (ARPC2B) regulates Gibberellin Biosynthesis, and overexpression of *OsARPC2B* gene increases Grain Yield

Seung Young Choi[1], Tae Young Um[2], Ik-Young Choi[1*]

[1]Department of Smart Farm and Agriculture Industry, Kangwon National University, [2]Department of Plant Science, Gangneung-Wonju National University

PBM-40

In rice, microRNA171f regulates expression of *SCL6*, which is involved in drought tolerance and flavonoid biosynthesis

Yong Hun Song, Seung Muk Won, Ga Ram Kim, Kyeong Hee Lee, Taeyoung Um*

Department of Plant Science, Gangneung-Wonju National University

PBM-41

Fumigant Efficacy of Sulfuryl Fluoride Against *Sitophiluls zeamias* and Sorption Characteristics by Origin of Wood Pellets

Ga-Eul Lim[1], Na-Ra Choi[1], Hwan Hee Lee[2], Min-Goo Park[2*]

[1]Department of Agricultural Chemistry, Jeonbuk National University, [2]Department of Bioenvironmental Chemistry, Jeonbuk National University

PBM-42 **Efficacy of Phosphine Fumigation Against *Ostrinia furnacalis* in Sweet Pumpkin (*Cucurbita maxima*)**

Oyun-Erdene Enkhjargal[1], Na-Ra Choi[1], So-Yeon Kim[1], Hwan Hee Lee[2], Jae Won Yoon[2], Min-Goo Park[2*]

[1]Department of Agricultural Chemistry, Jeonbuk National University, [2]Department of Bioenvironmental Chemistry, Jeonbuk National University

PBM-43 **Development of Multiplex PCR Assays for Simultaneous Detection of Fungal and Viral Pathogens in *Cymbidium kanran***

Jiwon Kim[1], Sunyung Yoon[2], Seungtae Kang[3], Ho Bang Kim[4], Kyung-Hwan Boo[1,2*]

[1]Subtropical/Tropical Organism Gene Bank, Jeju National University, Jeju 63243, Republic of Korea, [2]Department of Biotechnology, College of Applied Life Science (SARI), Jeju National University, Jeju 63243, Republic of Korea, [3]Jeju Orchid Gallery, World Heritage Office, Jeju Special Self-Governing Provincial Government, Jeju 63341, Republic of Korea, [4]Department of Environmental Horticulture, School of Equine Science and Horticulture, Cheju Halla University, Jeju 63092, Republic of Korea

PBM-44 ***In vitro* callus induction of *Psoralea corylifolia* and quantification of bakuchiol under varying plant hormone conditions**

Na-Gyeol Hwang[1], Ye-Rin Kim[2], Chan-Woo Park[1], Hyo-Jeong Kim[1], Ji-Hyun Kim[1], Yeongju Lee[2], Yu-Jin Kim[1*]

[1]Department of Life Science and Environmental Biochemistry, and Life and Industry Convergence Research Institute, Pusan National University, [2]Department of Chemistry, Pusan National University

PBM-45 **Farnesiferol B and kamolonol as potent BACE1 inhibitors with neuroprotective effects**

Jong Min Oh[1,2], Woong-Hee Shin[3], Bomi Kim[4], Eonmi Kim[4], Hyun Ju Son[1], Hoon Kim[1*]

[1]Department of Pharmacy, College of Pharmacy, Sunchon National University, Suncheon 57922, Republic of Korea, [2]Korea Institute of Oriental Medicine, Naju 58245, Republic of Korea, [3]Department of Biomedical Informatics, College of Medicine, Korea University, Seoul 02708, Republic of Korea, [4]National Institute for Korean Medicine Development, Gyeongsan 38540, Republic of Korea

PBM-46 **Drug Repurposing of D-Cycloserine: A New Approach to Inhibiting Melanogenesis in Cosmetic Science**

Ye-Jin Lee, Hyun-Mi Kim, Chang-Gu Hyun*

Jeju Inside Agency & Cosmetic Science Center, Department of Chemistry and Cosmetics, Jeju National University

PBM-47

Melanogenic Inhibitory and Immunoenhancing Effects of a Novel Lysinibacillus sp. JNUCC 51 Isolated from Baengnokdam, Mt. Halla, Jeju Island

Mi-Na Kim[1], Ji-Hyun Kim[1], Jun-Tae Bae[2], Chang-Gu Hyun[1*]

[1]Department of Chemistry and Cosmetics, Jeju Inside Agency and Cosmetic Science Center, Jeju National University, [2]Jeju Research Center, J2K Bio Co., Ltd

PBM-48

Brevibacillus jejuensis sp. nov., a Novel Species Isolated from Baengnokdam, the Summit Crater Lake of Mt. Halla: Complete Genome Sequencing, Taxonomic Characterization, and Potential Cosmetic Applications

Jeong-Ha Lee[1], Mi-Sun Ko[1], Kil-Teak Hwang[2], Chang-Gu Hyun[1*]

[1]Department of Chemistry and Cosmetics, Jeju Inside Agency and Cosmetic Science Center, Jeju National University, [2]Jeju Biotics R&D Center, TwinChem Co., Ltd.

PBM-49

Regulation of Flowering Time under Natural Sunlight Conditions by Multiple Florigens in Plants

Nayoung Lee[1*], Hiroshi Takagi[2,3], Takato Imaizumi[2,3], Moonhyuk Kwon[1,4*]

[1]Research Institute of Molecular Alchemy, Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Department of Biology, University of Washington, Seattle, Washington, 98195-1800, USA, [3]Center for Gene Research, Nagoya University, Nagoya, 464-8602, Japan, [4]Division of Applied Life Science (BK21 Four), ABC-RLRC, Gyeongsang National University, Jinju 52828, Republic of Korea

PBM-50

Impact of Brassicaceae Biofumigation on Cucurbit Growth and Soil Microbiome

Ga-Yeon Nam[1], Dokyung Lee[2*], Jae-Ho Shin[1,2,3,4*]

[1]Department of Applied Biosciences, Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea, [2]Department of Integrative Biology, Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea, [3]NGS Core Facility, Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea, [4]MICROBALANCE Co., Ltd., Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea

PBM-51

Integrative Meta-Transcriptomic and Machine Learning Reveal Key Genes Conferring Resistance to *Magnaporthe oryzae* in Rice

Babar Usman[1], Gi Hyun Lee[1], Cheol Woo Min[1], Yiming Wang[2], Ravi Gupta[3], Sun Tae Kim[1*]

[1]Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, Republic of Korea, [2]Department of Plant Pathology, Key Laboratory of Integrated Management of Crop Disease and Pests, Ministry of Education, Nanjing Agricultural University, Nanjing, China, [3]College of General Education, Plant Stress Physiology and Proteomics Laboratory, Kookmin University, Seoul, South Korea

PBM-52

Genomic insight into Seed Longevity in *Oryza sativa* cultivar. Dharial

Smita Mirsyad Warsadiharja[1], Sung Hoon Kim[2], Soon Ju Park[1*]

[1]Division of Applied Life Science and Plant Molecular Biology and Biotechnology Research Center, Gyeongsang National University, Jinju 52828, Korea, [2]Department of Southern Area Crop Science, National Institute of Crop Science, Rural Development Administration, Miryang 50424, Korea

PBM-53

PVP-Induced Aggregation of Lysozyme with Minimal Structural Change Leads to Enzymatic Inhibition

So-hyeon Park[2], Moonsung Choi[1,2*]

[1]Department of Biomedical Sciences, SeoulTech-KIRAMS Graduate Medical Sciences, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea, [2]Department of Optometry, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea

PBM-54

Structural Variation Alters Spinosyn A and D Binding Sites on B-Form Bovine Serum Albumin

Hayoung Kim[2], Moonsung Choi[1,2*]

[1]Department of Biomedical Sciences, SeoulTech-KIRAMS Graduate Medical Sciences, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea, [2]Department of Optometry, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea

PNB Natural Products · Bioactive Materials · Biomedical Sciences

PNB-1

Modulation of Mitochondrial Apoptosis and Iron Metabolism by 6-Gingerol in Non-Small Cell Lung Cancer Cells

Se Won Bae[1*], Hyunjoo Lee[2]

[1]Department of Chemistry and Cosmetics, Jeju National University, [2]Department of International Business and Accountancy, Cheju Halla University

PNB-2

Enhanced Antioxidant Activity of Alkylated Protocatechuic Acid Derivatives in Human Dermal Fibroblasts

Se Won Bae[1*], Hyunjoo Lee[2]

[1]Department of Chemistry and Cosmetics, Jeju National University, [2]Department of International Business and Accountancy, Cheju Halla University

PNB-3

Davallia mariesii Moore Improves Fc ε RI-Mediated Allergic Responses in the Rat Basophilic Leukemia Mast Cell Line RBL-2H3 and Passive Cutaneous Anaphylaxis in Mice

Hyun Ju Do[1], Tae Woo Oh[2*]

[1]New Drug Development Center, Daegu Gyeongbuk Medical Innovation Foundation (K-MEDIhub), [2]Korean Medicine Application Center, Korea Institute of Oriental Medicine

PNB-4

Effect of Black Raspberry on Lipid Metabolism-Related Gene Expression in High-Fat and Fructose-Fed Rats

Sun Young Park[1*], Seon Beom Kim[1,2], Myunghoo Kim[1,3]

[1]Institute for Future Earth, Pusan National University, [2]Department of Food Science & Technology, Pusan National University, [3]Department of Animal Science, Pusan National University

PNB-5

Hydroxymethylation of Chlorogenic Acid by Radiolysis with Potent Anti-Inflammatory Agent

Gyeong Han Jeong, Hanui Lee, So-Yeun Woo, Hyoung-Woo Bai, Byung Yeoup Chung*

Research division for Biotechnology, Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy Research Institute (KAERI)

PNB-6

The innovated approach from raw materials to final products by co-steam processing: Biological efficacy improvement of KIOM processed *Polygonum multiflorum* as ethnomedicine with enhanced marker compounds

Yeongjun Ban[1], Roggers Gang[1,2], Kenneth Happy[1,2], Mudondo Joyce[1,2], Ariranur Haniffadli[1,2], Kyeong-Ok Choi[1], Subeen Mun[1], Seyoung Im[1], Youngmin Kang[1,2*]

[1]Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine, 111Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea,
[2]Korean Convergence Medical Science major, University of Science & Technology (UST), Korea Institute of Oriental Medicine, Daejeon 34054, Republic of Korea

PNB-7

Trichosanthis Radix: Ethnomedicinal Uses, Phytochemistry, Pharmacology, Quality Control, and Toxicology

Joyce Mudondo[1,2], Kenneth Happy[1,2], Ariranur Haniffadli[1,2], Roggers Gang[1,2], Yeoungjun Ban[2], Kyeong-Ok Choi[2], Subeen Mun[2], Seyoung Im[2], Youngmin Kang[1,2*]

[1]Korean Convergence Medical Science major, University of Science & Technology (UST), Korea Institute of Oriental Medicine, Daejeon 34054, Republic of Korea,
[2]Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine, 111Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea

PNB-8

Database of functional activities and flavonoid content of extracts from the Freshwater Bioresources Culture Collection (FBCC)

Su Young Shin[1], Jeong Ho Kim[1], Ye Ji Hwang[1], Young Teak Oh[1], Young Jin Park[2], Seokjae Park[3*], Tae Jin Kim[1*]

[1]Using Technology Development Department, Bio-resources Research Division, Nakdonggang National Institute of Biological Resources, Gyeongsangbuk-do 37242, Republic of Korea, [2]Division of Life Sciences, College of Life Sciences and Bioengineering, Incheon National University, Incheon 22012, Republic of Korea, [3]Neurometabolomics Research Center, Daegu Gyeongbuk Institute of Science and Technology, Daegu 42988, Republic of Korea

PNB-9

Finger Print Analysis for Quality Assurance of Perilla Leaves and Quality Variations in Korean Products

Hyun-Gyeong Lee[1], Ye-In Joo[1], Soo-Bin Choi[1], Je-Ho Lee[2], Mi-Yeong An[2], Seong-Ho Ham[1*]

[1]Institute of Phytomedical Research & Development, Korea Syntex Pharm. Co., Ltd, [2]Preclinical Efficacy Department, Daehan Cell Pharm INC

PNB-10

Non-targeted metabolomics reveals anorectic compounds from *Acer pseudosieboldianum* extracts

Jeong Ho Kim[1], Su Young Shin[1], Ye Ji Hwang[1], Young Teak Oh[1], Young Jin Park[2], Seokjae Park[3*], Tae Jin Kim[1*]

[1]Using Technology Development Department, Bio-resources Research Division, Nakdonggang National Institute of Biological Resources, Gyeongsangbuk-do 37242, Republic of Korea, [2]Division of Life Sciences, College of Life Sciences and Bioengineering, Incheon National University, Incheon 22012, Korea, [3]Neurometabolomics Research Center, Daegu Gyeongbuk Institute of Science and Technology, Daegu 42988, Republic of Korea

PNB-11

Development of an Alginate-based Hydrogel Incorporating Alginate Oligomers and Antibacterial Peptides for Wound Healing Applications

Yu Bin Kim, Yeonjong Koo*

Department of Agricultural Chemistry, Chonnam National University

PNB-12

Physiological Effects of a Cannabidiol-Encapsulated Nanoemulsion for Therapeutic and Nutraceutical Applications

Eui-Baek Byun*, Yuna Lee, Ha-Yeon Song, Bo-Gyeong Yoo, Jaeyoon Lim, Sang Hoon Kim

Radiation Bio-Research Division, Advanced Radiation Technology Institute, Korea Atomic Energy Research Institute

PNB-13

Immunomodulatory Effects of Ethanol-Extracted Ginseng Sprouts via the HO-1/NF-κB Pathway in an LPS-Induced Macrophage Model: Potential for Cytokine Storm Mitigation

Mi-Yeong An[1], Je-Ho Lee[1], Eunji Ko[1], Seongho Ham[2], Hyun-Gyeong Lee[2], Young-Yil Kim[1*]

[1]Preclinical Efficacy Department, Daehan Cell Pharm INC,
[2]Institute of Phytomedical Research & Development, Korea Syntex Pharm. Co., Ltd

PNB-14

Structure-Based Discovery of Anticancer Peptides from Channa argus: A Traditional Bio-Source Applied to In Silico Screening

Sun Young Park, Namhyun Chung*

Department of Biotechnology, College of Life Sciences & Biotechnology, Korea University

PNB-15

Anticancer effect of peptide W-0094 derived from Anoplophoa glabripennis

Se Hoon Kim, Namhyun Chung*

Korea University, Department of Biotechnology

PNB-16

Validation of analytical methods for *Rosa rugosa*'s flower buds water extracts for standardization as functional ingredients

Bo-Ram Kim, Su Hui Seong, Tae-Su Kim, Jin-Ho Kim, Chan Seo, Ha-Nul Lee, Sua Im, Jung Eun Kim, Ji Min Jung, Kyung-Min Choi, Jin-Woo Jeong*

Division of Natural Product Research, Honam National Institute of Biological Resources, Mokpo 58762, Republic of Korea

PNB-17

Evaluation of modified benzaldehyde derivatives as dual α-glucosidase and α-amylase inhibitors: a viable alternative to acarbose

Na-Hyun Lee, Namhyun Chung*

Department of Biotechnology, Korea University

PNB-18

Comparative Analysis of Allithiamine Content in Garlic-Based Grain Mixtures

Chang-Dae Lee[1], Neil Patrick Uy[1], Sang-Yun Lee[1], Jiheong Chae[2], Minju Kim[2], Minah Jang[2], Eunju Ye[2], Jungwook Kim[2], Sanghyun Lee[1,3*]

[1]Department of Plant Science and Technology, Chung-Ang University, Anseong 17546, Republic of Korea, [2]Nanum Pharmaceutical Co., Ltd., Yeongcheon 38823, Republic of Korea, [3]Natural Product Institute of Science and Technology, Anseong 17546, Republic of Korea

PNB-19

Optimization of Quadrupole Type Mass Spectrometer Conditions for the Quantitative Analysis of Platycosides in Divalent Form

Mi-Jeong Lee*, Geun-Hyoung Choi, Si Myoung Lee

Advanced Analysis Team, Planning & Coordination Division, National Institute of Agricultural Sciences, Rural Development Administration, Wanju 55365, Republic of Korea

PNB-20

Elucidating the Mode of Action of Sorgoleone Analogs via Metabolomics

Jung-Hoon Lee[1,2], Min-Ho Song[1], Eun-Song Choi[1,2], Geon-Woo Park[3], Ji-Won Shin[3], Ha-Jin Son[3], Ji-Yeon Lee[3], Hui-Yeon Ahn[4], Young Soo Keum[3], Ji-Ho Lee[1,2*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon, Gangwon State, 24341, Korea, [2]School of Natural Resources and Environmental Science, Department of Biological Environment, Kangwon National University, Chuncheon, Gangwon State, 24341, Korea, [3]Department of Crop Science, Konkuk University, 120 Neungdong-ro, Gwangjin-gu, Seoul 05029, Korea, [4]Toxicity and Risk Assessment Division, Department of Agro-food Safety and Crop Protection, National institute of Agricultural Sciences, Rural Development Administration, Wanju, Korea

PNB-21

Structural Effects of Ginsenosides on Inhibiting α-Amylase and α-Glucosidases for Regulating the Postprandial Glycemic Response

Oshini N. P. Idigahawala Gamage, Jongbin Lim*

Department of Food Bioengineering, Jeju National University, Jeju 63243, Republic of Korea

PNB-22

The standardization of the RNA content test and the encapsulation percentage test for mRNA vaccine

Tae Hyung Kim, Hyo Eun Kang, Miran Jo, Joon Ik Ahn, Suk-Bae Lee, Kyung Hee Sohn*

Vaccine Division, Biopharmaceuticals & Herbal Medicine Evaluation Department, National Institute of Food and Drug Safety Evaluation

PNB-23

Ameliorative Effects of a Phenolic Glycoside from *Castanopsis echinocarpa* on Sensorineural Hearing Loss and Its Mechanistic Insights via Molecular Docking Analysis

Sunbeom Kwon[1], Sung Woo Shin[1], Youn Hee Nam[2], Tong Ho Kang[1], Seulah Lee[1*]

[1]Department of Convergent Biotechnology and Advanced Materials Science, College of Life Sciences, Kyung Hee University, Yongin 17104, Republic of Korea, [2]Invivotec Co., Ltd., Seongnam 13449, Republic of Korea

PNB-24 **Photosensitizer Candidates from Marine *Streptomyces* sp. ME-0223**

Hee-Tae Yeo[1,2], Jun Su Park[1], Na Yul Woo[1,3], Jin-Soo Park[1,2*]

[1]Natural Product Systems Biology Center, Korea Institute of Science and Technology, [2]Natural Product Applied Science, KIST School, University of Science and Technology, [3]Department of Biology, Gangneung-Wonju National University

PNB-25 **Evaluation of Natural Red Argan Oil-Based Complex on Skin Barrier Recovery and Elasticity Enhancement**

Su Min Son, Hyungwoo Jo, Dong-Geol Lee, Seunghyun Kang*

Research and Innovation Center, COSMAX BTI

PNB-26 **Identification of molecular targets and therapeutic potential of ginsenosides through proteome-wide profiling**

Dohyeon Kim[1,2], Charuvaka Muvva[1], Keunwan Park[1*]

[1]Center for Natural Product Systems Biology, Korea Institute of Science and Technology, Gangneung 25451, Republic of Korea, [2]Department of Bioinformatics and Life Science, Soongsil University, Seoul 06978, Republic of Korea

PNB-27 **An undescribed anti-inflammatory meroterpenoid from the brown alga *Sargassum macrocarpum***

Ji-Yul Kim*, Gun-Woo Oh, Seok-Chun Ko, Kyung Woo Kim, Dongwoo Yang, Mi-Jin Yim, Jeong Min Lee, Du-Min Jo, Grace Choi, Dae-Sung Lee*

Department of Biomaterial Research, National Marine Biodiversity Institute of Korea, Seocheon, Republic of Korea

PNB-28 **In vitro Screening of Adipogenesis Inhibitory Effect of Halophyte Plant Extracts for Potential Anti-obesity Treatment**

Seok-Chun Ko[1], Kyung Woo Kim[1], Ji-Yul Kim[1], Gun-Woo Oh[1], Jung Min Lee[2], Mi-Jin Yim[2], Jae-Young Je[3], Dae-Sung Lee[4*]

[1]Biomaterial Research, National Marine Biodiversity Institute of Korea, [2]Bioindustrial Strategy, National Marine Biodiversity Institute of Korea, [3]Food and Nutrition, Pukyong National University, [4]Marine Bioindustrial Research, National Marine Biodiversity Institute of Korea

PNB-29 **Effects of Fermented Polygonum cuspidatum on the Skeletal Muscle Functions**

Young-Seon Kim[1,2,3], Ji-Hong Lim[1,2,4*], Ji-Hye Han[3], Chang-Hoon Lim[1,2,4], Xue-Quan Fang[1,2,4], Hyeock-Soon Jang[3], Sang-Yun Lee[3], Woo-Jong Yim[3]

[1]Department of Medicinal Biosciences, College of Biomedical & Health Science, Konkuk University, [2]Department of Applied Life Science, Graduate School, Konkuk University, [3]R&D Team, Jung-Ang Microbe Research Institute, [4]Center for Metabolic Diseases, Konkuk University

PNB-30

Comparative Analysis of Chlorogenic Acid and Eleutheroside E in the Stems of *Eleutherococcus sessiliflorus* from Wild and Cultivated Environments

Yonghwan Son, Dong Hwan Lee, Dae Hui Jeong, Ji Ah Kim*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PNB-31

Isatin derivatives as promising inhibitors of SARS-CoV-2 Main Protease (Mpro)

Md Sofequl Islam Mukim, Dae-Geun Song*

Natural Products Systems Biology Research Center, Korea Institute of Science & Technology (KIST)

PNB-32

Integrated Genomics and Metabolomics for Isoflavone-Enriched Soybean Resource Discovery and Functional Characterization

Soyoung Park*, Kihun Ha, Mani Vimalraj, Mi-Suk Seo, Kong-Sik Shin, Eunchan Lee

Plant Biomaterials and Biotechnology Division, Department of Agricultural Biology, National Institute of Agricultural Sciences, RDA

PNB-33

Anti-Inflammatory Effect of Fermented and Aged Mountain-Cultivated Ginseng Sprout and Its Major Component, Compound K, in an LPS-induced Acute Respiratory Distress Syndrome Mouse Model

Dang Long Cao[1,2], Min- Seok Woo[1], Eun- Jin Kim[1], Sang Soo Kang[2,3], Kye Man Cho[4], Dawon Kang[1,2*]

[1]Department of Physiology and Institute of Medical Sciences, College of Medicine, Gyeongsang National University, Jinju 52727, Republic of Korea, [2]Department of Convergence Medical Science, Gyeongsang National University, Jinju 52727, Republic of Korea, [3]Department of Anatomy and Institute of Health Sciences, College of Medicine, Gyeongsang National University, Jinju 52727, Republic of Korea, [4]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52727, Republic of Korea

PNB-34

Mitigation of Salinity Stress via Improving Growth and Nutrient Uptake in *Raphanus sativus* L. with Biochar

Rathinapriya Periyasamy, Tae-Jun Lim, Byeongeun Kang, Seung Tak Jeong*

Horticultural and Herbal Crop Environment Division, National Institute of Horticultural and Herbal Science

PNB-35

Sex-Specific Behavioral and Sleep Architecture Alterations Induced by Sleep Deprivation in Mice

Mac Gia Linh, Tran Khoa Nguyen, Sarmin Ummey Habiba, Yeasmin Akter Munni, Yang In - Jun*

Department of Physiology, College of Korean Medicine, Dongguk University, Gyeongju, South Korea

PNB-36

Anti-inflammatory Effects of Plasma-Induced Phloridzin Derivatives in LPS-stimulated RAW 264.7 Macrophages

So-Yeun Woo, Gyeong Han Jeong, Hanui Lee, Hyoung-Woo Bai, Seung Sik Lee, Jin-Hong Kim, Kwang-Woo Jung, Moon-Soo Chung, Byung Yeoup Chung*

Division for Radiation Biotechnology, Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy Research Institute (KAERI)

PNB-37

Metabolomic profiling evaluation of drought-tolerant transgenic rice

Gyeong-Min Lee, Sung-Dug Oh, Hyun-Min Park, Seon-Woo Oh, Sang-Gu Lee, Jong-Chan Park, An-Cheol Chang*

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences

PNB-38

Correlation Analysis between Metabolites and Ginsenosides of Wild-Simulated Ginseng with Different Harvest Times

Myeongbin Park, Yeong-Bae Yun, Yurry Um*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PNB-39

Chemical Profiling of Flavonoid Glycosides in *Quercus mongolica* Pollen Using LC-MS/MS-Based Molecular Networking

Yerim Joo[1,2], Eunbeen Shin[1,2], Seon Beom Kim[1,2,3*]

[1]Department of Food Science and Technology, College of Natural Resources and Life Science, Pusan National University, Miryang 50463, South Korea, [2]Institute for Future Earth, Pusan National University, Busan 46241, South Korea, [3]Food Tech Innovation Center, Life and Industry Convergence Research Institute, Pusan National University, Miryang 50463, South Korea

PNB-40

Effects of Irrigation Water Salinity on Growth and Bioactive Compound Activity of Sweet Potato (*Ipomoea batatas*) in the Saemangeum Reclaimed Land

Hyeounsuk Cho[1*], Mija Lee[2], Young Tae Shin[1], Hak-Seong Lee[1], Kwang-Seung Lee[1], Hyunsoo Jang[1], Bang-Hun Kang[1], Sang-Young Jeong[1], Hee-Kyoung Ok[1]

[1]Reclaimed Land Agriculture Research Center, National Institute of Crop Science, [2]Fermented and Processed Food Research Division, National Institute of Crop Science

PNB-41

Multifunctional Skin Benefits of Hot Water Extract from the Improved Cultivar of *Camellia japonica* 'Double-Flowered Camellia'

Ho Bong Hyun, So Yeon Oh, Seon-A Yoon, Sung Chun Kim, Jin Hwang, Boram Go, Hyejin Hyeon, Ji Gwon Park, Young-Min Ham*

Biodiversity Research Institute, Jeju Technopark

PNB-42

Luteolin-mediated GDH1 inhibition suppresses colon cancer progression via autophagy and angiogenesis pathways

Himanshi Gahlot, Sun Chul Kang*

Department of Biotechnology, Daegu University

PNB-43

Kaempferol induces apoptosis and suppresses proliferation and migration in colon cancer via hypoxia-mediated inhibition of HIF-1α/VEGF and Wnt/β-Catenin signalling

Muhammad Haroon, Sun Chul Kang*

Department of Biotechnology, Daegu University

PNB-44

Comparison of Inflammatory Cytokine Levels in Blood from Patients with Pancreatic Cancer Before and After Surgery/Chemotherapy

Dong Jae Lee[1], Thuy Thi Thanh Phan[1,2], Moonho Kim[3], Dae-Geun Song[1,4*]

[1]Center for Natural Product Systems Biology, Institute of Natural Products, Korea Institute of Science and Technology, [2]Natural Product Applied Science, KIST School, University of Science and Technology, [3]Department of Hematology and Oncology, Gangneung Asan Hospital, University of Ulsan College of Medicine, [4]Natural Product Applied Science, KIST School, University of Science and Technology

PNB-45

Isolation and Characterization of Megastigmane Derivatives from *Ardisia humilis* Val Leaves Extract

Alfan Danny Arbianto[1,2], Byeongjin Ro[1], Ja-Gyeong Song[1], Jongmin Ahn[1], Hyung Won Ryu[1], Sei-Ryang Oh[1,2*]

[1]Natural Product Research Center, Korea Research Institute of Bioscience & Biotechnology, [2]KRIBB School, University of Science and Technology

PNB-46

Identification and quantification of trans-anethole in *Foeniculum vulgare* Mill. (Fennel) grown in Korea

Soyoung Shin, Jaehee Hyun*, Youngmi Kim, Wookyu Lee, Jaeuk Seo, Changsoo Kim, Jinhee Hwang

National Center for Medicinal Resources Management, Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety

PNB-47

Cognitive-enhancing effects of subtropical natural resource extracts

Min Seong Park, Hyejun Jo, Gwang Pyo Ko, Kyung Hwan Boo, Chang Sook Kim*

Department of Biotechnology, Jeju National University, Jeju 63243, Republic of Korea

PNB-48

Efficient Separation of Spinach-Derived Saponins Using Twin-Column N-Rich Technique

Su-Yeon Lee[1,2], Doo-Young Kim[1], Chan-Yang Lee[3], Bong-Soo Lee[3], Hyung Won Ryu[1*]

[1]Natural Product Research Center and Natural Product Central Bank, KRIBB, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University, [3]Research Center, YMC Korea

PNB-49

Stage-Specific Anti-Cancer Metabolites from *Paulownia tomentosa* Fruit Identified by UPLC-QTOF/MS

In Seo Heo[1,2], Seon Min Oh[1], Eun-Bin Kwon[1], Myung-Ji Kang[1], Mun-Ock Kim[1], Su-Yeon Lee[1], Hyoung-Geun Kim[1], Doo-Young Kim[1], Hyung Won Ryu[1], Eun Kyoung Seo[2*], Sei-Ryang Oh[1*]

[1]Natural Product Research Center and Natural Product Central Bank, KRIBB, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University

PNB-50

Inhibitions of monoamine oxidase A and B by new bioactive flavonoid glycosides isolation from aerial part of *Lespedeza cyrtobotrya* Miq.

Su-Ah Lee[1,2], Hyoung-Geun Kim[1], Taehoon Oh[3], Sung-Kyun Ko[3], Jung-Hee Kim[1], Su-Yeon Lee[1], In-Seo Heo[1], Seon Min Oh[1], Jongmin Ahn[1], Hyung Won Ryu[1], Dongho Lee[4*], Sei-Ryang Oh[1*]

[1]Natural Product Research Center and Natural Product Central Bank, KRIBB, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University, [3]Chemical Biology Research Center, KRIBB, [4]Department of Plant Biotechnology, College of Life Sciences and Biotechnology, Korea University

PNB-51

Discrimination of *Oenothera* Species using UPLC-QTOF/MS-Based Metabolomics

Byeongjin Ro[1,2], Seon Min Oh[1], Jongmin Ahn[1], Jung-Hee Kim[1], Ja-Gyeong Song[1], Jeong-Eun Ahn[1], Sei-Ryang Oh[1], Bang Yeon Hwang[2*], Hyung Won Ryu[1*]

[1]Natural Product Research Center and Natural Product Central Bank, KRIBB, [2]College of Pharmacy, Chungbuk National University

PNB-52

Application of a Validated UPLC-CAD Method to Evaluate Saponin Content Variation in Spinach across Cultivars and Seasons

Su-Yeon Lee[1,2], Seul Beom Yu[1], Doo-Young Kim[1], Hyun-Jae Jang[1], Seon Min Oh[1], Hyoung-Geun Kim[1], Jongmin Ahn[1], In-Seo Heo[1], Heung Joo Yuk[3], Eun Kyoung Seo[2*], Sei-Ryang Oh[1*], Hyung Won Ryu[1*]

[1]Natural Product Research Center and Natural Product Central Bank, KRIBB, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University, [3]KM Science Research Division, Korea Institute of Oriental Medicine (KIOM)

PNB-53

Comparative Analysis of the Morphological and Chemical Characteristics of *Carthamus tinctorius* L. from Different Countries

Choi Yunji, Hyun Jaehee*, Cho Eunsol, Kim Youngmi, Shin Soyoung, Wookyu Lee, Jaeuk Seo, Kim Changsoo, Hwang Jinhee

National Center for Medicinal Resources Management, Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety, Republic of Korea

PNB-54

Glut-1 Inhibitor Enhanced the Therapeutic Efficacy of ^{64}Cu-DOTA-Trastuzumab in Osteosarcoma Cells

Krishnapriya Devasena, Shrankhala Sinha*, Ilhan Lim*

Department of Nuclear Medicine, Korea Institute of Radiological and Medico Oncological Sciences

PNB-55

GLUT-1 inhibition enhanced therapeutic efficacy of radiolabeled PSMA in prostate cancer cells

Shrankhala Sinha[1,2], Krishnapriya Devasena[1,2*], Ilhan Lim[1,2*]

[1]*Nuclear Medicine, Korea Institute of Radiological and Medical Sciences,* [2]*The University of Science and Technology, Daejon*

PNB-56

Therapeutic potential of *Staphylea bumalda* leaf extract for obesity and sarcopenia

Kyeong Min Lee[1], Wook-Chul Kim[2], Yun-Su Lee[2], Seo-Rin Jung[2], Ye-Sol Kim[2], Seung-Hong Lee[1,2*]

[1]*Department of Pharmaceutical Engineering, Soonchunhyang University,* [2]*Department of Medical Science, Soonchunhyang University*

PNB-57

Extraction and Purification of Sulfated Polysaccharides with Anticoagulant Activity from *Sticopus japonicus*

Eunbeen Shin[1,2,3*], Youngho Seo[2], Sangmin Lee[1,2,3], Siwan Kim[1,2,3], Yerim Joo[1,2,3], Minhyuk Jeong[1,2,3], Daeun Kim[1,2,3]

[1]*Department of Food Science and Technology, Pusan National University,* [2]*Institute for Future Earth, Pusan National University,* [3]*Food Tech Innovation Center, Life and Industry Convergence Research Institute, Pusan National University*

PNB-58

Chamaecyparis pisifera Essential Oil: Chemical Composition Analysis and Evaluation of Antioxidant and Skin Whitening Potentia

Do Yoon Kim[1,2*], Yoon Yi Kim[1], Da Yeon Yoo[1], Ji Hye Bae[1], Ji Seong Yun[1], Hwan Myung Lee[1,2]

[1]*Korea Forest Plants Essential Oil Bank and Department of Biotechnology, College of Life and Health Sciences, Hoseo University,* [2]*Korea Essential Oil Resource Research Institute, Hoseo University*

PNB-59

A Study on the Analytical Method for Measuring *l*-Menthol in Three Domestically Cultivated *Mentha arvensis* L. Species

Eunsol Cho, Jaehee Hyun*, Soyoung Shin, Yunji Choi, Youngmi Kim, Wookyu Lee, Jaeuk Seo, Changsoo Kim, Jinhee Hwang

National Center for Medicinal Resources Management, Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety

PNB-60

Anti-Melanogenic Potential of Exosomes Derived from *Hordeum vulgare* L in B16F10 Melanoma Cells and Zebrafish Model

Wook-Chul Kim[1], Yun-Su Lee[1], Seo-Rin Jung[1], Seung Hong Lee[1,2*]

[1]Department of Medical Science, Soonchunhyang University, Asan 31538, Republic of Korea, [2]Department of Pharmaceutical Engineering, Soonchunhyang University, Asan 31538, Republic of Korea

PNB-61

Comparison of metabolite accumulation and antioxidant activity in metabolite-enhanced mung bean leaves by ethylene treatments

Du Yong Cho[1], Ae Ryeon Lee[1], Jong Bin Jeong[1] Mu Yeun Jang[1], Da Hyun Kim[1], Do Yun Bang[1], Hye Rim Kim[1], Ye Rim Jeong[1], Jin Hwan Lee[2], Kye Man Cho[1*]

[1]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, [2]Department of Smart Green Resources, Dong-A University

PNB-62

Inhibition of Melanin Synthesis in Melanoma Cells and α-MSH Expression in UVA-irradiated Keratinocytes by *Vitex rotundifolia* L.f. cone Essential Oil

Da Yeon Yoo[1], Do Yoon Kim[1,2], Yoon Yi Kim[1], Ji Hye Bae[1], Ji Seong Yun[1], Hwan Myung Lee[1,2*]

[1]Korea Forest Plants Essential Oil Bank and Department of Biotechnology, College of Life and Health Sciences, Hoseo University, Asan 31499, Republic of Korea, [2]Korea Essential Oil Resource Research Institute, Hoseo University, Asan 31499, Republic of Korea

PNB-63

Study on the Improvement of Atopic Dermatitis through SNARE Protein Expression Inhibition by *Paulownia coreana* Uyeki flower absolute

Da Yeon Yoo[1], Do Yoon Kim[1,2], Yoon Yi Kim[1], Ji Hye Bae[1], Ji Seong Yun[1], Hwan Myung Lee[1,2*]

[1]Korea Forest Plants Essential Oil Bank and Department of Biotechnology, College of Life and Health Sciences, Hoseo University, Asan 31499, Republic of Korea, [2]Korea Essential Oil Resource Research Institute, Hoseo University, Asan 31499, Republic of Korea

PNB-64

Inhibitory effects of *Lonicera japonica* Thunb. Absolute on neointimal formation-related activities of rat vascular smooth muscle cells

Yoon Yi Kim[1], Do Yoon Kim[1,2], Da Yeon Yoo[1], Ji Hye Bae[1], Ji Seong Yun[1], Hwan Myung Lee[1,2*]

[1]Korea Forest Plants Essential Oil Bank and Department of Biotechnology, College of Life and Health Sciences, Hoseo University, Asan 31499, Republic of Korea, [2]Korea Essential Oil Resource Research Institute, Hoseo University, Asan 31499, Republic of Korea

PNB-65

Lindera obtusiloba Blume wood essential oil suppresses UVA-induced α-MSH production and melanogenesis: Potential for natural skin-whitening applications

Yoon Yi Kim[1], Do Yoon Kim[1,2], Da Yeon Yoo[1], Ji Hye Bae[1], Ji Seong Yun[1], Hwan Myung Lee[1,2*]

[1]Korea Forest Plants Essential Oil Bank and Department of Biotechnology, College of Life and Health Sciences, Hoseo University, Asan 31499, Republic of Korea, [2]Korea Essential Oil Resource Research Institute, Hoseo University, Asan 31499, Republic of Korea

PNB-66

Modulation of lipid metabolism by ethanol extract of shiitake mushroom in high-fat diet-induced mice

Young Geol Yoon*

Department of Biological Science, Jungwon University

PNB-67

Enhancement of metabolites and biological activities in mung bean roots cultivated under a vertical farming system

Do Yun Bang[1], Du Yong Cho[1], Ae Ryeon Lee[1], Jong Bin Jeong[1], Mu Yeun Jang[1], Da Hyun Kim[1], Hye Rim Kim[1], Ye Rim Jeong[1], Jin Hwan Lee[2], Kye Man Cho[1*]

[1]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, [2]Department of Smart Green Resources, Dong-A University

PNB-68

Elucidation of the protective effect of schisandrin C originating from *Schisandra chinensis* against indomethacin-induced intestinal injury

Son Hung Tran[1,2], Uyen Tran Tu Nguyen[1,2], Mi Ri Kim[1], Hee Ju Lee[1], Esther Youn[1], Ly Phuong Ho[1,2], Won Young Bae[1], Suk Woo Kang[3], Won Kyu Kim[2,3], Ki Young Choi[4], Keunwan Park[1], Kyungsu Kang[1,2*]

[1]Center for Natural Product Systems Biology, Gangneung Institute of Natural Products, Korea Institute of Science and Technology (KIST), [2]Natural Product Applied Science, KIST School, University of Science and Technology (UST), [3]Center for Natural Product Efficacy Optimization, Gangneung Institute of Natural Products, Korea Institute of Science and Technology (KIST), [4]Department of Marine Bio-Food Science, Gangneung-Wonju National University

PNB-69

Comparative study on the bioactivities and marker compound contents of *Citrus reticulata* and Jeju-native *Citrus sunki* peels

Ye Eun Cho[1], So-Young Cho[1], So-Yeon Kim[1], Ji-Yeong Bae[2], Sang Ho Lee[2], Jae Hee Hyun[3], Se Jin Park[1*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon 24341, Republic of Korea, [2]College of Pharmacy, Jeju National University, Jeju 38655, Korea, [3]Herbal Medicine Research Division, National Institute of Food & Drug Safety Evaluation, Jeju 63577, Korea

PNB-70

Potential biological activities of *Citrus trifoliata* Flower Essential Oil as a Natural Antioxidant and Skin Whitening Agent

Do Yoon Kim[1,2*], Yoon Yi Kim[1], Da Yeon Yoo[1], Ji Hye Bae[1], Ji Seong Yun[1], Hwan Myung Lee[1,2]

[1]Korea Forest Plants Essential Oil Bank and Department of Biotechnology, College of Life and Health Sciences, Hoseo University, [2]Korea Essential Oil Resource Research Institute, Hoseo University

PNB-71

Protective effect of Polysaccharides from *Halocynthia roretzi* Tunic on Particulate Matter-Induced Skin Damage and its Anti-Melanogenesis Effect *in vivo* and *in vitro* model

Seo-Rin Jung[1], Wook-Chul Kim[1], Yun-Su Lee[1], Kyeong Min Lee[2], Seung-Hong Lee[1,2*]

[1]Department of Medical Science, Soonchunhyang University, [2]Department of Pharmaceutical Engineering, Soonchunhyang University

PNB-72

Comparative analysis of bioactive compounds and the anti-inflammatory and wound-healing properties of *Centella asiatica*

So-Young Cho[1], Ye Eun Cho[1], So-Yeon Kim[1], Ji-Yeong Bae[2], Sang Ho Lee[2], Jae Hee Hyun[3], Se Jin Park[1*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, [2]College of Pharmacy, Jeju National University, [3]Herbal Medicine Research Division, National Institute of Food & Drug Safety Evaluation

PNB-73

Enhancement of Skin Regeneration by Sargassum pallidum-Derived Polysaccharides through Modulation of Wnt/β-Catenin Pathway

Yun-Su Lee[1], Wook-Chul Kim[1], Seo Rin Jung[1], Kyeong Min Lee[2], Seung-Hong Lee[1,2*]

[1]Department of Medical Science, Soonchunhyang University,
[2]Department of Pharmaceutical Engineering, Soonchunhyang University

PNB-74

Metabolomic Profiling of Ginger (*Zingiber officinale*) from Diverse Geographical Origins and Analytical Validation of Marker Compounds via UPLC

Bo-Ram Choi[1], Dahye Yoon[1], Hyoung-Geun Kim[2], Dae Young Lee[3*]

[1]Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea, [2]Natural Product Research Center and Natural Product Central Bank, KRIBB, Ochang 28116, Republic of Korea, [3]BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea

PNB-75

Metabolomics-Based Differentiation of Korean ginseng(*Panax ginseng*) and American ginseng(*Panax quinquefolius*) with Molecular Networking, and Method Validation for Marker Compounds of Korean Ginseng

Dahye Yoon[1], Woo Cheol Shin[2], Bo-Ram Choi[1], Jae-Suk Ban[1], Jin-Kyu Jang[2], Hyeon Seon Na[1,2], Dae Young Lee[2*]

[1]Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, [2]BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, Kyungpook National University

PNB-76

Comparative analysis of secondary metabolites and antioxidant activities in white and red radish (*Raphanus sativus*) hairy roots

Ki Hyun Kim[1], Chan Ung Park[1], Jin Su Lim[1], Hae Jin Kwon[2], Hye Won Seo[2], Min Hwan Lee[1], Sang Un Park[1,2*]

[1]Crop Science, Chungnam National University, 99 Daehak-ro, Yuseong-gu, Daejeon, Republic of Korea, [2]Smart Agriculture Systems, Chungnam National University, 99 Daehak-ro, Yuseong-gu, Daejeon 34134, Republic of Korea

PNB-77

Neuroprotective Potential of a New Phenolic Compound from *Scrophularia buergeriana* Roots Revealed by Network Pharmacology

Hyeon Seon Na[1,2], Woo Cheol Shin[2], Seon Min Oh[3], Kwan-Woo Kim[1], Dahye Yoon[1], Jin-Kyu Jang[2], Dae Young Lee[2*]

[1]National institute of Horticultural and Herbal Science, Department of Herbal Crop Research, [2]Kyungpook National University, BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, [3]Korea Reseach Institute of Bioscience and Biotechnology, Natural Product Research Center and Natural Product Central Bank

PNB-78

Antioxidant and Anti-Aging Effects of Panax Ginseng Root Extract and Its Major Compounds in Human Dermal Fibroblast

Minseo Kang[1], Daesik Jang[2*], Sullim Lee[1*]

[1]Department of Life Science, College of Bio-Nano Technology, Gachon University, [2]Department of Biomedical and Pharmaceutical Sciences, Kyung Hee University, Seoul Campus

PNB-79 **The effect of the season and region on the yield and quality of Torreya nucifera essential oil in South Korea**

Chanjoo Park, Nahyun Kim, Hyunjeong Na, Mi-Jin Park*

Division of Forest Industrial Materials, Department of Forest Products and Industry, National Institute of Forest Science

PNB-80 **Anti-Obesity Effects of Citrus unshiu Leaf Extract in 3T3-L1 Adipocytes and High-Fat Diet-Induced Obese Mice**

Jae-Won Kim, Youngmee Kim, Nari Lee, Jungmin Oh, Jungman Kim, Yeji Lee, Young-Jin Choi, Minho Song, Seong-Il Kang*, Hee Chul Ko*

Research and Development, Jeju Institute of Korean Medicine

PNB-81 **Anti-inflammatory and anti-atopic effects of *Elaeocarpus sylvestris* leaf extract in LPS-stimulated HaCaT cells and DNCB-induced BALB/c mice**

Young-Ju Do[1], So-Yeon Kim[1], Su-Jung Lee[1], Ye-Won Lee[1], Seon-Woo Lee[1], Na-Hyun Lee[1], Ji-Yeong Bae[2], Sang Ho Lee[2], Se Jin Park[1*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon, Republic of Korea, [2]College of Pharmacy, Jeju National University, Jeju 38655, Korea

PNB-82 **Comparison of Anti-inflammatory Activities and Chemical Composition of Essential Oils Extracted from Cupressaceae Family**

Hyunjeong Na, Nahyun Kim*, Chanjoo Park, Mi-Jin Park, Soo-Kyeong Jang

Forest Industrial Materials Division, National Institute of Forest Science

PNB-83 **Novel Cucurbitane-type Terpenoid and Anti-obesity Effects from Chrysosplenium flagelliferum**

Bowon Jung, Eun Jin Heo, Seulah Lee*

Department of Convergent Biotechnology and Advanced Material Science, College of Life Sciences, Kyung Hee University

PNB-84 **Assessment of Herbicidal Activity of Natural Triketone Compound from Manuka Oil**

Ji-Won Shin, Ji-Woo Yu, Geon-Woo Park, Ji-Yeon Lee, Ha-Jin Son, Young-Soo Keum*

Department of Crop Science, Konkuk University

PNB-85

Preclinical Evaluation of the Therapeutic Effect of Bee Venom on Rheumatoid Arthritis Based on TNF-α Inhibition

Jumgmin Oh, Nari Lee, Yeji Lee, Jae-Won Kim, Jungman Kim, Young-Jin Choi, Seong-Il Kang, Minho Song, Hee Chul Ko, Youngmee Kim*

Research and Development, JEJU INSTITUTE OF KOREAN MEDCINE

PNB-86

Effects of Bee Venom and Its Derived Peptides Against Dexamethasone and Hydrogen Peroxide-Induced Stress in C2C12 Skeletal Muscle Cells

Young-Jin Choi, Jae-Won Kim, Jungman Kim, Jungmin Oh, Yeji Lee, Minho Song, Seong-Il Kang, Youngmee Kim*, Hee Chul Ko*

Research and Development, Jeju Institute of Korean Medicine

PNB-87

Inhibition of TNF-α-Induced Collagen Degradation and Oxidative Damage by *Centipeda minima* and Brevilin A in Human Dermal Fibroblasts

Yea Jung Choi[1], Soohyun Kim[2], Ki Sung Kang[1*], Sullim Lee[2*]

[1]Department of prevent medicine, College of Korean Medicine, Gachon University,
[2]Department of Life Science, College of Bio-Nano Technology, Gachon University

PNB-88

Potential Natural Modulators of *Schisandra chinensis* and *Citrus unshiu* Extracts on Prostate and Gut Health

Jungman Kim, Young-Jin Choi, Jae-Won Kim, Jungmin Oh, Yeji Lee, Dong-Eon Kim, Seong-Il Kang, Minho Song, Youngmee Kim*, Hee Chul Ko*

Research and Development, Jeju Institute of Korean Medicine

PNB-89

Organ-Specific Dynamics of Bioactive Compounds and Antioxidant Activity in *Wasabi Japonica* Across Developmental Stages

Yeong Bin Choi[1,2], To Quyen Truong[1], Phuong Kim Huynh[1,2], Ye Lin Kim[1], Sang Min Kim[1,2*]

[1]Smart Farm Research Center, Korea Institute of Science and Technology (KIST) Gangneung Institute of Natural Products, Gangneung 25451, Republic of Korea,
[2]Natural Product Applied Science, KIST School, University of Science and Technology, Gangneung 25451, Republic of Korea

PNB-90

Quantitative Analysis Using High-Performance Liquid Chromatography (HPLC) for the Stability Evaluation of Ginseng Radix

Hajeong Kim, Sohee Jang, Jaeuk Seo*, Jaehee Hyun, Wookyu Lee, Changsoo Kim, Jinhee Hwang

National Center for Medicinal Resources Management, Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation

PNB-91

Stability assessment of Reference Medicinal Plant Material and Analytical Marker for *Scutellaria baicalensis*(Scutellaria root) under stressed conditions

So-Hee Jang, Hajeong Kim, Jaeuk Seo*, Jae-Hee Hyun, Wookyu Lee, Changsoo Kim, Jinhee Hwang

National Center for Medicinal Resources Management, Herbal Medicine Research Division, National Institute of Food and Drug Safety Evaluation

PNB-92

Uncaria Rhynchophylla and hirsuteine as TRPV1 agonists inducing channel desensitization

Chunwhan Choi[1]*, Yeon Woo Jung[2], Taewoong Ha[2], Gyu-Sang Hong[2]

[1]Biocenter, Gyeonggido Business & Science Accelerator, [2]Brain Science Institute, Korea Institute of Science and Technology

PNB-93

Stable Carbon Isotope Based Honey Protein Analysis Used in Geographic Origin Discrimination of Robinia Honey

Yun Gon Son, Soon Ok Woo, Hyo Young Kim, Hong Min Choi*

Agricultural Biology, National Institute of Agricultural Science, Rural Development Administration

PNB-94

Improves skin barrier and anti-inflammatory effect of exosomes derived *Fructobacillus fructosus* subsp. NSH-1 strain isolated from *Campsis grandiflora* Flower

Byeong-Min Choi[1], Da Som Kim[2], Hyeri Choi[2], Jaehoon Cho[3], Won-Jae Chi[2], Seung-Young Kim[1,4]*

[1]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea, [2]Biodiversity Research Department, Species Diversity Research Division, National Institute of Biological Resources, Incheon 22689, Korea, [3]Low-Carbon Transition R&D Department, Research Institute of Sustainable Development Technology Principal Researcher, Cheonan 31056, Republic of Korea, [4]R&D Center, BaoGen Inc., Cheonan 31212, Korea

PNB-95

Development of a reliable UPLC analytical protocol for purified Apitoxin

Hong Min Choi*, Soon Ok Woo, Hyo Young Kim, Moon Seon Lee, Yun Gon Son

Department of Agricultural Biology, National Institute of Agricultural Science, Rural Development Administration

PNB-96

Anti-Inflammatory effect of exosomes derived from lactic acid bacteria isolated from the flower of *Aster koraiensis* in LPS-stimulated RAW 264.7 Macrophage cells

Chae-Yeon Lee[1], Da Som Kim[2], Hyeri Choi[2], Won-Jae Chi[2], Seung-Young Kim[1,3*]

[1]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea, [2]Biodiversity Research Department, Species Diversity Research Division, National Institute of Biological Resources, Incheon 22689, Korea, [3]R&D Center, BaoGen Inc., Cheonan 31212, Korea

PNB-97

Inhibition activity of inflammation of *Borassus flabellifer* fruit extract

Dahee Hwang[1], Dabin Jung[1], Byeong-Min Choi[1], Seung-Young Kim[1,2*]

[1]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea, [2]R&D Center, BaoGen Inc., Cheonan 31212, Korea

PNB-98

Exploring the potential blood pressure regulatory and vasodilatory effects of enzyme-assisted hydrolysate and purified peptides from olive flounder

Hyo-Geun Lee, Ji-Yul Kim, Seok-Chun Ko*

Department of Biomaterial Research, National Marine Biodiversity Institute of Korea

PNB-99

Effect of *Microbacterium esteraromaticum* Extract on anti-inflammation response of LPS-induced RAW 264.7 cells

Dabin Jung[1], Byeong-Min Choi[1], Yun-Jae Kim[2], Seung-Young Kim[1,3*]

[1]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea, [2]Marine Biotechnology Research Center, Korea Institute of Ocean Science and Technology, Busan, Republic of Korea, [3]R&D Center, BaoGen Inc., Cheonan 31212, Korea

PNB-100

Anti-Inflammatory effects of exosomes derived from *Lactococcus* spp. isolated from *Clematis terniflora* flowers in LPS-stimulated RAW 264.7 Macrophage cells

Yeonbo Jang[1], Da Som Kim[2], Hyeri Choi[2], Won-Jae Chi[2], Seung-Young Kim[1,3*]

[1]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea, [2]Biodiversity Research Department, Species Diversity Research Division, National Institute of Biological Resources, Incheon 22689, Korea, [3]R&D Center, BaoGen Inc., Cheonan 31212, Korea

PNB-101

Hair growth-promoting properties of Bacillus/Esculetin ferment filtrate(BEFF) derived through biorenovation

Jun Won Choi[1,2], Tae-Jin Park[1], Hyehyun Hong[1,2], Kyung Wan Park[1], Sung Min Hong[1], Seung-Young Kim[1,2*]

[1]R&D Center, BaoGen lnc., Cheonan 31212, Korea, [2]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea

PNB-102

Anti-Inflammatory Activity of *Peziza vesiculosa* Culture Filtrate Extract in LPS-Stimulated RAW 264.7 Cells

Tae-Jin Park[1], Da Som Kim[2], Hyeri Choi[2], Won-Jae Chi[2], Seung-Young Kim[1,3*]

[1]R&D Center, Baogen Inc., [2]Species Diversity Research Division, National Institute of Biological Resources, [3]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University

PNB-103

Protective Effects of *Trametes hirsuta* mycelia culture Filtrate on H_2O_2-induced oxidative stress in C2C12 myoblast

Hyehyun Hong[1,2,3], Seung-Young Kim[1,3*]

[1]Department of Pharmaceutical Engineering & Biotechnology, Sunmoon University, Asan 31460, Korea, [2]Biodiversity Research Department, Species Diversity Research Division, National Institute of Biological Resources, Incheon 22689, Korea, [3]R&D Center, BaoGen Inc., Cheonan 31212, Korea

PNB-104

Alleviate Drought Stress on Cereals Using Extracts of *Psidium guajava*, *Aloe vera*, *Allium sativum* and *Medicago sativa* plantAlleviate Drought Stress on Cereals Using Extracts of *Psidium guajava*, *Aloe vera*, *Allium sativum* and *Medicago sativa* plants

Ei Ei, Hyunhwa Park, Pyae Pyae Win, Yong In Kuk*

Department of Bio-oriental Medicine Resources, Sunchon National University

PNB-105

BF Root Extract Suppresses Stress-induced Cancer Metastasis by Targeting Src Kinase

Jae-Hoon Jeong, Shin-Hyung Park*

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-106

Deoxypodophyllotoxin Exerts Anticancer Effects via Inhibition of the Glucocorticoid Receptor in NSCLC Cells

Jae-Hoon Jeong, Shin-Hyung Park*

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-107 **Dual Anti-Angiogenic Action of PP Root Extract in Endothelial and Gefitinib-Resistant Lung Cancer Cells**

Hyun-Ji Park, Shin-Hyung Park*

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-108 **Extract of *Lindera aggregata* Root Tuber Suppresses Catecholamine-Induced Metastatic Potential in Cancer Cells**

Shin-Hyung Park*, Jae-Hoon Jeong

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-109 **Extract of *Scutellaria baicalensis* Root Inhibits Macrophage Migration and M2 Polarization**

Hyun-Ji Park, Shin-Hyung Park*

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-110 **Induction of Apoptosis by a Marine-Derived SM Extract in Lung Cancer Cells**

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-111 **A Brown Macroalga SR Extract Triggers Apoptosis in Lung Cancer Cells**

Shin-Hyung Park*, Hyun-Ji Park

Department of Pathology, College of Korean Medicine, Dong-eui University, Busan 47227, Republic of Korea

PNB-112 **Discovery of α-Glucosidase Inhibitors from Paenibacillus sp. JNUCC 31 via Genome Mining, Metabolite Profiling, and In Silico Analysis**

Yang Xu, Xuhui Liang, Chang-Gu Hyun*

Jeju Inside Agency & Cosmetic Science Center, Department of Chemistry and Cosmetics, Jeju National University

PNB-113 **Ginsenoside MC Modulates Neuroinflammation via the TLR4/MD2 and Nrf2/ARE Pathways in BV2 Microglial Cells**

Ji Won Choi, Jin Young Hur*

Functional food materials Research Group, Korea Food Research Institute

PNB-114

β-sitosterol induces ferroptosis in triple-negative breast cancer cells by modulating the ROR1/YAP/TAZ signaling pathway

Daekyeong Kim[1], Jisoo Kim[1], Tae Hyeon Yoon[1], Sun Hee Yang[1], Somi Kim Cho[1,2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Korea, [2]Faculty of Biotechnology, College of Applied Life Sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea

PNB-115

Acute treatments of *Myristica fragrans* Houtt. essential oil improved depression-like behaviors enhancing GABAB signaling and stress resilience

Khoa Nguyen Tran, Yeasmin Akter Munni, Gia Linh Mac, Sarmin Ummey Habiba, In-Jun Yang*

Department of Physiology, College of Korean Medicine, Dongguk University, 123 Dongdae-ro, Gyeongju 38066, Republic of Korea

PNB-116

Characterization and Discrimination of *Panax ginseng* Based on Multi-Platform Metabolomics Combined Molecular Networking Analysis

Woo-Cheol Shin[1], Dahye Yoon[2], Jin-Kyu Jang[1], Dae Young Lee[1*]

[1]BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Herbal Crop Research, National institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea

PNB-117

Integrated Metabolomics and Biological Functional Assessment of *Platycodon grandiflorum* Extract in Alcohol-Related Liver Disease

Jin-Kyu Jang[1], Woo-Cheol Shin[1], Dahye Yoon[2], Dae Young Lee[1*]

[1]BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea

PNB-118

Neuroprotective Effects of Coumarin derivatives Isolated from *Peucedanum japonicum*

Jeong-Hyun Park[1], Woo-Cheol Shin[1], Jin-Kyu Jang[1], Kwan-Woo Kim[2], Young-Seob Lee[2], Dae Young Lee[1*]

[1]BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Herbal Crop Research, National institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea

PNB-119

Isolation and Characterization of Bioactive Compounds from *Phedimus aizoon* for Sleep Quality Improvement

Yong Jae Jeong[1], Jin-Kyu Jang[1], Woo-Cheol Shin[1], Bo Kyung Lee[2], Yi-Sook Jung[2], Young-Seob Lee[3], Dae Young Lee[1*]

[1]BK21 FOUR KNU Creative BioResearch Group, School of Life Sciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Pharmacy, Ajou University, Suwon 16499, Republic of Korea, [3]Department of Herbal Crop Research, National institute of Horticultural and Herbal Science, RDA, Eumseong 27709, Republic of Korea

PNB-120

Evaluation of the Antioxidant and Antiaging Effects of the Native Plant Genus *Schisandra* Extracts and Application in Cosmetics

Hye Yoon Park[1], A Reum Jang[1], Do Yeon Lee[1], Hwa Youn Kim[1], Yi Seul Kim[1], Dae Geon Kim[2], Myo-Deok Kim[2], Hang Eui Cho[3*]

[1]Material Research Team, Cosmecca Korea CIR R&D Center, [2]R&D Center, ACTIVON, [3]Technical Research Institute CCS, Cosmecca Korea CIR R&D Center

PNB-121

Inhibitory Effect of *Citrus unshiu* on the Spread of Antibiotic Resistance Genes

Hyejun Jo, Changsook Kim*, Gwangpyo Ko, Minseong Park

Jeju National University, Faculty of Biotechnology, College of Applied Life Sciences

PNB-122

Generation of Chrysoeriol-Producing Transgenic Lettuce as a Flavonoid Production Platform

Seulgi Lee[1], Moonhyuk Kwon[1*], Saetbuyl Lee[2]

[1]Division of Applied Life Science (BK21 Four), ABC-RLRC, RIMA, Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Metabolic Engineering Division, National Institute of Agricultural Science, Rural Development Administration, JeonJu, Republic of Korea

PNB-123

Investigation of Zinc Finger Proteins (LsZNFPs) in Laticifer Differentiation for Enhanced Rubber Accumulation in Lettuce

Rara Maharani Rusli[1], Nayoung Lee[2], Moonhyuk Kwon[1*]

[1]Division of Applied Life Science (BK21 Four), ABC-RLRC, RIMA, Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Research Institute of Molecular Alchemy (RIMA), Gyeongsang National University, Jinju 52828, Republic of Korea

PNB-124

Phytochemical Constituents of *Glehnia littoralis* Leaves and Their Chemotaxonomic Significance

Sainan Li, Shuo Tian, Minkyun Na*

Pharmacognosy Laboratory, College of Pharmacy, Chungnam National University

PNB-125 **Cytotoxic effects of C17 polyacetylenes isolated from the roots of *Glehnia littoralis* against drug resistant colorectal and lung cancer cells**

Jisu Park, Sumin Kang, Soomin Lee, Minkyun Na*

Pharmacognosy Laboratory, College of Pharmacy, Chungnam National University

PNB-126 **Metabolite Profiling and Antimicrobial Activities of *Brassica rapa* ssp. *narinosa* (Tatsoi), *B. rapa* var. *narinosa* × *chinensis* (Dacheongchae), and *B. rapa* ssp. *chinensis* (Pakchoi)**

Minhwan Lee[1], Haejin Kwon[2], Sang Un Park[1,2*]

[1]Department of Crop Science, Chungnam National University, [2]Department of Smart Agriculture Systems, Chungnam National University

PNB-127 **Validation of an Analytical Method for Caffeoylquinic Acid Derivatives Content Enhanced in *Aster* × *chusanensis* by UV Irradiation**

Ju Yeon kim[1], Sumin Kim[1], Nari Woo[1], Ki-Ho Son[2*], Jeong Yoon Kim[1*]

[1]Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea, [2]Department of GreenBio Science, Gyeongsang National University, Jinju 52725, Republic of Korea

PNB-128 **Neotenone from *Pachyrhizus erosus* with Whitening Effects on Tyrosinase Inhibition and Anti-pigmentation Activity**

Seung Yu Lee, Yun Gon Son, Na Rae Kang, Jeong Yoon Kim*

Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea

PNB-129 **Neutrophil Elastase Inhibitory Furanocoumarins from *Angelica dahurica* Roots**

Seungjae Jang, Jae Yeon Park, Na Rae Kang, Jeong Yoon Kim*

Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea

PNB-130 **Whitening Effect of lignan derivatives from Anise hyssop (*Agastache foeniculum*)**

Na Rae Kang, Seung Yu Lee, Seungjae Jang, Jeong Yoon Kim*

Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea

PES Environmental Sciences

PES-1 Characterisitics of Variation of Organic Pollutants in Agricultural Water in Gyeongbuk Province(2023~2024)

Hye-Rin Jeong[1,2*], Jong-Hee Shin[1], Yeong-Gyu Jeong[1], Yun-Kyung Kim[1], Jun-Young Lee[1], Jung-Gi Ryu[1], Hyo-Sub Lee[3]

[1]Agricultural Environment Research Team, Gyeongsangbuk-do Agricultural Research & Extension Services, [2]Department of Applied Biosciences, Kyungpook National University, [3]National Institute of Agricultural Science, Rural Development Administration

PES-2 Predictive modeling of pesticide half-life in soil using machine learning

In Ung Jeong, Hyo Sub Lee*, Jae Yun Jo, Hyang Hee Kim

Residual Agrochemical Assessment Division, Department of Agro-Food Safety and Crop Protection, National Institute of Agricultural Sciences

PES-3 Effects of Biochar Type, Application Rate, and Frequency on Soil Carbon Content in the Saemangeum Reclaimed Land

Kwang Seung Lee*, Young Tae Shin, Hyeoun Su Jang, Bang Hun Kang, Hee Kyoung Ock, Hak Sung Lee, Seo Young Jeong, Hyeoun Suk Cho

Reclaimed Land Agriculture Research Center, Department of Crop Sciences, National Institute of Crop and Food Science, Rural Development Administration

PES-4 Leachability characteristics of heavy metals in contaminated forest soils

Namin Koo*

Division of Forest Ecology, National Institute of Forest Science

PES-5 Impact of Soil Amendments on Soil Microbiota and Plant Defense System: A Study on Beneficial Bacterium and Salicylic Acid in Cucumber Cultivation

Sandamali Harshani Kumari Hathurusinghe[1], Anushree Joshi[1], Tino Bashizi[1], Minsoo Jeong[1], Min-Ji Kim[1], Jae-Ho Shin[1,2*]

[1]Department of Applied Biosciences, Kyungpook National University, [2]NGS Core Facility, Kyungpook National University

PES-6 Distribution of Soil Microbial Communities in Greenhouse Soils of Gyeongbuk Province

Jeung Woo Ko*, Hyong Rack Sohn, San-Yeong Kim, Jung-Gi Ryu

Division of Agricultural Food and Enviroment Research, Gyeongsangbuk-do Agricultural Research & Extension Services, Daegu 41404, Korea

PES-7

Effects of Zerovalent Iron Nanoparticles on the Growth and Photosynthesis of *Arabidopsis thaliana* under Elevated CO_2 Concentrations

Juwon Yoo[1], Junyong Hong[2], Hakwon Yoon[3*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon 24341, Republic of Korea, [2]Department of Biological Environment, College of Agriculture and Life Sciences, Kangwon National University, Chuncheon 24341, Republic of Korea, [3]School of Natural Resources and Environmental Science, College of Agriculture and Life Sciences, Kangwon National University, Chuncheon 24341, Republic of Korea

PES-8

A Study on Biochar Production for Recycling of Spent Growing Media

Ji-Min Song[1], Chang-Gon Lee[1], Han-Na Cho[2], Ikhyeong Lee[2], Ju-Sik Cho[1,2], Se-Won Kang[1,2*]

[1]Department of Agricultural Life Science, Sunchon National University, Suncheon 57922, Republic of Korea, [2]Department of Agricultural Chemistry, Sunchon National University, Suncheon 57922, Republic of Korea

PES-9

Crop-Specific Metabolic Differences and Risk Assessment of Sulfoxaflor in Thistle and Olive

Eun-Song Choi[1,2], Min-Ho Song[2], Ji-Woo Yu[3], Jung-Hoon Lee[1,2], Hui-Yeon Ahn[4], Geon-Woo Park[3], Ji-Won Shin[3], Ji-Yeon Lee[3], Ha-Jin Son[3], Young-Soo Keum[3], Ji-Ho Lee[1,2*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Chuncheon, Gangwon State, 24341, Korea, [2]School of Natural Resources and Environmental Science, Department of Biological Environment, Kangwon National University, Chuncheon, Gangwon State, 24341, Korea, [3]Department of Crop Science, Konkuk University, 120 Neungdong-ro, Gwangjin-gu, Seoul 05029, Korea, [4]Toxicity and Risk Assessment Division, Department of Agro-food Safety and Crop Protection, National institute of Agricultural Sciences, Rural Development Administration, Wanju, Korea

PES-10

Correlation Analysis Between Leaf Chlorosis and Flooding-Responsive Metabolites Under Waterlogging Stress During Early Growth of Maize

Jungtae Kim*, Boseong Seo, Yonghwa Lee, Jeongtae Lee

Crop Environment Research Division, National Institute of Crop and Food Science, RDA

PES-11

Synthesis and Characterization of Nutrient-Enriched, Mineral-Like Particles from Wastewater-Activated Sludge

Jun Seo Kang[1], Beom Sik Kim[1], Ji Won Kim[1], Jong-Rok Jeon[1,2,3*]

[1]Division of Applied Life Science (BK21Plus), Gyeongsang National University, [2]Department of Applied Life Chemistry, Gyeongsang National University, [3]Institute of Agricultural and Life Science (IALS), Gyeongsang National University

PES-12

Synthesis and Characterization of Nutrient-Enriched, Mineral-Like Particles from Wastewater-Activated Sludge

Manar Tag[1], Hyunah So[1], Juyeon Moon[1], Jong-Rok Jeon[1,2,3*]

[1]Division of Applied Life Science (BK21Plus), Gyeongsang National University, [2]Department of Applied Life Chemistry, Gyeongsang National University, [3]Institute of Agricultural and Life Science (IALS), Gyeongsang National University

PES-13

Adsorption characteristic of chlorantraniliprole on biochar

Hoo Bin Han[1], Eun Hea Jho[1,2*]

[1]Agricultural Chemistry, Chonnam National University, [2]Agricultural and Biological Chemistry, Chonnam National University

PES-14

Applicability of *Festuca ovina* var. *coreana* for Amendment-Assisted Phytoremediation of Arsenic-Contaminated Soil

Ye-Eun Lee[1], Keum Chul Yang[2], Han Na Kim[1], Jeong Yeon Kim[1], Su Kyeong Shin[1], Yu Jin Kim[2], Seung Jun Lee[1], Jong Geon Oh[1], Jin Seo Lee[1], Ju-Sung Cho[3], Jin Hee Park[1*]

[1]Department of Environmental and Biological Chemistry, Chungbuk National University, [2]Department of Civil and Environmental Engineering, Kongju National University, [3]Division of Animal, Horticultural, and Food Sciences, Chungbuk National University

PES-15

Machine Learning-Based Prediction of Soil Nutrients Levels from Electrical Conductivity

Seung Jun Lee, Han Na Kim, Jeong Yeon Kim, Su Kyeong Shin, Ye Eun Lee, Jin Hee Park*

Department of Environmental Biological Chemistry, Chungbuk National University

PES-16

Deep Soil Contributes to More Reliable Soil Property Estimation

Jeong Chan Lee, Kyung Jin Min*

Department of Agricultural Biotechnology, Seoul National University

PES-17

Soil Heterotrophic Respiration Is More Sensitive to Seasonal Changes in Temperature and Water Content than Autotrophic Respiration in a Monsoon Continental Climate

Hyunjin Kim, Kyungjin Min*

Department of Agricultural Biotechnology, Applied Life Chemistry, Seoul National University

PES-18

Effect of Biochar Derived from Agricultural Residues and Livestock Manure on Crop Productivity and Soil Properties

Seong Heon Kim*, Kyoung Young Kim, Yu Na Kim, Sin Sil Kim, Jae Hyuk Park, Jin Ju Yun, Jae Hong Shim, Sang Ho Jeon, Soon Ik Kwon, Ahn Seing Noh

Soil and Water Environment Division, National Institute of Agricultural Sciences, Rural Development Administration

PES-19

Distribution of Microbial Extracellular Enzymes in Soil

Minsun Kim, Kyungjin Min*

Department of Agricultural Biotechnology, Seoul National University

PES-20

Optimizing the Application of Organic Fertilizers Mixed with Pyrogenic Carbon Materials for Enhanced Crop Growth and Soil Carbon Sequestration

Seong Heon Kim*, Kyeong Young Kim, Yu Na Lee, Sin Sil Kim, Jae Hyuk Park, Jin Ju Yun, Jae Hong Shim, Sang Ho Jeon, Soon Ik Kwon, Ahn Sung Noh

Soil and Water Environment Division, National Institute of Agricultural Sciences, Rural Development Administration

PES-21

Evaluation of Fertilizer Usage and Type in Facility Crops Cultivation

Yu Na Lee, Seong Heon Kim*, Kyeong Yeong Kim, Jae Hong Shim, Sang Ho Jeon, Ahn Sung Noh, Soon Ik Kwon

Soil and Water Environment Division, National Institute of Agricultural Sciences, Rural Development Administration

PES-22

Evaluation of Fertilizer Usage and Nutrient Management Practices in Korean Rice Cultivation

Sin Sil Kim, Seong Heon Kim*, Jae Hong Shim, Sang Ho Jeon, Ahn Sung Noh, Soon Ik Kwon, Yu Na Lee, Kyeong Yeong Kim

Soil and Water Environment Division, National Institute of Agricultural Sciences, Rural Development Administration

PES-23

Extracellular Enzyme Products Drive a Pulse of Microbial Respiration upon Rewetting of Dry Soil

Sohyun Woo, Minsun Kim, Kyungjin Min*

Department of Agricultural Biotechnology, Seoul National University

PES-24

Influence of Growing Environment on Major Compounds and Growth Characteristics of Wild *Cudrania tricuspidata* Fruit

Dong Hwan Lee, Yonghwan Son, Dae Hui Jeong, Ji Ah Kim*

Forest Medicinal Resources Research Center, National Institute of Forest Science

PES-25

Adsorption characteristics of imidacloprid by two types of microplastics and biochar

Jeong Min Heo[1], So Hui Bae[2], Hyeon Jeong Lee[2], Eun Hea Jho[1,2*]

[1]Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Korea, [2]Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Korea

PES-26

A Subsoil-Inclusive Framework for National-Scale Soil Health Assessment

Min-Gi Park, Kyung-Jin Min*

Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea

PES-27

Effects of Biochar Application on Soil Enzyme Activities under Lettuce Cultivation

Hyeon Jeong Lee, So Hui Bae, Eun Hea Jho*

Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186 Republic of Korea

PES-28

Effects of Transition Metals on the Digestibility in Rumen System

Kwang-Min Kim, Kyung-Yeol Oh, Wasi Ullah, Jin-Hyo Kim*

Department of Agricultural Chemistry, Division of Applied Life Science, Institute of Agriculture and Life Science (IALS), Gyeongsang National University, Jinju 52727, Republic of Korea

PES-29

Establishment of analytical methods for nicotine, propylene glycol and glycerol content in aerosol of heated tobacco products using GC-FID

Hyoung-Joon Park, Min Soo Kim, Min Kyong Lee, Gyeong Tae Kim, Woo Jin Jeon, Hyung Soo Kim, Hyun-Kyung Kim*

Advanced Analysis Division, National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety

PES-30

Size-Dependent Toxicity of Polyethylene Nano- and Microplastics on the Growth of *Arabidopsis thaliana*

So Hyun An[1], Hak Won Yoon[2*]

[1]Department of Biological Environment, College of Agriculture and Life Sciences, Kangwon National University, Chuncheon 24341, Republic of Korea, [2]School of Natural Resources and Environmental Science, College of Agriculture and Life Sciences, Kangwon National University, Chuncheon 24341, Republic of Korea

PES-31

Investigation of Pesticide Residues in Soil from Facility Cultivation Areas in Gyeongsangnam-do

Dong Kyu Jeong, Dong Yeol Lee*, Won Min Jeong, Hyeon Hee Kim, Gyeong Hwan Lee, Yeong In Choe

Research & Development Team, Gyeongnam Anti-Aging Research Institute

PES-32

Residue Characteristics of Dinotefuran and Methoxyfenozide in Mulberry

Chae Eun Kim, Hyeon Kyu Jeong, Sua Jeong, Joon Kwan Moon*

Department of Plant Resources and Landscape Architecture, Hankyong National University

PES-33

Monitoring of Pesticide Residue on Greenhouse Soil in Jeonnam Province

Sungwoo Kim[1*], Hyeonji Kim[1], Soyoun Lee[1], Kyungjin Kwak[1], Sunkuk Kim[1], Hyosub Lee[2]

[1]Environment-friendly agriculture research center, Jeollanam-do Agricultural Research & Extension Services, [2]National Institute of Agricultural Science, Rural Development Administration

PES-34

Optimization of Shrimp Shell-Derived Biochar Production for Agricultural Utilization

Jae-Hoon Lee, Jun Suk Rho, Seul-Rin Lee, Jung-Mok Lee, Seung-Hoon Lee, Dong-Cheol Seo*

Division of Applied Life Science(BK21 Four) & Institute of Agriculture and Life Science, Gyeongsang National University

PES-35

Screening of Endophytic Bacteria Isolated from Wheat to Control Streptomycin-Resistant phytopathogens

Jinhee Choi[1], Muhammad Fazle Rabbee[1], Myoung-Goo Choi[2], Kwang-Hyun Baek[1*]

[1]Department of Biotechnology, Yeungnam University, Korea, [2]Winter Crop Research Division, National Institute of Crop and Food Science, RDA, Korea

PES-36

Biochar production using ecosystem-disrupting plants and its heavy metal adsorption

Jungwon Park[1], Ye-Ji Lee[1*], Jeong-Min Lee[1*], Jonghwan Park[2*], Dong-Cheol Seo[3]

[1]Department of Applied Bioscience, Dong-A Univercity, [2]Department of Smart Green Resources, Dong-A Univercity, [3]Department of Applied Life Chemistry, Gyeongsang National Univercity

PES-37

Adsorption characteristics of methylene blue by rice husk extracted Si

Ye-Ji Lee[1], Jeong-Min Lee[1], Jung-Won Park[1], Dong-Cheol Seo[2], Jong-Hwan Park[1*]

[1]Department of Applied Bioscience, Dong-A University, [2]Department of Applied Life Chemistry, Gyeongsang National University

PES-38

Agro-Environmental role of biochar derived from spent coffee ground in pepper cultivation

Jeong-Min Lee[1], Ye-Ji Lee[1], Jung-Won Park[1], Dong-Cheol Seo[2], Jong-Hwan Park[1*]

[1]Department of Applied Bioscience, Dong-A University, [2]Department of Applied Life Chemistry, Gyeongsang National University

PES-39

Early Multi-Omics Insights into *Fusarium proliferatum*-Induced Dysbiosis in Soybean: Microbiome and Metabolome Rewiring Under Pathogen Stress

Tino Bashizi[1], Seung-Yeon Jeong[1], Tae Ho Kim[1], Kyeongmo Lim[1], Jae-Ho Shin[1,2*]

[1]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

PES-40

Effects of Planting Density on Head Rice Yield under Delayed Transplanting in the Central Plain Region of Korea

Myeond-Na Shin[*]

Central-Northern Region Crop Research Center, National Institute of Crop and Fodd Science

PES-41

Effect of Phosphogypsum Derived Byproduct Hydrated Lime compost on Crop Safety and Soil Properties

Jinju Yun[1], Ahnsung Roh[1], Sangho Jeon[1], Seongheon Kim[1], Hyucksoo Kim[2], Woojin Chung[3], Jaehong Shim[1*]

[1]Division of Soil and Water Environment, National Institute of Agricultural Sciences, RDA, [2]Department of Biological Environment, Kangwon National University, [3]Department of Civil & Energy System Engineering, Kyonggi University

PES-42 **Soil Texture Prediction Using Mid-Infrared Spectroscopy: Model Development and Evaluation**

So-Hui Kim, Govind Dnyandev Vyavahare, Seong-Heon Kim, Kyeon-Yeong Kim, Ahn-Sung Roh, Jin-Ju Yun, Yu-Na Kim, Sang-Ho Jeon*

National Institute of Agricultural Sciences, Division of Soil and Water environment

PES-43 **Chemical and Heavy Metal Variability in Greenhouse Soils of Jeonnam Province**

Hyeon Ji Kim*, Sung Woo Kim, So Yeon Lee, Kyung Jin Kwak, Sun Kook Kim, Sun Ju Ko

Environment-Friendly Agricultural Reaserch Institute, Jeollanam-do Agricultural Reasearch and Extension Services

PES-44 **Establishment of Pre-Harvest Residue Limits (PHRLs) of Novaluron in *Amaranthus mangostanus* L.**

Yeong Jae An, Joon Kwan Moon*, Ho Jin Kim, Tae Eun Kim

Department of Plant Resources and Landscape Architecture, Hankyong National University

PES-45 **Differential Phytotoxicity of PPO-Inhibiting Herbicides in Monocotyledonous and Dicotyledonous Plants**

Hajin Son, Jiwoo Yu, Geonwoo Park, Jiwon Shin, Jiyeon Lee, Youngsoo Keum*

Department of Crop Science, Konkuk University

PES-46 **Sustainable Soil Management Strategy to Enhance Net Ecosystem Carbon Budget and Sequestration by Optimal Woody Biochar Application in Red Pepper Cropping Systems: Three-year Field Experiment**

So Hee Yoon[1], Yeo Myeong Lee[1], Jasmin Melendez[1], Sang Yoon Kim[2*]

[1]Agricultural Chemistry & Interdisciplinary Program in IT-Bio Convergence System, Sunchon National University, [2]Agricultural Life Science, Sunchon National University

PES-47 **Regional and strain-level distribution of nitrogen-fixing and N_2O-reducing Bradyrhizobium in South Korea**

Jaeyoung Ro, Seoyeon Lee, Min Je Kang, Sujin Lee*, Hor gil Hur*

Department of Environment and Energy Engineering, Gwangju Institute of Science and Technology

PES-48

Insecticide resistance of *Myzus persicae* (Hemiptera: Aphididae) populations collected from kimchi cabbage fields in South Korea

Doo-Hyung Lee*, Joo-Young Kim, Jung-Wook Kho

Life Sciences, Gachon University

PES-49

Effect of Liquid Fertilizer from Rendered Livestock Carcass Residues on Tomato Growth and Productivity

Jae-Hyuk Park[1], Ik-Hyeong Lee[2], Se-Won Kang[2,3], Ju-Sik Cho[2,3*]

[1]Division of Soil and Water environment, National Institute of Agricultural Sciences, Wanju 55365, Republic of Korea, [2]Department of Agricultural Chemistry, Sunchon National University, Suncheon 57922, Republic of Korea, [3]Department of Agricultural Life Science, Sunchon National University, Suncheon 57922, Republic of Korea

PES-50

Development of a Microalgae-Based Carbon Capture System for Cement Industry Flue Gas Mitigation

Dong-Guk Song[1], Van Ve Le[1], Sang-Ah Lee[1,2,3*]

[1]Faculty of Biotechnology, College of Applied Life Sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea, [3]Bio-Health Materials Core-Facility Center, Jeju National University, 102 Jejudaehak-Ro, Jeju 63243, Republic of Korea

PES-51

Organic Matter Recycling Enhances Soil Carbon Sequestration: A Comparative Analysis of Paddy and Upland Agroecosystems

Na-Hyun Kwon[1], Chang-Dong Lee[1,2], Jae-Eun Jung[2], Chan-Young Lee[2], Yun-Ji Kim[2], Jeong-Gu Lee[1,2*]

[1]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, South Korea, [2]School of Applied Life Science, College of Agriculture and Life Sciences, Kyungpook National University, Daegu 41566, South Korea

PES-52

Yields and Film Properties of Biodegradable Mulching Films in Onion, Pepper, and Soybean Cultivation across Different Region

Hyunhwa Park[1], Ei Ei[1], Pyae Pyae Win[1], Ji Young Nam[1], Do Jin Lee[2], Yong In Kuk[1*]

[1]Department of Bio-Oriental Medicine Resources, Sunchon National University, [2]Department of Agricultural Education, Sunchon National University

PES-53

Interactions between polyethylene microplastics and imidacloprid in soil

U jin Song[1], Hoo Bin Han[2], Ji Won Yang[3], Eun Hea Jho[1*]

[1]Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [2]Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [3]Department of Agricultural Biotechnology, Seoul National University, Seoul 08826, Republic of Korea

PES-54

Planting Density Effects on Yield Components of Rice Varieties with Contrasting Nitrogen Response

Mi-Jin Chae*, Dae-Woo Lee, Chung-Kuen Lee, Kangsu Kwak, Myeong-Na Shin

Central-Northern Region Crop Research Center Department of Crop Science, National Institute of Crop Science

PES-55

Interactions Between Aggregate-Associated Carbon Storage and Soil Biological and Chemical Properties in Organic Upland Fields

Chang-Hoon Lee*, Mun-Hyeong Park

Department of Horticulture, Korea National University of Agriculture and Fisheries

PES-56

Effect of Long-term Fertilization on Intra- and Inter- Particular Carbon in Upland Soils

Chang-Hoon Lee*, Mun-Hyeong Park

Department of Horticulture, Korea National University of Agriculture and Fisheries

PES-57

Optimization of Soil-Based QuEChERS Extraction and Comparative Assessment of Analytical Efficiency by Physicochemical Characteristics of Pesticides

Hyosub Lee[1*], Seojin Ki[2], Hyanghee Kim[1], Sungwoo Kim[3], Dongyeol Lee[4]

[1]Residual Agrochemical Assessment Division, National Institute of Agricultural Sciences, [2]Department of Environmental Engineering, Gyeongsang National University, [3]Jeollanam-do Agricultural Research and Extension Services, [4]Gyeongnam Anti-Aging Research Institue

PES-58

Risk Assessment and Management of Soil Pesticides Using Physicochemical Properties and Statistical Analysis

Sang-Ik Suh[1], Bumseok Lee[2], Dahui Kim[1], Yeji Kim[2], Hyosub Lee[3], Minho Son[4], Seo Jin Ki[2*]

[1]Department of Energy System Engineering, Gyeongsang National University, Jinju 52725, [2]Department of Environmental Engineering, Gyeongsang National University, Jinju 52725, [3]Chemical Safety Division, NAS, Wanju 55365, [4]Podo inc., Seongnam 13449

PES-59

Analytical Method for Dichlobenil and 2,6-Dichlorobenzamide Residues in Beef, Milk, and Fat Using GC-MS/MS

Hyo-Lyn Kim, Jonghwa Lee*, Dai An, Hyunmi Koo, Jeong-Im Kim, So Young Yune, Young Hun Shim

Gyeongin Regional Office of Food and Drug Safety, Ministry of Food and Drug Safety

PES-60

Development of a Sweetness Booster for Fruits with Antimicrobial Function

Juhyun Yu[1*], Hyeran Shin[2], Hyun Gi Kong[3], Hyeyoung Kweon[2], Wongi Min[4], Youngho Kim[2]

[1]SugarArt Research Institute, [2]SugarArt Research Institute, Biological Testing Team, [3]Chungbuk National University, Department of Plant Medicine, [4]SugarArt Research Institute, Formulation Development Team

PES-61

Temporal Analysis of Soil Physical Properties in Greenhouse Cultivation Areas of Jeollanam-do, South Korea (2016–2024)

Kyungjin Kwak[1*], Hyeonji Kim[1], Sungwoo Kim[1], Soyoun Lee[1], Sunkook Kim[1], Suengoh Heo[2], Sugju Ko[1]

[1]Jeollanam-do Agricultural Research & Extension Services, Naju 58228, Korea, [2]National Institute of Agricultural Science, RDA, Wanju 55365, Korea

PES-62

Greenhouse-Based Residue Dissipation Pattern and Age-Specific Dietary Risk of Propamocarb and Chlorfenapyr in Pumpkin

Yeong-Jin Kim[1], Sung-Gil Choi[1], Jin-Woo Park[1], Deuk-Yeong Lee[1], Jong-Hwan Kim[1,2], Jong-Su Seo[1*]

[1]Center for Environmental Safety Research, Korea Institute of Toxicology, [2]Human and Environmental Toxicology Program, Korea University of Science and Technology

PES-63

Sustainable Option as Shifting Transplanting Date for Reducing Net Annual Global Warming Potential during Cropping and Fallow Seasons in a Mono Rice Paddy Field

Yeomyeong Lee[1], Sohee Yoon[1], Jasmin Melendez[1], Sang Yoon Kim[1,2*]

[1]Department of Agricultural Chemistry & Interdisciplinary Program in IT-Bio Convergence System, Sunchon National University, Suncheon 57922, Korea, [2]Department of Agricultural Life Sciences, Sunchon National University, Suncheon 57922, Korea

PES-64

A Study on the Analysis of the Impact of Agricultural Environmental Conservation Activities on Resources in the Agricultural Environmental Conservation Program

Jeong-Woo Son*, Bu-Yeong Oh, Seung-Oh Hur

Division of Soil and Water Environment, National Institute of Agricultural Sciences

PES-65

Phosphorus Control Using Metal-Modified Biochar Under Algal Bloom Conditions

Seul-Rin Lee, Dong-Cheol Seo*, Jae-Hoon Lee, Jun-Suk Rho, Jung-Mok Lee, Seung-Hoon Lee

Institute of Agricultural and Life Sciences & Division of Applied Life Science (BK21 Four), Gyeongsang National University

PES-66

Assessment of the leaching potential and residues for pesticides from soils in rainfall simulations

Jong-Wook Song, Yeoung-Jin Kim, Seong-Yeon Park, Jong-Hwan Kim*

Environmental Safety Research Center, Korea Institute of Toxicology

PES-67

Role of Green Manure in Promoting Humification and Soil Structure Stability in Paddy Systems

Jae-Eun Jung[1], Jeong-Gu Lee[1,2*], Na-Hyun Kwon[2], Chang-Dong Lee[1], Chan-Young Lee[1], Yun-Ji Kim[1]

[1]School of Applied Life Science, College of Agriculture and Life Sciences, Kyungpook National University, [2]Department of Applied Biosciences, Kyungpook National University

PES-68

Case study: Soil Health in Organic Conversion Vineyards

Hyun Young Hwang*, Yeon Ho Kim, Sang Min Lee

Regenerative Organic Agriculture Division, National Institute of Agricultural Sciences, Rural Development Administration

PES-69

Enhancing Biochar Stability and Nutrient Content through Co-Pyrolysis Utilizing Plant and Animal By-Products

Jun Suk Rho, Jae-Hoon Lee, Seul-Rin Lee, Jung-Mok Lee, Seung-Hoon Lee, Dong-Cheol Seo*

Division of Applied Life Science(BK21 Four) & Institute of Agriculture and Life Science, Gyeongsang National University

PES-70

Carbon stability to lime (CaO) and silicate (SiO_2) amendments across soil depths under upland conditions

Na-Hyun Kwon[1], Jeong-Gu Lee[1,2*]

[1]Department of Applied Biosciences, Kyungpook National University, [2]School of Applied Life Science, College of Agriculture and Life Sciences, Kyungpook National University

PES-71

Differential Physiological Responses to Plastoquinone Biosynthesis-Inhibiting Herbicides with Distinct Modes of Action in *Lactuca sativa* and *Lemna minor*

Ji-Yeon Lee, Ji-Woo Yu, Gun-Wo Park, Ji-Won Shin, Ha-Jin Son, Young-Soo Keum*

Department of Crop Science, Konkuk University

PES-72

Evaluating the Effect of Enhanced Weathering Material on Lettuce Growth

Jae-Hyuk Park, Jin-Ju Yun, Yu-Na Lee, Govind Dnyandev Vyavahare, So-Hui Kim, Sin-Sil Kim, Kyeong-Yeong Kim, Seong-Heon Kim, Jae-Hong Shim, Ahn-Sung Roh, Sang-Ho Jeon*

Division of Soil and Water environment, National Institute of Agricultural Sciences, Wanju 55365, Republic of Korea

PES-73

Evaluation of Biochar as a Sustainable Exfoliating Agent for Replacing Microplastics and Natural Abrasives in Cleansing Foam

Yeo-Ji Choi[1], Chae-Won Eom[1], Seul-Rin Lee[2], Jae-Hoon Lee[2], Jun-Suk Rho[2], Jung-Mok Lee[2], Seung-Hoon Lee[2], Dong-Cheol Seo[1,2*]

[1]Department of Applied Life chemistry, Gyeongsang National University, [2]Division of Applied Life Science (BK21 Four) and Institute of Agricultural and Life Sciences, Gyeongsang National University

PES-74

Agronomic Effects of Livestock Manure Compost Produced from Biochar-Mixed litter

Seung Hoon Lee[1], Seul Rin Lee[1], Jun Suk Rho[1], Jae Hoon Lee[1], Jung Mok Lee[1], Dong Cheol Seo[2*]

[1]Division of Applied Life Science (BK21 Four), Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Institute of Agriculture and Life Science, Gyeongsang National University, Jinju 52828, Republic of Korea

PES-75

Comparative Study on Pesticide Exposure Levels According to Formulation Type and Physical State During Mixing and Spraying by Pesticide Operator

Byung Joon Kim, You Mi Jo, So-Hye Hong, Soo-Jin Park, Ji Young Shin, Min-Kyoung Paik, Si young Yang*

Toxicity and Risk Assessment Division, Department of Agro-food Safety, National Institute of Agricultural Sciences

PFS Food Sciences

PFS-1 Study on the Deodorizing and pH-Buffering Effects of Eggshell-Derived Calcium Carbonate Pads in Meat Storage

Ji Ho Jeon[1*], Ji Soo Lee[2]

[1]Department of Chemistry & Life science, Sahmyook University, [2]Department of Food & Nutrition, Sahmyook University

PFS-2 Preparation and Characterization of Tannase Immobilized Titanium Dioxide Nanoparticles

Hoon Yoo*, Vu Phuong Dong

Department of Pharmacology and Dental Therapeutics, College of Dentistry, Chosun University

PFS-3 Research on Internationally Harmonized Usage of Sweeteners

Minkyoung Lee[1], Taeyang Kim[1], Sojeong Lee[1], Do-Yeong Kim[2], Hyorim Seo[2], Eunjae Oh[2], Shinai Choi[3], Hyun Chung[3], Eunju Kim[1*]

[1]International Life Science Institute of Korea, [2]Division of Food and Nutrition, Chonnam National University, [3]KnA co. Ltd.

PFS-4 Monitoring and Risk Assessment of Pesticide Residues in Shellfish Using GC and LC-MS/MS

Mi-Hyun Cho[1], Chang-Kyo Seo[1], Myung-Heon Kim[1], Jae-Bin Im[1], Chang-Hyeon Park[1], Eu-Nae Suh[1], Do-Yeon Lee[1], Yoon-Mi Lee[2], Mi-Ra Jo[2], Moo-Hyeog Im[1*]

[1]Food Engineering, Daegu University, [2]Food Safety and Processing Research Division, National Institute of Fisheries Science

PFS-5 Effect of drying methods on metaflumizone residues in Welsh onions

Jae-Bin Im, Mi-Hyun Cho, Myung-Heon Kim, Chang-Kyo Seo, Chang-Hyeon Park, Do-Yeon Lee, Eu-Nae Seo, Moo-Hyeog Im*

Food Engineering, Daegu University

PFS-6 Comprehensive analysis of metabolites and bioactivity from different cultivars of radish sprouts (*Raphanus sativus* L.)

Hye Won Seo[1], Chan Ung Park[2], Jin Su Lim[2], Hae Jin Kwon[1], Ki Hyun Kim[2], Min Hwan Lee[2], Sang Un Park[1,2*]

[1]Department of Smart Agriculture Systems, Chungnam National University, [2]Department of Crop Science, Chungnam National University

PFS-7

Comparison of immunomodulatory from lactic acid bacteria-fermented mountain-cultivated ginseng sprouts

Jongbin Jeong, Du Yong Cho, Ae Ryeon Lee, Mu Yeun Jang, Da Hyun Kim, Do Yun Bang, Hye Rim Kim, Ye Rim Jeong, Kye Man Cho*

Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University

PFS-8

Changes in metabolites and biological activities of isoflavone-enhanced mung bean leaves by bioprocessing stages

Mu Yeun Jang[1], Du Yong Cho[1], Ae Ryeon Lee[1], Jong Bin Jeong[1], Da Hyun Kim[1], Do Yun Bang[1], Hye Rim Kim[1], Ye Rim Jeong[1], Jin Hwan Lee[2], Kye Man Cho[1*]

[1]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, [2]Department of Smart Green Resources, Dong-A University

PFS-9

Optimization of fermentation conditions of isoflavone-enriched mung bean leaves with lactic acid bacteria

Hye Rim Kim[1], Du Yong Cho[1], Ae Ryeon Lee[1], Jong Bin Jeong[1], Mu Yeun Jang[1], Da Hyun Kim[1], Do Yun Bang[1], Ye Rim Jeong[1], Jin Hwan Lee[2], Kye Man Cho[1*]

[1]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, [2]Department of Smart Green Resources, Dong-A University

PFS-10

Comparisons in the nutritional and functional components of brown rice induced by fermentation with mushroom mycelia

Ye Rim Jeong, Du Yong Cho, Ae Ryeon Lee, Jong Bin Jeong, Mu Yeun Jang, Da Hyun Kim, Do Yun Bang, Hye Rim Kim, Kye Man Cho*

Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University

PFS-11

Comparison of metabolites and biological activities in isoflavone-enriched soybean leaves by bioconversion with different mushroom mycelia

Ae Ryeon Lee[1], Du Yong Cho[1], Jong Bin Jeong[1], Mu Yeun Jang[1], Da Hyun Kim[1], Do Yun Bang[1], Hye Rim Kim[1], Ye Rim Jeong[1], Jin Hwan Lee[2], Kye Man Cho[1*]

[1]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, [2]Department of Smart Green Resources, Dong-A University

PFS-12

Comparison of functional components and biological activity in fermented white rice with edible mushroom mycelia

Da Hyun Kim, Du Yong Cho, Ae Ryeon Lee, Jong Bin Jeong, Mu Yeun Jang, Do Yun Bang, Hye Rim Kim, Ye Rim Jeong, Kye Man Cho*

Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University

PFS-13

Effect of adding rice as a secondary ingredient on the hardness, antioxidant activity and aglycone isoflavone content of tempeh

Hye-Young Park*, Hyun-Joo Kim, Hye-Sun Choi, Ji-Young Park, Eun Yeong Sim, Hong-Sik Kim

National Institute of Crop and Food Science, Rural Development Administration

PFS-14

Species Diversity of *Aspergillus* and *Fusarium* from Onion Bulbs in Korea

Jung-Hye Choi, Miji Kim, Jung Weol Lee, Jung Yeong Lee, Seora Park, Miri Kim, Ga Ryeong Baek, Jiwon Han*

Allium Vegetable Research Center, National Institute of Horticultural and Herbal Science, Rural Development Administration

PFS-15

Sustainable Extraction of Anthocyanins from Mulberry (*Morus Alba* L.) By-Products Using Natural Deep Eutectic Solvents (NADES)

Haeun Lee[1], Jongyoon Choi[2*], Woojin Jang[2*], Jihyun Lee[1*]

[1]Department of Food and Nutrition, Seoul National University, [2]Department of Food Science and Technology, Chung-Ang University

PFS-16

Characterization of volatile compounds in edible insect oils at different storage stages using HS-SPME-Arrow-GC/MS

You Rim Min, Hae Won Jang*

Food Science and Biotechnology, Sungshin women's University

PFS-17

Identification of Key Volatile Markers in Commercial Broth

Jin-Kyung Nam, Hae Won Jang*

Department of Food Science and Biotechnology, Sungshin Women's University

PFS-18

Seasonal and Regional Characteristics of Free Sugars and Crude Fat in Potatoes

Ye-Eun Lee[1], Ji Yun Lee[1], Hyang Lan Eum[2], Hae Won Jang[1*]

[1]Department of Food Science and Biotechnology, Sungshin Women's University, [2]National Institute of Crop Science, Highland Agriculture Research Institute, RDA

PFS-19

Comparative Screening of Antioxidant and Anti-Inflammatory Activities Among Domestically Bred Carica papaya L. Hybrids Using Different Extraction Solvents

Yaejun Kim[1], Kyeoung Cheol Kim[2], Ji-Hyang Kim[2], Su-Lim Kim[2], Chankyu Lim[3], Seong-Cheol Kim[3], Dong-Sun Lee[1,2,4*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju, Republic of Korea, [2]Bio-Health Materials Core-Facility Center, Jeju National University, Jeju, Republic of Korea, [3]Research Institute of Climate Change and Agriculture, National Institute of Horticultural and Herbal Science, Rural Development Administration, Jeju, Republic of Korea, [4]Faculty of Biotechnology, College of Applied Life Sciences, Jeju National University, Jeju, Republic of Korea

PFS-20

Analysis of volatile components in Korean wheat flour with varying levels of added apple pomace based on drying method using an electronic nose

Chae Min Han*, Seong Ran Yoon, Jung A Ryu, Jung Gi Ryu

Division of Agricultural Food and Environment Research, Gyeongsangbuk-do Provincial Agricultural Research & Extension Services

PFS-21

Fermented Mixture of *Saccharina* and *Panax* Ameliorates Gentamicin-Induced Gut Dysbiosis via Modulation of the Gut Microbiota

Gwnag-Pyo Ko[1], Minseong Park[1], Hyejun Jo[1], Eungyeong Lee[2], Chang Sook Kim[1*]

[1]Faculty of Biotechnology, Jeju National University, [2]BioNewledge Co. Ltd

PFS-22

Ellagic acid, an active compound of Rosa multiflora fruit, attenuates stress hormone-induced depression in mice by inhibiting monoamine oxidase

Minji Kim[1,2], Dong Wook Lim[1], Min-Sun Kim[1], Heejin Nam[3], Sooim Shin[3], Changho Lee[1], Min Young Um[1*]

[1]Food Functionality Research Division, Korea Food Research Institute, [2]Division of Food Biotechnology, University of Science & Technology, [3]Department of Biotechnology & Bioengineering, Chonnam National University

PFS-23

Functional Analysis of the Ectopically Expressed Olfactory Receptor OR2AT4 in Leukemic Cells

Min Jung Kim*, Yae Rim Choi

Research Division of Food Functionality, Korea Food Research Institute

PAM Applied Microbiology

PAM-1 Ferrous Ion-Induced Antifungal Activity of *Metschnikowia persimmonesis* Against *Colletotrichum gloeosporioides*

Ariranur Haniffadli[1,2], Joyce Mudondo[1,2], Kenneth Happy[1,2], Roggers Gang[1,2], Yeoungjun Ban[2], Kyeong-Ok Choi[2], Subeen Mun[2], Seyoung Im[2], Youngmin Kang[1,2*]

[1]Korean Convergence Medical Science major, University of Science & Technology (UST), Korea Institute of Oriental Medicine, Daejeon 34054, Republic of Korea, [2]Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine, 111Geonjae-ro, Naju-si, Jeollanam-do 58245, Republic of Korea

PAM-2 Analysis of the characteristics of Carbapenem-resistant Enterobacterales (CRE) infections in southern Gyeonggi-do

Yeong Eun Jang*, Jong Sup Jeon, Hyun Jue Kim, Chan Mi Lee, So Jung Park, Ju Hee Kwon, Seung Chan Kim

Department of Infectious Disease Research, Gyeonggi-province Institute of Health and Environment

PAM-3 Metagenomic Insight into the Gut Dysbiosis and Its Association with Non-Alcoholic Fatty Liver Disease in Humans

Anushree Joshi[1], Vineet Singh[1], Jae - Ho Shin[1,2,3*]

[1]Department of Applied Biosciences, Kyungpook National University, [2]Department of Integrative Biology, Kyungpook National University, [3]NGS Core Facility, Kyungpook National University

PAM-4 Metatranscriptomic analysis of plant viruses infecting pepper in Indonesia

Andika Suryaningsih[1], Bu-Young Kim[1], Yu Lim Park[2], Eun-Ae Suh[2], Sun-Jung Kwon[2], Jang-Kyun Seo[1,2*]

[1]Department of International Agricultural Technology, Seoul National University, [2]Institutes of Green Bio Science and Technology, Seoul National University

PAM-5 Evolutionary and pathogenic characterization of the cucurbit aphid-borne yellows virus population in Korea

Bu-Young Kim[1], Andika Suryaningsih[1], Yu Lim Park[2], Eun-Ae Suh[2], Sun-Jung Kwon[2], Jang-Kyun Seo[1,2*]

[1]Department of International Agricultural Technology, Seoul National University, [2]Institutes of Green Bio Science and Technology, Seoul National University

PAM-6

Unraveling Environmental Immunomodulation: Multi-Omics Study of Microbiome-Mediated Plant Disease Suppression using Gnotobiotic Systems

Minsoo Jeong[1], Sook-Min Kwon[2], Seungyeon Jeong[1], Jae-Ho Shin[1,3*]

[1]Department of Applied Biosciences, Kyungpook National University, Daegu, Republic of Korea, [2]Department of Integrative Biotechnology, Kyungpook National University, Daegu, Republic of Korea, [3]NGS Core Facility, Kyungpook National University, Daegu, Republic of Korea

PAM-7

Microbial Network and Functional Analysis in Rhizosphere Soils Cultivated Wild-Simulated Ginseng

Yeong-Bae Yun[1], Myeongbin Park[1], Yurry Um[1*], Seok Hui Lee[2], Jun-Won Kang[2]

[1]Forest Medicinal Resources Research Center, National Institute of Forest Science, [2]School of Forest Science and Landscape Architecture, Kyungpook National University

PAM-8

Exploration of Nitrogen-fixing and Nitrous oxide-reducing Bacteria from Legume Roots and Soils

Seung Hwa Jeong[1], Hyeyeon Park[1], Yejin Seon[1], Sujin Lee[2], Yeonjong Koo[1*]

[1]Department of Agricultural Chemistry, Chonnam National University, [2]Department of Environment and Energy Engineering, Gwangju Institute of Science and Technology

PAM-9

Vesicle-Based Delivery of *Bacillus*-Derived Lipopeptides Improves Stability and Enhances Antifungal Efficacy in Field Application

Beom Ryong Kang[1*], Midam Kim[2], Gwang Rok Ryu[2]

[1]Institute of Environmentally-Friendly Agriculture, Chonnam National University, [2]Department of Agricultural Chemistry, Chonnam National University

PAM-10

Structure-guided Engineering of TtgR-based Whole-cell Biosensors for Selective and Quantitative Detection of Flavonoids

Hae Kang Ji[1], Kyeongseok Song[1], Jiwon Lee[1], Geupil Jang[2*], Youngdae Yoon[1*]

[1]Environmental Health Science, Konkuk University, [2]Biological Sciences and Technology, Chonnam National University

PAM-11

Effect of streptomycin on the growth characteristics of soil-isolated microorganisms

Jae Gyeong Kim[1], Kehinde Caleb Omidoyin[1], Eun Hea Jho[1,2*]

[1]Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [2]Department of Agricultural and Biological Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea

PAM-12

Robustness of Cellulase Activity Under Limited Water Condition

Min-Seung Oh, Kyung-Jin Min*

Department of Agricultural Biotechnology, Seoul National University

PAM-13

Activation of plant defense responses by a chitinase-producing rhizobacterium mitigates cobalt stress in soybean (*Glycine max* L.)

Ji-In Woo, Ho-Jun Gam, Jin Ryeol Jeon, Min Young Back, Sang-Mo Kang, In-Jung Lee*

Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Korea

PAM-14

Whole-Genome Sequencing of the Bacterium *Bacillus amyloliquefaciens* PgBE99, with antifungal activities against fungal disease associated with ginseng leaves

Chi Eun Hong[1*], Sung Yeon Kim[1], Seung Ho Lee[2], Yong Il Kim[1], In Bok Jang[1], Soohong Kim[1], Young Chang Kim[1]

[1]Industrial Crop Cultivation Division, Department of Herbal Crop Research, National Institute of Horticultural and Herbal Science, [2]Technology Service Division, National Institute of Horticultural and Herbal Science

PAM-15

Microalgae Anaerobic Digestion for Enhanced Methane Production

Seo-Yeon Yang[1], Won-Seok Kim[2,3], Se-Hoon Kim[3], Jiyoung Choi[4], Ji-Hoon Kim[4], Ji-Hoon Lee[1,5,6*]

[1]Department of Agricultural Chemistry, Jeonbuk National University, [2]Division of Advanced Nuclear Engineering, Pohang University of Science and Technology, [3]NC Square, [4]Marine Geology & Energy Division, Korea Institute of Geoscience and Mineral Resources, [5]Department of Bioenvironmental Chemistry, Jeonbuk National University, [6]Institute of Agricultural Science & Technology, Jeonbuk National University

PAM-16

Comparative Analysis of Scalp Microbiome Across Healthy, Problematic, and Alopecic Conditions

Kyeongmo Lim[1], HyungWoo Jo[2], Sook-Min Kwon[3], Jae-Ho Shin[1,3,4,5*]

[1]Department of Applied Biosciences, Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea, [2]R&I Center, COSMAX BTI, Seongnam 13486, Republic of Korea, [3]Department of Integrative Biology, Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea, [4]NGS Core Facility, Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea, [5]MICROBALANCE Co., Ltd., Kyungpook National University, Daehak-ro 80, Daegu 41566, Republic of Korea

PAM-17

Transcriptomic Analysis of *Xanthomonas oryzae* pv. *oryzae* Under Microgravity: Insights into Pathogenicity Modulation and Adaptive Strategies

Youngchul Yoo[1], Sang Won Lee[2*]

[1]*Genetic Engineering and Biotechnology, Kyung Hee University,*
[2]*Green-Bioscience, Genetic Engineering and Biotechnology, Kyung Hee University*

PAM-18

The Characteristics of Microbial Communities in Greenhouse Cultivation Soils in Jeonnam Province

So Youn Lee[1*], Hyeon Ji Kim[1], Sung Woo Kim[1], Kyung Jin Kwak[1], Sun Kook Kim[1], Sug Ju Ko[1], Do Hyun Kim[2]

[1]*Environment-Friendly Agricultural Research Institute, Jeollanamdo Agricultural Research and Extension Services,* [2]*National Institute of Agricultural Sciences, RURAL DEVELOPMENT ADMINISTRATION*

PAM-19

Isolation of Laccase-producing Bacteria from Diverse Environments and Their Application to Decolorize Textile Dyes

Miso Kim[1], Youri Yang[1,2*]

[1]*Department of Food Biotechnology and Environmental Science, Kangwon National University, Republic of Korea,* [2]*Department of Biological Environment, Kangwon National University, Republic of Korea*

PAM-20

Characterization of indole-3-acetic acid (IAA)-producing rhizobacteria with potential to alleviate salt stress in plants

Ju-Yeon Ha, Jin Ryeol Jeon, Ji-In Woo, Min Young Back, Sang-Mo Kang, In-Jung Lee[*]

Department of Applied Biosciences, Kyungpook National University

PAM-21

Effects of Oil Cake Fertilization on Soil Chemistry and Bacterial Communities in a Jujube Orchard

Kiyoon Kim[1], Tongmin Sa[2*]

[1]*Korea Forest Service, National Forest Seed Variety Center,* [2]*Chungbuk National University, Department of Environmental and Biological Chemistry*

PAM-22

Bacterial Carbonate Precipitation by Urease-Producing *Priestia* sp. Strain GS1 in Alkaline Conditions

Chaemin Sim[1], Youri Yang[1,2*]

[1]*Department of Food Biotechnology and Environmental Science, Kangwon National University, Republic of Korea,* [2]*School of Natural Resources and Environmental Science, Department of Biological Environment, Kangwon National University, Republic of Korea*

PAM-23

Effect of Organic Fertilizer on Soil Bacterial Community Structure in a Jujube Orchar

Kiyoon Kim[1], Tongmin Sa[2*]

[1]Korea Forest Service, National Forest Seed Variety Center, [2]Chungbuk National University, Department of Environmental and Biological Chemistry

PAM-24

Screening and Characterization of Polyhydroxyalkanoates (PHAs)-producing Bacteria Isolated from Diverse Environments and Their Potential for Bioplastic Production

Jieun Lim[1], Youri Yang[1,2*]

[1]Department of Food Biotechnology and Environmental Science, Kangwon National University, Republic of Korea, [2]School of Natural Resources and Environmental Science, Department of Biological Environment, Kangwon National University, Republic of Korea

PAM-25

Exploration of Laccase-producing Bacteria from Alkaliphilic Environments and Their Decolorizing Activity against Industrial Synthetic Dyes

Haeun Kim[1], Miso Kim[2], Youri Yang[1,2*]

[1]School of Natural Resources and Environmental Science, Department of Biological Environment, Kangwon National University, Republic of Korea, [2]Department of Food Biotechnology and Environmental Science, Kangwon National University, Republic of Korea

PAM-26

Silicate-solubilizing rhizobacteria enhance drought resilience in wheat (*Triticum aestivum* L.)

Min Young Back, Ho-Jun Gam, Ji-In Woo, Jin Ryeol Jeon, Sang-Mo Kang, In-Jung Lee[*]

Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Korea

PAM-27

Increasing Fucoxanthin Concentration in *Phaeodactylum tricornutum* by Optimization of Culture Conditions Using Response Surface Methodology

Phuong Kim Huynh[1,2], To Quyen Truong[2], Sang Min Kim[1,2*]

[1]Natural Product Applied Science, Korea Institute of Science and Technology (KIST) School, University of Science and Technology, Gangneung 25451, Republic of Korea, [2]Smart Farm Research Center, KIST Gangneung Institute of Natural Products, Gangneung 25451, Republic of Korea

PAM-28

Integrated Biocontrol and Abiotic Stress Tolerance via *Bacillus*-Derived Lipopeptides and Functional Genomic Trait

Beom Ryong Kang[1*], Midam Kim[2], Gwang Rok Ryu[2], Jun Seok Choi[3]

[1]Institute of Environmentally-Friendly Agriculture, Chonnam National University, [2]Department of Agricultural Chemistry, Chonnam National University, [3]National Institute of Crop Science, Rural Development Administration

PAM-29

Valorization of sulfonated polyethylene via Bio-Fenton reaction supported by *Desemzia* sp. strain C1

Yongseok Ko, Sujin Lee, Minje Kang, Seoyeon Lee, Hor-Gil Hur*

Department of Environment and Energy Engineering, Gwangju Institute of Science and Technology

PAM-30

Conferring non-strain-specific resistance to a potyvirus via overexpression of mutant potyviral coat proteins in soybean

Sun-Jung Kwon[1], Myung-Hwi Kim[2], Young-Soo Chung[3], Kook-Hyung Kim[2], Jang-Kyun Seo[1,4*]

[1]Institutes of Green Bio Science and Technology, Seoul National University, [2]Department of Agricultural Biotechnology, Seoul National University, [3]Department of Genetic Engineering, Dong-A University, [4]Department of International Agricultural Technology, Seoul National University

PAM-31

Agricultural Applications of Pyrrolnitrin-Producing Burkholderia sp.: Effects on Plant Growth and Fungal Suppression

Geon-Woo Park, Ji-Woo Yu, Ji-Won Shin, Ji-Yeon Lee, Ha-Jin Son, Young-Soo Keum*

Department of Crop Science, Konkuk University

PAM-32

Microbial carbon availability decreases, but the degree of carbon limitation remains invariant along soil depth profiles

Seungwon Kim, Kyungjin Min*

Department of Agricultural Biotechnology, Seoul National University

PAM-33

A Novel Secreted Effector MGG40 from *Magnaporthe oryzae* Triggers Immune Responses and Cell Death in Rice

Gi hyun Lee[1], Cheol Woo Min[1], Ju soon Yoo[1], Yiming Wang[2], Jong-Seong Jeon[3], Ravi Gupta[4], Sun Tae Kim[1*]

[1]Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, [2]Department of Plant Pathology, Nanjing Agricultural University, [3]Graduate School of Green-Bio Science and Crop Biotech Institute, Kyung Hee University, [4]College of General Education, Kookmin University

PAM-34

Co-application of a Silicate-Solubilizing *Burkholderia* Strain and Slag Silicate Fertilizer Boosts Maize Biomass and Restructures the Rhizosphere Microbiome

Sihyun Park[1], Ikwhan Kim[2], Sook-Min Kwon[2], Na-Hyun Kwon[1], Hyungwoo Jo[3], Jeong-Gu Lee[1], Jae-Ho Shin[1,2*]

[1]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, [3]R&I Center, COSMAX BTI, Seongnam 13486, Republic of Korea

PAM-35

Comparison Growth and Antioxidant Activity of *Lysimachia mauritiana* Lam. by IAA Pruduction Optimized *Bacillus toyonensis* WS2-2

Min Ju Kim, Seung Hee Ham, Sooin Jang, Hayeon Byun, Eun Young Bae, Youn-Bong Ku, Yoo Gyeong Park*

Biological Resources Utilization Department, National Institute of Biological Resources (NIBR)

PAM-36

Effect of *Rahnella bruchi* DSM 27398^T Cultured for Maximum IAA Production on *Lysimachia mauritiana* Lam. Growth

Min Ju Kim, Seung Hee Ham, Sooin Jang, Hayeon Byun, Eun Young Bae, Youn-Bong Ku, Yoo Gyeong Park*

Biological Resources Utilization Department, National Institute of Biological Resources (NIBR)

PAM-37

Microbial Engraftment and Symptom Improvement Following FMT in Dogs with Chronic Enteropathy

Heejoo Hwang[1], Hyunwoo Son[2], Jae-Ho Shin[1,2,3*]

[1]Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, [3]Next Generation Sequencing (NGS) Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

PAM-38

Comparative Analysis of Microbial Community Structure and Pathogen Persistence in Municipal Wastewater and Livestock Manure Treatment Facilities

Geon Choi[1], Hokyung Song[2], Cheongnyeong Jin[1], Hanbit Hwang[1], Tatsuya Unno[1*]

[1]Department of Environmental and Biological Chemistry, Chungbuk National University, [2]Department of Environmental Engineering, Chosun University

PAM-39

The Crosstalk between Vaginal, Urinary, and Anal Microbiome in Female Urogenital Tract Health

Da-Ryung Jung[1], Se Young Jeon[2], Gun Oh Chong[2], Jae-Ho Shin[1,3*]

[1]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Obstetrics and Gynecology, Kyungpook National University Chilgok Hospital, Daegu 41404, Republic of Korea, [3]NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

PAM-40

Time Course for Solubility of Imipenem as an Antibiotic against *Pseudomonas aeruginos*

Gu-Hae Kim[1], Jeongeon Kim[1], Dawon Kang[2*], Jeong Yoon Kim[1*]

[1]Department of Pharmaceutical Engineering, ABC-RLRC, IALS, Gyeongsang National University, Jinju 52725, Republic of Korea, [2]Department of Physiology, Institute of Health Sciences, School of Medicine, Gyeongsang National University, Jinju 52725, South Korea

PAM-41

Chronic PET-Microplastic Exposure Triggers Hyperphagia and Gut Microbiome Perturbation: Implications for Metabolic Health

Gyudae Lee, Seungjun Lee*, Jae-Ho Shin*

Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea

PAM-42

Differential Impacts of Dietary Fibers on the Human Gut Microbiome in an *In Vitro* Fermentation Model

Yujin Hyun[1], Min-Ji Kim[2], Jae-Ho Shin[2,3*]

[1]Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, [2]NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea, [3]Department of Integrative Biology, Kyungpook Natioal University, Daegu 41566, Republic of Korea

PAM-43

First-Crop or Replant? Microbial Fingerprints Decode Ginseng Soil History and Rusty Root Risk

Sook-Min Kwon[1], Minsoo Jeong[2], Jae-Ho Shin[1,2,3*]

[1]Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, [2]Department of Applied Biosciences, Kyungpook National University, Daegu 41566, Republic of Korea, [3]NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

PAM-44

Soil Microbial Community Responses to Biofumigation Using *Brassica juncea*: A Temporal Comparison Based on the Presence or Absence of Glucosinolates

Mu-Hyeok Kwon[1], Sihyun Park[1], Jae-Ho Shin[1,2*]

[1]Department of Integrative Biology, Kyungpook National University, Daegu 41566, Republic of Korea, [2]NGS Core Facility, Kyungpook National University, Daegu 41566, Republic of Korea

PBD Bio-health/Drug development

PBD-1

Distinct Microglial Responses to Non-Neurotropic and Neurotropic Influenza A Virus Strains Under Innate Immune Priming

Thi Len Ho[1], Eun-Ju Ko[2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, [2]Department of Veterinary Medicine, College of Veterinary Medicine, Jeju National University

PBD-2

Avian Diversity in Ephemeral and Permanent Wetlands of Jeju Island

Young Hun Jeong, Hong Shik Oh*

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju-si 63243, Jeju-do, Republic of Korea

PBD-3

Selective Thyroid Uptake of Technekitty injection (Tc-99m) in Feline Hyperthyroidism

Jaecheong Lim*, So-Young Lee, Seung Jae Lee

Radioisotope Research Division, Korea Atomic Energy Research Institute

PBD-4

Predicting the Fine-scale Habitat Suitability of an Endemic Species, Jeju Striped Field Mouse (*Apodemus chejuensis*) in Jeju Island, South Korea

Binod Kunwar, Hong-Shik Oh*

Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University

PBD-5

pH-Dependent Modulation of Nitrous Oxide Emission in *Nitrospira inopinata*

Yun Ji Choi[1], Man Young Jung[2*]

[1]*Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Jeju National University,* [2]*Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Department of Biology Education, Jeju National University*

PBD-6

Bisphenol A Drives Exosome-Mediated Neuron-to-Glia Mitochondrial Transfer, Accelerating Neurodegeneration

Duy Vu Ba Le[1,2], Gee Euhn Choi[1,2*]

[1]*Laboratory of Veterinary Biochemistry, College of Veterinary Medicine and Veterinary Medical Research Institute, Jeju National University, Jeju 63243, Republic of Korea,* [2]*Interdisciplinary Graduate Program in Advanced Convergene Technology & Science, Jeju National University, Jeju 63243, Republic of Korea*

PBD-7

Hepatocyte TonEBP promotes metabolic dysfunction-associated steatohepatitis by transcriptionally activating multiple neutrophil-attracting chemokines

Hana Song, Ye-Seul Jeong, Seung Mi Ko, Mi Gyeong Jang, Soo Youn Choi[*]

Department of Biology, Jeju National University

PBD-8

Polymethoxyflavones from *Citrus sunki* Leaves Attenuate Renal Dysfunction in Oxidative Stress-Induced Acute Kidney Injury

Hana Song, Ye-Seul Jeong, Seung Mi Ko, Mi Gyeong Jang, Soo Youn Choi[*]

Department of Biology, Jeju National University

PBD-9

Optimization of Estrogen Analysis Using Liquid–Liquid Extraction and Derivatization Protocol

Min-Ho Song[1], Ji-Woo Yu[2], Jung-Hoon Lee[1,3], Eun-Song Choi[1,3], Ji-Ho Lee[1,3*]

[1]*School of Natural Resources and Environment Science College of Agriculture and Life Sciences, Kangwon National University,* [2]*Department of Crop Science, Konkuk University,* [3]*Department of Food Biotechnology and Environmental Science, Kangwon National University*

PBD-10

ZjGIGANTEA Negatively Regulates Osmotic Stress Tolerance in *Zoysia japonica*

Yueyue Yuan[1], Jin Hee Kim[2*]

[1]*Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju national University,* [2]*Subtropical Horticulture Research Institute, Jeju National University*

PBD-11

ZjWRKY75 Transcription Factors Mediate Stress-Induced Leaf Senescence via Hormonal Regulation in *Zoysia japonica*

Lanshuo Wang[1], Jeongsik Kim[2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, [2]Faculty of Science Education, Jeju National University

PBD-12

Benchmarking AI Applications in Screening: Evaluating AlphaFold3 as a Tool for Drug Discovery

Young Joon Ko, Keunwan Park*

Natural Product Research Center, Korea Institute of Science and Technology

PBD-13

Polygonum cuspidatum Extract Containing Emodin Suppresses Lung Cancer-Induced Cachexia by Suppressing TCF4/TWIST1 Complex-Induced PTHrP Expression

Ji-Hye Han[1], Young-Seon Kim[1,2,3], Hyeock-Soon Jang[1], Sang-Yun Lee[1], Xue-Quan Fang[2,3], Chang-Hoon Lim[2,3], Seong-Sil Hong[4], Min-Gu Ko[4], Min-Woo Han[4], Woo-Jong Yim[1], Ji-Hong Lim[2,3,5*]

[1]R&D Team, Jung-Ang Microbe Research Institute(JM), [2]Department of Medicinal Biosciences, College of Biomedical & Health Science, Konkuk University, [3]Department of Applied Life Science, Graduate School, Konkuk University, [4]Management Assistant Department, Korea Institute of Knowledge Service (KIKS), [5]Center for Metabolic Diseases, Konkuk University

PBD-14

Functional study of Fermented Silk Sericin by Marine Extremophiles from the High Seas

Sang-Jae Lee[1], Yu Jeong Yeom[1], Sung Tae Kim[2,3], Il Kwon Bae[4], Yong-Jik Lee[5], Mi Hwa Park[6*]

[1]Department of Food Biotechnology, Research Center for Extremophiles & Marine Microbiology, Silla University, Republic of Korea, [2]Department of Nanoscience and Engineering, Inje University, Gimhae 50834, Republic of Korea, [3]Department of Pharmaceutical Engineering, Inje University, Gimhae 50834, Republic of Korea, [4]Department of Companion Animal Health and Science, Silla University, Busan 46958, Republic of Korea, [5]Department of Bio-Cosmetics, Seowon University, Chung-Ju 28674, Republic of Korea, [6]Department of Food and Nutrition, College of Human Ecology, Silla University, Busan 46958, Republic of Korea

PBD-15

Bacillus licheniformis CP6 fermented *Abelmoschus Manihot* ameliorates bone loss in ovariectomized rats and promotes osteoblast differentiation through BMP/Runx2 signaling pathway

Mi Hwa Park[1], Joo Young Yang[2], Ji Yeong Park[2], Sondor Ganbat[2], Dariimaa Ganbat[2], Yong-Jik Lee[3], Gaewon Nam[4], Sang-Jae Lee[2*]

[1]Department of Food and Nutrition, College of Human Ecology, Silla University, Busan 46958, Republic of Korea, [2]Department of Food Biotechnology and Research Center for Extremophiles and Marine Microbiology, Silla University, Busan 46958, Republic of Korea, [3]Department of Bio-Cosmetics, Seowon University, Chung-Ju 28674, Republic of Korea, [4]Bio-Living Engineering Major, Global Leaders College, Yonsei University, Seoul 03722, Republic of Korea

PBD-16

Role of bean yellow mosaic virus P1 and HC-Pro in enhancing gene expression and suppressing RNA silencing in *Nicotiana benthamiana*

Sunmee Choi[1], Suk Hyun Kwon[1], Gi Seok Kwon[1], Ho Seong Choi[2], Young Soon Kim[1], Jeong Hun Lee[1], Won Kyong Cho[1], Sang Hyun Moh[1*]

[1]Plant Cell Research Institute of BIO-FD&C Co., Ltd., Incheon 21990, Republic of Korea, [2]Plant Health Center, Seoul National University, Seoul 08826, Republic of Korea

PBD-17

Development of Reverse-Aging Cosmetic Ingredients Using Plant Cell Library and SMART-RC² Bioreactor System

Eui Hyun Kim, Ji Hyeon Jang, Ji Hyeok Song, Hyo Hyun Seo, Jeong Hun Lee, Sang Hyun Moh*

Plant Cell Research Institute of BIO-FD&C Co., Ltd., Incheon 21990, Republic of Korea

PBD-18

Inhibitory Effect of Ganoderma Lucidum Spore Oil Extracted by CO2 Supercritical fluid on Osteoarthritis

Myeong Yeon Shin[1], Yun Ji Heo[1], Min Hye Kim[2*], Godagama Gamaarachchige Dinesh Suminda[2], Yun Hui Min[2], Young Ok Son[1,2*]

[1]Animal Biotechnology, Jeju National University, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University

PBD-19

PARP-1 activation prevents OA pathogenesis by inhibiting apoptosis in chondrocytes

Min Hye Kim[1], Yun Hui Min[1*], Godagama Gamaarachchige Dinesh Suminda[1*], Yun Ji Heo[2*], Myeong Yeon Shin[2*], Young Ok Son[1,2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, [2]Animal Biotechnology, Jeju National University

PBD-20

Phytochemical composition and antioxidant activity of fermented extracts from *Olea europaea* L. leaves

Yuji Yang[1], Ji-Yeong Bae[1*], Yoon-A Kang[1], Minseo Jeon[2], Ye-Sol Kang[1]

[1]Jeju Research Institute of Pharmaceutical Sciences, College of Pharmacy, [2]Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju 63243, Korea

PBD-21

Comparative Analysis of Phytochemicals and Antioxidant Activity in *Hibiscus hamabo* plant parts

Ye-Sol Kang[1], Ji-Yeong Bae[1*], Yoon-A Kang[2], Min-Seo Jeon[3], Yu-Ji Yang[2]

[1]Jeju Research Institute of Pharmaceutical Sciences, College of Pharmacy, [2]Colleage of Pharmacy, Jeju Research Institute of Pharmaceutical Sciences, [3]Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju 63243, Korea

PBD-22

Investigation of the Anti-Inflammatory Properties of *Tetragonia tetragonoides* (Pall.) Kuntz in Mouse Macrophages

Yoon A Kang, Ji Yeong Bae*

Jeju Research Institute of Pharmaceutical Sciences, College of Pharmacy

PBD-23

Targeting the SARS-CoV-2 Nsp3 Macrodomain with Evolutionary Chemical Binding Similarity (ECBS): Insights from the CACHE#3 Challenge

Charuvaka Muvva, Keunwan Park*

Center for Natural Product Systems Biology, Korea Institute of Science and Technology (KIST)

PBD-24

Phytochemical analysis and biological activities of *Idesia polycarpa*

Minseo Jeon, Ji-Yeong Bae*

Interdisciplinary Graduate Program in Advanced Convergence Technology & Science, Jeju National University, Jeju 63243, Republic of Korea

PBD-25

Immune-Enhancing Screening of Proteins from a gut bacterium, BP, in RAW 264.7 Macrophages

Thuy Thi Thanh Phan[1,2], Jessica Winarto[1,2], Dong- Jae Lee[1], Kwang Hyun Cha[1,2], Young- Tae Park[2,3], Choong- Gu Lee[1,2], Dae- Geun Song[1,3*]

[1]Center for Natural Product Systems Biology, Natural Products Research Institute, Korea Institute of Science & Technology (KIST), Gangneung 25451, Republic of Korea, [2]Natural Product Applied Science, KIST School, University of Science and Technology (UST), Seoul, Republic of Korea, [3]Center for Natural Product Efficacy Optimization, Natural Products Research Institute, Korea Institute of Science & Technology (KIST), Gangneung 25451 Republic of Korea

PBD-26

Synthesis of Novel Carboxylic Acid Derivatives Targeting the ROS-TGFβ1-HIF-1α Axis for Idiopathic Pulmonary Fibrosis Treatment

Joshua Miguel Anandappa[1], Hiruni Nilshi Indeevarie Abeysiriwrdhana[1], Ayusha Malla[2], Jin-Hyuk Choi[3], Moonjae Cho[3*]

[1]Advanced Convergence Science and Technology, Jeju National University, [2]Biochemistry, ACHEMBIO Inc., [3]Biochemistry, Jeju National University

PBD-27

Application of a Genotoxicity Assessment Framework to Pesticide Evaluation: Case Studies

Youmi Jo[1*], Soo-Jin Park[1], Ji-Young Shin[1], So-Hye Hong[1], Si-Young Yang[1], Min-Kyoung Paik[1], Ahmad Sleiman[2], Bradley Lampe[2], Jessica Evans[2], Kelly A Magurany[3]

[1]Toxicity and Risk Assessment Division, National Institute of Agricultural Sciences, Rural Development Administration, Wanju 55364, Republic of Korea, [2]NSF International, Ann Arbor, Michigan, 48105, USA, [3]Verto Solutions LLC, Washington, DC, 20036, USA

PBD-28

ACF-01 downregulates HIF-1α and potentiates the antitumor effect of Lenvatinib by inducing apoptosis in hepatocellular carcinoma

Tae Hyeon Yoon[1], Dae Kyeon Kim[1], Ji Soo Kim[1], Sun Hee Yang[1], Moonjae Cho[1,2,3], Somi Kim Cho[1,4*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea, [2]Department of Biochemistry, School of Medicine, Jeju National University, Jeju 63243, Republic of Korea, [3]ACHEMBIO Inc, Jeju 63169, Republic of Korea, [4]Faculty of Biotechnology, College of Applied Life Sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea

PBD-29

Daphne jejudoensis leaf extract Attenuate Psoriatic symptoms by Mitochondrial modulation of Th17 cells

Eunjung Kim[1], Youngjun Park[1,2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, [2]Jeju Research Institute of Pharmaceutical Sciences, College of Pharmacy, Jeju National University

PBD-30

High-fat diet alters Colonic CD4+ T Cells with Reprogramming of Inflammatory and Metabolic gene signatures

Umar Manzoor[1], Youngjun Park[1,2*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea, [2]Jeju Research Institute of Pharmaceutical Sciences, College of Pharmacy, Jeju National University, Jeju 63243, Republic of Korea

PBD-31

Sobrerol (NRM-331) Alleviates Ischemic Stroke and Cognitive Disorder via Multi-Target Mechanisms

A-Ra Goh, Abuzar Ansari, Geon-Seok Park, Soo-Jeong Park, Kang-Hoon Je*

R&D Unit, #302, Neurolmed Co., Ltd., 91, Changnyong-daero 256beon-gil, Suwon 16229, Republic of Korea

PBD-32

A novel compound ACF-01 synergistically enhances the anticancer effects of doxorubicin in MDA-MB-231 cell variants with stem cell properties

Sun Hee Yang[1], Ji Soo Kim[1], Dae Kyeong Kim[1], Tae Hyeon Yoon[1], Vo Thi Ngoc Tram[2], Moonjae Cho[1,3,4], Somi Kim Cho[1,5*]

[1]Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, [2]Veterinary Medical Research Institute, Jeju National University, Jeju National University, [3]Department of Biochemistry, School of Medicine, Jeju National University, [4]ACHEMBIO Inc, Jeju, Korea, [5]Faculty of Biotechnology, College of Applied Life Sciences, SARI, Jeju National University

PBD-33

Antiviral Activity Analysis of *Abies nephrolepis* Extract

JungWoo Chae[1*], HuiSeon Jo[1], KyeongSoon Kim[2], Moongyu Jung[2]

[1]Badahyanggi Arboretum Team, Gyeonggido Forest Environment Research Center, Ansan 15651, Republic of Korea, [2]Microbiome center, Korea Research Institute of Bio medical Science, Daejeon 07236, Republic of Korea