2019. 4. 10(수) 18:00–20:00
평의원회의 Council Meeting

2019. 4. 11(목)								
Time \ Place	Room A (1F/컨벤션홀)	Room B (2F/크리스탈홀1)	Room C (2F/크리스탈홀2)	Room D (2F/아메티스트홀)	Room E (2F/사파이어홀)	Room F (2F/제이드홀)	전시장 (1F/컨벤션홀2)	
08:00–18:00	등록							
08:00–08:30	Poster 부착							
08:30–10:15	[S5–1] 지속가능한, 지역특산, 천연화장품과 원료	[S7–3] 부문위원회 및 학생세션 III: Biomolecular Design and Engineering	[S4–1] KSBB–BEST Joint Symposium: Recent Advances in Biosensors and Biochips	[S7–1] 부문위원회 및 학생세션 I: Cellular Modulation Technology	[S7–2] 부문위원회 및 학생세션 II: Biorefinery, Bioprocess, and Bioseparation (Part I)	교육세션 "바이오신약개발 워크숍" (*별도등록 필요)	3–Minute Speech (3분 스피치)	바이오전시회 (Exhibition)
10:15–10:30	Coffee Break						Poster	
10:30–11:15	[S1–1] Plenary Lecture I "Ultrafast Photonic PCR and Organoids MAP for Personalized Precision Medicine" Prof. Luke P. Lee (University of California, Berkeley, USA)							
11:15–11:45	[S2] 생물공학 혁신기술대상 시상식 및 수상기념 특강							
11:45–12:45	제 1차 총회	[S6–1] [런천세미나 I] 아지노모도제넥신						
12:45–13:30	Poster Presentation I							
13:30–14:30	[S1–2] 기업 CEO초청 특별강연 I (셀트리온 & 한국콜마)							
14:30–14:45	Coffee Break							
14:45–16:30	[S3–1] 〈기업특별세션 I〉 개인 맞춤형화장품 기술개발 현황과 발전방향	[S4–2] Nanobiosensing and Cell Engineering I	[S4–4] Recent Progress on Tissue Engineering and Regenerative Medicine	[S5–3] 신진연구자를 위한 포럼 I: 생물공정, 대사공학	[S5–2] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망 I			
16:30–16:45	Coffee Break							
16:45–18:30		[S4–3] Nanobiosensing and Cell Engineering II	[S4–5] New Opportunities and Challenges in PLP–Dependent Enzymes	[S5–4] 신진연구자를 위한 포럼 II: 바이오센서, 나노바이오, 항체	[S7–4] 부문위원회 및 학생세션 IV: Engineered Microorganisms for Value–Added Chemicals	[S5–5] 구윤모 교수 정년퇴임기념 특별심포지엄		
18:30–20:30	Reception (1F/컨벤션홀)						학생파티 – 바이오는 우리손으로 !!!	

2019. 4. 12(금)							
Time \ Place	Room A (1F/컨벤션홀)	Room B (2F/크리스탈홀1)	Room C (2F/크리스탈홀2)	Room D (2F/아메티스트홀)	Room E (2F/사파이어홀)	Room F (2F/제이드홀)	전시장 (1F/컨벤션홀2)
08:30–15:00	등록						
08:30–09:00	Poster 부착						
09:00–10:45	[S3-2] 〈기업특별세션 II〉 항체치료제 (바이오시밀러 포함) 산업의 최신 동향	[S5-6] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망 II	[S4-6] Recent Progress on Systems Biotechnology and Synthetic Biology of Microorganisms	[S5-7] 생물공학 미래연구인재 연구동향 I (Fresh PhD 세션): Enzyme and Microbial Technology	[S7-5] 부문위원회 및 학생 세션 V: Therapeutic Biomedical Engineering	교육세션 "바이오신약개발 워크숍" (*별도등록 필요)	Poster / 바이오전시회 (Exhibition)
10:45–11:00	Coffee Break						
11:00–12:00	[S1-3] 기업 CEO초청 특별강연 II (삼성바이오에피스 & 레고켐바이오사이언스)						
12:00–13:00		[S6-2] [런천세미나 II] 정진특허	[S6-3] [런천세미나 III] Springer Nature				
13:00–13:45	Poster Presentation II						
13:45–14:30	[S1-1] Plenary Lecture II "Discovery, Engineering and Application of Enzymes for Biocatalytic Applications" Prof. Uwe T. Bornscheuer (Greifswald University, Germany)						
14:30–14:45	Coffee Break						
14:45–16:30	[S5-9] 막생명공학의 최신동향	[S5-10] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망 III	[S4-7] Traditional Chinese Medicine for Biomedical Science and Engineering of Herbal Components	[S5-8] 생물공학 미래연구인재 연구동향 II (Fresh PhD 세션): Biomedical Engineering	[S7-6] 부문위원회 및 학생 세션 VI: Biosensors and Biological Detection Technology	[S7-7] 부문위원회 및 학생 세션 VII: Biorefinery, Bioprocess, and Bioseparation (Part II)	
16:30–17:30	폐회식 (경품추첨)						

[S1] Plenary Lecture	[S3] 기업특별 프로그램	[S4] International Program	[S5] Special Program	[S6] Special Event
[S7] Division Symposium & Student Presentation			[S8] 3-Minute Speech & Poster	바이오전시회 (Exhibition)

* 별도등록 필요	바이오신약개발 워크샵 (4/11~12)

장소 및 일정

- **일시 :** 2019년 4월 10일(수) ~ 12일(금) (3일간)
- **장소 :** 제주, 메종글래드 호텔
- **주최 :** 한국생물공학회
- **후원 :** 한국과학기술단체총연합회

논문발표

1. 발표자격

논문의 발표자는 반드시 회원 및 등록자이어야 하며 비등록자의 초록은 접수되지 않습니다.
(석, 박사과정의 학생은 학생회원으로 함)

※본 학회의 연구논문 발표를 원활히 진행하기 위하여 시간을 정확히 지켜주시기 바랍니다.

2. 발표형식

(1) 심포지엄 발표

심포지엄명	Organizer
[S3-1,3] 기업 CEO초청 특별강연	김동명 교수 (충남대)
[S3-2] 〈기업특별세션 I〉 개인 맞춤형화장품 기술개발 현황과 발전방향	서인수 박사 (제주TP)
[S3-4] 기업 CEO초청 특별강연 II (삼성바이오에피스 & 레고켐바이오사이언스)	이은규 교수 (한양대)
[S4-1] KSBB-BEST Joint Symposium: Recent Advances in Biosensors and Biochips	최신식 교수 (명지대)
[S4-2,3] Nanobiosensing and Cell Engineering	최정우 교수 (서강대)
[S4-4] Recent Progress on Tissue Engineering and Regenerative Medicine	차형준 교수 (POSTECH)
[S4-5] New Opportunities and Challenges in PLP-Dependent Enzymes	박진병 교수 (이화여대)
[S4-6] Recent Progress on Systems Biotechnology and Synthetic Biology of Microorganisms	이은열 교수 (경희대)
[S4-7] Traditional Chinese Medicine for Biomedical Science and Engineering of Herbal Components	최신식 교수 (명지대)
[S5-1] 지속가능한, 지역특산, 천연화장품과 원료	신현재 교수 (조선대)
[S5-2,6,10] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망	이진원 교수 (서강대), 이은열 교수 (경희대) 김용환 교수 (UNIST), 나정걸 교수 (서강대)
[S5-3,4] 신진연구자를 위한 포럼	조직위원회
[S5-5] 구윤모 교수 정년퇴임기념 특별심포지엄	김진일 박사 (셀트리온)
[S5-7,8] 생물공학 미래연구인재연구동향 (Fresh PhD 세션)	조직위원회
[S5-9] 막생명공학의 최신동향	권대혁 교수 (성균관대)

(2) 부문위원회 발표

부문위원회	Organizer
동식물 생물공학	권순조 교수 (인하대)
효소 및 미생물공학	차형준 교수 (POSTECH)
생물공정공학 및 바이오에너지	신현재 교수 (조선대)
시스템 생물공학 및 합성생물학	이은열 교수 (경희대)
나노바이오공학	이지원 교수 (고려대)
바이오산업 (바이오의약부문)	한세광 교수 (POSTECH)
바이오산업 (식품부문)	김태집 교수 (충북대)
바이오산업 (화장품부문)	박찬범 교수 (KASIT)

(3) 학생구두 발표 안내

① 심사에 의해 우수 논문 7인이 선정되어, 시상됩니다.

② 심사기준
(가) 연구논문의 창의성 및 우수성 (30%)
(나) 연구내용의 이해도 (40%)
(다) 연구내용 설명능력 및 태도 (30%)

③ 발표시간은 질의응답 포함 10분 입니다.

(4) 포스터 발표

- **발표주제**
  - 동식물 생물공학 (Animal and Plant Cell Biotechnology)
  - 효소 및 미생물공학 (Enzyme and Microbial Technology)
  - 생물공정공학 및 바이오에너지 (Bioprocess Engineering and Bioenergy)
  - 시스템 생물공학 및 합성생물학 (Systems Biotechnology and Synthetic Biology)
  - 나노바이오공학 (Nanobiotechnology)
  - 바이오산업 (바이오의약부문) (Bioindustry / Biomedical Engineering)
  - 바이오산업 (식품부문) (Bioindustry / Food Biotechnology)
  - 바이오산업 (화장품부문) (Bioindustry / Cosmetic Engineering)

● 포스터 발표

구분	게시	발표	포스터번호	
3분 Speech	4월 11일(목) 08:00 – 4월 12일(금) 16:30	4월 11일(목) 09:00–10:15	포스터 3분 Speech	PSP 01–24
Poster I	4월 11일(목) 08:00–18:30	4월 11일(목) 12:45–13:30	동식물 생물공학 생물공정공학 및 바이오에너지 시스 템 생물공학 및 합성생물학 바이오산업 (식품부문) 바이오산업 (화장품부문)	P0001–P0019 P0101–P0171 P0201–P0257 P0301–P0324 P0401–P0410
Poster II	4월 12일(금) 08:30–16:30	4월12일(금) 13:00–13:45	바이오산업 (바이오의약부문) 나노바이오공학 효소 및 미생물공학	P0501–P0540 P0601–P0655 P0701–P0784

☞주의사항

① 포스터 발표자는 부착시간을 지켜주시기 바랍니다. 해당 포스터 부착시간 이후에는 반드시 철거하여 주시기 바라며, 이후 부착되어 있는 포스터는 다음 부착자를 위하여 학회에서 강제 철거 합니다. 강제 철거된 포스터는 책임지지 않습니다.

② 포스터는 스카치테이프를 사용하여 부착해 주시고 테이프는 발표자가 직접 준비해 주시기 바랍니다. (압정 사용불가)

③ 게시 시작 30분전까지 미리 부착하여 주시기 바랍니다.

④ 포스터는 가로 1m * 세로 1.2m (최대 2.2 m)로 준비해 주시고, 발표물 전체의 넓이가 상기 면적을 초과하지 않도록 준비하여야 합니다.

⑤ [포스터 3분 Speech 발표]

- 포스터 3분 Speech 발표자료는 4월 11일(목) 08:30~08:50 시간 내에 발표장 준비요원에게 접수하여 주시기 바랍니다. (이후 불가)
- 화일명은 포스터 번호로 하여 ppt화일 표지 포함 5장 이내입니다.
- 발표자는 발표시간 전에 발표장에 대기해 주시기 바랍니다.

⑥ 심사에 의해 우수포스터 발표자가 선정됩니다.

심사기준

가) 연구논문의 창의성 및 우수성(20%)

나) 연구내용의 이해도(30%)

다) 연구내용 설명능력 및 태도(30%)

라) 포스터 제작의 독창성 및 우수성(20%)

2019 한국생물공학회
춘계학술발표대회 및 국제심포지엄

2019 KSBB Spring Meeting and International Symposium

Biotechnology from the Nature to Human Life

01 PLENARY LECTURES & 기업 CEO초청 특별강연

- PLENARY LECTURES
- 기업 CEO초청 특별강연

PLENARY LECTURES

I. April 11, 2019, 10:30–11:15 (Room A / 1F 컨벤션홀)
Chair : Jeong-Woo CHOI (Sogang University)

S111 10:30-11:15

Ultrafast Photonic PCR and Organoids MAP for Personalized Precision Medicine

Luke P. LEE[1,2]
[1]Departments of Bioengineering, Electrical Engineering & Computer Science, and Biophysics Graduate Program , [2]Berkeley Sensor and Actuator Center, Biomedical Institute for Global Health Research & Technology (BIGHEART), University of California, Berkeley, USA

II. April 12, 2019, 13:45–14:30 (Room A / 1F 컨벤션홀)
Chair : Jin-Byung PARK (Ewha Womans University)

S112 13:45-14:30

Discovery, Engineering and Application of Enzymes for Biocatalytic Applications

Uwe T. BORNSCHEUER
Institute of Biochemistry, Dept. of Biotechnology & Enzyme Catalysis, Greifswald University, Greifswald, Germany

[S1-2] 기업 CEO초청 특별강연 I(셀트리온 & 한국콜마)

April 11, 2019, 13:30–14:30 (Room A / 1F 컨벤션홀)
Chairs : Don-Hee PARK (Chonnam National University), Jin Ho SEO (Seoul National University)

S121 **13:30-14:00**

Pioneering Bio Healthcare Industry
Shin Jae CHANG
Celltrion Inc., Incheon, Korea

S122 **14:00-14:30**

Trends and Prospects of K-beauty
HakHee KANG
Kolmar, Korea

[S1-3] 기업 CEO초청 특별강연 II (삼성바이오에피스 & 레고켐바이오사이언스)

April 12, 2019, 11:00–12:00 (Room A / 1F 컨벤션홀)
Chairs : Byung–Ki HUR (Inha University), Young Je YOO (Seoul National University)

S131 11:00-11:30

Core Strengths as a Leader in Biosimilars

Christopher Hansung KO
Samsung Bioepis, Incheon, Korea

S132 11:30-12:00

Creating Next Generation ADCs with Industry Leading DAR Precision and Plasma Stability

Yong-Zu KIM
LegoChem Biosciences, Inc., Daejeon, Korea

2019 한국생물공학회
춘계학술발표대회 및 국제심포지엄

2019 KSBB Spring Meeting and International Symposium

Biotechnology from the Nature to Human Life

02

생물공학 혁신기술대상시상식 및 수상기념 특강

- 생물공학 혁신기술대상 시상식 및 수상기념 특강

생물공학 혁신기술대상 시상식 및 수상기념 특강

April 11, 2019, 11:15–11:45 (Room A / 1F 컨벤션홀)

S201 11:15-11:45

GeneChem Inc.

2019 한국생물공학회
춘계학술발표대회 및 국제심포지엄

2019 KSBB Spring Meeting and International Symposium

Biotechnology from the Nature to Human Life

03

기업특별세션

- [S3-1] 〈기업특별세션 I〉
  개인 맞춤형화장품 기술개발 현황과 발전방향
- [S3-2] 〈기업특별세션 II〉
  항체치료제 (바이오시밀러 포함) 산업의 최신 동향

[S3-1] <기업특별세션 I>개인 맞춤형화장품 기술개발 현황과 발전방향

April 11, 2019, 14:45–16:30 (Room A / 1F 컨벤션홀)
Chair : In Soo SUH (Jeju Technopark)

S311 **14:45-15:10**
The Future of Customized Beauty Care
Won Seok PARK
AmorePacific R&D Unit, Gyeonggi-do, Korea

S312 **15:10-15:35**
The Study on the Relationship between Yin-Deficiency Physical Constitution and Skin Phenotype
Joonoh MYOUNG
LG Household and Health Care R&D Center, Seoul, Korea

S313 **15:35-16:00**
Recent Findings of the Skin Genetic Studies
Kyung-Won HONG
Theragen etex Bio Institute Co. Ltd. Suwon, Korea

S314 **16:00-16:25**
Logical Analysis of Customized Cosmetics Using Big Data Based on Clinical Testing
Hyo Sun HAN
P&K Skin Research Center, Seoul, Korea

Co-organized by

JTP 제주테크노파크 JEJU TECHNOPARK

[S3-2] <기업특별세션 II> 항체치료제 (바이오시밀러 포함) 산업의 최신 동향

April 12, 2019, 09:00–10:45 (Room A / 1F 컨벤션홀)

Chairs : Eun Kyu LEE (Hanyang University), Dong-Myung KIM (Chugnam National University)

S321 **09:00-09:25**

Biologics come of Age: Y-Biologics' Antibody Discovery Strategy

Young Woo PARK

Y-Biologics, Inc. Daejeon, Korea

S322 **09:25-09:50**

ABL Bio's Bispecific Antibody Development Strategy and Status

Jaeho JUNG

ABL Bio Inc., Seongnam, Korea

S323 **09:50-10:15**

Acceleration of Biodrug R&D in Osong New Drug Development Center:Industry Support Programs

Tae Gyu LEE

Osong Medical Innovation Foundation, New Drug Development Center, Osong, Korea

S324 **10:15-10:40**

Mab Manufacturing Bioprocessing: Current Landscape and Future Innovations

E. K. LEE

Department of Bionano Engineering, Hanyang University-ERICA, Ansan, and Immunoforge Co., Ltd., Seoul, Korea

2019 한국생물공학회

춘계학술발표대회 및 국제심포지엄

2019 KSBB Spring Meeting and International Symposium

Biotechnology from the Nature to Human Life

04

[S4] INTERNATIONAL PROGRAM

- [S4-1] KSBB-BEST Joint Symposium: Recent Advances in Biosensors and Biochips
- [S4-2] Nanobiosensing and Cell Engineering I
- [S4-3] Nanobiosensing and Cell Engineering II
- [S4-4] Recent Progress on Tissue Engineering and Regenerative Medicine
- [S4-5] New Opportunities and Challenges in PLP-Dependent Enzymes
- [S4-6] Recent Progress on Systems Biotechnology and Synthetic Biology of Microorganisms
- [S4-7] Traditional Chinese Medicine for Biomedical Science and Engineering of Herbal Components

April 11, 2019, 08:30–10:15 (Room C / 2F 크리스탈홀2)

Chairs : Shin Sik CHOI (Myongji University), Jae-Hyung JANG (Yonsei University)

S411 **08:30-08:50**

Developments of DNA Oligonucleotides with Site-Specific Methyl-phosphotriester Linkages for Molecular Detections and Precision Medicine

Wen-Yih CHEN, Meng-Wei WU, Chih-Chin TSAI, Tsai-Ling LI, Yu-Hsuan CHANG, Wei-Chen LIN, Wei-Cheng CHOU

Department of Chemical and Materials Engineering, National Central University, Taoyuan, Taiwan

S412 **08:50-09:10**

Wireless in Vivo Pharmacology and Optogenetics

Jae-Woong JEONG

School of Electrical Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea

S413 **09:10-09:30**

Functional Electrolyte Materials for Biomedical Applications

Chun-Jen HUANG[1,2]

[1]Biomedical Sciences & Engineering Dept, National Central University, Taoyuan, Taiwan, [2]Chemical & Materials Engineering Dept, National Central University, Jhong-Li, Taoyuan, Taiwan

S414 **09:35-09:55**

Biomimetic Systems Based on Micro/Nanotechnologies

Seung Hwan LEE

Department of Bionano Engineering and Bionanotechnology, Hanyang University, Ansan, Korea

S415 **09:55-10:15**

Bio-inspired Materials and Their Applications

Ho-Hsiu CHOU

Department of Chemical Engineering, National Tsing Hua University, Hsinchu, Taiwan

[S4-2] Nanobiosensing and Cell Engineering I

April 11, 2019, 14:45–16:30 (Room B / 2F 크리스탈홀 I)
Chairs : Jeong-Woo CHOI (Sogang University), Taek LEE (Kwangwoon University)

S421 **[Keynote Speech]**
14:45-15:15
A Pair of Aptamers-based Biosensors for Sensing in Field
Man Bock GU
Department of Biotechnology, Korea University, Seoul, Korea

S422 **15:15-15:45**
Nanotechnology based Biomedical Device for In-Vitro Diagnostics
HeaYeon LEE[1,2]
[1]Mara Nanotech New York, inc., New York, NY USA, [2]Department of Pharmaceutical Sciences, Northeastern University, Boston, MA USA

S423 **15:45-16:00**
Construction of RNA-Nanoparticle Hybrid Material for Biosensor and Therapeutic Application
Taek LEE
Department of Chemical Engineering, Kwangwoon University, Seoul, Korea

S424 **16:00-16:30**
Anti-Biofouling Digital Microfluidics and Microswimming Drone
Sung Kwon CHO
University of Pittsburgh, Pittsburgh, PA, USA

Co-organized by

Sogang-Harvard
Disease Biophysics Research Center

서강대학교 대학중점연구소지원사업
바이오융합기술연구소

[S4-3] Nanobiosensing and Cell Engineering II

April 11, 2019, 16:45–18:30 (Room B / 2F 크리스탈홀 I)
Chairs : Jeong-Woo CHOI (Sogang University), Taek LEE (Kwangwoon University)

S431 **16:45 - 17:15**
Microengineered Physiological Biomimicry: Human Organs-on-Chips
Dan Dongeun HUH
Department of Bioengineering, University of Pennsylvania, Philadelphia, PA, USA

S432 **17:15 - 17:40**
A New Networking and Circulating Cell Culture System for Estimating Pharmacokinetics Using Functional Human Liver and Intestine Cells
Cho-Rok JUNG
Korea Research Institute of Bioscience and Biotechnology (KRIBB), Daejeon, Korea

S433 **17:40 - 18:10**
Microtissue Engineering for Efficient Regenerative Therapy and Precise Drug Screening
Yanan DU
Department of Biomedical Engineering, Tsinghua University, Beijing, China

S434 **18:10 - 18:30**
Functional Microfluidics and Nanoparticles for Cell Biology
Bong Geun CHUNG
Department of Mechanical Engineering, Sogang University, Seoul, Korea

Co-organized by

Sogang-Harvard
Disease Biophysics Research Center

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바이오융합기술연구소

[S4-4] Recent Progress on Tissue Engineering and Regenerative Medicine

April 11, 2019, 14:45–16:30 (Room C / 2F 크리스탈홀2)
Chair : Kye Il JOO (POSTECH)

S441 **[Keynote Speech]**
14:45-15:15
Injectable Cell Delivery Vehicle and Polymeric Conductive Constructs for Myocardial Tissue Engineering
Meng-Hsuan HSIEH[1], Congyu ZHANG[2,3], Song-Yi WU[1], Shu-Hong LI[2,3], Jun WU[2,3], Shi-Ming LIU[2,3], Hao-Ji WEI[4], Ren Ke LI[2,3], Hsing-Wen SUNG[1]
[1]Department of Chemical Engineering, National Tsing Hua University, Hsinchu, Taiwan, R.O.C., [2]Division of Cardiac Surgery, Department of Surgery, University of Toronto, Toronto, Canada, [3]Toronto General Research Institute, Division of Cardiovascular Surgery, University Health Network, Toronto, Canada, [4]Cardiovascular Center, Veterans General Hospital Taichung, and College of Medicine, National Yang-Ming University, Taipei, Taiwan, R.O.C.

S442 **[Invited Speech]**
15:15-15:40
Mussel Protein Bioadhesives-Based Immiscible Injectable Stem Cell Delivery for Myocardial Infarction and Multifunctional Nanoparticles for Cancer Therapy
Hyung Joon CHA
Department of Chemical Engineering, Pohang University of Science and Technology, Pohang, Korea

S443 **[Invited Speech]**
15:40-16:05
Medical Application of Functional Magnetite Nanoparticles
Akira ITO
Department of Chemical Engineering, Faculty of Engineering, Kyushu University, Fukuoka, Japan

S444 **[Invited Speech]**
16:05-16:30
Ultrasound-Sensitive Drug Delivery System and Combination Cancer Therapy
Hyuncheol KIM
Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Korea

Co-organized by

MBMRC 해양바이오산업신소재연구단 Marine BioMaterials Research Center

[S4-5] New Opportunities and Challenges in PLP-Dependent Enzymes

April 11, 2019, 16:45–18:30 (Room C / 2F 크리스탈홀2)

Chairs : Kwon-Young CHOI (Ajou University), Joo-Hyun SEO (Kookmin University)

S451 **[Keynote Speech]**
16:45-17:20

Amino Acid Decarboxylase(AADC): Protein Stability, Activity, Substrate Selectivity, and Protein Network Analysis

Byung-Gee KIM[1,2,3], Eun Young HONG[1,2], Roopali UPADHYAY[1,2], JinYoung KIM[1,2]

[1]School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea, [2]Institute for Molecular biology and Genetics, Seoul National University, Seoul, Korea, [3]Institute of Bioengineering, Seoul National University, Seoul, Korea

S452 **17:20-17:50**

Discovery, Engineering and Application of Transaminases

Uwe T. BORNSCHEUER

Institute of Biochemistry, Dept. of Biotechnology & Enzyme Catalysis, Greifswald University, Greifswald, Germany

S453 **17:50-18:10**

Reaction and Protein Engineering Strategies for Production of Chiral Compounds using Transaminases

Sangwoo HAN, Hong-Gon KIM, Youngho JANG, Jong-Shik SHIN

Department of Biotechnology, Yonsei University, Seoul, Korea

S454 **18:10-18:30**

Enzyme and Microbial Cell Engineering for Biosynthesis of Long Chain Aliphatic Amines

Da-Som LEE[1], Ji-Won SONG[1], Uwe BORNSCHEUER[2], Jin-Byung PARK[1]

[1]Department of Food Science and Engineering, Ewha Womans University, Seoul, Korea, [2] Department of Biotechnology & Enzyme Catalysis, Greifswald University, Greifswald, Germany

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EWHA WOMANS UNIVERSITY

April 12, 2019, 09:00–10:45 (Room C / 2F 크리스탈홀2)

Chairs : Sang Woo SEO (Seoul National University), Eun Yeol LEE (Kyung Hee University)

S461 **[Keynote Speech]**
09:00 -09:25

In silico Design of Metabolic Pathways and Adaptive Laboratory Evolution for Improvement of Valuable Compounds Production

Hiroshi SHIMIZU

Department of Bioinfomatic Engineering, Graduate School of Information Science and Technology, Osaka University, Osaka, Japan

S462 **09:25-09:45**

Adaptive Laboratory Evolution of Escherichia colion A Less-Preferred Carbon Source, Acetate for Metabolic Engineering

Dae-Hee LEE[1,2]

[1]Synthetic Biology and Bioengineering Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Daejeon, Republic of Korea, [2]Department of Biosystems and Bioengineering, KRIBB School of Biotechnology, University of Science and Technology (UST), Daejeon, Republic of Korea

S463 **09:45-10:05**

Engineering a Yeast Cell Factory for the Production of Terpenes through Remodeling of Cellular metabolism

Jae-Eung KIM, So-Hee SON, Ju Young LEE

Center for Bio-based Chemistry, Korea Research Institute of Chemical Technology (KRICT), Seoul, Korea

S464 **10:05-10:25**

Yeast Engineering for Lignocellulosic Biorefinery

Sun-Mi LEE[1,2,3]

[1]Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Seoul, Korea, [2]Clean Energy and Chemical Engineering, Korea University of Science and Technology, Daejeon, Korea, [3]KU-KIST Green School, Graduate School of Energy and Environment, Korea University, Seoul, Korea

S465 **10:25-10:45**

Development of Bio-refinery Platform Technology Based on CO2-Consuming Microorganisms

Sangmin LEE, Soo Youn LEE, Kyoung Seon MIN, Min-Sik KIM, Jin-Suk LEE

Gwangju Bioenergy R&D Center, Korea Institute of Energy Research, Gwangju, Korea

April 12, 2019, 14:45–16:30 (Room C / 2F 크리스탈홀2)
Chair : Shin Sik CHOI (Myongji University)

S471 **[Keynote Speech]**
14:45-15:05
Regulation of Hepatic Metabolome by Rhodioloside in High-Fat Diet Fed Apolipoprotein E Knockout Mice
Miaomiao JIANG
Tianjin State Key Laboratory of Modern Chinese Medicine, Tianjin University of Traditional Chinese Medicine, Tianjin, China

S472 **15:05 -15:25**
Total Syntheses of Anti-inflammatory Natural Extracts, Lobechine, (-)-Hanishin, and Other Pyrrolo[1,4]oxazin-3-ones.
Sangho KOO, Dahye KIM
Department of Chemistry, Department of Energy Science and Technology, Myongji University, Yongin, Korea

S473 **15:25-15:45**
Magnolin Induces Autophagy and Cell Cycle Arrest through Blocking LIF/Stat3/Mcl-1 Axis in Human Colorectal Cancers
Haiyang YU
Tianjin State Key Laboratory of Modern Chinese Medicine, Tianjin University of Traditional Chinese Medicine, Tianjin, China

S474 **15:50 -16:10**
Exploration of Bindings between Phytochemicals and Proteins
Md Abdur RAZZAK[1], Ji Eun LEE[2], Shin Sik CHOI[1,2]
[1]Department of Energy Science and Technology, Myongji University, Yongin, Korea, [2]Department of Food and Nutrition, Myongji University, Yongin, Korea

S475 **16:10 -16:30**
Identification of Natural Products as Inhibitors of Human Organic Anion Transporters (OAT1 and OAT3) and Their Protective Effect on Mercury-Induced Toxicity
Lifeng HAN
Tianjin State Key Laboratory of Modern Chinese Medicine, Tianjin University of Traditional Chinese Medicine, Tianjin, China

Co-organized by

유무기 하이브리드공정 연구소 (Organic-Inorganic Hybrid Research Institute)

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춘계학술발표대회 및 국제심포지엄

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05

[S5] SPECIAL PROGRAM

- [S5-1] 지속가능한, 지역특산, 천연화장품과 원료
- [S5-2] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망
- [S5-3] 신진연구자를 위한 포럼 I: 생물공정, 대사공학
- [S5-4] 신진연구자를 위한 포럼 II: 바이오센서, 나노바이오, 항체
- [S5-5] 구윤모 교수 정년퇴임기념 특별심포지엄
- [S5-6] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망 II
- [S5-7] 생물공학 미래연구인재 연구동향 I (Fresh PhD 세션): Enzyme and Microbial Technology
- [S5-8] 생물공학 미래연구인재연구동향 II (Fresh PhD 세션): Biomedical Engineering
- [S5-9] 막생명공학의 최신동향
- [S5-10] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망 III

[S5-1] 지속가능한, 지역특산, 천연화장품과 원료

April 11, 08:30–10:15 (Room A / 1F 컨벤션홀)
Chair : Hyun-Jae SHIN (Chosun University)

S511 **08:30-08:55**

A Study on the Anti-Microorganism and Anti-Inflammation Activity of Alpinia galanga Extract

Seung-Hwa YANG[1,4], Soon-Chang CHO[2], Young-Min KIM[3], Taeho LEE[1]
[1]Colorpink R&D Incorporation, Daejeon, Korea, [2]R&D Center, Nature Pure Korea Inc., Jeonnam, Korea, [3]The Clinical Trial Center for Bio-industry, Semyung University, Chungbuk, Korea, [4]Department of Biochemical and Polymer Engineering, Chosun University, Gwangju, Korea

S512 **08:55-09:20**

Functional Cosmetic Development Using Supercritical Extraction of Natural Products for Skin Disease

Sun Eun CHOI
Department of Beauty Science Kwangju Women's University, Gwangju, Korea

S513 **[Keynote Speech]**
09:20-09:45

Cosmetic Application of Bamboo Stem Extracts: The Present and Future

Hyun-Jae SHIN
Department of Chemical Engineering, Graduate School of Chosun University, Gwangju, Korea

S514 **09:45-10:15**

Development of Cosmetic Materials through Microorganism-fermentation and Bioconversion Technology

Je-Kyoung KIM
Qugen Biotech Co.. Ltd., Siheung-Si, Gyeonggi-Do, Korea

[S5-2] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망

April 11, 2019, 14:45–16:35 (Room E / 2F 사파이어홀)
Chair : Eun Yeol LEE (Kyunghee University)

14:45-14:50
Opening Remarks
Eun Yeol LEE
Department of Chemical Engineering, Kyung Hee University, Suwon, Korea

S521 **14:50-15:10**
A strategy for Cell-Free Screening of Molecular Chaperones That Assist Proper Folding Of hard-to-Express Proteins
Hye Jin LIM, Hyeon-Jung YANG, Dong-Myung KIM
Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Daejeon 34134, South Korea

S522 **15:10-15:30**
Genetic Engineering Tool for Methanotrophs
Dokyun NA
School of integrative engineering, Chung-Ang University, Seoul, Korea

S523 **15:30-15:50**
Acid Adaptation of Methane Oxidation
Ngoc-Loi NGUYEN, Woon-Jong YU, Samuel Imisi AWALA, Lorraine BELLOSILLO, and Sung-Keun RHEE
Department of Microbiology, Chungbuk National University, Cheongju, Chungbuk, Korea

S524 **15:50 -16:05**
Development of Methane Bioreactors to Produce C4-carbons Based on Syntrophic Cultivation of Methanotroph with Non-Methanotroph Partners
Seung-Goo LEE[1,2]
[1]Synthetic Biology and Bioengineering Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Daejeon, Korea, [2]Department of Biosystems and Bioengineering, KRIBB School of Biotechnology, University of Science and Technology (UST), Daejeon, Korea

S525 **16:05 -16:20**
Background for the Stereospecific Condensation of Two Acetaldehydes Using 2-Oxoglutarate Dehydrogenase E1 Subunit from Vibrio vulnificus
Pil-Won SEO[1], Hye-Jin JO[2], Jin-Byung PARK[2], Jeong-Sun KIM[1]
[1]Department of Chemistry, Chonnam National University, Gwangju, Korea, [2]Department of Food Science and Engineering, Ewha Womans University, Seoul, Korea

S526 16:20 -16:35

Synthetic Biology Based Enzyme Engineering for C1 Gas Bioconversion

Soo-Jin YEOM[1], Seung-Goo LEE[1,2]

[1]Synthetic Biology & Bioengineering Research Center, KRIBB, Daejeon, Korea, [2]Department of Biosystems & Bioengineering, KRIBB School of Biotechnology, University of Science & Technology, Daejeon, Korea

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[S5-3] 신진연구자를 위한 포럼 I: 생물공정, 대사공학

April 11, 2019, 14:45–16:15 (Room D / 2F아메티스트홀)
Chair : June-Hyung KIM (Dong-A University)

14:45-14:55
인사말씀
이희찬
한국생물공학회장

S531 **14:55-15:15**
Cost-effective Biorefinery Strategy: Organic Wastes Utilization and Enzymatic Conversion Process
Hah Young YOO
Department of Biotechnology, Sangmyung University, Seoul, Korea

S532 **15:15-15:35**
Advanced Biorefinery by Synergistic Whole-cell Biocatalyst Equipped Biomimetic Enzyme Complexes Based on Principle of Cellulosome
Jeong Eun HYEON
Department of Food Science and Biotechnology, Sungshin Women's University, Seoul, Korea

S533 **15:35-15:55**
Challenges in the Conversion of Renewable Resources to Biofuels
Ja Kyong KO
Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Seoul, Korea

S534 **15:55-16:15**
Engineering a Spermidine Biosynthetic Pathway in Saccharomyces cerevisiae Results in Increased Resistance to Multiple Lignocellulose-Derived Inhibitors
Sun-Ki KIM
Department of Food Science and Technology, Chung-Ang University, Anseong, Korea

[S5-4] 신진연구자를 위한 포럼 II: 바이오센서, 나노바이오, 항체

April 11, 2019, 16:45–18:25 (Room D / 2F아메티스트홀)
Chair : Jong Wook HONG (Hanyang University)

S541 **16:45-17:05**

Microneedle-Based Sensors for Continuous Monitoring

Yun Jung HEO
Department of Mechanical Engineering, Kyung Hee University, Gyeonggido, Korea

S542 **17:05:17:25**

Non-destructive Assembly of a Nano-bio Hybrid System in Large-scale for Electrochemical Biosensor Applications

Heeho AHN[1], Dongwook LEE[1], Kyowook HWANG[1], Sangwon LEE[1], Kyoung-Ik MIN[1], Eun-Hee LEE[2], Seung-Woo LEE[1]
[1]Department of Fine Chemistry, Seoul National University of Science and Technology, Seoul, Korea, [2]Department of Environmental Science and Engineering, Ewha Womans University, Seoul, Korea

S543 **17:25-17:45**

Development of Engineered Antibodies for Effective Diagnostics and Immunotherapy

Jaekeun LEE[1], Jeongsu YOO[1], DongHyun LEE[1], Byung-Gee KIM[2], Hiroshi UEDA[3], Hee-Jin JEONG[1]
[1]Department of Biological and Chemical Engineering, Hongik University, Korea, [2]Department of Chemical and Biological Engineering, Seoul National University, Korea, [3]Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, Japan

S544 **17:45-18:05**

Bacterial Secretion System as a Controllable Drug-Delivery Platform

Miryoung SONG
Department of Bioscience and Biotechnology, Hankuk University of Foreign studies, Yongin, Korea

S545 **18:05-18:25**

Generation of Nucleic Acid Nanomachines That Perform Complex Functions

Seung Soo OH
Department of Materials Science and Engineering, Pohang University of Science and Technology (POSTECH), Gyeongbuk, Korea

[S5-5] 구윤모 교수 정년퇴임기념 특별심포지엄

April 11, 2019, 16:45–18:30 (Room F / 2F 제이드홀)
Chair : Sung Ho HA (Hannam University), Jin Il KIM (Celltrion)

S551 **16:45-17:15**
Trend in Bioseparation
Yoon-Mo KOO
Department of Biological Engineering, Inha University, Incheon, Korea

S552 **17:15-17:30**
Trend of Continuous Downstream Process in Biopharamaceutical Industries
Jin Il KIM
Research and Development Division, Celltrion, Incheon, Korea

S553 **17:30-17:45**
Application of Ionic Liquids in Biological Processes
Ngoc Lan MAI, Yoon-Mo KOO
Department of Biological Engineering, Inha University, Incheon, Korea

S554 **17:45-18:00**
Green Solvents for Biopolymer Processing
Sang Hyun LEE
Dept. of Biological Engineering, Konkuk University, Seoul, Korea

S555 **18:00-18:15**
History of AFOB
Yoon-Mo KOO
Department of Biological Engineering, Inha University, Incheon, Korea

S556 **18:15-18:30**
Current Status and Prospect
Tai Hyun PARK
School of Chemical and Biological Engineering, Institute of Chemical Process, Seoul National University, Seoul,Korea.

[S5-6] 생물학적 C1 가스 전환 기술의 최신 동향 및 전망 II

April 12, 2019, 09:00–10:45 (Room B / 2F 크리스탈홀)
Chair : Yong Hwan KIM (UNIST)

09:00 -09:05
Opening Remarks
Yong Hwan KIM
School of Energy and Chemical Engineering, UNIST, Ulsan, Korea

S561 **09:05 -09:25**
Efficient Production of n-C6 Acid & Alcohol from CO by Clostridium sp. JS66
Jaehyeon KIM[1,2], Kyungsik KIM[1,2], Ki-Yeon KIM[2], Kyung Heon KIM[1], Youngsoon UM[2]
[1]Department of Biotechnology, Graduate School, Korea University, Seoul, Korea, [2]Korea Institute of Science and Technology (KIST), Clean energy research center, Seoul, Korea

S562 **09:25 -09:45**
Unraveling Acetogenic Metabolism in C1 Fixing Eubacterium Limosum via a Genome-scale Metabolic Network Reconstruction and CRISPR/Cas9
Yoseb Song, Jongoh SHIN, Seul-Gi KANG, Sangrak JIN, and Jin-Soo LEE, Byung-Kwan CHO
Department of Biological Sciences and KI for the BioCentury, Korea Advanced Institute of Science and Technology, Daejeon, Korea.

S563 **09:45 -10:05**
Development of Hyper Acetate Producing Acetogen from Carbon Monoxide Utilization
Hyunsoo KANG[1], Jiyeong JEONG[1], Mungyu LEE[1], Ji-Yeon KIM[1], Soyoung OH[1], Nulee JANG[1], Minseok CHA[1], Byeonghyeok PARK[2], In-Geol CHOI[2] and In Seop CHANG[1]
[1]School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea, [2]School of Life Sciences and Biotechnology, Korea University, Seoul, Korea

S564 **10:05 -10:25**
Assimilation of Formic Acid and CO2 by Engineered Escherichia coli Equipped with Reconstructed One-Carbon Assimilation Pathways
Junho BANG[1,2] and Sang Yup LEE[1,2,3]
[1]Metabolic and Biomolecular Engineering National Research Laboratory, Department of Chemical and Biomolecular Engineering (BK21 Plus Program), Institute for the BioCentury, Korea Advanced Institute of , Science and Technology (KAIST), Daejeon, Korea, [2]Systems Metabolic Engineering and Systems Healthcare Cross-Generation Collaborative Laboratory, KAIST, Daejeon, Korea, [3]BioInformatics Research Center and BioProcess Engineering Research Center KAIST, Daejeon, Korea

S565 10:25 -10:45

Production of 3-Hydroxypropionic Acid from Acetate Using Metabolically Engineered Bacterial Strains

Sunghoon PARK

School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Ulsan, Korea

Co-organized by

April 12, 2019, 09:00–10:30 (Room D / 2F 아메티스트홀)
Chair : Jin Woo KIM (Sunmoon University)

S571 **09:00-09:15**

Asymmetric Synthesis of Chiral Amines Using Transaminase with In Situ Product Removal

Sang-Woo HAN, Jong-Shik SHIN
Department of Biotechnology, Yonsei University, Korea

S572 **09:15-09:30**

Regioselective Synthesis of Novel Ortho-Hydroxylated Equols Using Engineered Microbial Oxygenases

Pyung-Gang LEE[1,2,3], Joonwon KIM[1,2], Byung-Gee KIM[1,2,3]
[1]School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea, [2]Institute of Molecular Biology and Genetics, Seoul National University, Seoul, Korea, [3]Institute of Engineering Research, Seoul National University, Seoul, Korea

S573 **09:30-09:45**

Use of 3-hydroxypropionic Acid-inducible Promoters for Efficient Production of the Acid from Glycerol in Pseudomonas sp.

Nam Hoai NGUYEN[1,2,3], Somasundar ASHOK[3], Satish Kumar AINALA[3], Jeung-Yeop SHIM[3], Sunghoon PARK[1,2]
[1]School of Chemical and Biomolecular Engineering, Pusan National University, Busan, Korea, [2]School of Energy and Chemical Engineering, UNIST, Ulsan, Korea, [3]NOROO Holdings Co., Ltd., Suwon, Korea

S574 **09:45-10:00**

Engineering Cell Membranes to Improve Escherichia coli as whole-cell Biocatalysts

Jonghyeok SHIN
Department of Integrative Biotechnology, College of Biotechnology and Bioengineering, Sungkyunkwan University, Suwon, Korea

S575 **10:00-10:15**

Improvement of Galactose Consumption by Saccharomyces cerevisiae through Metabolic Engineering of GAL Genes Using CRISPR/Cas9 System from Red Seaweed, Kappapycus Alvarezii Hydrolysat

In Yung SUNWOO[1], Pailin SUKWONG[1], Deok Yeol JEONG[2], Soo Rin KIM[2], Gwi-Taek JEONG[1], Sung-Koo KIM[1]
[1]Department of Biotechnology, Pukyong National University, Busan, Korea [2]Department of Food Science and Biotechnology, Kyungpook National University, Daegu, Korea

S576 **10:15-10:30**

Synergistic and Oxidative actions of Auxiliary Activity 9 (AA9) on Lignocellulosic Substrates

In Jung KIM, Kyoung Heon KIM
Department of Biotechnology, Graduate School, Korea University, Seoul, Korea

April 12, 2019, 14:45–16:15 (Room D / 2F 아메티스트홀)
Chair : Tae-Joon JEON (Inha University)

S581 **14:45-15:00**

A Paper-Strip Device-Based Extraction and Detection of DNA/RNA from Complex Biological Samples

Bhagwan S. BATULE, Youngung SEOK, Min-Gon KIM
Department of Chemistry, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea

S582 **15:00-15:15**

Genetic Engineering of Nannochloropsis salina for Enhancing the Lipid Productivity

Hyun GI KOH[1,2], Namkyu KANG[1,2], Seungjib JEON[1,2], Bongsoo LEE[2], Byeong-Ryool JEONG[2], Yong Keun CHANG[1,2]
[1]Advanced Biomass R&D Center, KAIST, Daejeon, Korea, [2]Department of Chemical & Biomolecular Engineering, KAIST, Daejeon, Korea

S583 **15:15-15:30**

Construction of an Immunotoxin Based on a Full-length Antibody via Site-specific Conjugation of Trastuzumab and Pseudomonas exotoxin A

Byeong Sung LEE[1], Jisoo PARK[1], Yumi LEE[1], Bo seok JEONG[1], Sang Woo LEE[1], Tae Hyeon YOO[1,2]
[1]Department of Molecular Science and Technology, Ajou University, Suwon, Korea, [2]Department of Applied Chemistry and Biological Engineering, Ajou University, Suwon, Korea

S584 **15:30-15:45**

Sustainable Microalgal Ocean Cultivation Utilizing Nutrients in Seawater Using Floating Ponds with Semi-Permeable Materials

Hanwool PARK[1,2], Ki-Hyun KIM[1], Yonghee CHO[1], Junho KIM[1], Sung-Mo KANG[1], Sang-Min LIM[1,2], Choul-Gyun LEE[1,2]
[1]Marine Bioenergy R&D Consortium, Inha University, Incheon, Korea, [2]Department of Marine Science & Biological Engineering, Inha University, Incheon, Korea

S585 **15:45-16:00**

Engineering Hydrogel for Selective Permeation of Biomolecules

Yun Jung YANG[1], Bradley D. OLSEN[2]
[1]Department of Chemical Engineering, Pohang University of Science and Technology, Pohang , Korea, [2]Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA

S586 **16:00-16:15**

Enhanced Therapeutic Angiogenesis in Mouse Hindlimb Ischemia Model by Electrical Stimulation and Extracellular Matrix

Gun-Jae JEONG[1], Suk Ho BHANG[2], Dong-Ik KIM[1]
[1]Department of Vascular Surgery, Samsung Medical Center, Seoul, Korea, [2]School of Chemical Engineeirng, Sunkyunkwan University, Suwon, Korea

[S5-9] 막생명공학의 최신동향

April 12, 2019, 14:45–16:30 (Room A / 1F 컨벤션홀)
Chair : Jae Youl CHO (Sungkyunkwan University)

S591 **14:45-15:10**
Controlling Membrane Fusion for Antiviral Nano-Perforators and Neuroexocytosis Modulators
Dae-Hyuk KWEON
Department of Integrative Biotechnology, Sungkyunkwan University, Suwon, Korea

S592 **15:10-15:35**
Distinct Property of Synaptic Vesicle Fusion and Recycling between Excitatory and Inhibitory Nerve Terminals
Sung Hyun KIM
Department of Physiology, School of Medicine, Kyung Hee University, Seoul, Korea

S593 **15:35-16:00**
Scramblase TMEM16F controls T-cell activation.
Ji Hyung KIM
College of Life Sciences andBiotechnology, Korea University, Seoul, Korea

S594 **[Keynote Speech]**
16:00-16:30
Single-molecule Functional Screening for Inhibitors of the HER2-HER3 Heterodimer
Tae-Young YOON
School of Biological Sciences and Institute for Molecular Biology and Genetics, Seoul National University, Seoul, Korea

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April 12, 2019, 14:45–16:10 (Room B / 2F 크리스탈홀)
Chair : Jeong-Geol NA (Sogang University)

14:15-16:10
Opening Remarks
Jeong-Geol NA
Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Korea

S5101 **14:50 -15:10**
Advanced Bioprocess for the Production of High Value Chemicals from Carbon Monoxide
Gyoo Yeol JUNG[1,2]
[1]School of Interdisciplinary Bioscience and Bioengineering, POSTECH, Pohang, Gyeongbuk, Korea, [2]Department of Chemical Engineering, POSTECH, Pohang, Gyeongbuk, Korea

S5102 **15:10 -15:30**
Sustainable Ethanol Fermentation from Syngas by Clostridium autoethanogenum in a Stirred Tank Reactor
Byung-Keun OH
Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Republic of Korea

S5103 **15:30 -15:50**
Succinic Acid Production from Methane Using a Type I Methanotroph Strain, Methylomonas sp. DH-1
Min-Sik KIM[1], Azka Nur AFFIFAH[1], Susila HADIYATI[1], Diep Thi Ngoc NGUYEN[2], Myounghoon MOON[1], Sang Min LEE[1], Gwon Woo PARK[1], Soo Youn LEE[1], Joon-pyo LEE[1], Jin-suk LEE[1]
[1]Gwang-ju Bio/Energy R&D center, Korea Institute of Energy Research, Gwang-ju, Korea, [2]Department of Chemical Engineering, Kyung Hee University, Gyeonggi-do, Korea

S5104 **15:50 -16:10**
Enhancement of Nanofluid Stability, Mass Transfer, and heat Transfer with Nanocellulose
Eungsu KANG[1], Hwaheon JE[2] ,Yoo Seong CHOI[1], and Dong Soo HWANG[2,3]
[1]Department of Chemical Engineering & Applied Chemistry Chungnam National University, Korea, [2]Division of Integrative Biosciences and Biotechnology, Pohang University of Science and Technology (POSTECH), Pohang, Korea , [3]Division of Environmental Science and Engineering, Pohang University of Science and Technology (POSTECH), Pohang, Korea

S5105 **16:10 -16:30**

Development of Bioconversion Strategies for High-value Utilization of C1 Compounds

Young Joo YEON[1] and Jin Won LEE[2]

[1]Department of Biochemical Engineering, Gangneung-Wonju National University, Gangneung, Korea,
[2]Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Korea,

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06

SPECIAL EVENT

- [S6-1] [런천세미나] AjinomotoGenexine Co,. Ltd 아지노모도제넥신
- [S6-2] [런천세미나 II] 정진특허 – 연구 개발부터 기술이전까지의 IP strategy
- [S6-3] [런천세미나III] Springer Nature – Impact 있는 논문을 쓰는 방법

[S6-1] [런천세미나] AjinomotoGenexine Co,. Ltd / 아지노모도제넥신

April 11, 2019, 11:45–12:45 (Room B / 2F 크리스탈홀)

S611 **How Can OCS Center Help You Optimize Your Cell-Culture Media?**
Yaron R SILBERBERG
AjinomotoGenexine Co,. Ltd.

S612 **StemFit, Cell Culture Media for iPS/ES Cells**
Onuki HAJIME
AjinomotoGenexine Co,. Ltd.

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April 12, 2019, 12:00–13:30 (Room B / 2F 크리스탈홀1)

S621 **IP-R&D 전략, 연구자가 알아야 할 특허 제도 및 기술 이전 노하우에 대한 소개**
정진특허

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[S6-3] [런천세미나III] Springer Nature - Impact 있는 논문을 쓰는 방법

April 12, 2019, 12:00–13:00 (Room C / 2F 크리스탈홀2)

S611 **논문 작성법**

Open Access의 이점 (Open Access 설명 및 Open Choice 소개, 출판 독려)
논문과 윤리 (흔하게 문제가 되는 것들 eg. 중복게재, 표절, 결과 조작, 유령저자 등)
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