KSABC
International Symposium
2024

Nature based solution
for sustainability

July 1 - 3, 2024
ICC JEJU, Jeju, Korea

2024년도
(사)한국응용생명화학회 국제학술대회

최종 안내서

발표논문일람

한국응용생명화학회
Korean Society for Applied Biological Chemistry

KSABC International Symposium 2024

Hosted by

한국응용생명화학회
The Korean Society for Applied Biological Chemistry

Co-organized by

경북대학교 농산물품질·안전성평가연구소

FOUR JEJU NATIONAL UNIVERSITY BK21 제주대학교

KIST 한국과학기술연구원 강릉 천연물연구소

KFRI 한국식품연구원

부산대학교 생명산업융합연구원

전북대학교 JEONBUK NATIONAL UNIVERSITY

제주지역혁신플랫폼 JEJU Regional Innovation Platform

KNU 강원대학교 FOUR BK21
바이오헬스 신산업 혁신을 위한 프런티어 인재양성 사업팀

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

그린바이오융합전문인력양성사업단 GREENBIO CONVERGNECE SPECIALIST TRAINING GROUP

경상국립대학교 램프사업단

Supported by

KOFST Korean Federation of Science & Technology Societies

BIONEER Innovation • Value • Discovery

BTC

G.O.research

COSMAX THE SCIENCE OF KOREAN BEAUTY

SKYGENe

NUON Better life, better aging

Cell care for Health care HAN BIO

biodot

nist

JEJU CVB 제주컨벤션뷰로

Microalgae Ask Us (주)마이크로알지 에스크 어스

This work was supported by the Korean Federation of Science and Technology Societies(KOFST) grant funded by the Korean government.

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Contents

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행사명	KSABC International Symposium 2024 2024년도 (사)한국응용생명화학회 국제학술대회 및 정기총회
주제	Nature based solution for sustainability
일자	2024년 7월 1일(월) - 3일(수)
장소	제주국제컨벤션센터 (ICC JEJU)
주최	한국응용생명화학회 The Korean Society for Applied Biological Chemistry
초록접수	2024년 4월 1일(월) - 6월 10일(월)
등록	2024년 4월 1일(월) - 6월 17일(월)
프로그램	PL Plenary Lectures SL Special Lecture AL Award Lectures S Symposia YS Young Scientist Presentation GS Graduate Student Presentation W Workshop Poster Presentation Exhibition

I. 2024 (사)한국응용생명화학회 국제학술대회 일정

Program at a Glance

July 1 (Mon)

Time \ Venue	Halla Hall	301	303	Lobby
13:00-	Registration			Poster & Exhibition
13:40-14:00	Opening & Award Ceremony		S13 Bio-health / Innovative Drug Development using Subtropical Bio-resources	
14:00-14:40	PL-1			
14:40-15:40	AL			
15:40-15:50	*Break*			
15:50-16:50	SL			
16:50-17:50	Poster Presentation Ⅰ	S12 한국생명공학연구원 천연물 클러스터		
17:50-18:10	General Assembly			
18:20-19:30	Banquet (Tamna Hall, 5F)			

- PL Plenary Lectures
- AL Award Lectures
- SL Special Lecture
- S Symposia
- YS Young Scientist Presentation
- GS Graduate Student Presentation
- W Workshop

Poster Presentation

Exhibition

I. 2024 (사)한국응용생명화학회 국제학술대회 일정

Program at a Glance

July 2 (Tue)

Time \ Venue	Halla Hall A	Halla Hall B	Samda Hall A	Samda Hall B	303	301	Lobby
09:00-10:00	GS1 Biochemistry · Molecular Biology	GS2 Natural Products · Bioactive Materials · Biomedical Sciences	GS3 Environmental Sciences	GS4 Food Sciences	GS5 Applied Microbiology	S13 Bio-health / Innovative Drug Development using Subtropical Bio-resources	Poster & Exhibition
10:10-11:10	YS1 Biochemistry · Molecular Biology	YS2 Natural Products · Bioactive Materials · Biomedical Sciences	YS3 Environmental Sciences	YS4 Food Sciences	YS5 Applied Microbiology		
11:10-11:20	*Break*						
11:20-12:00	PL-2 (Halla Hall)						
12:00-13:00	*Lunch* (Tamna Hall, 5F)						
13:00-14:40	S1 Biochemistry · Molecular Biology	S2 Natural Products · Bioactive Materials · Biomedical Sciences	S3 AI 기반 맞춤형식품 솔루션	S4 산업바이오	S5 Environmental Sciences	S6 Natural Product and Omics (KIST session)	
14:40-14:50	*Break*						
14:50-16:30	S7 Agro-Bio Genome Editing	S8 Synthetic Biology	S9 Food Sciences	S4 산업바이오	S10 Applied Microbiology	S11 GreenBio Science	
16:30-17:30	Poster Presentation II						

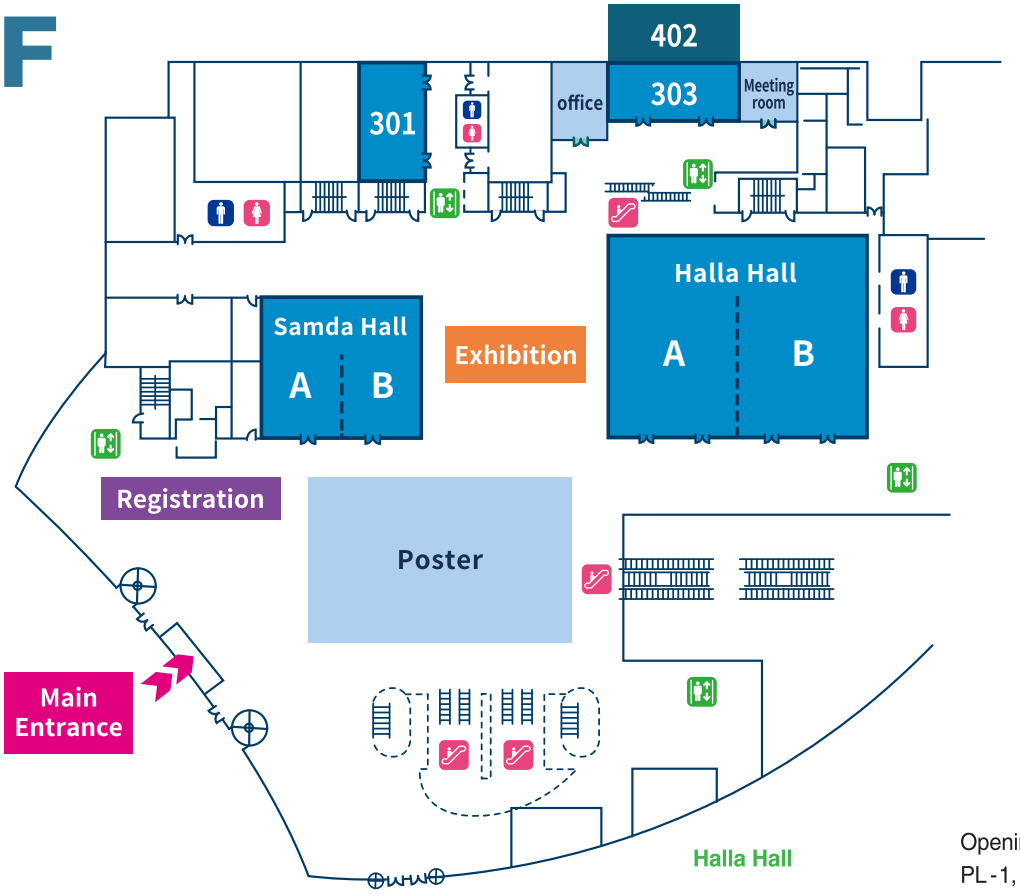
July 3 (Wed)

Time \ Venue	402
09:30-11:30	W 산학연 상생을 위한 워크숍
11:30-12:00	Closing Ceremony

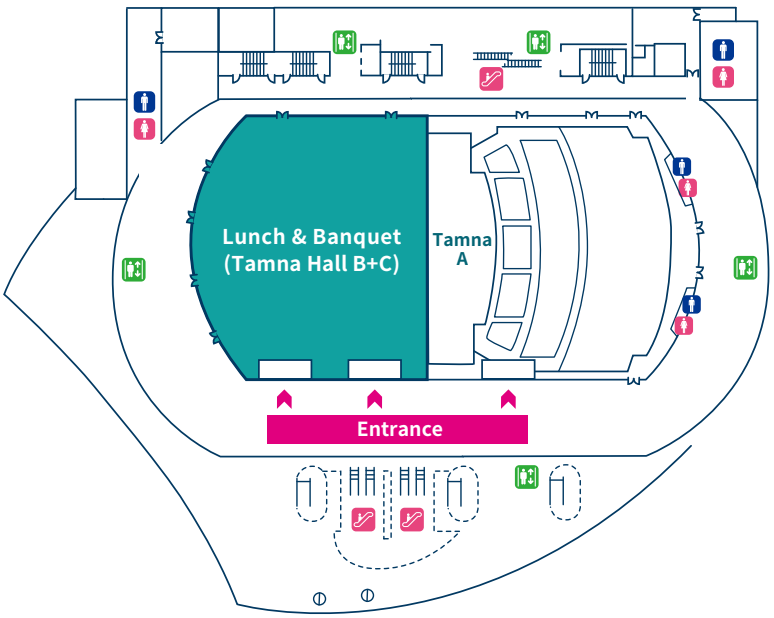
I. 2024 (사)한국응용생명화학회 국제학술대회 일정

Floor Plan

3F



5F



Halla Hall	Opening & Award Ceremony PL-1, PL-2, AL, SL
Halla Hall A	GS1, YS1, S1, S7
Halla Hall B	GS2, YS2, S2, S8
Samda Hall A	GS3, YS3, S3, S9
Samda Hall B	GS4, YS4, S4
303	GS5, YS5, S5, S10, S13
301	S6, S11, S12, S13
Lobby	Poster, Exhibition
402	W, Closing Ceremony

Tamna Hall B+C	Lunch & Banquet

I. 2024 (사)한국응용생명화학회 국제학술대회 일정

Plenary Lectures

July 1 (Mon), Halla Hall

Chair: Sei-Ryang Oh (Korea Research Institute of Bioscience and Biotechnology)

PL-1 **14:00-14:40**

Empowering Bio-Digital Transformation with Synthetic Biology and Biofoundry

Seung Goo Lee

[1]Synthetic Biology and Bioengineering Research Institute, KRIBB, Daejeon 34141, [2]Biosystems and Bioengineering Dept., UST KRIBB School, Daejeon 34113, [3]Graduate School of Engineering Biology, KAIST, Daejeon 34141, Republic of Korea

Living organisms function through the intricate programming of their genomes, proteomes, and metabolomes. With advancements in synthetic biology, we're now able to apply an engineering perspective to biological phenomena—designing, building, and testing biological parts and circuits. This breakthrough has been propelled by extensive genomic data and deeper phenotype understanding. Although its application has been somewhat niche, synthetic biology is quickly permeating various life science fields.

The emergence of private and public biofoundries, employing a contract manufacturing model to synthetic biology, plays a pivotal role in this expansion. South Korea is at the forefront, recognizing synthetic biology as a cornerstone of advanced biotechnology. This recognition is marked by the initiation of the National Biofoundry Construction, in alignment with the country's strategic technology goals.

This movement is inspired by the belief that the bio sector will become a primary innovation driver in the Fourth Industrial Revolution, mirroring the transformative impact of the internet (McKinsey, May 2020, "The Bio Revolution"). Synthetic biology promises to hasten the bio industry's digital transformation, paving the way for groundbreaking products and services. Its impact is anticipated to be profound, also in the green and white bio sectors.

Building synthetic biology capabilities is thus crucial for maintaining a competitive edge in the bio industry and fostering sustainable development. Such capabilities will expedite R&D processes and enable the delivery of tailor-made solutions. A proactive strategy is essential, including the proposal of a green bio workflow to the national biofoundry by 2029 and the enhancement of digital skills among researchers.

As we look to the next decade, leveraging synthetic biology and biofoundry to internalize digital capacities will be instrumental in nurturing growth within the bio industry, notably in the green bio sectors. This will lay the groundwork for a sustainable future.

I. 2024 (사)한국응용생명화학회 국제학술대회 일정

Plenary Lectures

July 2 (Tue), Halla Hall

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

PL-2 **11:20-12:00**

Microbial Intelligence Cleaning from Methane to Polymer

Hor-Gil Hur

School of Environment and Energy Engineering, Gwangju Institute of Science and Technology, Republic of Korea

As we feel and experience problems associated with various plastics, cleaning and recycling the waste plastics with non-hazardous and economically affordable methods are urgently demanded. Indeed, worldwide annual production of plastics amounts from 350 MT to 400 MT yearly. Among the various plastics produced, polyethylene and polypropylene represent about 92% of the synthetic plastics produced, which are mostly used in the production of plastic bags, disposable containers, bottles, packaging materials, etc.

Questions are “Can accumulated current information about microbial physiology and biochemistry for biodegradation mechanisms on from C1 compound methane to polymer lignin shed light on cleaning the plastic polymers?”

There have been numerous articles for microbial biodegradation of plastic polymers. In microbial communities, however, they believe that plastics with oxygen-incorporated functional groups such as PET, polyurethane, etc, might be subjected to biodegradation but plastics without oxygen in the crystalline film plastic structure like low density and high density polyethylene, polypropylene, and polystyrene cannot be.

In the given time of the session, I want to share lessons learned from microbial oxidation processes to various compounds from methane to lignin to take challenge for cleaning plastic wastes through environmentally friendly methods.

I. 2024 (사)한국응용생명화학회 국제학술대회 일정

Special Lecture

July 1 (Mon), Halla Hall

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

SL-1 **15:50-16:50**

축구 전설들의 성공 비밀과 그들의 실패 극복법

박문성

스포츠해설가

한국축구 100년사를 통틀어 위대한 전설적 선수를 꼽자면 차범근, 박지성, 손흥민일 것이다. 이들 모두는 축구의 땅 유럽 한복판에 진출해 쟁쟁한 세계 축구 스타들을 제치고 최고의 자리에 오른 주인공들이다. 한 분야에서 일가를 이룬 성공의 아이콘들이라 할 수 있다. 흥미로운 건 이들에겐 공통점이 있다는 것이다. 확실한 자기만의 무기가 바로 그 성공의 비밀이다. 차범근, 박지성, 손흥민은 어떻게 자기만의 무기로 그 위치까지 오를 수 있었던 것일까. 제아무리 최고의 선수라 하더라도 실수를 하고 경기에 지기도 한다. 누구도 피할 수 없는 일이다. 천하의 메시도 다르지 않다. 다른 건 이들이 실패를 대하는 태도다. 전설이라 불리는 선수들은 필연적으로 마주하는 실패를 어떻게 극복할 수 있었을까. 그 이야기를 담았다.

Ⅱ. 공지 사항

1. 2024년도 학회상 수상자

포상명	수상자 (소속)
제4회 공훈상	최청 명예회원
	유장걸 명예회원
	김복진 명예회원
제42회 학술상	김훈 교수 (국립순천대학교)
제14회 기창(基倉)과학상	운노타쯔야 교수 (충북대학교)
제26회 젊은과학자상	권문혁 교수 (경상국립대학교)
제3회 HAN BIO Award	왕명현 교수 (강원대학교)
제3회 Biodot Award	임승우 (과학기술연합대학원대학교) 조두용 (경상국립대학교)
ABCH 공로상	이호정 교수 (고려대학교)
ABCH 우수편집위원상	김상민 박사 (한국과학기술연구원 강릉분원)
ABCH 우수심사위원상	김훈 교수 (국립순천대학교)
JABC 우수논문상	신재호 교수 (경북대학교)
JABC 우수심사위원상	송대근 박사 (한국과학기술연구원 강릉분원)
제2회 NIST 미래인재 장학금	이상윤 (중앙대학교) 김지원 (경상국립대학교) 박나원 (부산대학교)

구분		
감사패	김훈 교수 (국립순천대학교)	2023년도 회장
	김선태 교수 (부산대학교)	2023년도 운영위원장

2. 등록비

Type	Member		Non-member	
	Regular	Students	General Participants	Students
Pre-Registration	220,000	150,000	280,000	180,000
On-site Registration	240,000	170,000	300,000	200,000

※ 등록자만 발표장에 입장하실 수 있습니다.

※ 등록비 포함 내역 : 7월 2일(화) 점심 식사

II. 공지 사항

3. 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 →

4. 이벤트

II. 공지 사항

5. 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. Even if it is a bit inconvenient to use a paper name tag and a reusable tumbler, we ask for your cooperation.

1

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

2

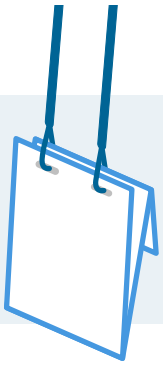
본인 정보가 출력된 명찰지와 등록 Kit를 수령해주세요.

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
- 모든 Poster는 지정된 시간동안 지정된 Board에 부착합니다.
- 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 작성하되 가로길이는 90cm를 넘지 않도록 합니다.
- Poster의 내용은 Abstract, Objectives, Materials & Methods, Results (Figures 및 Tables), Conclusion, References (대표적인 것 5개 정도)의 순으로 구성합니다**(영문 작성)**.
- 발표자는 정해진 발표시간(1시간) 동안 Poster 앞에 있어야 합니다.
- 모든 Poster는 게시 시간 종료 후 발표자가 직접 철거합니다.
  (게시 종료 후 철거되지 않은 포스터는 사무국에서 철거 및 폐기합니다.)

- Poster must be written in English.
- All posters will be posted on the board for a designated period of time. Also presenters should be in front of their poster board during the presentation (1 hr).
- The size of the poster board is **90cm (width) × 150cm (height)**.
- At the top of the poster board, write the title of the presentation (the first words of words except for prepositions, articles, and conjunctions are written in capital letters), the presenter's name and affiliation.
- The contents of the poster will be organized in the order of Abstract, Objectives, Materials & Methods, Results (Figures and Tables), Conclusions, and References (about 5 representative ones).
- All posters must be removed at the end of the display time. If it is not removed, it will be discarded by the organizer.

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
July 1(Mon) 13:00 ~ July 2(Tue) 17:30

Poster Presentation

Date \ Category		PBM	PNB	PES	PFS	PAM	PBD
July 1 (Mon)	16:50-17:50	1-73	1-117	1-59	1-39	1-37	1-18
July 2 (Tue)	16:30-17:30						
Place		Lobby (3F)					

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Ⅳ. 발표논문일람

KSABC
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2024

Contents

KSABC
International Symposium 2024
Nature based solution for sustainability

Plenary Lectures

Plenary Lectures

July 1 (Mon), Halla Hall

Chair: Sei-Ryang Oh (Korea Research Institute of Bioscience and Biotechnology)

PL-1 **14:00-14:40**

Empowering Bio-Digital Transformation with Synthetic Biology and Biofoundry

Seung Goo Lee

[1]Synthetic Biology and Bioengineering Research Institute, KRIBB, Daejeon 34141, [2]Biosystems and Bioengineering Dept., UST KRIBB School, Daejeon 34113, [3]Graduate School of Engineering Biology, KAIST, Daejeon 34141, Republic of Korea

Living organisms function through the intricate programming of their genomes, proteomes, and metabolomes. With advancements in synthetic biology, we're now able to apply an engineering perspective to biological phenomena—designing, building, and testing biological parts and circuits. This breakthrough has been propelled by extensive genomic data and deeper phenotype understanding. Although its application has been somewhat niche, synthetic biology is quickly permeating various life science fields.

The emergence of private and public biofoundries, employing a contract manufacturing model to synthetic biology, plays a pivotal role in this expansion. South Korea is at the forefront, recognizing synthetic biology as a cornerstone of advanced biotechnology. This recognition is marked by the initiation of the National Biofoundry Construction, in alignment with the country's strategic technology goals.

This movement is inspired by the belief that the bio sector will become a primary innovation driver in the Fourth Industrial Revolution, mirroring the transformative impact of the internet (McKinsey, May 2020, "The Bio Revolution"). Synthetic biology promises to hasten the bio industry's digital transformation, paving the way for groundbreaking products and services. Its impact is anticipated to be profound, also in the green and white bio sectors.

Building synthetic biology capabilities is thus crucial for maintaining a competitive edge in the bio industry and fostering sustainable development. Such capabilities will expedite R&D processes and enable the delivery of tailor-made solutions. A proactive strategy is essential, including the proposal of a green bio workflow to the national biofoundry by 2029 and the enhancement of digital skills among researchers.

As we look to the next decade, leveraging synthetic biology and biofoundry to internalize digital capacities will be instrumental in nurturing growth within the bio industry, notably in the green bio sectors. This will lay the groundwork for a sustainable future.

July 2 (Tue), Halla Hall

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

PL-2 **11:20-12:00**

Microbial Intelligence Cleaning from Methane to Polymer

Hor-Gil Hur

School of Environment and Energy Engineering, Gwangju Institute of Science and Technology, Republic of Korea

As we feel and experience problems associated with various plastics, cleaning and recycling the waste plastics with non-hazardous and economically affordable methods are urgently demanded. Indeed, worldwide annual production of plastics amounts from 350 MT to 400 MT yearly. Among the various plastics produced, polyethylene and polypropylene represent about 92% of the synthetic plastics produced, which are mostly used in the production of plastic bags, disposable containers, bottles, packaging materials, etc.

Questions are “Can accumulated current information about microbial physiology and biochemistry for biodegradation mechanisms on from C1 compound methane to polymer lignin shed light on cleaning the plastic polymers?”

There have been numerous articles for microbial biodegradation of plastic polymers. In microbial communities, however, they believe that plastics with oxygen-incorporated functional groups such as PET, polyurethane, etc, might be subjected to biodegradation but plastics without oxygen in the crystalline film plastic structure like low density and high density polyethylene, polypropylene, and polystyrene cannot be.

In the given time of the session, I want to share lessons learned from microbial oxidation processes to various compounds from methane to lignin to take challenge for cleaning plastic wastes through environmentally friendly methods.

KSABC
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Award Lectures

Award Lectures

July 1 (Mon), Halla Hall

Chair: Dae Young Lee (Kyungpook Nat'l University)

학술상 1967년도 제정

AL-1 **14:40-15:00**

Journey to Promising Enzymes and their Inhibitors: from Cel to BACE1

Hoon Kim

Department of Pharmacy, Sunchon National University, Suncheon 57922, Republic of Korea

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

AL-2 **15:00-15:20**

Application of Next Generation Sequencing for Antibiotic Resistome Investigation

Tatsuya Unno

Department of Microbiology, Chungbuk National University, Cheongju, Chungbuk 28644, Republic of Korea

HAN BIO Award 한바이오 그룹 후원으로 2022년도 제정

AL-3 **15:20-15:40**

Biogenic nanomaterials for eradication of environmental pollution

Myeong-Hyeon Wang

Department of Bio Health Convergence, Kangwon National University, Chuncheon, 200-701, Republic of Korea

KSABC
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Nature based solution for sustainability

Special Lecture

Special Lecture

July 1 (Mon), Halla Hall

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

SL-1 **15:50-16:50**

축구 전설들의 성공 비밀과 그들의 실패 극복법

박문성

스포츠해설가

KSABC
International Symposium 2024
Nature based solution for sustainability

Symposia

Symposia

S1 Biochemistry · Molecular Biology

July 2 (Tue), Halla Hall A

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

S1-1 **13:00-13:25**

Molecular mechanisms underlying our sleep cycles and sleep disorders

Choogon Lee

College of Medicine, Florida State University, 1115 West Call Street, Tallahassee, USA

S1-2 **13:25-13:50**

Chromatin remodeling and DNA methylation associated with plant phenotypic diversity and human disease

Seung Cho Lee

[1]HHMI/Cold Spring Harbor Laboratory, NY, USA,
[2]Geninus Inc., Seoul, Republic of Korea (Present)

S1-3 **13:50-14:15**

Mass spectrometry-based proteomics for systems biology

Min-Sik Kim

Department of New Biology, DGIST, Daegu 42988, Republic of Korea

S1-4 **14:15-14:40**

Two for One: Bacteriophage proteins for both biocontrol and detection of pathogens

Minsuk Kong

Department of Food Science and Biotechnology, SeoulTech, Seoul 01811, Republic of Korea

S2 Natural Products · Bioactive Materials · Biomedical Sciences

July 2 (Tue), Halla Hall B

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

S2-1 **13:00-13:20**

Evaluation of the pharmacokinetic properties in terms of protein binding assay and permeability of andrographolide molecules in synovial membrane cells model

Korbtham Sathirakul

Department of Pharmacy, Faculty of Pharmacy, Mahidol University, Bangkok 10400, Thailand

S2-2 **13:20-13:40**

A New Family of Peptide Cyclases Enabled Streamlined Chemoenzymatic Synthesis of Cyclic Peptides

Kenich Matsuda

Faculty of Pharmaceutical Sciences, Hokkaido University, Japan

S2-3 **13:40-14:00**

Zebrafish screening platform for clinical effects of natural products

Yoonsung Lee

[1]School of Medicine, Kyung Hee University, Seoul 02447, Republic of Korea, [2]Clinical Research Institute, Kyung Hee University Hospital at Gangdong, Seoul 05278, Republic of Korea

S2-4 **14:00-14:20**

BACE1 inhibitory potential of selected medicinal plants collected from high altitude of Nepal

Bishnu Prasad Pandey

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

S2-5 **14:20-14:40**

A New Strategy for Developing Functional Biomaterials Using Natural-derived Nano-like Vesicles

Young Bae Ryu

Functional Biomaterial Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Jeongeup 56212, Republic of Korea

S3 AI 기반 맞춤형식품 솔루션

July 2 (Tue), Samda Hall A

Chair: Min Young Um (Korea Food Research Institute)

S3-1 **13:00-13:25**

식품 커스터마이징 산업 동향 및 R&D 연구 전략

정창화

한국식품연구원 푸드디지털플랫폼기획단

S3-2 **13:25-13:50**

Predicting Food Nutrients and Customized Product Applications based a Machine Learning approach

Ji-Youn Hong

Department of Food and Biotechnology, Department of Food Regulatory Science, Korea University, Sejong 30019, Republic of Korea

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July 2 (Tue), Samda Hall A

Chair: 안지윤 (Korea Food Research Institute)

S3-3 **13:50-14:15**

개인맞춤형 건강개선, 식단관리 동향 및 접근 방안

이한석

렉스소프트

S3-4 **14:15-14:40**

식품 연구 데이터의 디지털 전환 기술

박정민

한국식품연구원 지능화정책팀

S4 산업바이오

July 2 (Tue), Samda Hall B

Chair: Moonhyuk Kwon (Gyeongsang Nat'l University)

S4-1 **13:00-13:25**

Nulla Bio: Pioneering the Future of Crop Genome Editing and Plant Synthetic Biology

Jae-Yean Kim

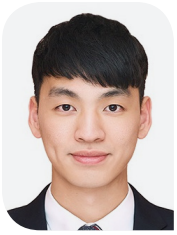
[1]Nulla Bio Inc. Jinju 52828, Republic of Korea, [2]Division of Applied Life Science (BK21 Four Program), Plant Molecular Biology and Biotechnology Research Center, Gyeongsang National University, Jinju 52828, Republic of Korea

S4-2 **13:25-13:50**

피부 마이크로바이옴 유래 포스트바이오틱스를 활용한 아토피성 피부염 개선 연구

허영목

COSMAX BTI R&I Center



S4-3 **13:50-14:15**

Developing materials with biotechnology in the cosmetics industry

HyungWoo Jo

COSMAX BTI, R&I Center, Seongnam-si 13486, Republic of Korea

S4-4 **14:15-14:40**

GenoFocus: platform technology company developing enzyme and biochemical solutions

Seung Hoon Jang

R&D Center, GenoFocus Inc., 65 Techno 1-ro, Yusung-gu, Daejeon 305-509, Republic of Korea

July 2 (Tue), Samda Hall B

Chair: Jihye Kim (Hannam University)

S4-5 **14:50-15:15**

Case Study: BTC Corporation's Development of Health Functional Food Ingredients

Yongduk Kim

R&D center, BTC corporation, Ansan 15588, Republic of Korea

S4-6 **15:15-15:40**

곤충 기반 소재 개발과 기능성 화장품 원료로의 응용

신민규

농업회사법인 푸디원(주) 기업부설연구소

S4-7 **15:40-16:05**

NLRP3 억제/AhR 활성화/장내균총 개선 멀티타깃 염증성 장질환 치료제 MT102 임상 개발

김세웅

엠테라파마㈜

S4-8 **16:05-16:30**

바이오의약품의 안전성 검증과 CRO의 역할

김인섭

한남대학교 생명시스템과학과, ㈜바이오피에스

S5 Environmental Sciences

July 2 (Tue), 303

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

S5-1 **13:00-13:25**

Regulatory Models and Meta-models for Predicting Environmental Concentrations of Agrochemicals

Seo Jin Ki

Department of Environmental Engineering, Gyeongsang National University, Jinju 52725, Republic of Korea

S5-2 **13:25-13:50**

Exploring Innovative Soil Management Strategies to Address Environmental Challenges and Enhance Crop Productivity in Agricultural Ecosystems

Sang Yoon Kim

[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

S5-3 **13:50-14:15**

Chemosensory adaptation upon host specialization and symbiosis

Daehan Lee

Department of Biological Sciences, Sungkyunkwan University, Republic of Korea

S5-4 **14:15-14:40**

Microplastic Contamination in the Agricultural Soil: Unraveling the Potential Ecological Hazards to Agroecosystems

Guanlin Li

School of Environment and Safety Engineering, Jiangsu University, Zhenjiang 212013, People's Republic of China

S6 Natural Product and Omics (KIST session)

July 2 (Tue), 301

Chair: **Kwang Hyun Cha** (Korea Institute of Science and Technology)

S6-1 **13:00-13:25**

Application of LC-MS based Metabolomics in the Study of Natural Products Research

Hee Ju Lee

Natural Product Informatics Research Center, Korea Institute of Science and Technology, Gangneung 25451, Republic of Korea

S6-2 **13:25-13:50**

Introduction to the application of NMR spectroscopy to the analysis of natural products with complex structures and mixed natural products

Jin Wook Cha

Natural Product Informatics Research Center, KIST Gangneung Institute, Gangneung 25451, Republic of Korea

S6-3 **13:50-14:15**

Host-Specific Effects of *Eubacterium* Species on Rg3-Mediated Osteosarcopenia Treatment in a Genetically Diverse Mouse Population

Myungsuk Kim

[1]Department of Natural product Applied Science, University of Science and Technology (UST), Daejeon 34113, Republic of Korea, [2]Department of Convergence Medicine, Wonju College of Medicine, Yonsei University, Wonju, Gangwon-do, Republic of Korea, [3]Natural Product Research Center, Korea Institute of Science and Technology (KIST), Gangneung, Gangwon-do, Republic of Korea

S6-4 **14:15-14:40**

Integrative Multi-Omics Profiling Reveals Virulence Mechanisms in Pathogenic Fungi

Kyunghun Min

Department of Plant Science, Gangneung-Wonju National University, Gangneung 25457, Republic of Korea

S7 Agro-Bio Genome Editing

July 2 (Tue), Halla Hall A

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

S7-1 **14:50-15:15**

X-MAS (Cross-Mediated Allele Switching), Non-Mendelian Inheritance through CRISPR-induced HDR between F_1 Hybrid Alleles

Jae-Young Yun

School of Convergence, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea

S7-2 **15:15-15:40**

RNA-derived genome editing in plants

Beum-Chang Kang

Department of Horticulture, Jeonbuk National University, Jeonju 54896, Republic of Korea

S7-3 **15:40-16:05**

Using natural variation and CRISPR to understand ripening and improve quality in tomato fruit

Je Min Lee

Department of Horticultural Science, Kyungpook National University, Daegu 41566, Republic of Korea

S7-4 **16:05-16:30**

CTP synthase enzyme activity regulates rice seed yield and quality

Lae-Hyeon Cho

Department of Plant Bioscience, Pusan National University, Miryang 50463, Republic of Korea

S8 Synthetic Biology

July 2 (Tue), Halla Hall B

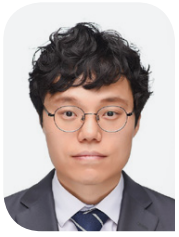
Chair: Moonhyuk Kwon (Gyeongsang Nat'l University)

S8-1 **14:50-15:15**

Exploiting *Pseudomonas putida* as a Versatile Microbial Factory for Sustainable Chemical Production

Sung Kuk Lee

School of Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan 44919, Republic of Korea



S8-2 **15:15-15:40**

Enabling New Chemistries with Ribosomes in Vitro

Joongoo Lee

Department of Chemical Engineering, POSTECH, Pohang 37673, Republic of Korea

S8-3 **15:40-16:05**

Synthetic Biology for *Vibrio* Microbial Platforms to Construct Efficient Biomass Refineries

Hyungyu Lim

Department of Biological Engineering, Inha University, Incheon, Republic of Korea

S8-4 **16:05-16:30**

Synthetic Biology Strategies for Enhanced Production of Aromatic Natural Products

Dongsoo Yang

Department of Chemical and Biological Engineering, Korea University, Seoul 02841, Republic of Korea

S9 Food Sciences

July 2 (Tue), Samda Hall A

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

S9-1 **14:50-15:15**

Allergen components to diagnose food allergy

Nobuyuki Maruyama

Laboratory of Food Quality Design and Development, Graduate School of Agriculture, Kyoto University, Kyoto, Japan

S9-2 **15:15-15:40**

Developments of Value Added Food Products Using Emerging Combination Technologies

Sung Hee Park

Department of Food Science and Biotechnology, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea

July 2 (Tue), Samda Hall A

Chair: Jinyoung Hur (Korea Food Research Institute)

S9-3 **15:40-16:05**

Composition of Volatile Sulfur Compounds in Various Vegetables Consumed in Korea

Jeehye Sung

Department of Food Science and Biotechnology, Andong National University, Andong, Gyeongbuk 36729, Republic of Korea

S9-4 **16:05-16:30**

Flavor challenges and effective strategies in alternative foods

Min Kyung Park

Food Processing Research Group, Korea Food Research Institute, Wanju 55365, Republic of Korea

S10 Applied Microbiology

July 2 (Tue), 303

Chair: Tatsuya Unno (Chungbuk Nat'l University)

S10-1 **14:50-15:15**

Shewanella-supported non-external circuit Bioelectrical System for Nanoparticles Synthesis and its Potential Application on Phytopathogens Control

Cuong Tu Ho

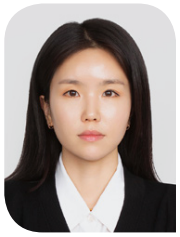
Dept. of Environmental Treatment, Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Vietnam

S10-2 **15:15-15:40**

Engineering and Enhancing Rhizosphere Microbiome for Sustainable Agriculture

Dongfei Han

Suzhou University of Science and Technology (USTS), Suzhou, China



S10-3 **15:40-16:05**

Understanding Mechanisms of Formation and Resuscitation in Persister Cells: Towards Novel Control Strategies

Sooyeon Song

Department of Animal Science, Jeonbuk National University, 567 Baekje-daero, Deokjin-gu, Jeonju-si, Jeollabuk-do 54896, Republic of Korea

S10-4 **16:05-16:30**

The N121T and N121S substitutions on the spike protein of SARS-CoV-2 affects to serum neutralization reactions

Hye Kwon Kim

Department of Biological Science and Biotechnology, College of Natural Science, Chungbuk National University, Cheongju 28644, Republic of Korea

S11 GreenBio Science

July 2 (Tue), 301

Chair: Youngmin Kang (Korea Institute of Oriental Medicine)

S11-1 **14:50-15:10**

Molecular Analysis and Safety Evaluation of Novel Biocontrol Agent *Metschnikowia persimmonesis* KIOM G15050 Isolated from Medicinal Plant *Diospyros kaki* Thunb.

Endang Rahmat

Biotechnology Department, Faculty of Engineering, Bina Nusantara University, Jakarta, 11480, Indonesia

S11-2 **15:10-15:30**

Elucidating the Intricacies of Plant-Microbe Interactions to Unlock the Symbiotic Potential of Plant Growth-Promoting Microorganisms in Diverse Horticultural Crops

Hyungmin Rho

Department of Horticulture and Landscape Architecture, National Taiwan University, Taipei, Taiwan

S11-3 **15:30-15:50**

Development of healthy functional foods using native plants in vertical farms

Ki-Ho Son

[1]Department of GreenBio Science, Gyeongsang National University, Jinju 52725, Republic of Korea, [2]Division of Horticultural Science, College of Agriculture & Life Science, Gyeongsang National University, Jinju 52725, Republic of Korea

S11-4 **15:50-16:10**

Polyphenols from *Loranthus tanakae* Franch & Sav. and pharmacological activities

A Yeong Lee

[1]KM Data Division, Korea Institute of Oriental Medicine (KIOM), Daejeon 34054, Republic of Korea, [2]Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine (KIOM), Naju 58245, Republic of Korea

S11-5 **16:10-16:30**

Cultivation Physiology and Commercial Application Trials of the High-Value Crop Wasabi (*Wasabia japonica Matsum*)

Sang Min Kim

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

S12 한국생명공학연구원 천연물 클러스터

July 1 (Mon), 301

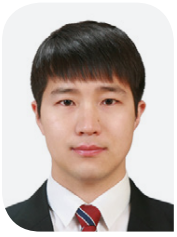
Chair: 최상호 (한국생명공학연구원)

S12-1 **16:50-17:00**

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



S12-2 **17:00-17:10**

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

S12-3 **17:10-17:20**

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

S12-4 **17:20-17:30**

The Material Base Bank for Food Resources

Sang Yoon Choi

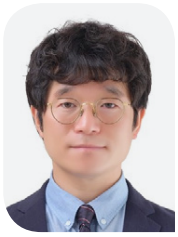
Korea Food Research Institute, Wanju 55365, Republic of Korea

S12-5 **17:30-17:40**

Development and test of Taqman probe for quantification of horseradish myrosinase gene contents in wasabi products

Hyosig Won

Institute of Natural Science, Daegu University, Gyungsan, Gyungbuk 38453, Republic of Korea



S12-6 **17:40-17:50**

Plant-derived functional food resource efficacy evaluation cooperation center: efficacy evaluation for activation of immune response, improving intestinal health, and improving cognitive ability

Gil-Saeng Jeong

College of Pharmacy, Chungnam National University, Daejeon 34134, Republic of Korea

S12-7 **17:50-18:00**

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

Young-Won Chin

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

S12-8 **18:00-18:10**

Korea Forest Plants Essential Oil Bank

Hwan Myung Lee

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

S13 Bio-health/Innovative Drug Development using Subtropical Bio-resources

July 1 (Mon), 303

Chair: Ji-Yeong Bae (Jeju Nat'l University)

S13-1 **13:40-14:00**

Discovery of Bioactive Natural Products and Molecular Mechanisms Based on Microbial Chemical Biology

Munhyung Bae

College of Pharmacy, Gachon University, Incheon 21936, Republic of Korea

S13-2 **14:00-14:20**

NMR/MS-based Probing of Chemicals in Wheat Bran

Yun-Seo Kil

College of Pharmacy and Inje Institute of Pharmaceutical Sciences and Research, Inje University, Gimhae, Gyeongnam 50834, Republic of Korea

S13-3 **14:20-14:40**

Oncogenic Proteins and Their Protein-Protein Interactions: Drug Targetability and Overcoming Therapeutic Resistance Strategies

Youngjoo Kwon

College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University, Seoul 03760, Republic of Korea

S13-4 **14:50-15:10**

Impact of high sucrose diet on osteoarthritis in TLR4 knock-out mice with surgically induced osteoarthritis

Hyun-Jin Jang

Department of Food Science and Nutrition, Jeju National University, Jeju Special Self-Governing Province, Republic of Korea

S13-5 **15:10-15:25**

Cladophora Wrightiana Var. Minor extract can act as a nasal vaccine adjuvant promoting natural killer cell activation in influenza vaccine

Thi Len Ho

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

S13-6 **15:25-15:40**

Investigation on NO and N_2O Emissions from Nitrifiers as Greenhouse Gases

Yun Ji Choi

Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Jeju National University, 102 Jejudaehak-ro, Jeju-si, Jeju-do, Republic of Korea

S13-7 **15:40-15:55**

Microbial communities and kinetic properties of nitrifying microbes in spring water from Jeju Island

Israr Aziz

Interdisciplinary Graduate Program in Advance Convergence Technology and Science, Jeju National University, 102 Jejudaehak-ro, Jeju-si, Jeju-do, Republic of Korea

S13-8 **15:55-16:10**

Exploring the Mechanisms Behind Impact on Obesity of Lactic Acid Bacteria in High-Fat Diet Models

Ayub Hina

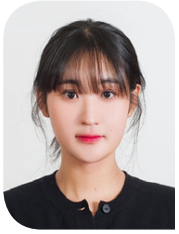
Interdisciplinary Graduate Program in Advanced Convergence Technology and Science, Jeju National University, Jeju 63243, Republic of Korea

S13-9 **16:10-16:25**

Nitric Oxide release inhibition effect in LPS-stimulated Macrophages and Free Radical scavenging activity of *Rubus buergeri* leaves

Theophilus Bhatti

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



S13-10 **16:25-16:40**

***Tetragonia tetragonoides* (Pall) Kuntz attenuates the inflammatory response of Periodontal Ligament Cells by inhibiting IL-1β, IL-6 and TNF-α**

Yoon-A Kang

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

July 2 (Tue), 301

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

S13-11 **09:00-09:20**

Causes and consequences of nuclear hypertrophy in cancer cells

김준

카이스트 의과학대학원

S13-12 **09:20-09:40**

The Function of Peroxiredoxin II in Neuron

Dong-Seok Lee

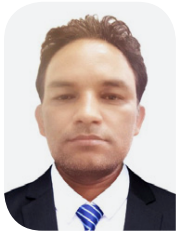
Molecular Neurobiology, School of life Sciences & Biotechnology, Kyungpook National University, Republic of Korea

S13-13 **09:40-10:00**

Structural Basis of Chemokine Receptor CXCR1 Selectivity to the Monomeric CXCL8

Jae-Hyun Park

Department of Molecular Cell Biology, Sungkyunkwan University, School of Medicine, Suwon, Republic of Korea



S13-14 **10:10-10:30**

Glycyrrhizin loaded gelatin nanoparticles ameliorate flutamide-induced hepatotoxicity in rats

Md. Meraj Ansari

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

S13-15 **10:30-10:45**

Mechanistic Insights into Cadmium-Induced Osteoarthritis: Gut Microbiome Dysbiosis and Systemic Metabolic Disruptions

Godagama Gamaarachchige Dinesh Suminda

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

S13-16 **10:45-11:00**

Role of the psycosphere bacterial community in enhancing algal zoospore proliferation in the Red Cell Inoculation System (RCIS)

Mehwish Taj

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

S13-17 **11:00-11:15**

Comparative Analysis of Novel TMF Conjugates Attenuating Idiopathic Pulmonary Fibrosis via the NOX-Induced ROS/HIF-1α Axis

Hiruni Indeevarie Abeysiriwardhana

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

S13-18 **11:15-11:30**

Targeting NOX-Generated ROS to Regulate HIF-1α and Mitigate Fibrosis

Jin-Hyuk Choi

Department of Biochemistry, School of Medicine, Jeju National University, Jeju-Si 63241, Republic of Korea

S13-19 **11:30-11:45**

β-Sitosterol improves radiosensitivity and ferroptosis sensitivity in breast cancer by targeting the ROR1/YAP/TAZ pathway

Dae kyeong Kim

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

KSABC
International Symposium 2024
Nature based solution for sustainability

Young Scientist Presentation

Young Scientist Presentation

YS1 Biochemistry · Molecular Biology

July 2 (Tue), Halla Hall A

Chair: Tae Woo Oh (Korea Institute of Oriental Medicine)

YS1-1 10:10-10:30

Antioxidant effects of natural product in the liver through activation of the AMPK pathway that interacts with Nrf2 and YAP signalings

Su-Jin Bae

Department of Korean Medicine, Dongguk University, Gyeongju 38066, Republic of Korea

YS1-2 10:30-10:50

Inhibition of HDACs (Histone Deacetylases) Ameliorates High-Fat Diet-Induced Hypertension Through Restoration of the MsrA (Methionine Sulfoxide Reductase A)/Hydrogen Sulfide Axis

Jin Ki Jung

Senotherapy-based Metabolic Disease Control Research Center, College of Medicine, Yeungnam University, Daegu, Republic of Korea

YS1-3 10:50-11:10

Design of Metal Binding Proteins with Metal Selectivity or Enzymatic Activity

Tae Su Choi

College of Life Sciences & Biotechnology, Division of Life Sciences, Korea University, Republic of Korea

YS2 Natural Products · Bioactive Materials · Biomedical Sciences

July 2 (Tue), Halla Hall B

Chair: Seonbeom Kim (Pusan Nat'l University)

YS2-1 10:10-10:30

Unlocking silent biosynthetic gene clusters of microbes to discover novel secondary metabolites

Seungrak Lee

Department of Manufacturing Pharmacy, Pusan National University, Busan 46241, Republic of Korea

YS2-2 10:30-10:50

The Development of Next-Generation Avian Influenza COBRA Vaccines using Artificial Intelligence

Jongseo Mo

College of Pharmacy, Yeungnam University, Gyeongsan, Republic of Korea

YS2-3 10:50-11:10

Development of rapid quality evaluation technology for traditional herbal medicines

Yeongjun Ban

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

YS3 Environmental Sciences

July 2 (Tue), Samda Hall A

Chair: **Dong Yeol Lee** (Gyeongnam Anti-Aging Research Institute)

YS3-1 **10:10-10:30**

Fate and Effects of Microplastics in the Rhizosphere

Hakwon Yoon

Department of Biological Environment, Kangwon National University, Chuncheon 24341, Republic of Korea

YS3-2 **10:30-10:50**

Changes in Growth Characteristics and Active Compound of Wild-simulated Ginseng with Different Cultivation Environments

Yeong-Bae Yun

Forest Medicinal Resources Research Center, National Institute of Forest Science, Yeongju 36040, Republic of Korea

YS3-3 **10:50-11:10**

Correlation analysis of recyclable resource price fluctuation factors to monitor recycling market trends and crisis response

Jongsoo Lee

Institute of Enviromental Technology, Seoul National University of Science and Technology, Republic of Korea

YS4 Food Sciences

July 2 (Tue), Samda Hall B

Chair: Min Jung Kim (Korea Food Research Institute)

YS4-1 10:10-10:30

Improving stress vulnerability in aging through rosmarinic acid supplementation

Jung-Eun Lee

Research Division of Food Functionality, Korea Food Rearch Institute, Wanju 55365, Republic of Korea

YS4-2 10:30-10:50

Norharmane extends healthspan in *Caenorhabditis elegans* and prevents muscle aging in mice via activation of SKN-1/NRF2 stress response pathway

Farida Sukma Nirmala

Department of Food Biotechnology, Korea University of Science and Technology, Daejeon-si, Republic of Korea

YS4-3 10:50-11:10

Improvement in the Beef Protein Digestibility *In Vitro* by Freezing and Aging Processes for Complementary Foods

Seonmin Lee

Division of Animal and Dairy Science, Chungnam National University, Daejeon, Republic of Korea

YS5 Applied Microbiology

July 2 (Tue), 303

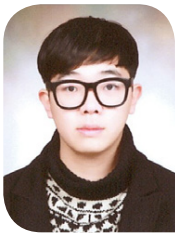
Chair: Youri Yang (Kangwon Nat'l University)

YS5-1 10:10-10:30

Development of microbial biocontrol agent (*Lysinibacillus capsici* TT41.) for enhancement of drought stress tolerance in Kimchi Cabbage (*Brassica rapa* L. subsp. *pekinensis*)

Tae Jin Kim

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



YS5-2 10:30-10:50

Pannorin isolated from marine-derived *Penicillium* sp. SG-W3 as a selective monoamine oxidase A inhibitor

Jong Min Oh

Department of Pharmacy, and Research Institute of Life Pharmaceutical Sciences, Sunchon National University, Suncheon 57922, Republic of Korea

YS5-3 10:50-11:10

Efficient Valorization of Food Waste Oils to Renewable Biodiesel by a *Candida antarctica* Lipase B Mutant that Catalyzes the Ester Synthesis Reaction in the Presence of Water

Hyunjun Ko

[1]Synthetic Biology and Bioengineering Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), 125 Gwahak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea, [2]Department of Forest Biomaterials Engineering, College of Forest and Environmental Sciences, Kangwon National University, Chuncheon 24341, Republic of Korea

Graduate Student Presentation

GS1 Biochemistry · Molecular Biology

July 2 (Tue), Halla Hall A

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

GS1-1 **09:00-09:10**

Development of SARS-CoV-2 Spike Receptor Binding Domain Binding De Novo Scaffold Protein

Thuy Thi Thanh Phan[1,2], Erdenedolgor Erdene-Ochir[2], Priyadharshini Kannan[2], Jisung Oh[3], Moon-Hyeong Seo[3], Keunwan Park[2], Dae-Geun Song[1,2*]

[1]Department of Natural Product Applied Science, University of Science & Technology, Republic of Korea, [2]Natural Product Informatics Center, Korea Institute of Science and Technology, Republic of Korea, [3]Natural Product Research Center, Korea Institute of Science and Technology, Republic of Korea

GS1-2 **09:10-09:20**

Profiling and expression of Korean snake venom

Hyo-sun Park[1], Su-bin Moon[1], Su-jin Lee[2], Yeon-jong Koo[1*]

[1]Department of Agricultural Chemistry, Chonnam National University, Gwangju 61186, Republic of Korea, [2]School of Environment and Energy Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju 61005, Republic of Korea

GS1-3 **09:20-09:30**

Protein Involved in Tip Elongation Containing DUF3511 Regulates Pollen Tube and Root Hair Growth in Rice

Chan Mi Yun[1†], Woo-Jong Hong[2†], Ji-Hyun Kim[1], Chan-Woo Park[1], Ye-jin Son[1], Gayoung Noh[1], HuanJun Li[3], Wanqi Liang[3], Chang-Oh Hong[1], Kwang Min Lee[1], Ki-Hong Jung[4*], 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]Department of Smart Farm Science, Kyung Hee University, Yongin 17104, Republic of Korea, [3]Joint International Research Laboratory of Metabolic & Developmental Sciences, State Key Laboratory of Hybrid Rice, School of Life Sciences and Biotechnology, Shanghai Jiao Tong University, Shanghai 200240, China, [4]Graduate School of Green Bio Science & Crop Biotech Institute, Kyung Hee University, Yongin 17104, Republic of Korea

GS1-4 09:30-09:40

Improving Skin Function by Controlled Nanoparticle-Mediated Photodynamic Therapy Against Senescent Fibroblast

Jia Choi[1,2], Jihwan Park[1,2], Sehoon Kim[1,2*]

[1]Korea Institute of Science and Technology, Republic of Korea, [2]KU-KIST Graduate School of Converging Science and Technology, Korea University, Republic of Korea

GS1-5 09:40-09:50

Identification and functional analysis of *In Vivo* SSPs (Small Secreted Peptides) in the apoplast during rice-blast fungus interactions

Woo Jae Seo[1], Su Yeon Jeon[1], Gi-Hyun Lee[1], Jeong Woo Jang[1], Munir Adeela[1], Leonard jean clement[1], Cheol Woo Min[1,2], Sun Tae Kim[1,2*]

[1]Department of Plant Bioscience, Pusan National University, Miryang, Republic of Korea, [2]Department of Plant Bioscience, Life and Industry Convergence Research Institute, Pusan National University, Miryang, Republic of Korea

GS1-6 09:50-10:00

A new insight into the correlation with fucoxanthin-chlorophyll-binding protein in the regulation of fucoxanthin biosynthesis in *Phaeodactylum tricornutum*

To Quyen Truong[1,2], Sang Min Kim[1,2*]

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

GS1-7 10:00-10:10

Improving Thermal Stability and Functionality of Glucose Oxidase with Calcium Ions

Jihye Ahn[1], Yeonwoo Lee[1,2], Moonsung Choi[1,3], Seung-Woo Lee[2*]

[1]Department of Optometry, College of Energy and Biotechnology, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea, [2]Department of Fine Chemistry, Seoul National University of Science and Technology, 232 Gongneung-ro, Nowon-gu, Seoul, Republic of Korea, [3]Convergence Institute of Biomedical Engineering and Biomaterials, Seoul National University of Science and Technology, Seoul 01811, Republic of Korea

GS2 Natural Products · Bioactive Materials · Biomedical Sciences

July 2 (Tue), Halla Hall B

Chair: **Sullim Lee** (Gachon University)

GS2-1 09:00-09:10

The inhibitory effect of cumambrin B from *Chrysanthemum zawadskii* var. *latilobum* on human ovarian cancer cell

Yea Jung Choi[1], Young-Won Chin[2], Sullim Lee[3], Ki Sung Kang[1*]

[1]College of Korean Medicine, Gachon University, Seongnam 13120, Republic of Korea, [2]College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Seoul 08826, Republic of Korea, [3]Department of Life Science, Gachon University, Seongnam 13120, Republic of Korea

GS2-2 09:10-09:20

The solid lipid nanoparticle through intra nasal pathway for treating brain diseases

Yousun Chun[1], Honghwan Choi[1], Jeongyun Heo[2], Sehoon kim[1,2*]

[1]KU-KIST Graduate School of Converging Science and Technology, Korea University, 145 Anam-ro, Seongbuk-gu, Seoul, Republic of Korea, [2]Chemical and Biological integrative Research Center, Korea Institute of Science and Technology, 5 Hwarang-ro 14-Gil, Seongbuk-gu, Seoul, Republic of Korea

GS2-3 09:20-09:30

Luteolin and 5-FU Synergistically Induces Apoptosis and Modulates Cell Cycle in Melanoma Cells

Himanshi Gahlot, Sun Chul Kang[*]

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

GS2-4 09:30-09:40

Structure elucidation of new triterpenes from the aerial parts of *Spinacia oleracea* L.

Su-Yeon Lee[1,2], Doo-Young Kim[1], Hyun-Jae Jang[1], Eun Kyoung Seo[2], Sei-Ryang Oh[1], Hyung Won Ryu[1*]

[1]Natural Product Research Center, KRIBB, Cheongju 28116, Republic of Korea, [2]College of Pharmacy, Graduate School of Pharmaceutical Sciences, Ewha Womans University, Seoul 03760, Republic of Korea

GS2-5 09:40-09:50

Anticancer Compounds to COVID-19 Therapeutics: Repurposing Small Molecules as Potent Inhibitors of the SARS-CoV-2 Main Protease

Md Sofequl Islam Mukim[1,2], Ashraf K. El-Damasy[3,4], Cheol-Ho Pan[1,2], Dae-Geun Song[1,2*]

[1]Natural Product Informatics Research Center, Division of Biomedical Science & Technology, Korea Institute of Science & Technology (KIST), Gangneung 25451, Republic of Korea, [2]KIST School, University of Science and Technology (UST), Daejeon 34113, Republic of Korea, [3]Brain Science Institute, Korea Institute of Science and Technology (KIST), Seoul 02792, Republic of Korea, [4]Department of Medicinal Chemistry, Faculty of Pharmacy, Mansoura University, Mansoura 35516, Egypt

GS2-6 09:50-10:00

Exploring the Anti-aging Potential of Tremulacin and Tremuloidin in Human Dermal Fibroblasts

Si-Young Ahn, Hee Woon Ann, Sullim Lee*

Department of Life Science, College of Bio-Nano Technology, Gachon University, Seongnam 13120, Republic of Korea

GS3 Environmental Sciences

July 2 (Tue), Samda Hall A

Chair: Jae Sung Shim (Chonnam Nat'l University)

GS3-1 **09:00-09:10**

Woody Biochar Applications Significantly Enhance Net Ecosystem Carbon Budget and Soil Properties in Red Pepper Cropping System: Two-year Field Experiment

Sohee Yoon[1], Yeomyeong Lee[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, Republic of Korea, [2]Department of Agricultural Life Science, Sunchon National University, Suncheon 57922, Republic of Korea

GS3-2 **09:10-09:20**

Effect of microplastics on fate of imidacloprid in soil

Ji Won Yang[1], Jeong Min Heo[1], Hoo Bin Han[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

GS3-3 **09:20-09:30**

The Effect of Fe-stabilized Natural Organic Matter on Methane Emissions and Microbial Community Dynamics in Paddy Soils

Eun-Nam Joe, Jong-Rok Jeon[*]

Department of Agricultural Chemistry and Food Science & Technology, Division of Applied Life Science (BK21), and IALS, Gyeongsang National University, Jinju 52828, Republic of Korea

GS3-4 **09:30-09:40**

Size-Dependent Impact of Polystyrene Plastics on Metabolic and Mitochondrial Dysfunction in Adipocyte Differentiation

Narayan Sah Sonar[1,2], Laxmi Sen Thakuri[3], Ye Jin Jang[1,2], Hye Bin Park[1,2], Jiun Kang[2], Dong Young Rhyu[1,2*]

[1]Department of Biomedicine, Health & Life Convergence Sciences, BK21 FOUR, Mokpo National University, Jeonnam 58554, Republic of Korea, [2]Department of Nutraceutical Resources, Mokpo National University, Jeonnam 58554, Republic of Korea, [3]Bio-medicine Advanced Formulation Research Centre, College of Natural Science, Mokpo National University, Jeonnam 58554, Republic of Korea

GS3-5 09:40-09:50

Effect of photodegradation of plastics on the adsorption characteristics of environmental pollutants

Yu Jin Seo, Eun Hea Jho*

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

GS3-6 09:50-10:00

Effect of Biochar Application on Grass Growth and Pollutant Reduction in Golf Courses

Yu-Jin Park[1], Jae-Hoon Lee[1], Jun-Suk Rho[1], Seul-Rin Lee[2], Jeong-Mok Lee[1], Jong-Hwan Park[3], Dong Cheol Seo[1*]

[1]Division of Applied Life Science(BK21 Four) & Institute of Agriculture and Life Science, Gyeongsang National University, Jinju 52828, Republic of Korea, [2]Institute of Agriculture and Life Science, Gyeongsang National University, Jinju 52828, Republic of Korea, [3]Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

GS4 Food Sciences

July 2 (Tue), Samda Hall B

Chair: Dahye Yoon (Rural Development Administration)

GS4-1 **09:00-09:10**

In vitro propagation of *Apios americana* Medik and assessment of its phytochemical properties to boost production of the potential staple food and tissues with diverse bioactive properties

Roggers Gang[1,2], Youngmin Kang[1,2*]

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

GS4-2 **09:10-09:20**

Ecklonia cava mitigates stress hormone-induced depression-like behaviors by regulating glucocorticoid receptor activity

Inhye Park[1,2], Minseok Yoon[1], Minji Kim[1,2], Min-Sun Kim[3], Seungmok Cho[4], Min Young Um[1,2*]

[1]Division of Functional Food Research, Korea Food Research Institute, Wanju 55365, Republic of Korea, [2]Division of Food Biotechnology, University of Science and Technology, Daejeon 34113, Republic of Korea, [3]Division of Food Analysis Research Center, Korea Food Research Institute, Wanju 55365, Republic of Korea, [4]Department of Food Science and Technology/Institute of Food Science, Pukyong National University, Busan 48513, Republic of Korea

GS4-3 **09:20-09:30**

Identification of *Lactobacillus gasseri* by *Polyporus umbellatus* Extract Administration as a Putative Mediator of Muscle Protection Against Dexamethasone-Induced Atrophy via the Gut-Muscle Axis

Ngoc Nguyen Bao[1,2], Hye-Young Youn[1], Tam Thi Le[1], Kwang Hyeon Cha[3,4,5], Huitae Min[1], Young Tae Park[1,4], Sang Hoon Jung[1,4], Myungsuk Kim[1,4,5*]

[1]Natural Product Research Center, Korea Institute of Science and Technology (KIST), Gangneung, Gangwon-do, Republic of Korea, [2]College of Dentistry, Gangneung Wonju National University, Gangneung, Gangwon-do, Republic of Korea, [3]Natural Product Informatics Research Center, Korea Institute of Science and Technology (KIST), Gangneung, Gangwon-do, Republic of Korea, [4]Division of Bio-Medical Science and Technology, KIST School, University of Science and Technology (UST), Seoul, Republic of Korea, [5]Department of Convergence Medicine, Wonju College of Medicine, Yonsei University, Wonju, Gangwon-do, Republic of Korea

GS4-4 09:30-09:40

Pea Seedlings (*Pisum sativum* L.) as a Promising Functional Food: Metabolite Profile, Muscle Atrophy Prevention

Hangyeol Lee, SoYeon Moon, Mi Ja Lee, Seung-Yeob Song, EunJi Suh, Eun Bin Choi, Hye Young Seo, Woo Duck Seo*

Division of Crop Foundation, National Institute of Crop Science (NICS), Rural Development Administration (RDA), Wanju 55365, Republic of Korea

GS4-5 09:40-09:50

Enhancement of Tomato Sweetness through Tomato ALS1 Gene Editing

So Hee Yang, Yeonjong Koo*

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

GS4-6 09:50-10:00

Characterization of *Clostridium acetobutylicum* ATCC 824 (pCD07239) during the acidogenic phase using metabolic and transcriptomic analyses

Haeng Lim Lee, Aram Kim, Yu-Sin Jang*

Division of Applied Life Science (BK21 Four), Department of Applied Life Chemistry, Institute of Agriculture & Life Science (IALS), Gyeongsang National University (GNU), Jinju, Republic of Korea

GS5 Applied Microbiology

July 2 (Tue), 303

Chair: Tatsuya Unno (Chungbuk Nat'l University)

GS5-1 **09:00-09:10**

Dietary Entomophagy: Impact of Edibile Silkworm Pupae (Boendegi) on Gut Microbiome

Justina Klingaite[1], Kanika Mahra[2], Vineet Singh[2], Jae-Ho Shin[1,2,3*]

[1]Department of Integrative Biology, Kyungpook National University, Daegu, Republic of Korea, [2]Department of Applied Biosciences, Kyungpook National University, Daegu, Republic of Korea, [3]Next Generation Sequencing (NGS) Core Facility, Kyungpook National University, Daegu, Republic of Korea

GS5-2 **09:10-09:20**

Characterization and Comparison of Alginate-Degrading Bacteria Derived from South Korea Territory

Seung Hwa Jeong[1], Yeon jong Koo[1,2*]

[1]Department of Agricultural Chemistry, Chonnam National University, Republic of Korea, [2]Institute of Environmentally-friendly Agriculture, Chonnam National University, Republic of Korea

GS5-3 **09:20-09:30**

Change in metabolites by lactic acid bacterial fermentation with produced isoflavone-enriched soybean leaves in plant factory

Ji Ho Lee[1], Hee Yul Lee[1], Du Yong Cho[1], Ae ryeon Lee[1], Jong Bin Jeong[1], Ga Young Lee[1], Mu Yeun Jang[1], Ki Hun Park[2], Jin Hwan Lee[3], Kye Man Cho[1*]

[1]Department of GreenBio Science and Agri-Food Bio Convergence Institute, Gyeongsang National University, Jinju 52725, Republic of Korea, [2]Division of Applied Life Science (BK21 plus), Gyeongsang National University, Jinju 52828, Republic of Korea, [3]Department of Life Resources Industry, Dong-A University, Busan 49315, Republic of Korea

GS5-4 **09:30-09:40**

Effects of UVA light intensity and temperature on agricultural antibiotics degradation

So Yun Park[1], Eun Hea Jho[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

GS5-5 09:40-09:50

Biodegradation of Commercial PBAT/PLA/Starch Film by newly isolated fungal strains at room temperature

Yongseok Ko[1], Youri Yang[2,3], Sunil Ghatge[1], Hor-Gil Hur[1*]

[1]School of Sciences and Envrionmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju 61005, Republic of Korea, [2]School of Nature Resources and Environmental Science, Department of Biological Envrionment, Kangwon National University, Chuncheon, Gangwon State 24341, Republic of Korea, [3]Department of Food Biotechnology and Envrionmental Science, Kangwon National University, Chuncheon, Gangwon State 24341, Republic of Korea

GS5-6 09:50-10:00

Effect of red beetroot (*Beta vulgaris* L.) powder and betanin on human gut microbiota according to enterotype

Gwang-Pyo Ko[1], Hye-jun Jo[1], Chang-Sook Kim[1,2*]

[1]Faculty of Biotechnology, School of life sciences, SARI, Jeju National University, Jeju 63243, Republic of Korea, [2]Subtropical/tropical Organism Gene Bank Jeju National University, Jeju 63243, Republic of Korea

GS5-7 10:00-10:10

Biocolonization and Biodegradation of Low-density Polyethylene Microplastics by plastisphere-associated *Fusarium* and *Penicillium* strains Isolated from Agricultural Soil

Kehinde Caleb Omidoyin[1], Eun Hea Jho[2*]

[1]Department of Agricultural Chemistry, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea, [2]Department of Agricultural and Biological Chemistry, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea

KSABC
International Symposium 2024
Nature based solution for sustainability

Workshop

Workshop

July 3 (Wed), 402

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

W-1 **09:40-10:00**

천연물 분리정제를 위한 최신 솔루션

유대근

뷰키코리아(유)

W-2 **10:00-10:20**

LCMS를 활용한 천연물 대사체 분석 solution 소개

임주환

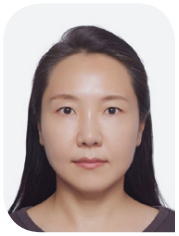
애질런트테크놀로지스

W-3 **10:30-10:55**

바이오소재 정보 통합플랫폼(BioOne) 구축 및 활용

진태은

한국생명공학연구원 국가생명연구자원정보센터



W-4 **10:55-11:20**

UST–한국식품연구원 스쿨 소개

안지윤

UST–한국식품연구원 스쿨

KSABC
International Symposium 2024
Nature based solution for sustainability

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
July 1(Mon) 13:00 ~ July 2(Tue) 17:30

Poster Presentation

Date \ Category		PBM	PNB	PES	PFS	PAM	PBD
July 1 (Mon)	16:50-17:50	1-73	1-117	1-59	1-39	1-37	1-18
July 2 (Tue)	16:30-17:30						
Place		Lobby (3F)					

PBM Biochemistry · Molecular Biology

PBM-1 Introduction to K-BDSC Utilization Support Program and MarketPlace

Jung Woo Park, Junehawk Lee*, Yong Ho Lee

Center for Biomedical Computing, Dev. of National Supercomputing R&D, Korea Institute of Science and Technology Information (KISTI)

PBM-2 Computerial modeling and screening of new anti-cancer peptide

Jae Ho Yeom, Namhyun Chung*, Jin-Woo Lee*, Na-Hyun Lee, Tae Hyeon Kim, Sun Young Park, Deok Jae Lee

Department of Biotechnology, Korea University

PBM-3 Anti-obesity effect of fresh and browned *Magnolia denudata* flowers in 3T3-L1 adipocyte

Jae Ho Yeom, Namhyun Chung*, Jin-Woo Lee*, Na-Hyun Lee, Tae Hyeon Kim, Sun Young Park, Deok Jae Lee

Department of Biotechnology, Korea University

PBM-4 Insight into light-responsive mechanism through metabolome and transcriptome analysis in the hairy root culture of *Althaea officinalis*

Yun Ji Park[1], Ramaraj Sathasivam[2], Jae Kwang Kim[3], Sang Un Park[2*]

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PBM-5 Comparative study on phenylpropanoid biosynthesis and primary metabolites across various root types of *Althaea officinalis*

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PBM-6

Review: Understanding Molecular Markers of Anticancer Lectin Genes in Mutant of Rodent Tuber (*Typhonium flagelliforme* Lodd.)

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PBM-7

Methyl Jasmonate and Systemic Jasmonate Response

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PBM-8

Anti-Allergic Effects of *Sesamum Indicum* Linn. Ethanol extract (SIE) on Lyn/Syk And Fyn Signaling Pathways in RBL-2H3 mast Cells and Passive Cutaneous Anaphylaxis in Mice

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PBM-9

Acetyl genistin modulates myotube differentiation and attenuates dexamethasone-induced muscle atrophy through the FoxO1/3 signaling pathway in C2C12 myotubes

Won Min Jeong, Dong Kyu Jeong, Gyeong Hwan Lee, Dong Yeol Lee, Sang Gon Kim*

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PBM-10

Skin-Whitening Effect of Protocatechuic Acid Derivatives in Melanoma Cells

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PBM-11

Anti-Inflammatory Effect of Protocatechuic acid alkyl ester derivatives in HaCaT keratinocyte cell

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PBM-12

Profiling and expression of Korean snake venom

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PBM-13

Radiolytic modification of nialamide as a potent anti-inflammatory agent

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PBM-14

Development of SARS-CoV-2 Spike Receptor Binding Domain Binding De Novo Scaffold Protein

Thuy Thi Thanh Phan[1,2], Erdenedolgor Erdene Ochir[2*], Priyadharshini Kannan[2*], Jisung Oh[3*], Moon-Hyeong Seo[3*], Keunwan Park[2*], Dae-Geun Song[1,2*]

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PBM-15

The Molecular mechanism of grafting success rate depending on photoperiod time

Jongbae Son[1], Won-Chan Kim[1,2*], Junseop Shin[2], Soyera Lee[2]

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PBM-16

Bacillus velezensis Improves Drought Tolerance in Rice

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PBM-17

Estrogenic and anti-androgen activity of iprodione *in vitro* and *in silico* testing methods

So-Hye Hong*, Ji-Yeon Yang, Jeong-Hyun Lim, Soo-Jin Park, Youmi Jo, Si Young Yang, Min-Kyoung Paik

Toxicity and Risk Assessment Division, National Institute of Agricultural Science

PBM-18

Assessment of the potential skin sensitization on agrochemical formulations by LuSens assay

Ji-Yeon Yang, Soo-Jin Park, Youmi Jo, Jeong-Hyun Lim, Si Young Yang, Min-Kyoung Paik, So-Hye Hong*

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PBM-19

Isolation of roles of R2R3-MYB transcription factors in response to various environmental stresses in tomato

Subeen Mun, Yaerim Lee, Yeonjong Koo*

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PBM-20

Potent selective inhibition of monoamine oxidase B by coumarin benzamide derivatives

Jong Min Oh[1], Ashraf K. El-damasy[2,3], Hyun Ji Kim[2], Seul-Ki Mun[4], Ahmed A. Al-karmalawy[5,6], Radwan Alnajjar[7,8,9], Yu-Jeong Choi[4], Jong-Jin Kim[4], Ghilsoo Nam[2], Hoon Kim[1*], Keum Hyochang[2]

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PBM-21

Myrosinase isogenes in *Wasabia japonic*a Matsum (wasabi) and their putative roles in glucosinolate metabolism

To Quyen Truong[1,2], Yun Ji Park[3], Sang Min Kim[1,2*]

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PBM-22

Chloroplast Genome Diversity in Polypodiaceae: Comparative Analysis of *Phlebodium aureum* and Evolutionary Implications

Joonho Park*, Muniba Kousar

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PBM-23

OsPRK1/2/3-mediated reactive oxygen species signaling is required for pollen tube germination in rice

Ye-Jin Son[1], Eui-Jung Kim[2], Ji-Hyun Kim[1], Su-Kyoung Lee[2], Woo-Jong Hong[3], Sun Tae Kim[4], Wanqi Liang[5], Sunok Moon[2], Ki-Hong Jung[2], Yu-Jin Kim[1*]

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PBM-24

Identification of Haploid Induction Mechanism in OsMATL2 through Omics Analysis

Ga Young Noh[1], Do-Hyeon Kim[1], Hyo-Jeong Kim[1], Eun Young Kim[2], Cheol Woo Min[3], Woo-Jong Hong[2], Ok Ran Lee[4], Yu-Jin Kim[1*]

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PBM-25

Genome-wide characterization, evolution and expression analysis of peroxidase genes related to pollen function in rice (*Oryza sativa*)

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PBM-26

Functional characterization of untypical distinct clade pollen-specific RALF genes in rice

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PBM-27

Protein Involved in Tip Elongation (*PITE*) containing DUF3511 regulates root hair growth in rice

Chan Mi Yun[1], Woo-Jong Hong[2], Ji-Hyun Kim[1], Hyo-Jeong Kim[1], Ye-Jin Son[1], Ga Young Noh[1], Chan-Woo Park[1], Huanjun Li[3], Wanqi Liang[3], Chang-Oh Hong[1], Kwang Min Lee[1], Ki-Hong Jung[4*], Yu-Jin Kim[1*]

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PBM-28

Embryogenic coffee callus induction with auxin hormones and analysis of caffeine content

Chan Mi Yun[1], Hyo-Jeong Kim[1], Ji-Hyun Kim[1], Young Hun Kim[1], Sangmin Lee[2], Yerim Joo[2], Seon Beom Kim[2], Keun Ki Kim[1], Yu-Jin Kim[1*]

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PBM-29

Diagnosis of phosphine resistance in *Tribolium castaneum* strains using CAPS methods and FAO fumigation tests

Junyeong Park[1], Jinuk Yang[1], Donghyeon Kim[2], Kwang-Soo Jung[2], Sung-Eun Lee[1,2*]

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PBM-30

Comparative proteomic analysis of susceptible and phosphine-resistant *Tribolium castaneum* reveals differential protein expression

Donghyeon Kim[1], Jinuk Yang[2], Junyeong Park[2], Yongha You[2], Jun-Ran Kim[3], Sung-Eun Lee[1,2*]

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PBM-31

Enhancing the Phosphorus Absorption (PAE) And Phosphorus Use Efficiency (PUE) through Pyramiding of Advantageous Alleles of *OsPTF1* and *Pup1* in Rice

Raña Sumabat, Priskila Tolangi, Kyung Seo Lee, Hyun New Lee, Jeehyoung Shim, Joong Hyoun Chin*

Department of Integrative Biological Sciences and Industry, Sejong University

PBM-32

Genome-wide identification of pollen-specific LAT52 members and functional characterization in rice (*Oryza sativa*)

Do-Hyeon Kim, Ye-Jin Son, Ji-Hyun Kim, Hyo-Jeong Kim, Ga Young Noh, Chan Mi Yun, Chan-Woo Park, Yu-Jin Kim*

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PBM-33

A Light Response Transcription Factor: Regulation of Secondary Cell Wall Biosynthesis in *Arabidopsis*

Soyera Lee[1], Kihwan Kim[2,3], Junseop Shin[1], Jongbae Son[2], Won-Chan Kim[1,2*]

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PBM-34

De novo genome assembly of IR64-Sub1 and IR64-Sub1+Pup1 pyramiding lines

Na-Hyun Shin[1], Ji-Hun Hwang[2], Jae-Hyuk Han[3], Yeisoo Yu[4], Gyoungju Nah[5], Keunpyo Lee[6], Lae-Hyeon Cho[7], Kyung Do Kim[2*], Joong Hyoun Chin[8*]

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PBM-35

Analysis of Gene Expression Involved in Cardiac Cell Toxicity Cause by Diesel Particulate Matter

Kyoung Jin Nho*, Jae Hoon Shin, Jin Ee Baek

Institute of Occupation and Environment, COMWEL

PBM-36

Modulation of Gut Microbiota Dysbiosis by Dietary Polycan: Attenuating High-Fat Diet-Induced Intestinal Barrier Damage in Obese Mice

Young Ju Do[3], Su Yeon Seo[1,3*], Tae Woo Oh[2,3*]

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PBM-37

Fermented glutinous rice extract mitigates DSS-induced ulcer-ative colitis by alleviating intestinal barrier function and im-proving gut microbiota and inflammation

Young Ju Do[3], Tae Woo Oh[2,3*], Su Yeon Seo[1,3*]

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PBM-38

Atfcp1 Fasciation and Bifurcation Phenotypes in SAM are Suppressed by *ERECTA* and a *RECEPTOR-LIKE KINASE*

Da Eun Kim, Yu Mi Kang, Daniel Isaacs Guzman, Byoung Il Je*

Department of Horticultural Bioscience, Pusan national university

PBM-39

Development of gene-knockout tools for *Lactobacillus reuteri* by homologous recombination

Su Jin Kim, Ye-Won Kim, Yu-Sin Jang*

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PBM-40

Antibacterial, Antioxidant and Volatile Components of Mountain-cultivated Ginseng

Min Jeong Cho[1], Young-Suk Kim[1], Bon-Hwa Ku[1], Kwan Been Park[2], Myung Suk Choi[2,3*]

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PBM-41

Exploration of salt tolerance associated proteins in two rice cultivars (*Oryza sativa* subs. *Japonica* and *Indica*) through integrated proteomic and phosphoproteomic analyses

Cheol Woo Min[1], Ravi Gupta[2], Ji-Yoon Lee[3], Ju-Won Kang[3], Jun-Hyeon Cho[3], Sun Tae Kim[1*]

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PBM-42 **Subcellular Localization of Catalase Manages Stress Resistance in Arabidopsis**

Euyeon Kim, Yeonjong Koo*

Agricultural Chemistry, Chonnam National University

PBM-43 **The *SlNRTF3* negatively regulates nitrogen-dependent growth in tomato plants through modulating nitrogen assimilation**

Zion Lee, Sohyun Kim, Eui Jeong, Seung Won Park, Jae Sung Shim*

School of Biological Sciences and Technology, Chonnam National University

PBM-44 **Characterization of phloem specific proteins in tomato plants**

Min Seo Kang, Jae Sung Shim*

School of Biological Sciences and Technology, Chonnam National University

PBM-45 **Identifying Polyclonal Antibodies Targeting Omega-1,2 Gliadins: Immunodominant Epitopes in Celiac Disease**

Jae-Ryeong Sim[1,2], Sewon Kim[1], Jong-Yeol Lee[1*]

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PBM-46 **Development of Wheat with Reduced Celiac Disease Antigens by Proton Beam Irradiation**

Sewon Kim, Jae-Ryeong Sim, Jong-Yeol Lee*

National Institute of Agricultural Sciences, RDA, Jeonju 54874, Republic of Korea

PBM-47 **Selection and indicator establishment of drought-resistant *Populus alba* × *Populus Glandulosa* clones through transcriptome and physiological analysis**

Tae-Lim Kim*, Hyemin Lim*

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PBM-48 **Genome-Wide Analysis, Identification, and Characterization of the PFK Gene Family Members in *Quercus rubra***

Hyemin Lim*, Tae-Lim Kim*

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PBM-49

An Insight of *Populus deltoides* PFK Gene Family through Genome-Wide Identification and Expression Analysis

Hyemin Lim*, Tae-Lim Kim*

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PBM-50

Comparative proteome profiling highlights accumulation of various proteins involved in secondary metabolism in barley, oat, and wheat seeds subjected to warm-water extraction

Na Won Park[1], Cheol Woo Min[1,2], Ji Soo Kim[1], Da Hee Kang[1], Sun Tae Kim[1*]

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PBM-51

Strigolactone affects ethylene biosynthesis in etiolated rice (*Oryza sativa* L.) seedlings

Han Yong Lee*

Department of biological sceince and Institute of Well-Aging Medicare & CSU G-LAMP Project Group, Chosun University

PBM-52

Development of bioprocess for polyethylene degradation employing *Acinetobacter nosocomialis* pseudo-resting cells

Haeng Lim Lee, Aram Kim, Hyeon Jeong Seong, Yu-Sin Jang*

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PBM-53

Biodegradation of polyethylene by using *Bacillus* species

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PBM-54

Immunomodulatory Effect of Proteins from a Gut Bacterium, *Brevibacillus* sp

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PBM-55

Characteristics of florigen-producing cells in long days with sunlight red/far-red ratio in *Arabidopsis*

Nayoung Lee[1,2], Hiroshi Takagi[1], Takato Imaizumi[1*]

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PBM-56

Identification of bio-transformation products of besulfuron-methyl by human liver microsomes using LC-Q-TOF

Jae-Woon Baek, Yoon-Hee Lee, Hye-Ran Eun, Ye-Jin Lee, Su-Min Kim, Yongho Shin*

Department of Applied Bioscience, Dong-A University

PBM-57

DNA-free genome editing in the model plant Arabidopsis thaliana using CRISPR/Cas9^{D10A} Nickase ribonucleoprotein complex

Junseop Shin[1], Kihwan Kim[2,3], Soyera Lee[1], Jongbae Son[2], Won-Chan Kim[1,2*]

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PBM-58

Novel DNA Aptameric Sensor to Detect Emamectin Benzoate from Plant Tissue Extracts

Jaehee Kang[1], Pooja Singh[1,2], Yuhan Cho[1,2], Bogeun Park[1,2], Mai-Huong Thi Can[1,2], Kim-Ngan Thi Nguyen[1,2], Ulhas Kadam[1,2], Jong Chan Hong[1,2*]

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PBM-59

Isolation of Novel DNA Aptameric Sensor to Detect Insecticide, Pendimethalin

Bogeun Park[1,2], Pooja Singh[1,2], Yuhan Cho[1,2], Jaehee Kang[2], Mai-Huong Thi Can[1,2], Kim-Ngan Thi Nguyen[1,2], Ulhas Kadam[1,2], Jong Chan Hong[1,2*]

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PBM-60

In Vitro Isolation of the Single-Stranded DNA Aptameric Sensors for Detecting Pyrethroids Pesticides

Mai-Huong Thi Can[1,2], Yuhan Cho[1,2], Pooja Singh[1,2], Jaehee Kang[2], Bogeun Park[1,2], Kim-Ngan Thi Nguyen[1,2], Ulhas Kadam[1,2], Jong Chan Hong[1,2*]

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PBM-61

Allosteric Inhibition of *PTPN11* Tyrosine Phosphatase in Cancer via Computational Drug Design

Pooja Singh[1,2], Jaehee Kang[2], Mai-Huong Thi Can[1,2], Kim-Ngan Thi Nguyen[1,2], Ulhas Kadam[1,2], Jong Chan Hong[1,2*]

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PBM-62

Identification of BZIP Protein Interactive Network in Arabidopsis

Kim-Ngan Thi Nguyen[1,2], Jaehee Kang[2], Yuhan Cho[1,2], Bogeun Park[1,2], Indra Amarillis Shandra[1,2], Mai-Huong Thi Can[1,2], Ulhas Kadam[1,2], Jong Chan Hong[1,2*]

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PBM-63

Development of a *Tph1*-GFP Reporter Enterochromaffin Cell Line Using CRISPR-Cas9 Genome Editing

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PBM-64

Limonin reduces pulmonary inflammation in a murine model of COPD

Juhyun Lee, Jae Won Lee*

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PBM-65

Optimization of shoot regeneration and agrobacterium-mediated transformation of *Cannabis sativa* L.

Su Hyun Park, Yu Jeong Jeong, Soyoung Kim, Cha Young Kim*, Jae Cheol Jeong*

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PBM-66

Development of HDR system using CRISPR/Cas protein for highly efficient gene targeting of *Acetolactate synthase 1*, *Orange*, and *Thermo-tolerant 1* loci in Cabbage

Mil Thi Tran[1], Tien Van Vu[2], Jae-Yean Kim[2,3], Yu Jeong Jeong[1], Soyoung Kim[1], Cha Young Kim[1*], Jae Cheol Jeong[1*]

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PBM-67

Immunological potential of *Vitis labrusca* callus-derived extracellular vesicle as Th1-enhancing therapeutic adjuvant and drug delivery system

Hyeon Jin Lee[1,2], Yun Hye Kim[1,3], Su Hyun Park[4], Ji Young Park[1], In Chul Lee[1], Hyung-Jun Kwon[1], Hyung Jae Jeong[1], Young Bae Ryu[1*], Woo Sik Kim[1*]

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PBM-68

Slida^{CR} mutants show defective flower development in tomato

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PBM-69

The efficacy of Sulfuryl fluoride as an Methyl Bromide alternative for controlling *Monochamus alternatus*

So Yeon Kim[1], Hwoo Seung Ji[1*], Min Goo Park[2*]

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PBM-70

Evaluation of the efficacy of ethyl formate (EF) and sulfuryl fluoride (SF) fumigants against *Sitophilus zeamais*

Na Ra Choi[1], Ga Eul Lim[2], Yu Jin Seo[1], Min Goo Park[1*]

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PBM-71

Investigating the Immune Function of Small Secreted Peptides (SSPs) during Rice-Pathogen Interactions

Woo Jae Seo[1], Gi Hyun Lee[1], Jeong Woo Jang[1], Adeela Munir[1], Clement Leonard[1], Su Yeon Jeon[1], Cheol Woo Min[2], Sun Tae Kim[2*]

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PBM-72

Development of Rice Proteome Database: A Step Forward towards Food Security

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PBM-73

Unveiling the Role of Histone H3K27 Methylation in Telomere Integrity

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PNB Natural Products · Bioactive Materials · Biomedical Sciences

PNB-1

Study on the in vivo biodistribution to radioactive iodine (I-131) to introduce feline hyperthyroism radiotherapy into Korea

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PNB-2

Efficacy of herbal medicine treatment based on syndrome differentiation for Parkinson's disease: A systematic review and meta-analysis

Chang Hyun Han, Huiyan Zhao*

Korean Medicine Science Research Division, Korea Institute of Oriental Medicine

PNB-3

Flavonoid profiling of extracts from freshwater bioresources and assessment of their bioactivity

Tae Jin Kim[1*], Su Young Shin[1], Min Jeong Seo[1], Seokjae Park[2], Young Jin Park[3], Eui-Jin Kim[1], Tae Hoon Kang[1]

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PNB-4

Spatholobi Caulis and its active compounds have an antioxidant effect via the signaling pathways

Su-Jin Bae[1], Seon Been Bak[1], Min Jin Kim[1], Won Yung Lee[1,2], Sun-Dong Park[1], Young Woo Kim[1*]

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PNB-5

Identification of metabolites from adzuki bean (*Vigna angularis* L.) seedlings by NMR and LC-Q-Orbitrap-MS/MS and their anti-adipogenic effect

Woo Duck Seo[1*], Han Gyeol Lee[1], So-Ri Son[2], Dae Sik Jang[2], Eun-Ji Seo[1], Eun-Bin Choi[1], Seong Yeob Song[1], Mi Ja Lee[1], So Yeon Moon[1]

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PNB-6

Quercetin stimulates the expression of dual specificity phosphatase 5 through the modulation of serum response factor

Kanokkan Boonruang[1], Ilju Kim[1], Junsun Ryu[2], Seung Joon Baek[1*]

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PNB-7

Green-Synthesized Zinc Oxide Nanoparticles Interplay with Physiological Attributes in Heavy Metal Stress Mitigation in Soybean (*Glycine max* L.)

Ho-Jun Gam, Ji-In Woo, Jin Ryeol Jeon, Sang-Mo Kang, In-Jung Lee[*]

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PNB-8

An investigation of skin permeability of galactosylated 2-phnoxyethanol

Su-Hong Kim, Jae Hyeob Kim, Min Sik Kang, Nadia Begum, Raza Muhammad, Hyang-Yeol Lee[*]

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PNB-9

Anticancer Effects of 6-Gingerol in NSCLC Cells

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

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PNB-10

Antioxidant Effects of Protocatechuic Acid Derivatives in Fibroblast Cells

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PNB-11

Potential of Torenia Plants in Anti-Tumor Development Using *C. elegans* Platform

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PNB-12

Evaluation of feed values in silage corn by planting dates and cultivars in paddy fields

Mihyang Kim[1*], Jin-Seok Lee[2], Moon Seok Kang[1], Yu-Young Lee[1], Jiyoung Park[1], Hyun-Joo Kim[1], Hyeonmi Ham[1], Jin Young Lee[1], Narae Han[1]

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PNB-13

Establishment of ATP Assay Method for Potency Testing of BCG Vaccine

Tae Hyung Kim[1], Dong Lin Yi[1], So Jeong Lee[1], Pyong Gon Moon[1], In Young Lee[1], In Yeong Hwang[1], Joon Ik Ahn[1], Suk Bae Lee[1], Jong Won Kim[2], Kyung Hee Sohn[1*]

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PNB-14

Method Improvement for Assessing Free Polysaccharide Content in Menninggococcal Vaccines

Ji-Yun Seo, Hanbit Bong, So Jeong Lee, Yoon-Sil Yang, Pyong-Gon Moon, Inyeong Hwang, Suk-Bae Lee, Kyung Hee Sohn*

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PNB-15

Effects of Kalopanaxsaponin A on Radiation-induced Changes in inflammatory Cytokines

Eun-Ha Cho*

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PNB-16

Inhibitory effect of human indoleamine 2,3-dioxygenase 1(IDO1) by kazinols of 1,3-diphenylpropane derivatives

Sunin Jung[1,2], Taehoon Oh[3,4], Seon Min Oh[2], Mi Hyeon Park[2], Hyoung-Geun Kim[2], Su-Yeon Lee[2], Sung-Kyun Ko[3,5*], Hyung Won Ryu[2*]

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PNB-17

Complementation of gene function lost from the nuclear genome by implementing mitochondrial gene therapy approach

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PNB-18

Alleviation of Cadmium Stress in Soybean(*Glycine max* L.) by Chitosan-Melatonin Nanoparticle Treatment

Jin Ryeol Jeon, Ho-Jun Gam, Ji-In Woo, Byeong-Kwan An, Sang-Mo Kang, In-Jung Lee*

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PNB-19

Continuous Cetirizine Release from Commercial Ophthalmic Hydrogels

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PNB-20

Exogenous Melatonin Alleviates Aluminum-induced Stress in Alfalfa (*Medicago Sativa* L.)

Byeong-Kwan An, Jin Ryeol Jeon, Ho-Jun Gam, Ji-In Woo, Sang-Mo Kang, In-Jung Lee*

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PNB-21

Muscle protective potential of *Polygonum multiflorum* Thunb. extract and 2,3,5,4'-tetrahydroxystilbene-2-O-β-D-glucoside on dexamethasone-induced muscle atrophy

Hye-Young Youn[1], Ngoc Nguyen Bao[1], Young Hyun Kim[1], Tigist Bekele[1,2], Seo Yeon Lim[1], Myungsuk Kim[1,2,3*]

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PNB-22

Physiological Effects of *Chlorella vulgaris* Cell-free Supernatant as a Biostimulant on Growth and Drought Tolerance in *Arabidopsis thaliana*

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PNB-23

Antifungal and anti-mycotoxigenic activities of massoia essential oil and C10 massoia lactone against *Fusarium graminearum* KACC 41047

Jieun Lee, Sung-Eun Lee*

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PNB-24

Variation of Bioactive Compounds and Antioxidant Activity Across Growth Stages in Different Organs of Wasabi (*Wasabia japonica* Matsum)

Yeong Bin Choi[1], Yun Ji Park[1], Ye Lin Kim[1], Sang Min Kim[1,2*]

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PNB-25

Optimization of Cultivation Conditions to Enhance Fucoxanthin Production in *Phaeodactylum tricornutum* Using Response Surface Methodology (RSM)

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PNB-26

Chemotype Breeding for Silymarin: The First Genomic Resource Is Developed from The Naturalized Milk Thistle (*Silybum marianum* G.) in Korea

Jeehyoung Shim[1], Hyejin Cho[2], Priskila Tolangi[1], Kyung Do Kim[3*], Sanghyun Lee[2*], Joong Hyoun Chin[1*]

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PNB-27

Immunostimulatory activity of the *Sambucus racemosa* subsp. *pendula* in RAW264.7 cell

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PNB-28

A metabolomics approach to identify factors influencing their *a*-glucosidase and hDPP-IV activity relative to chemical marker in adzuki bean (Vigna angularis. (Willd.) Ohwi & H. Ohashi)) cultivars

Sunin Jung[1], Seon Min Oh[2], Jongmin Ahn[2], Ji-Yoon Park[2], Doo-Young Kim[2], Jung-Hee Kim[2], Seok Bo Song[3], Young Kwang Ju[3], Ji Ho Chu[3], Mun-Ock Kim[2*], Byoung Won Lee[3*], Hyung Won Ryu[2*]

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PNB-29

Exploring Rich Polycosanol Plant Materials for Cardiovascular Disease Management

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PNB-30

In vitro cell cultures of *Lavandula angustifolia* for enhanced production of rosmarinic acid and biological activities of cell extracts

Boryeong Kim[1,2], Yu Jeong Jeong[1], Soyoung Kim[1], Se Bin Kim[1], Soonjeong Jeong[1], Jiyoung Lee[1], Ok Ran Lee[2], Kwang Dong Kim[3], Jae Cheol Jeong[1], Byung Wook Yang[4], Cha Young Kim[1*]

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PNB-31

In vitro cell cultures of *Gardenia jasminoides* for enhanced production of geniposide and biological activities of cell extracts

Se Bin Kim[1,2], Yu Jeong Jeong[1], Bo Ryeong Kim[1], Soyoung Kim[1], Soonjeong Jeong[1,2], Jae Cheol Jeong[1], Jeong-Il Kim[2], Cha Young Kim[1*]

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PNB-32

Novel screening method for the rapid analysis of antioxidants from natural products based on HOCl: A case study of *Eucalyptus globolus Labill*

Zhaoyang Wu[1], Saba Noreen[1], Si Chan Kim[1], Soo Kyeong Lee[1,2], Soon Sung Lim[1,2*]

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PNB-33

Application of Transcriptome–Based Gene Set Featurization for Machine Learning Model to Predict the Origin of Metastatic Cancer

Yeon Uk Jeong[1], Jinah Chu[2], Juwon Kang[1,3], Seungjun Baek[4], Jae Hak Lee[1], Dong Sub Jung[4], Won Woo Kim[5], Yi Rang Kim[6], Ji Hoon Kang[7*], In-Gu Do[2*]

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PNB-34

Assessment of Hematotoxicity in Pesticide Exposure Using Sprague-Dawley Rats Models

Jeong Hyun Lim[1*], Tae Gon Moon[1,2], Min Suk Kim[1], So Hye Hong[1], Si Young Yang[1], Youmi Jo[1], Soo Jin Park[1], Min Kyoung Paik[1]

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PNB-35

Advancing Genotoxicity Evaluation in Pesticides: A Novel Model Incorporating Cutting-Edge Technology

Jeong Hyun Lim[1*], So Hye Hong[1], Soo Jin Park[1], Si Young Yang[1], Youmi Jo[1], Min Kyoung Paik[1], Kelly A Magurany[2], Bradley Lampe[2], Shannon Cousineau[2], Ahmad Sleiman[2]

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PNB-36

Comparison of Volatile Composition and Anti-inflammatory Activity of Essential Oils from the Rutaceae Family

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

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PNB-37

Antioxidant activity of Dendropanax morbiferus extract and its anti-inflammatory effect on Raw 264.7 macrophages

Min Jung Kim, Ye-Jin Yang, Ji Woong Heo, Jae Dong Son, Kwang-Il Park*

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PNB-38

Antioxidant Potential of Cinnamomum cassia Ethanolic Extract: Identification Of Compounds

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PNB-39

Zizyphus jujuba var. inermis Rehder Extracts Recovered Intestinal Barrier Dysfunction via Regulating Tight Junction Protein

Ye Jin Yang, Min Jung Kim, Ji Woong Heo, Jae Dong Son, Kwang Il Park*

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PNB-40

Retraction

PNB-41

Immune-Enhancing Effects of *Ganoderma lucidum* Extract and Fermented *Cordyceps sinensis* and *Phellinus linteus* in RAW 264.7 Macrophage Cells

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PNB-42

Alteration in Gut Microbial Community by Gemcitabine and their Recovery after Phytochemical Treatment via *In Vitro* Feces Cultivation

Emmanuel Hitayezu[1,2], Intan Rizki Mauliasari[1,3], Anh Nguyen Thi Kieu[1,4], Kwang Hyun Cha[1,4,5*]

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PNB-43

Altered Gut Microbial Composition in Pediatric Epilepsy Patients

Anh Nguyen Thi Kieu[1,2], Leechung Chang[3,4], Ho-Keun Kwon[3,4,5], Emmanuel Hitayezu[1,6], Intan Rizki Mauliasari[1,7], Se Hee Kim[8,9], Kwang Hyun Cha[1,2,10*]

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PNB-44

Fermented *Codonopsis lanceolata* extract protects against viral pneumonia through inhibition of neuraminidase activity and inflammatory responses in H1N1 infection

Ha-Yeon Song, Yuna Lee, Bo-Gyeong Yoo, Jae-Yoon Lim, Eui-Baek Byun*

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PNB-45

Optimal Production of Isoflavone-enriched Mung Bean Leaves through Metabolite Farming in Plant Factory

Dae Han Park[1], Du Yong Cho[1], Hee Yul Lee[1], Jin Hwan Lee[2], Kye Man Cho[1*]

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PNB-46

Optimal Production of Isoflavone-enriched Soybean Leaves through Metabolite Farming in Plant Factory

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PNB-47

Biotransformation of Phenanthrene and Bibenzyls by *Mucor hiemalis*

Bomi Nam, Youngji Choi, Yuna Park, Soyeon Lee, Jueun Ko, Inhwa Noh, Seohyun Kim, Hyunju Nam, Jae-Hyoung Joo[*]

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PNB-48

Natural Compounds from *Laurus nobilis* Inhibit the Progression of Colorectal and Gastric Cancer Cell Lines

Ha Sun Kim[1], Tam Thi Le[2], Ngoc Phung Ly[1,3], Dae-Geun Song[1,3*], Sang Hoon Jung[2,3*], Myung Suk Kim[2,3,4*]

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PNB-49

The validation of HPLC analytical method for Pueraria lobata water extracts as functional ingredients

Bo-Ram Kim[1], Su Hui Seong[1], Tae-Su Kim[1], Jin-Ho Kim[1], Chan Seo[1], Ha-Nul Lee[1], Sua Im[1], Ung Eun Kim[1], Ji Min Jung[1], Jin-Woo Jeong[1*], Kyung-Min Choi[2]

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PNB-50

Development of Novel Polo-Like Kinase 2 Inhibitors for Treating Colorectal Cancer

Seo Yeong Yang[1], Soo Min Kim[2*], Dong Hwa Shin[2], Kang Gon Lee[2*], Hye Bin Lee[2*], Jin Ha Yu[1*], Seo Jung Han[2*], Chi Man Song[2*]

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PNB-51

Discriminating Water Spinach from Spinach: Metabolomics Approach for Quality Control

Su-Yeon Lee[1,2], Seon Min Oh[1], In-Seo Heo[1], Doo-Young Kim[1], Hyung-Geun Kim[1], Su-Ah Lee[1], Byeongjin Ro[1], Jongmin Ahn[1], Sei-Ryang Oh[1], Eun Kyoung Seo[2*], Hyung Won Ryu[1*]

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PNB-52

Determination of Bioactive Compound Contents from *Dioscorea bulbifera* and *Zingiber officinale* Extract

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PNB-53

Chemical composition of *Aralia elata* (Miq.) Seem. flower absolute in skin cells and its beneficial effects related to skin wound healing and whitening

Do Yoon Kim[1,2*], Kyung Jong Won[3], Yoon Yi Kim[1,2], Da Yeon Yoo[1,2], Hwan Myung Lee[1,2]

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PNB-54

Anti-oxidant and Whitening-related Beneficial Effects of *Chamaecyparis pisifera* (Siebold & Zucc.) Endl. Essential Oil and Its Chemical Composition

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PNB-55

Study on the Effective Fractionation Method for Anti-inflammatory Derivatives of *Tussilago farfara* Using Centrifugal Partition Chromatography (CPC)

Young-Ho Seo[1], Sang-Min Lee[1,2], Ye-Rim Joo[1,2], Si-Wan Kim[1,2], Eun-Been Lee[1,2], I-Soo Youn[3], Seon-Beom Kim[1,2*]

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PNB-56

Enhanced Production of Desferrioxamine E via Reduction of Naphthomycin Biosynthesis in Endophyte *Streptomyces* sp. N50

Jun Su Park[1], Hee-Tae Yeo[1], Hyun Bong Park[2], Jin-Soo Park[1*]

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Modified Secondary Metabolism by Inhibition of Mycothiol Biosynthesis on Endophyte *Streptomyces* sp. N50

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PNB-58

Comparative Metabolomics of *Lycium chinense* and *Lycium barbarum* via NMR Spectroscopy and UPLC-QTOF/MS

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

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PNB-59

Untargeted phytochemical profiling in leaves of *Capsicum annuum*

Bo-Ram Choi[1], Dahye Yoon[1], Hyo Bong Jeong[2], Jae-Suk Ban[1], Woo Cheol Shin[3], Jin-Kyu Jang[1,3], Dae Young Lee[3*]

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PNB-60

Discrimination of *Liriope platyphylla* and *Ophiopogon japonicus* from different cultivation area by untargeted metabolomics

Dahye Yoon[1], Jin-Kyu Jang[1,2], Bo-Ram Choi[1], Jae-Suk Ban[1], Dae Young Lee[2*]

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PNB-61

Antioxidant and Anti-inflammatory Properties of Lavandula angustifolia Callus Extracts: Potential Applications in Anti-Photodamage Reagent

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PNB-62

Phytochemical Profiling of *Ardisia humilis* Vahl. using UPLC-QTOF/MS

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PNB-63

Chemical Characterization and Metabolite Profiling of *Spondias pinnata* using UPLC-QTOF/MS and FBMN

Min Kim[1,2], Alfan Danny Arbianto[1], Byeongjin Ro[1], Ja-Gyeong Song[1], Jongmin Ahn[1], Eun Kyoung Seo[2*], Sei-Ryang Oh[1*]

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PNB-64

Quantitative analysis and method validations of metabolites in the harvest period of *Paulownia tomentosa* fruits

In Seo Heo[1,2], Seon Min Oh[1], Su Yeon Lee[1], Hyung Geun Kim[1], Doo Young Kim[1], Byeongjin Ro[1], Jongmin Ahn[1], Hyung Won Ryu[1], Eun Kyoung Seo[2*], Sei Ryang Oh[1*]

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PNB-65

Potent inhibitions of monoamine oxidase A and B by new bioactive flavonoid glycosides from *Lespedeza cyrtobotrya* Miq.

Suah 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], Byeongjin Ro[1], Seon Min Oh[1], Jongmin Ahn[1], Hyung Won Ryu[1], Dongho Lee[2*], Sei-Ryang Oh[1*]

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PNB-66

Multifunctional potential as a cosmetic agent of extracellular vesicle-like nanoparticles from *Abelmoschus manihot*

Yun Hye Kim[1,2], Hyeon Jin Lee[1,3], Su Hyun Park[4], Ji Young Park[1], In Chul Lee[1], Hyung-Jun Kwon[1], Hyung Jae Jeong[1], Young Bae Ryu[1*], Woo Sik Kim[1*]

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PNB-67

Daphnetin derived from *Daphne jejudoensis* suppresses NLRP3 inflammasome elucidating its anti-inflammatory properties in LPS-induced HaCaT keratinocytes

So-Yeon Kim[1], Ye Eun Cho[1], Su-Jung Lee[1], Ji-Yeong Bae[2*], Se Jin Park[1*]

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PNB-68

Geraniin from the methanol extract of *Pilea mongolica* suppresses LPS-induced inflammatory responses by inhibiting IRAK4/MAPKs/NF-κB/AP-1 pathway in HaCaT cells

Ju-Yeon An, So-Yeon Kim, So-Young Cho, Se Jin Park[*]

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PNB-69

In Vitro Study on the Improvement and Prevention of Atherosclerosis by *Lonicera japonica* Thunb. Essential Oil

Yoon Yi Kim[1], Do Yoon Kim[1,2], Da Yeon Yoo[1], Hwan Myung Lee[1,2*]

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PNB-70

In Vitro Study on the Antioxidant and Whitening Activities of *Citrus trifoliata* L. Flower Essential Oil

Da Yeon Yoo[1], Do Yoon Kim[1,2], Yoon Yi Kim[1], Hwan Myung Lee[1,2*]

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PNB-71

Anti-inflammatory effects of *Fallopia dumetorum* (L.) Holub extract via the MAPK-NF-κB-AP-1 pathway in LPS-induced HaCaT cells

Yeong-Ju Do[1], Ye-Won Lee[1], Seon-Woo Lee[2], Na-Hyun Lee[3], Se Jin Park[1*]

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PNB-72

Modulation of Apoptosis-Related Proteins by CLA in Cadmium-Treated HepG2 Cells

Sook Jahr Park, Jong Rok Lee*

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PNB-73

Fractionation of Anti-inflammatory Derivatives of *Cnidium Monnieri* Using Centrifugal Partition Chromatography (CPC) and Evaluation Purities of Coumarins Using qNMR

Sangmin Lee[1,2], Yerim Joo[1,2], Siwan Kim[1,2], Eunbeen Shin[1,2], Youngho Seo[2], Seon Beom Kim[1,2*]

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PNB-74

Standardization and identification of Bioactive Derivatives from Acorn Pollen Using LC-MS/MS and NMR and Discovery of Bioactive Molecules Using GNP

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PNB-75

Protection effect of Lonicerae Flos on Oxygen-Glucose Deprivation-induced damage in bEnd.3 cells: experimental research and active ingredient prediction using network pharmacology

Sung Jin Kim[1], Jaeha Kang[2], Daesik Jeong[2], Ki Sung Kang[1*]

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PNB-76

Analysis of cannabinoid components on Majainhwan

Il-Joo Jo[1], Jong-Sik Jin[2*], Dong-Gu Kim[3*]

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PNB-77

Cannabis Semen alleviates cerulein-induced acute pancreatitis in Mice

Bitna Kweon[1,2], Dong-Uk Kim[1,2], Dong-Gu Kim[3*], Gi-Sang Bae[1,2*]

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PNB-78

Neuraminidase inhibitory constituents of Garcinia mangostana

Ah Reum Han, Euna Choi, Ga Hee Ryoo, Chang Hyun Jin*

Radiation Biotechnology Division, Korea Atomic Energy Research Institute

PNB-79

Antioxidant and Anti-inflammatory Properties of XXX Callus Extracts: Potential Applications in Anti-Photodamage Reagent

Dong Ho Bak, Jae Cheol Jeong*, Cha Young Kim*, Bo Ryeong Kim

Biological Resource Center, Korea Research Institute of Bioscience Biotechnology

PNB-80

Preparation of $Ag_2[Fe(CN)_5NO]$ NPs for enhanced acid red 94 removal from effluent: synergistic mechanism and toxicological assessment

Xin Zhang[1], Anbazhagan Sathiyaseelan[1], Jianxing Lin[1], Tieyan Jin[2], Myeong-Hyeon Wang[1*]

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PNB-81

Protective Effect of INJA extract and its isolated compounds on Normal Human Dermal Fibroblasts and Normal Human Keratinocytes

Yea Jung Choi[1], Sullim Lee[2*], Hee Woon Ann[2], So-Ri Son[3], Ki Sung Kang[1], Dae Sik Jang[3], Kang Sub Kim[1]

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PNB-82

β-Hydroxybutyrate Mediates the Muscle Protective Effects of Auraptene in Dexamethasone-Induced Muscle Atrophy

Tigist Bekele[1,2], Na In Yang[3], Myungsuk Kim[1,2,4*]

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PNB-83

Agar/Carboxymethyl Cellulose Composite Film Loaded with Hydroxyapatite Nanoparticles for Bone Regeneration Application

Ki Seok Han, Anbazhagan Sathiyaseelan, Myeong Hyeon Wang*

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PNB-84

Chalcones derived from the *Coreopsis lanceolata* flower exhibit inhibitory properties against bacterial neuraminidase and demonstrate antibiofilm activity

Seyoung Im, Kihun Park*

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PNB-85

Silver nanoparticle decorated multi-walled carbon nanotube/PF127 hydrogel for improvement of antibacterial and antibiofilm activity

Su-Ji Ryu, Anbazhagan Sathiyaseelan, Jong-Suep Baek, Myeong-Hyeon Wang*

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PNB-86

Monoamine oxidase inhibition effects of furanocoumarin enriched *Angelica acutiloba* roots

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PNB-87

Heterologous Production of Chrysoeriol in Lettuce: A Platform for Flavonoid Biosynthesis

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PNB-88

Effects of Acylated Flavonol Glycosides from the Aerial Part of *Astragalus membranaceus* on TNF-α-induced Human Dermal Fibroblasts

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PNB-89

Vitisin B inhibits influenza A virus replication by multi-targeting neuraminidase and virus-induced oxidative stress

Eun-Bin Kwon[1], Wei Li[1], Young Soo Kim[1], Buyun Kim[1], Hwan-Suck Chung[1], Younghoon Go[1], Hyun-Jeong Ko[2], Jae-Hyoung Song[2], Young Ho Kim[3], Jang-Gi Choi[1], Chun Whan Choi[4*]

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PNB-90

Anticancer Compounds to COVID-19 Therapeutics: Repurposing Small Molecules as Potent Inhibitors of the SARS-CoV-2 Main Protease

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PNB-91

The Effect of Water Mineralization on Polyphenol and Caffeine Extraction and Antioxidant Activity of Decaffeinated Green Coffee Bean

Si Chan Kim[1], Zhaoyang Wu[1], Noreen Saba[1], Soo Kyeong Lee[1,2], Soon Sung Lim[1,2*]

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PNB-92

The therapeutic potential of kukoamine A from *Lycii Radicis Cortex* in *Caenorhabditis elegans* for sarcopenia treatment

Sohyun Lee[1,2], Esther Youn[1], Uyen Tran Tu Nguyen[1,2], Chul Young Kim[3], Kyungsu Kang[1,2*]

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PNB-93

Anticancer Compounds to COVID-19 Therapeutics: Repurposing Small Molecules as Potent Inhibitors of the SARS-CoV-2 Main Protease

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PNB-94

A novel photodynamic treatment using hypericin and orange light increases lifespan and oxidative stress resistance in *Caenorhabditis elegans*

Uyen Tran Tu Nguyen[1,2], Esther Youn[1], Tram Anh Ngoc Le[1], Ngoc Minh Ha[1,2], Son Hung Tran[1,2], Sohyun Lee[1,2], Jin Wook Cha[1,2], Jin Soo Park[1,2], Hak Cheol Kwon[1], Kyungsu Kang[1,2*]

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PNB-95

Evaluation of Isorhapontin from *Eucalyptus globulus* Leaf as a Natural Insecticide by its Acetylcholinesterase Inhibitory Effects

Jae Yeon Park, Yun Gon Son, Ju Yeon Kim, Jeong Yoon Kim*

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PNB-96

Quantitative Analysis and Antioxidant Activities of Metabolites from *Eucalyptus globulus* Leaves through Various Extraction Conditions

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PNB-97

Changes in Metabolite Profiling from the Aerial Parts of *Siegesbeckia pubescens* by Growth Periods

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PNB-98

Inhibition of Bacterial Neuraminidase Activity by the Isolated Compounds from *Peucedanum japonicum* seeds

Ga Won Jeong, Soo Min Lee, Seung Yu Lee, Seung Jae Jang, Jeong Yoon Kim*

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PNB-99

Antioxidant and Anti-Aging Properties of Fresh *Ginseng* Root and Its Principal Compounds on Human Dermal Fibroblasts

Minseo Kang[1], Yedam Noh[2], So-Ri Son[2], Dae Sik Jang[2*], Sullim Lee[1*]

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PNB-100

Establishment of a growth retardation mouse model for the development of functional materials for Children's Height Growth

Seungmin Park[1,2], Jung-Eun Lee[1], Yongeun Kim[1], Subin Wi[1,2], Yun Tai Kim[1*]

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PNB-101

Study on the Fermented *Sophora flavescens* and *Eleutherococcus sessiliflorus* Extracts against Antifungal Effects

Ju Yeon Kim, Yun Gon Son, Na Rae Kang, Jeong Yoon Kim*

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PNB-102

Developing analytical methods for the major metabolites of SH-PRO and profiling metabolites in the prostate tissue of a BPH Rat Model

Jin-Kyu Jang[1], Woo Cheol Shin[1], Dahye Yoon[2], Bo-Ram Choi[2], Dae Young Lee[1*]

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PNB-103

Discovering potential markers for Korean and American ginseng using multi-platform metabolomics

Woo Cheol Shin[1], Dahye Yoon[2], Bo-Ram Choi[2], Jin-Kyu Jang[1], Byeong-Seon Jeon[3], Kun Hee Lee[3], Dae Young Lee[1*]

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PNB-104

Potentiating existing cationic antimicrobials in Methicillin-resistant *Staphylococcus aureus* via inhibition of D-alanylation

Hyebin Lee[1,2], Hyomin Ahn[2], Kang-Gon Lee[2], Chiman Song[2*]

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PNB-105

Mevalonate pathway reconstruction for the industry-preferred isoprenoid production in *Escherichia coli*

Minh Phuong Nguyen[1], Na Ri Kim[2], Sang-Hwal Yoon[2], Min-Kyoung Kang[2], Moonhyuk Kwon[1,2,3*], Seon-Won Kim[1,2,4*]

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PNB-106

Towards the establishment of microbial cell factories for phytoene production

Se-Eun Kim[1], Na Ri Kim[2], Min-Kyoung Kang[2*], Moonhyuk Kwon[1,2,3*], Seon-Won Kim[1,2,4*]

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PNB-107

Optimization of *Bacillus subtilis* for Hagfish Antibody Production

Hyerim Heo[1], Min-Kyoung Kang[2*], Moonhyuk Kwon[1,2,3*], Seon-Won Kim[1,2,4*]

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PNB-108

Glyoxylic acid supplements improve retinoid production in metabolically engineered *Escherichia coli*

Min-Kyoung Kang[1], Ji-Bin Park[1], Seong-Hee Jeong[1], Moonhyuk Kwon[1,2,3*], Seon-Won Kim[1,2,4*]

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PNB-109

Development of Insect-Based Materials and Their Application as Functional Cosmetic Ingredients

Min-Kyu Shin*, So-Won Lee, Ah-Yeong Yun, Dae-Cheol Shin, Tae-Hoon Kim

Corporate Research Institute, Agricultural Corporation Foodyworm Inc.

PNB-110

Spiraea prunifolia var. simpliciflora Downregulates Inflammatory Response and Oxidative Stress in a Mouse Model of PPE/LPS-induced Chronic Obstructive Pulmonary Disease

Ba-Wool Lee[1], Ji-Hye Ha[2], Da-Hye Yi[2], Ju-Hong Kim[2], Sueong-Hun Jeong[2], Hyung-Jun Kwon[2], Hyung Jae Jeong[1], Ji-Young Park[2], Woo-Sik Kim[2], Young-Bae Ryu[2], In-Chul Lee[2*]

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PNB-111

Dendranthema oreastrum (Hance) Y.Ling Attenuates Oxidative Stress and Airway Inflammation in a Murine Model of Lipopolysaccharide-Induced Acute Lung Injury

Ji-Hye Ha, Ba-Wool Lee, Da-Hye Yi, Seong-Hun Jeong, Ju-Hong Kim, Hyung-Jun Kwon, Hyung-Jae Jeong, Woo-Sik Kim, Ji-Young Park, Young-Bae Ryu, In-Chul Lee*

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PNB-112 **Effects of Yeast-Derived Metal Peptide Complex Developed for Cosmetic Ingredients on Skin Cells**

Jun-Sub Kim*, Hyang-Yeol Lee
Department of Biotechnology, Korea National University of Transportation

PNB-113 **The Protective Role of Yeast-Derived Metal Peptide Complex (YD-MPC) via SIRT3 Pathway Activation**

Jun-Sub Kim*, Hyang-Yeol Lee
Department of Biotechnology, Korea National University of Transportation

PNB-114 **Prescription of Traditional Korean medicine, Improves cognitive function**

Jungman Kim, Jae-Won Kim, Yeji Lee, Nari Lee, Jungmin Oh, Seong-Il Kang, Minho Song, Youngmee Kim*, Hee Chul Ko*
Jeju institute of Korean Medicine, JIKOM

PNB-115 **Kaempferol Modulates Hypoxia-induced HIF-1α and VEGF Pathways, Promoting Apoptosis and Suppressing Migration in Colon Cancer**

Muhammad Haroon, Sun Chul Kang*
Department of Biotechnology, Daegu University

PNB-116 **Three Novel diterpenoids, Plectalibertellenones A–C, isolated from Endolichenic fungi *Pseudoplectania* sp. EL000327**

Jeong Hyeon Kim, Chae Young Lee, Sang Jip Nam*
Chemistry & Nanoscience, Ewha Womans University

PNB-117 **The improvement effect of Bee venom hydrolysate on the Skin barrier**

Yeji Lee, Nari Lee, Jae-Won Kim, Jungman Kim, Jungmin Oh, Seong-Il Kang, Minho Song, Youngmee Kim*, Hee Chul Ko*
Jeju institute of Korean Medicine, JIKOM, Jeju, Republic of Korea

PES Environmental Sciences

PES-1 Decomposition of Biodegradable Films in Red Pepper Cultivation Fields and its Effects on Crop Growth and Yield

Hyun Hwa Park[1], Yeon Hu Woo[1], Young Ok Kim[1], In Tack Hwang[1], Do Jin Lee[2], Yong In Kuk[1*]

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PES-2 Comparative Approaches of Smart Farming Strategy between The Republic of Uganda and Korea

Kenneth Happy[1,2], Roggers Gang[1,2], Joyce Mudondo[1,2], Ariranur Haniffadli[1,2], Youngmin Kang[1,2*]

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PES-3 Exploring the Relationship Between Organic Amendment Humification and Soil Aggregate Size Distribution: Molecular Insights via FT-ICR-MS

Na-Hyun Kwon[1], Chang Dong Lee[1], Jeonggu Lee[2*]

[1]School of Applied Life Science, Kyungpook National University, [2]Department of Applied Biosciences, Kyungpook National University

PES-4 Rainfall threshold for chemical characteristics analysis in forests

Namin Koo*

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PES-5 Priority emerging pollutants in the Nakdong River, Korea: Proposal for Korean Watch List

Sang Yoon Lee[1], Junho Jeon[2,3*]

[1]Gyeongnam Bio and Anti-aging Core Facility Center, Changwon National University, [2]Department of Environmental Engineering, Changwon National University, [3]School of Smart and Green Engineering, Changwon National University

PES-6 Insights into Pros and Cons of Lime Applications in Perspective of Nitrogen Cycle: Metagenomic Analysis on Long-term Upland Field

Sihyun Park[1], Minsoo Jeong[2], Jae-Ho Shin[1,2,3*]

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PES-7

Spatial Distribution of Microbial Communities in Coastal Aquifers of Songji Lagoon, S. Korea

Dong-Hun Kim*, Jung-Yun Lee

Groundwater Environment Research Center, Korea Institute of Geoscience and Mineral Resources

PES-8

Identifying Optimal Nursery Periods and Nonwoven Fabric Mulching Durations for Rice Transplanting Adjustments in the Central Plains due to Climate Change

Dae-Woo Lee[1*], Woonho Yang[1], Shingu Kang[2], Mi-Jin Chae[1], Ye-Ji Lee[1]

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PES-9

Establishment of analytical methods for nicotine, propylene glycol and glycerol content in heated tobacco products using GC-FID

Hyoung-Joon Park, Min Soo Kim, Min Kyoung Lee, Gyeong Tae Kim, Woo Jin Jeon, Jang Duck Choi, Kyung Hun Son*

Advanced Analysis Division, National Institute of Food and Drug Safety Evaluation

PES-10

Assessment of developmental toxicity: kresoxim-methyl isomers and its metabolite impact on zebrafish (*Daino rerio*) embryos

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PES-11

Effects of zero-valent iron nanoparticles on mercury methylation and bioaccumulation in the paddy field

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PES-12

Anaerobic Co-digestion of Cattle Feces and Crop Residues for Methane Production

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PES-13

Sorption Characteristics of Pb and Cd on Sunflower Biochar

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PES-14

Adsorption Characteristics of Polyethylene for Imidacloprid in Soil colum

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PES-15

Establishment of Pre-Harvest Residue Limits (PHRLs) of Amisulbrom in Amaranthus mangostanus L.

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PES-16

Impact of Microplastics and Nanoplastics on Trace Element Interactions in the Aquatic Plant *Lemna perpusilla*: A Study of Physiological and Biochemical Responses

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Department of fine chemistry, seoul national university of science & technology

PES-17

Residual Characteristics of three Fungicides in Schizandra chinensis Baillon

Dong Kyu Jeong, Won Min Jeong, Hyeon Hee Kim, Gyeong Hwan Lee, Dong Yeol Lee*

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PES-18

Effects of Reduced Nitrogen Fertilization and Increased Planting Density on Rice Yield and Quality

Mi-Jin Chae[1*], Weon Tai Jeon[1], Dae-Woo Lee[1], Woonho Yang[1], Shingu Kang[2], Myeong-Na Shin[1], Jeong Ju Kim[1], Areum Han[1], Chaewon Lee[1], Ye-Ji Lee[1]

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PES-19

Comparison of Physicochemical and Biological Properties of Soil in Organic Farmlands in Chungcheong Province

Jin Wook Kim[1], Young Kyu Hong[1], Kyung Min Lee[1], Dong Ju Lee[1], Cho Rong Lee[2], Sung Chul Kim[1*]

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PES-20

Effect of Squash(*Cucurbita Maxima*) Growth by Soil Management using Organic Materials

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PES-21

Evaluation of Changes in Soil Chemistry and Heavy Metal Concentrations on Paddy Soil in Jeonnam Province

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PES-22

Effect of biochar derived from greenhouse crop residue application on crop growth, soil chmical properties

Seong Heon Kim*, Yu Na Lee, Dong Won Lee, So Ye Han, Jin Ju Yun, Jae Hong Shim, Sang Ho Jeon, Soon Ik Kwon, An Sung Noh

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PES-23

Effect of biochar application on crop growth, soil chemical properties and soil carbon stock

Seong Heon Kim*, Yu Na Lee, Dong Won Lee, So Ye Han, Jin Ju Yun, Jae Hong Shim, Sang Ho Jeon, Soon Ik Kwon, Ahn Sung Noh

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PES-24

Effect of organic matter application on crop growth, soil chemical properties and soil carbon content in maize cultivation

Yu Na Lee, Seong Heon Kim*, Dong Won Lee, So Ye Han, Jin Ju Yun, Jae Hong Shim, Sang Ho Jeon, Soon Ik Kwon, Ahn Sung Noh

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PES-25

Evaluation of Fertilizer Usage and Type in Agricultural Products Cultivation

Yu Na Lee, Soon Ik Kwon*, Seong Heon Kim, Dong Won Lee, So Ye Han, Jin Ju Yun, Jae Hong Shim, Sang Ho Jeon, Ahn Sung Noh

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PES-26

Unraveling the Detrimental Effects of Microplastics and Benzo(a) Pyrene on Gut Microbiota through *In Vitro* Feces Cultivation

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PES-27

A modeling approach for predicting pesticide residues in cereal using dynamiCROP

Min-Ho Song, Ji-Woo Yu, Jeong-Hoon Lee, Hui-Yeon Ahn, Young-Soo Keum, Ji-Ho Lee*

Department of crop science, Konkuk university

PES-28

Significant Reduction of Greenhouse Gas Emissions through Shifting Rice Transplanting Dates without Yield Loss in a Paddy Field: A Two-Year Study

Yeomyeon Lee[1], Sohee Yoon[1], Ilho Yoon[2], Sang Yoon Kim[1,2*]

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PES-29

Effects of Water Plants on Methane Emissions and Rice Productivity in a Paddy Soil during Cultivation

Kijun Song[1], Jeongwon Oh[1], Yeomyeong Lee[2], Sang Yoon Kim[1,2*]

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PES-30

Carbon stability and greenhouse gas emission characteristics of biochar based on coffee grounds waste

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PES-31

Pysicochemical characteristics of biochar derived from Chlorella waste extracted from functional material

Seok-Hyeon Kim, Eun-Jeong Ko, Jeong-Su Moon, Jun-Young Bae, Jong-Hwan Park*

Department of Life Resources Industry, Dong-A University

PES-32

Optimal pyrolysis temperature of tomato stem biochar for treating heavy metal

Jung-Won Park[1], Seok-Hyun Kim[1], Ye-Ji Lee[2], Hae-Been Kim[2], Jeong-Min Lee[2], Jong-Hwan Park[2*]

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PES-33

Adsorption characteristics of heavy metal by rice husk biochar extracted Si

Ye-Ji Lee[1], Jeong-Min Lee[1], Hae-Been Kim[1], Seok-Hyun Kim[2], Jung-Won Park[2], Dong-Cheol Seo[3], Jong-Hwan Park[1*]

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PES-34

Distribution of heavy metal in biochar derived from sewage sludge under different pyrolysis temperature

Hae-Been Kim[1], Jeong-Min Lee[1], Ye-Ji Lee[1], Seok-Hyun Kim[2], Jeong-Won Park[2], Jong-Hwan Park[2*], Dong-Cheol Seo[3]

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PES-35

Matrix Effect in a Pesticide Multi-Residue Analysis in Livestock Using LC-MS/MS and GC-MS/MS

Jonghwa Lee*, Yunseon Kwak, Dai An, Seungwan Jee, Hyunju Moon

Gyeongin Regional Office of Food and Drug Safety, Ministry of Food and Drug Safety

PES-36

Monitoring of Pesticide Residue on Paddy Soil in Jeonnam Province

Sung Woo Kim[1*], Hyeon Ji Kim[1], So Youn Lee[1], Kyung Jin Kwak[1], Kyung Cheol Ma[1], Sug Ju Go[1], Hyo Sub Lee[2]

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PES-37

Effects of Pruning Biochar Application on Urban Roadside Soil

Sung Ho Kim[1], Young Jun Woo[1], Jin Soo Yuk[2], Byeong Cheol Kim[2], Chang Hoon Lee[3*]

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PES-38

Fibroblast-Myofibroblast transition of MRC5 cells exposed to PTFE particles

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PES-39

Comparison of the Distribution of Physico-Chemical and Biological Properties in Upland and Paddy Soils under Organic Farming

Mun-Hyeong Park[1], Eun-Bin Jang[1], Mi-Hwa Lee[1], Cho-Rong Lee[2], Chang-Hoon Lee[1*]

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PES-40

Comparison of sweet potato shoots functional compounds in general soil and reclaimed land soil

Youngtae Shin[1], Hyeounsuk Cho[1*], Mija Lee[2], Kwangseung Lee[1], Haksung Lee[1], Heekyoung Ock[1], Yangyeol Oh[3], Banghun Kang[1], Seoyoung Jeong[1]

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PES-41

Analysis of environmental characteristics according to imbricated hydnum mushroom community distribution

Min-Su Kim, Namin Koo*, Mi-Ji Lee

Div. of Forest Ecology, National Institute of Forest Science

PES-42

Application of Long-Read Metagenomic Sequencing to Identify Antibiotic Resistance Genes Associated with Mobile Genetic Elements in a Freshwater Environment

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PES-43

Evaluation of the acute toxicity of herbicide resistant transgenic rapeseed to *Cyprinus carpio*

Kyunglyung Baek, Ancheol Chang, Doh-won Yun, Jong-Chan Park, Seong-Kon Lee, Sung Dug Oh*

Department of Agricultural Biotechnology, National Institute of Agricultural Sciences

PES-44

Effect of livestock manure composts application on rice productivity and soil organic carbon sequestration in paddy soil

Jin-Ju Yun, Yu-Na Lee, So Ye Han, Seong Heon Kim, Jae-Hong Shim, Soon Ik Kwon, Ahn-Sung Roh, Sang Ho Jeon*

Soil and Fertilizer Management Division, National Institute of Agricultural Sciences

PES-45

Physiological and biochemical analysis of sweet potato variety according to salinity stress in saemangeum reclaimed land

Youngtae Shin[1], Hyeounsuk Cho[1*], Mija Lee[2], Kwangseung Lee[1], Haksung Lee[1], Heekyoung Ock[1], Yangyeol Oh[3], Banghun Kang[1], Seoyoung Jeong[1]

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PES-46

Deciphering the Impact of Soil Chemical and Rice Physiological Properties on Methane Production Potential in Sixty Different Korean Paddy Soils

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

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PES-47

Evaluation of the feasibility of rendering animal carcass residues as biochar

Jun Suk Rho[1], Dong-Dong Seo[1,2*], Jung Mok Lee[1], Seul-Rin Lee[1], Jae-Hoon Lee[1], Yu-Jin Park[1], Jong-Hwan Park[3]

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PES-48

A Study on the Utilization Potential of Wood from Dam-Floating Waste as Biochar

Jae-Hoon Lee[1], Jun Suk Rho[1], Yu-Jin Park[1], Jung-Mok Lee[1], Seul-Rin Lee[2], Jong-Hwan Park[3], Dong-Cheol Seo[1,2*]

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PES-49

Biodegradation of Polyethylene Nanoparticles by a Thermophilic Bacterium

Jae-Hyung Ahn*, Joon-Hui Chung, Jehyung Yeon, Han-Suk Choi, Young-Joon Ko, Si-Hyun An, Da-Yeon Kim, Hang Yeon Weon

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PES-50

Effects of Biochar on Chlorophyll Content in Fresh Water Using *Anabaena* and *Oscillatoria*

Jung-Mok Lee[1], Jae-Hoon Lee[1], Jun Suk Rho[1], Yu-Jin Park[1], Seul-Rin Lee[2], Jong-Hwan Park[3], Dong-Cheol Seo[1,2*]

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PES-51

The Variation in Bacterial Community of Freshwater by Wood Pellet Biochar

Seul-Rin Lee[1], Jae-Hoon Lee[2], Jun-Suk Rho[2], Yu-Jin Park[2], Jung-Mok Lee[2], Jong-Hwan Park[3], Dong-Cheol Seo[1,2*]

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PES-52 **Comparison of Gene Expression Patterns Related to Rice Yield under Different Nitrogen Applications in Paddy Fields**

Ye-Ji Lee[1], Weon Tai Jeon[1], Dae-Woo Lee[1*], Mi-Jin Chae[1], Woonho Yang[1], Shingu Kang[2], Myeong-Na Shin[1], Jeong Ju Kim[1], Areum Han[1], Chaewon Lee[1]

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PES-53 **Identification of Potential Indicator Gene to Monitor Dissemination of Antibiotic Resistance Genes in Greenhouse, South Korea**

Raan Shin, Jaeyoung Ro, Hor-Gil Hur*

School of Earth Sciences and Environmental Engineering, Gwangju institute of science and technology

PES-54 **Development of a Simultaneous Analytical Method for 363 Multi-Residues in Bee Pollen Using LC-MS/MS**

Yoon-Hee Lee, Jae-Woon Baek, Hye-Ran Eun, Su-Min Kim, Ye-Jin Lee, Yongho Shin*

Department of Applied Bioscience, Dong-A University

PES-55 **Effect of the Physicochemical Properties and Bacterial Communities of Soils on the Degradation Rate of Biodegradable Mulch Films**

Joon-Hui Chung, Han Suk Choi, Jehyueong Yeon, Sihyun An, Da-Yeon Kim, Young-Joon Ko, Hang Yeon Weon, Jae-Hyung Ahn*

Agricultural Microbiology Division, National Institute of Agricultural Sciences

PES-56 **Metagenome-wide Analysis of Antibiotic Resistance Genes in Symbiotic Lichen Environments**

Seung-Yoon Oh*

Department of Biology and Chemistry, Changwon National University

PES-57 **Optimization of Inorganic Fertilization for Plantain (Plantago major L.) Cultivation as a Nutrient-Rich Feed for Herbivorous Small Pets**

Donguk Lim[1], Sohee Yoon[2], Sang Yoon Kim[1*]

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PES-58 **Development of Escherichia coli cell-based biosensors for monitoring flavonoid**

Kyeong Seok Song, Young Dae Yoon*

Konkuk University, environmental biochemistry laboratory

PES-59

Soil organic carbon, nitrogen use efficiency, and yield index of Chinese cabbage (*Brassica rapa* L.) under different amounts of food waste compost

Jae-Hong Shim[1*], Young-Jae Jeong[2], Jin-Ju Yun[1], Yu-Na Lee[1], So-Ye Han[1], Seong-Heon Kim[1], Soon Ik Kwon[1], Ahn-Sung Roh[1], Sang Ho Jeon[1]

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PFS Food Sciences

PFS-1

Exploring the interconnection between functional foods and herbal medicines

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PFS-2

Ecklonia cava improves scopolamine-induced memory deficits in mice via enhancing ERK-CREB-BDNF signaling pathway and synaptic plasticity

Haeun Lee[1,2], Minji Kim[1,2], Min Young Um[1,2*]

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PFS-3

Identification of *Lactobacillus gasseri* by *Polyporus umbellatus* Extract Administration as a Putative Mediator of Muscle Protection Against Dexamethasone-Induced Atrophy via the Gut-Muscle Axis

Ngoc Nguyen[1], Myungsuk Kim[1,2*]

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PFS-4

Pea Seedlings (*Pisum sativum* L.) as a Promising Functional Food: Metabolite Profile, Muscle Atrophy Prevention

Han Gyeol Lee, So Yeon Moon, Mi Ja Lee, Seung-Yeob Song, Eun Bin Choi, Eun Ji Suh, Hye Young Seo, Woo Duck Seo*

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PFS-5

Phenolic Compounds and Radical Scavenging Activity of Rapeseed Plants according to Different Cultivars and Growth Stages

Koan Sik Woo*, Eom Ji Hwang, Gyeong Dan Yu, You Jin Park, Hae Geun Park, Jae Hee Jeong, Da Hee An

Bioenergy Crop Research Institute, National Institute of Crop Science, Rural Development Administration

PFS-6

Comparative Metabolic Profiling of Different Parts of Three Schisandraceae Family and Prediction of Antioxidant Activity Using Partial Least Squares Regression

Hyjin Hyeon, Jin Hwang, Ho Bong Hyun, Boram Go, Seon-A Yoon, Yong-Hwan Jung, Young-Min Ham*

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PFS-7

Residual Characteristics of Cyenopyrafen and Fludioxonil in Green Chilli Peppers and Twisted Peppers

Juryeong Lee[1], Danbi Kim[1*], Jeong Yoon Choi[1], Haeri Han[1], Hyeyoung Kwon[1], Sung Eun Park[1], Yongho Shin[2], Kyeong-Ae Son[1], Sun-Young Lee[1]

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PFS-8

Multivariate analysis of FT-IR spectroscopy data from Growth time by Mung bean(*Vigna radiata* L.)

Seung-Yeob Song*, Eun Ji Suh, Eun Bin Choi, Mi Ja Lee, Woo Duck Seo, Han Gyeol Lee, Yu-Na Kim

Crop Foundation Research Division, National institute of Crop Science

PFS-9

Production of Alcalase-hydrolysate from defatted rice bran and its radicals scavenging ability

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Department of Chemical and Biological Engineering, Chungwoon University

PFS-10

Flavonoid content and radicals scavenging activity of tomato peel extract

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PFS-11

Polyphenol content and radicals scavenging ability of Dioscorea batatas seed extracts

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PFS-12

Enhancement of Tomato Sweetness through Tomato ALS1 Gene Editing

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PFS-13

Anticancer efficacy of Xanthorrhizol mediated by hTAS2R38, a human bitter taste receptor

Yiseul Kim, Hyun-Jin Na, Min Jung Kim*

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PFS-14

Changes in Phenolic Compounds at Growth Stages and Cultivation Environments of Sweetpotato Leaves and Petioles

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PFS-15

Impact of Harvest and Storage Conditions on Useful Components of Roasted-pressed Rapeseed Oil

Gyeong-Dan Yu*

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PFS-16

Mouse olfactory receptor activation by isoeugenol suppresses adipogenesis via Adcy3/PKA/AMPK pathway in 3T3-L1 cells

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PFS-17

Antioxidant Activity of Eight Kinds of Plant Extracts with Various Solvents

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Research & Development Team, Gyeongnam Anti-Aging Research Institute

PFS-18

Development of Qualitative and Quantitative Method for Analyzing 11S and 7S Proteins in Soybeans by RP-UPLC

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PFS-19

Effect of Drying and Roasting in the Quality of Sword Bean Tea

You-Jin Park*, Gyeong-Dan Yu, Eom-Ji Hwang, Hae-Geun Park, Koan Sik Woo

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PFS-20

Nighttime limited fiber supplementation ameliorates metabolic dysfunction-associated fatty liver disease in mice via gut microbiota modulation

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PFS-21

Optimization of Fermentation Conditions of Isoflavone-enriched Soybean Leaves with Lactic Acid Bacteria

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PFS-22

Characteristic Comparison of Raw and Fermentation of Mountain-Cultivated Ginseng Sprouts by the Harvesting Periods

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PFS-23

Enhanced Effect of Bioactive Compositions and Digestive Enzyme Inhibitions by Solid-state Lactic Acid Fermentation of Isoflavone-enriched Soybean Leaves with Cocktail Lactic Acid Bacteria

Ae Ryeon Lee[1], Ji Ho Lee[1], Hee Yul Lee[1], Du Yong Cho[1], Jin Hwan Lee[2], Kye Man Cho[1*]

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PFS-24

Changes in Metabolites and Biological Activities of Isoflavone-enriched Soybean Leaves by Food Processing Stage

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PFS-25

Effect of washing on thiamethoxam residue in welsh onion

Moo-Hyeog Im*, Mihyun Cho, Myungheon Kim, Jae Bin Im, Chang Kyo Seo, Changhyeon Park

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PFS-26

Residual Characteristics of the Fungicide Fluazinam and Pyraziflumid in Horseradish

Ye-Jin Lee[1], Su-Min Kim[1], Hye-Ran Eun[1], Yoon-Hee Lee[1], Jae-Woon Baek[1], Hoon Choi[2], Yongho Shin[1*]

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PFS-27

Evaluation of quality characteristics and volatile profiles to supplement biji in plant-based patties: A by-product ingredient

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PFS-28

Volatile analysis of oils extracted from *edible insect* with a heating process using HS-SPME-Arrow-GC/MS

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PFS-29

In vitro activity of extracellular polysaccharides purified from *Aureobasidium pullulans* SM-2001 (Polycan) on osteoclasts and osteoblasts

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PFS-30

Rapid and Non-destructive Vigor Assessment of Perilla Seeds Using Near-Infrared Spectroscopy

Kyung Soon Kim, Hee Jong Woo*

National Agrobiodiversity Center, National Institute of Agricultural Sciences

PFS-31

Retraction

PFS-32

Distribution of Genetic Resources using the National Agricultural Genetic Resources Information Service System 'Seed Bank'

So Yeon Hong, Hee Jong Woo*

National Agrobiodiversity Center, National Institute of Agricultural Sciences

PFS-33

Study on the production of lipids from microalgae for the application to alternative protein foods

Cheol-Ho Han, Jae-In Eom, Joo-Young Lee, Se-Min Kim, Ji-Won Byun, Cheol-Ho Pan*

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PFS-34

Effects of Genetic Diversity on the Metabolic Profiles of Rice Genetically Modified for Drought Tolerance or Insect Resistance Compared to Conventional Rice

Ye Jin Kim[1], Sung-Dug Oh[2], Seong-Kon Lee[2], Ancheol Chang[2], Sang-Un Park[3], Soo-Yun Park[2], Jae Kwang Kim[1*]

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PFS-35

Compound isolation and characterization of potential hyaluronidase inhibitors from *Hyoscyamus niger* plant by using ultra-filtration technique coupled with HPLC-MS/HSCCC techniques.

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PFS-36

Metabolic profiling of wheat seedlings (*Triticum aestivum* L.) cultivated under various photosynthetic photon flux densities and growth periods

Yu–mi Shin[1], Ye Jin Kim[1], Hangyeol Lee[2], So-Yeon Moon[2], Tae Jin Kim[3], Woo Duck Seo[2], Jae Kwang Kim[1*]

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PFS-37

Effect of Laminariae Thallus Extract on Skin Regeneration in HaCaT Cell and Zebrafish Larvae

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PFS-38

Schizonepeta tenuifolia Extract Improves Muscle Strength in Aged Mice Models

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PFS-39

Effect of Lifespan Extension of a Heat-treated Lactic Acid Bacterium, *Weissella cibaria* HY207, against *Caenorhabditis elegans* N2

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PAM Applied Microbiology

PAM-1 The *Metschnikowia* genus: the potential yeast for wider utilization in human life

Ariranur Haniffadli[1,2], Joyce Mudondo[1,2], Youngmin Kang[1,2*]

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PAM-2 Metabolic profiling reveals the effect of improving drought stress tolerance by *Lysinibacillus* sp. TT 41 in kimchi cabbage (*Brassica rapa* L. subsp. *pekinensis*) cultivars

Tae Jin Kim[1], Ye Ji Hwang[1], Young Jin Park[2], Joug Sung Lee[2], Jae Kwang Kim[2*], Mi-Hwa Lee[1*]

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PAM-3 Mitigation of Pepper Bacterial Spot Disease through the Application of Beneficial Bacteria: Evidence Supported by Rhizosphere Microbiome Analysis

Seo-Yeon Yang[1], Hyung-Geun Song[1], Min-Ju Choi[2], Ji-Hoon Lee[1,2,3*]

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PAM-4 Soil microbial responses to elevated temperatures: Analysis of microbial diversity and soil chemistry

Seo-Yeon Yang[1], Ji-Hoon Lee[1,2,3*]

[1]Department of Agricultural Chemistry, Jeonbuk National University, [2]Department of Bioenvironmental Chemistry, Jeonbuk National University, [3]Institute of Agricultural Science & Technology, Jeonbuk National University

PAM-5 Evaluation of physiological response of soybean (*Glycine max* L.) to the alleviation of osmotic stress by chitinase-producing rhizobacteria

Ji-In Woo, Ho-Jun Gam, Jin Ryeol Jeon, In-Jung Lee, Sang-Mo Kang*

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PAM-6

Isolation of plant growth-promoting rhizobacteria (PGPR) from Pohang coast and evaluation of their chitinase activity

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PAM-7

Biofloc technique within recirculating aquaculture systems facilitates achievement of prosperous nitrification cycle and subsequently fosters diversity in freshwater microbiome after adjustment period

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PAM-8

Characterization and Comparison of Alginate-Degrading Bacteria Derived from South Korea Territory

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PAM-9

Comparative analysis of plastisphere microbiome of biodegradable plastic, Polyhydroxyalkanoate (PHA)

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PAM-10

Effect of Roux-en-Y Reconstruction after Distal Gastrectomy on the Gut Microbiome in Gastric Cancer Patients with Type 2 Diabetes

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PAM-11

Innovative Soil Amendments with Inorganic Elements to Reduce Agricultural Greenhouse Gas Emissions

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PAM-12

Impact of Consuming Edible Silkworm Pupae (Boendegi) on the Gut Microbiome: A Study in Dietary Entomophagy

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PAM-13

Isolation and Characterization of Urease-Producing Bacteria for Application to Bacterial Carbonatogenesis

Chaemin Sim[1], Jieun Lim[1], Miso Kim[2], Youri Yang[1,2*]

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PAM-14

Identification of restriction modification operons and orphan methyltransferase genes in *E. coli* isolated from veterinary clinics and livestock farms in South Korea

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PAM-15

Exploring Dysbiosis: Metagenomic Profiling of Gut Microbiota in Polycystic Ovary Syndrome

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PAM-16

Biocontrol of Aflatoxin-producing *Aspergillus flavus* ATCC 22546 and Inhibitory Effect on Aflatoxin Biosynthesis by a Non-aflatoxigenic *Aspergillus flavus* ATCC 9643

Kwang-Soo Jung[1], Hyeong-Mi Kim[1], Jieun Lee[2], Dariimaa Ganbat[1*], Sung-Eun Lee[1,2*]

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PAM-17

Metagenomic and Physicochemical Insights into Korean Fermented Foods

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PAM-18

In silico MS/MS Analysis Enables Comprehensive Detection of Phenolic Compounds and Lignin Oligomers from Enzymatic Depolymerization of Woody Lignin

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PAM-19

Enhancing Plant Growth and Disease Resistance with *Bacillus velezensis* KB21 Encapsulated in Nanoliposomes

Beom Ryong Kang[1*], Gwang Rok Ryu[2], Jun Seok Choi[3], Midam Kim[3]

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PAM-20

The Characteristics of Microbial distribution from Orchard Soils in Jeonnam Province

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PAM-21

Correlation of Metagenome Bacterial Community in The Soybean-cultivated Soils and Amino Acid and Isoflavone Contents in Soybean Roots by The Treating Rhizosphere Bacteria

Du Yong Cho[1], Hee Yul Lee[1], Mu Yeun Jang[1], Jin Hwan Lee[2], Kye Man Cho[1*]

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PAM-22

Effect of Enhancing Amino Acid and Isoflavone Components of Soybean Leaves by Treating Rhizosphere Bacteria Derived from Soybean-Cultivated Soils

Mu Yeun Jang[1], Du Yong Cho[1], Hee Yul Lee[1], Jin Hwan Lee[2], Kye Man Cho[1*]

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PAM-23

Biocontrol of Aflatoxin-producing *Aspergillus flavus* ATCC 22546 and Inhibitory Effect on Aflatoxin Biosynthesis by Bacterial and Yeast Strains

Dariimaa Ganbat[1], Hyeong-Mi Kim[1], Kwang-Soo Jung[1], Jieun Lee[2], Sung-Eun Lee[1,2*]

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PAM-24

Comprehensive Understanding of High-risk HPV and Severity of Cervical Intraepithelial Neoplasia through High-resolution Vaginal Microbiome Profiling

Da-Ryung Jung[1], Ye Seul Choi[2], Minsoo Jeong[1], Vineet Singh[1], Se Young Jeon[3], Hyung Soo Han[2], Gun Oh Chong[3*], Jae-Ho Shin[1*]

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PAM-25

Poly-D-Glucosamine Fermentation Boosts Metabolite Production and Stress Tolerance Potential of *Bacillus velezensis* KB21

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PAM-26

Biocontrol and Growth Promotion in Cucumber Plants by Exogenous Co-inoculation of *Bacillus amyloliquefaciens* and Salicylic Acid Against *Sclerotinia sclerotiorum*

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PAM-27

Halotolerant Beneficial Bacteria Alleviate Salinity Stress in Maize by Modulating Soil Microbiome

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PAM-28

Neobacillus ammonidans nov. sp. isolated from rice paddy soil performs DNRA under aerobic conditiion

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PAM-29

Extracellular ammonium accumulation by free-living nirogen fixing *Clostridium* sp. strain despite of presence of other nitrogen nutrients

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PAM-30

A Neobacillus sp. strain isolated from apple orchard soil reduces nitrate without ammonium production under aerobic condition

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PAM-31

Transcriptome Analysis for Understanding LDPE Deterioration by *Trametes trogii* KACC 83074B

Dayeon Kim, Jae-Hyung Ahn, Sihyun An, Young-Joon Ko, Joon-Hui Chung, Jehyeong Yeon, Han Seok Choi, Hang-Yeon Weon*

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PAM-32

Application of Bio-Fenton Reaction to Degrade Lignin Compounds Supported by *Desemzia* sp. strain C1

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PAM-33

Development of magnetite-driven Bio-Fenton system for non-specific degradation of chloroacetanilide herbicides supported by *Desemzia* sp. strain C1

Yongseok Ko[1], Youri Yang[2,3], Sunil Ghatge[1], Hor-Gil Hur[1*]

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PAM-34

A Comprehensive Study of Lettuce Growth in Nakdong River's Cyanobacterial Bloom Conditions

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PAM-35

Modulation of Water Relations in Blueberry Plants by Ericoid Mycorrhizae and Plant Growth-Promoting Bacteria Under Heat Stress

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PAM-36

Metagenomic Analysis of Sex Differences in Facial Skin Microbiome with Aging

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PAM-37

Enhancing Gut Microbiome Diversity and Achieving Symptom Remission in CDI through FMT

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PBD Bio-health/Drug development

PBD-1

Excessive sucrose exacerbates high fat diet-induced hepatic inflammation and fibrosis promoting osteoarthritis in mice model

Min hye Kim[1], Yun hui Min[1], Yun ji Heo[2], Myeong Yeon Shin[2], Godagama Gamaarachchige Dinesh Suminda[1], Mrinmoy Ghosh[2], Md. Meraj Ansari[2], Young Ok Son[1,2*]

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PBD-2

High-sucrose diet accelerates arthritis progression in a collagen-induced rheumatoid arthritis model

Myeongyeon Shin[1], Yunhui Min[2], Yunji Heo[1], Minhae Kim[2], Godagama Gamaarachchige Dinesh Suminda[2], Mrinmoy Ghosh[1], Md. Meraj Ansari[1], Young-OK Son[1,2*]

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PBD-3

Carbonic Anhydrases Cause Alteration of Anabolic and Catabolic Factors through Increasing Metabolic Shift in OA Pathogenesis

Yunhui Min[1], Minhye Kim[1], Yunji Heo[2], Myeong yeon Shin[2], Dinesh Suminda Godagama Gamaarachchige[1], Md.Meraj Ansari[2], Mrimoy Ghosh[2], Young-Ok Son[1,2*]

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PBD-4

Inhibitory effects of Acanthopanax sessiliflorus Harms extract on the etiology of rheumatoid arthritis in a collagen-induced arthritis mouse model

Yunji Heo[1], Yunhui Min[2], Godagama Gamaarachchige Dinesh Suminda[2], Minhye Kim[2], Myeong yeon Shin[1], Md. Meraj Ansari[1], Mrinmoy Ghosh[1], Young-Ok Son[1,2*]

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PBD-5

Microbial communities and kinetic properties of nitrifying microbes in spring water from Jeju Island

Israr Aziz[1], Yun ji Choi[1], Chan hyeok Lee[1], Man-Young Jung[1,2*]

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PBD-6

Growth Strategy on Competitive Inhibition of Ammonia-Oxidizing Microorganisms at Different Ammonia Concentrations

Seongwook Kim[1], Jonghee Im[1], Man-Young Jung[1,2*]

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PBD-7

Nitric Oxide release inhibition effect in LPS-stimulated Macrophages and Free Radical scavenging activity of *Rubus buergeri* leaves

Theophilus Bhatti[1], Ji-Hyun Lee[2], Eunjung Kim[1], Young-Jun Park[1,2], Ji-Yeong Bae[1,2*]

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PBD-8

Enhancing Nitrification Amidst Copper Toxicity Through Methane-Oxidizing Bacterial Interactions

Min-Ju Kang[1], Miye Kwon[2], Man-Young Jung[1,3*]

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PBD-9

Exploring the Mechanisms Behind Impact on Obesity of Lactic Acid Bacteria in High-Fat Diet Models

Ayub Hina[1], Thi My Tien Truong[1,2], Inhae Kang[1,2*], Man-Young Jung[1,3*]

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PBD-10

Study on phylogenetic and physiological characteristics of enriched nitrifiers from groundwater in Jeju

Chan hyeok Lee[1], Yun Ji Choi[1], Man-Young Jung[1,2*]

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PBD-11

Tetragonia tetragonoides (Pall) Kuntz attenuates the inflammatory response of Periodontal Ligament Cells by inhibiting IL-1β, IL-6 and TNF-α

Yoon-A Kang[1], Ji-Hyun Lee[1], Min Seo Jeon[2], Yuji Yang[3], Ye-sol Kang[3], Ji-Yeong Bae[1,2*]

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PBD-12

Targeting NOX-generated ROS/PHD2/HIF-1α Axis in Pulmonary Fibrosis: A Novel Therapeutic Strategy

Jin-Hyuk Choi[1], Hiruni Indeevarie Abeysiriwardhana[2], Moonjae Cho[1,2*]

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PBD-13

Comparative Analysis of Novel TMF Conjugates Attenuating Idiopathic Pulmonary Fibrosis via the NOX-Induced ROS/PHD2 Axis

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PBD-14

Investigation on NO and N_2O Emissions from Nitrifiers as Greenhouse Gases

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PBD-15

Role of the psycosphere bacterial community in enhancing algal zoospore proliferation in the Red Cell Inoculation System (RCIS)

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PBD-16

Anti-cancer effects of *Melosira nummuloides* extracts in hepatocellular carcinoma cancer cells

Do Manh Cuong[1], Dae Kyeong Kim[1], Ji Soo Kim[1], Tae Hyeon Yoon[1], Sun Hee Yang[1], Somi Kim Cho[1,2,3*]

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PBD-17

Oleic acid inhibits the migration and invasion of breast cancer cells with stemness characteristics through oxidative stress-mediated attenuation of the FAK/AKT/NF-κB pathway

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Chemical composition and antioxidant activities of *Daucus carota* leaf

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