

# August 26 (TUE)

## O1

### Student Oral Presentation I

13:30-14:10

R301

**O1-1 13:30**

**Long-acting multifunctional drug delivery system based on chitosan for pharmacotherapy of glaucoma-related neurodegeneration**

Ahmed Hassan (Chang Gung University, Taiwan)

**O1-2 13:40**

**The development of long-term electrocardiographic biosensing system with bioadhesive cellulose-based conductive hydrogel**

Kai-Hsiang Chang (National Taiwan University, Taiwan)

**O1-3 13:50**

**A thermosensitive hydrogel with antibacterial and pro-healing properties for chronic wound treatment**

Hsiao-Yi Chen (National Yunlin University of Science and Technology, Taiwan)

**O1-4 14:00**

**Chitosan-enriched zinc nanoparticles synthesized from the exoskeleton of austinogobia edulis: evaluation of wound healing, antibacterial, and anticancer activities**

Murugan Vasanthakumaran (National Taiwan Ocean University, Taiwan)

## O2

### Student Oral Presentation II

14:20-15:10

R301

**O2-1 14:20**

**High-quality chitin from crab shells via fast and eco-friendly extraction**

Rou Li (National Taiwan Ocean University, Taiwan)

**O2-2 14:30**

**Physicochemical properties of chitin stored in alkaline aqueous solvent system**

Vivian Christabel (National Taiwan Ocean University, Taiwan)

**O2-3 14:40**

**Development of Sustainable bacterial cellulose/chitosan/waterborne polyurethane composites for eco-friendly food packaging**

Cheng-Ying Li (National Taiwan University, Taiwan)

**O2-4 14:50**

**Impacts of developmental stage and diet on chitosan yield from black soldier fly via microwave-assisted extraction**

Nur Aliah Natasha Binti Azmi (Universiti Teknologi MARA, Malaysia)

**O2-5 15:00**

**Structural-based study of multi-domain chitodextrinase in vibrio cholerae and vibrio harveyi by allosamidin and functionalizes in utilizing chitooligosaccharides**

Kanokbhorn Khumnonkhro (Vidyasirimedhi Institute of Science and Technology, Thailand)

# August 26 (TUE)

## O3

### Student Oral Presentation III

13:30-14:10

R302

**O3-1 13:30**

**Advanced 3D cartographic insights into the near-native subcellular structures and biophysical changes in microbial cells during chitosan-induced fungal inactivation**

Ying-Chen Chen (National Chung Hsing University, Taiwan)

**O3-2 13:40**

**Modulation of the tumor microenvironment using hya-based nanoparticles for postoperative breast cancer therapy**

Ping-Hsun Hsieh (National Yang Ming Chiao Tung University, Taiwan)

**O3-3 13:50**

**Electrophoretic fabrication of stable zn nanoparticles encapsulated in chitosan/ polyethylene glycol hydrogels**

Yu-Jun Wang (National Yang Ming Chiao Tung University, Taiwan)

**O3-4 14:00**

**Development of multifunctional nanocereria for the treatment of dry eye disease**

Chia-Jung Yang (Chang Gung University, Taiwan)

## O4

### Student Oral Presentation IV

14:20-15:10

R302

**O4-1 14:20**

**Heavy metal adsorption efficiency of chitosan/star-shaped polycaprolactone cryogel and hydrogel**

Pennapa Amonkol (Kasetsart University, Thailand)

**O4-2 14:30**

**Superswellable chitosan microneedles for versatile biomarker detection from skin interstitial fluid**

Cheng-Hsun Chuang (National Cheng Kung University, Taiwan)

**O4-3 14:40**

**Screening chitinolytic bacteria for chitosan production using mushroom mycelium**

Samkelo Dlamini (National Pingtung University of Science and Technology, Taiwan)

**O4-4 14:50**

**Green synthesis and characterization of chitosan-cellulose nanofiber films enhanced with black soldier fly oil for sustainable food packaging**

Annisa Istiqomah (National Taiwan University, Taiwan; Academia Sinica, Taiwan)

**O4-5 15:00**

**Sustainable high-yield production of prodigiosin using chitin-/protein-rich byproducts combination and its novel anti-alzheimer's potential: an experimental and virtual study**

Thi Hanh Nguyen (Tamkang University, Taiwan)

# August 27 (WED)

## P1

**Plenary  
Lecture I**

**09:00-09:30**

**Lecture Hall**

Chair: Hsing-Wen Sung (National Tsing Hua University, Taiwan)

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### **Chemical Synthesis of Chito-Hetero-Oligosaccharides**

Toshinari Kawada (Kyoto Prefectural University, Japan)

## P2

**Plenary  
Lecture II**

**09:30-10:00**

**Lecture Hall**

Chair: Hsing-Wen Sung (National Tsing Hua University, Taiwan)

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### **Water-based Chitosan: A Simple but Best System for Developing Chitosan Materials**

Suwabun Chirachanchai (Chulalongkorn University, Thailand)

## S1-1

**Biotechnology I**

**10:20-11:25**

**R301**

Chair: Trang Si Trung (Nha Trang University, Vietnam)  
Kazushi Suzuki (Niigata University, Japan)

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**S1-1-1      10:20    [Keynote]**

**Regulatory roles of ChiX sRNA in the control of chitinolytic enzyme expression in *Serratia***

Kazushi Suzuki (Niigata University, Japan)

**S1-1-2      10:40    [Keynote]**

**Chitosan-based adjuvants enhance the humoral immune response of barramundi to an inactivated vibrio harveyi vaccine**

Trang Si Trung (Nha Trang University, Vietnam)

**S1-1-3      11:00    [Invited]**

**Unraveling the antifungal arsenal: characterization of a thermostable marine chitinase**

Ritu Raval (Manipal Academy of Higher Education, India)

**S1-1-4      11:15**

**Screening of various process parameters for the development of a natural, biodegradable polymer carrier matrix for microorganism immobilization through the polyelectrolyte complexation route**

Aileen Grace Ongkiko (Université Claude Bernard Lyon, France; University of the Philippines, Philippines)

# August 27 (WED)

## S1-2

### Biotechnology II

11:25-12:30

R301

Chair: Yu-Hsin Lin (National Yang Ming Chiao Tung University, Taiwan)  
Bruno M. Moerschbacher (University of Münster, Germany)

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**S1-2-1**      **11:25**    [Keynote]

**Do patterns matter? controlling the acetylation patterns of chitosans**

Bruno M. Moerschbacher (University of Münster, Germany)

**S1-2-2**      **11:45**    [Invited]

**MoGH18, a family 18 glycoside hydrolase of the rice blast fungus *Magnaporthe oryzae*, is a reducing end GlcNAc-releasing exo-oligochitinase**

Takayuki Ohnuma (Kindai University, Japan)

**S1-2-3**      **12:00**    [Invited]

**Chitosan-based nanoparticles for site-specific delivery and therapeutic evaluation in cancer**

Yu-Hsin Lin (National Yang Ming Chiao Tung University, Taiwan)

**S1-2-4**      **12:15**

**Design strategy for self-nitrogen-doped porous carbon nanofibers derived from bio-based chitosan/zeolite composites as effective adsorbents for chronic kidney disease patients**

I-Hsuan Yang (National Sun Yat-sen University, Taiwan)

## S2-1

### Nanotechnology I

10:20-11:25

R302

Chair: Shinsuke Ifuku (Kyoto University / Tottori University, Japan)  
Kadarkarai Murugan (Bharathiar University, India)

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**S2-1-1**      **10:20**    [Keynote]

**Preparation of nanochitin from crickets and their legs, and comparison with that from crab shells**

Shinsuke Ifuku (Kyoto University, Japan; Tottori University, Japan)

**S2-1-2**      **10:40**    [Invited]

**Chitosan-based nanomaterials from natural sources: toward sustainable innovations in health, agriculture, aquaculture and environmental sustainability**

Kadarkarai Murugan (Bharathiar University, India)

**S2-1-3**      **10:55**    [Invited]

**Use of layer-by-layer technique to enhance the drug loading and sustained release characteristics of chitosan-based electrospun nanofiber membranes**

Hsyue-Jen Hsieh (National Taiwan University, Taiwan)

# August 27 (WED)

## S2-2

### Nanotechnology II

11:25-12:30

R302

Chair: Tin Wui Wong (Universiti Teknologi Mara, Malaysia)  
Yi-Cheun Yeh (National Taiwan University, Taiwan)

#### S2-2-1 11:25 [Keynote]

##### Chitosan and cancer nanomedicine development

Tin Wui Wong (Universiti Teknologi Mara, Malaysia)

#### S2-2-2 11:45 [Invited]

##### Fabrications of dextran/chitosan hybrid hydrogels through crosslinker design

Yi-Cheun Yeh (National Taiwan University, Taiwan)

#### S2-2-3 12:00 [Invited]

##### Enhancing nematocidal effect of prodigiosin via micro-encapsulation using chitosan as a novel carrier substance

Van Bon Nguyen (Tay Nguyen University, Vietnam)

## S3

### Physicochemical Aspects

13:30-15:10

R301

Chair: Francisco M Goycoolea (University of Leeds, United Kingdom /  
Universidad de Murcia, Spain)  
Dong Soo Hwang (Pohang University of Science and Technology,  
Korea)

#### S3-1 13:30 [Keynote]

##### Interaction between chitosan and epidermal growth factor and a proposed mechanism involving chitosan's bioactivity

Dong Soo Hwang (Pohang University of Science and Technology, Korea)

#### S3-2 13:50 [Keynote]

##### Physical and covalent chitosan gel systems with tuneable properties for enantiomeric separation of small molecules

Francisco M. Goycoolea (University of Leeds, United Kingdom; Universidad de Murcia, Spain)

#### S3-3 14:10 [Invited]

##### Development of an eco-friendly approach to inorganic shell coating on chitosan particles

Satoshi Tanimoto (The University of Shiga Prefecture, Japan)

#### S3-4 14:25

##### X-ray crystal structure analysis and theoretical calculations of chitosan-zinc chloride complex: proposal for a zinc coordination structure of crystalline state

Toshifumi Yui (University of Miyazaki, Japan)

#### S3-5 14:37

##### Investigation of tough, transparent, and extensible chitin aerogel

Yuto Kaku (Japan Agency for Marine-Earth Science and Technology, Japan)

# August 27 (WED)

## S4

### Environmental Applications

13:30-15:10

R302

Chair: Dongyeop Oh (Inha University, Korea)

Anatoly Zinchenko (Nagoya University, Japan)

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**S4-1            13:30    [Keynote]**

**Chitosan-based polyion networks and nanofibrous composites for environmental and soil improvement applications**

Anatoly Zinchenko (Nagoya University, Japan)

**S4-2            13:50    [Invited]**

**Dielectric barrier discharge plasma-assisted surface coating of chitosan/silica nanoparticles hydrogel composites on mulch films for releasing of plant growth promoters**

Ratana Rujiravanit (Chulalongkorn University, Thailand; Center of Excellence on Petrochemical and Materials Technology, Thailand)

**S4-3            14:05    [Invited]**

**Marine waste-derived chitin as biological stimulants for regulating poly(3-Hydroxybutyrate-co-3-hydroxyvalerate) degradation in marine environments**

Miwa Suzuki (Gunma University Center for Food Science and Wellness, Japan; Gunma University, Japan)

**S4-4            14:20    [Invited]**

**Engineering wet adhesion of chitin nanoparticles for biomedical and environmental interfaces**

Dongyeop Oh (Inha University, Korea)

**S4-5            14:35**

**Enhanced short-term photovoltaic power forecasting using self-organizing maps and self-attention mechanisms for environmental sustainability**

Sheng-Ting Liu (National Taipei University of Technology, Taiwan)

## S5

### Food / Nutrition and Other Applications

16:00-17:40

R302

Chair: Ubonrat Siripatrawan (Chulalongkorn University, Thailand)

Chi-Yang Chao (National Taiwan University, Taiwan)

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**S5-1            16:00    [Invited]**

**Ion conductive chitosan derivatives for effective hydrogen evolution systems and highly stable lithium ion batteries**

Chi-Yang Chao (National Taiwan University, Taiwan)

**S5-2            16:15    [Invited]**

**Fabrication and characterization of chitosan-based oral formulations for anti-obesity applications**

Tse-Ying Liu (National Yang Ming Chiao Tung University, Taiwan)

# August 27 (WED)

## S5

### Food / Nutrition and Other Applications

16:00-17:40

R302

Chair: Ubonrat Siripatrawan (Chulalongkorn University, Thailand)

Chi-Yang Chao (National Taiwan University, Taiwan)

**S5-3 16:30**

#### **Sulfonated chitosan-directed conjugated polymer dot nanostructures for dual electrochemical sensing and CO<sub>2</sub> photoreduction**

Bhuvanenthiran Mutharani (Chang Gung University, Taiwan)

**S5-4 16:42**

#### **Bio-based intumescent flame retardant derived from chitosan for high-performance epoxy composites: toward circular economy and environmental sustainability**

Chane-Yuan Yang (National Chin-Yi University of Technology, Taiwan)

**S5-5 16:54**

#### **Active chitosan film incorporated with cinnamon oil nanoemulsion and cold plasma treatment for preserving food quality**

Ubonrat Siripatrawan (Chulalongkorn University, Thailand)

## S6-1

### Medical Application I

16:00-17:40

R301

Chair: Tzu-Wei Wang (National Tsing Hua University, Taiwan)

Makoto Anraku (Sojo University, Japan)

**S6-1-1 16:00 [Keynote]**

#### **Evaluation of guanidinylated chitosan as pharmaceutical material**

Makoto Anraku (Sojo University, Japan)

**S6-1-2 16:20 [Keynote]**

#### **Application of natural resources as 3D bioprinting biomaterials**

Hoon Seonwoo (Sunchon National University, Korea)

**S6-1-3 16:40 [Invited]**

#### **Chitosan-coated liposomes for enhanced oleuropein delivery and anti-inflammatory activity in endothelial cells**

Pornchai Rojsitthisak (Chulalongkorn University, Thailand)

**S6-1-4 16:55 [Invited]**

#### **Antibacterial evaluation of chitosan-modified tricalcium silicate bioceramics for dental pulp capping**

An-Cheng Aidan Sun (Yuan Ze University, Taiwan; Ming-kuan Biomedical Technology Corporation, Taiwan)

**S6-1-5 17:10 [Invited]**

#### **Hierarchical assembly of interfacial polyelectrolyte complexation fibers for ligament regeneration**

Tzu-Wei Wang (National Tsing Hua University, Taiwan)

# August 27 (WED)

## S6-1

### Medical Application I

16:00-17:40

R301

Chair: Tzu-Wei Wang (National Tsing Hua University, Taiwan)

Makoto Anraku (Sojo University, Japan)

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**S6-1-6      17:25 [Invited]**

#### **Versatile PEGylated chitosan-decorated polydopamine nanomedicine for combination cancer therapy**

Wen-Hsuan Chiang (National Chung Hsing University, Taiwan)

**S6-1-7      17:40**

#### **Wet spinning of chitosan/zirconium phosphate fibers**

Ivy Ann Razonado (Université Claude Bernard Lyon, France; University of the Philippines - Diliman, Philippines)



# August 28 (THU)

## P3

### Plenary Lecture III

09:00-09:30

Lecture Hall

Chair: San-Lang Wang (Tamkang University, Taiwan)

#### Chitosan as Smart Biomaterials

Shan-hui Hsu (National Taiwan University, Taiwan)

## P4

### Plenary Lecture IV

09:30-10:00

Lecture Hall

Chair: San-Lang Wang (Tamkang University, Taiwan)

#### Nano/Micro Composites Based on Chitosan as Novel Carriers for Antibiotics against AMR Pathogen Bacteria

Anh Dzung Nguyen (Tay Nguyen University, Vietnam)

## S6-2

### Medical Application II

10:20-11:25

R301

Chair: I-Chi Lee (National Tsing Hua University, Taiwan)

Yoshiharu Okamoto (Wolves Hand Co., Ltd., Japan)

#### S6-2-1 10:20 [Keynote]

##### Use of chitin nanofiber for severe skin damage in small animals

Yoshiharu Okamoto (Wolves Hand Co., Ltd., Japan)

#### S6-2-2 10:40 [Invited]

##### Hemocompatibility study of poly (L-lactic acid)/chitosan nanofiber with heparin modification as patch angioplasty for blood vessel reconstruction

Prihartini Widiyanti (Universitas Airlangga, Indonesia)

#### S6-2-3 10:55 [Invited]

##### Preparation and applications of injectable and thermally responsive hydrogels

I-Chi Lee (National Tsing Hua University, Taiwan)

# August 28 (THU)

## **S6-3** Medical Application III

11:25-12:30

R301

Chair: Kunn Hadinoto (Nanyang Technological University, Singapore)

Kang Moo Huh (Chungnam National University, Korea)

### **S6-3-1** 11:25 [Keynote]

**Solubility-enhanced nanoparticle complex of poorly-soluble drugs using chitosan co-former: from proof-of-concept to optimal production method and clinical potentials**

Kunn Hadinoto (Nanyang Technological University, Singapore)

### **S6-3-2** 11:45 [Keynote]

**Glycol chitosan-based thermogels for biomedical applications**

Kang Moo Huh (Chungnam National University, Korea)

### **S6-3-3** 12:05 [Invited]

**Using a new non-toxic aldehyde-based polymeric cross-linker to prepared maleoyl functional chitosan hydrogels for treating infectious wounds**

Chih-Kuang Chen (National Sun Yat-sen University, Taiwan)

### **S6-3-4** 12:20 [Invited]

**Injectable chitosan hydrogels: molecular design strategies for in situ gelation**

Wanpen Tachaboonyakiat (Chulalongkorn University, Thailand)

## **S7-1** Chemical Aspects I

10:20-11:25

R302

Chair: Tetsuya Furuike (Kansai University, Japan)

Chih-Yu Kuo (National Taipei University of Technology, Taiwan)

### **S7-1-1** 10:20 [Keynote]

**Preparation and properties of crosslinked chitosan gel**

Tetsuya Furuike (Kansai University, Japan)

### **S7-1-2** 10:40 [Invited]

**Systematic study of the temperature-induced, triple-staged, sol-gel-sol transition of the boronate ester hydrogels**

Chih-Yu Kuo (National Taipei University of Technology, Taiwan)

### **S7-1-3** 10:55 [Invited]

**Water soluble guanidinylated chitosan with a controlled degree of acetylation**

Hironori Izawa (University of Miyazaki, Japan)

### **S7-1-4** 11:10 [Invited]

**Preparation and characterization of chondroitin sulfate and chitosan nanocapsules encapsulating with fish oil by ionic gelation**

Chia-Hung Kuo (National Kaohsiung University of Science and Technology, Taiwan)

# August 28 (THU)

## **S7-2**      **Chemical Aspects II**

**11:25-12:30**

**R302**

Chair: Jun-Ichi Kadokawa (Kagoshima University, Japan)

Toshiyuki Takano (Graduate School of Agriculture, Japan)

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**S7-2-1      11:25      [Keynote]**

**Appeared progresses on the application of chitin and chitosan for our life**

Seiichi Tokura (Hokkaido University, Japan; Lodz Technical University, Poland)

**S7-2-2      11:45      [Keynote]**

**Efficient derivatization methods of chitin in ionic liquids and related solvents**

Jun-Ichi Kadokawa (Kagoshima University, Japan)

**S7-2-3      12:05      [Invited]**

**Preparation of hemin-bound chitosan flakes and their properties**

Toshiyuki Takano (Kyoto University, Japan)

**S7-2-4      12:20**

**A carboxymethyl-hexanoyl chitosan-based sponge for hemostasis and risk mitigation of postoperative bone tumor recurrence**

Yu-Chi Wang (National Yang Ming Chiao Tung University, Taiwan)

# August 29 (FRI)

## P5

### Plenary Lecture V

09:00-09:30

Lecture Hall

Chair: Da-Ming Wang (National Taiwan University, Taiwan)

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#### Chitosan-based Nano-delivery System: Past, Present and Future

Hyun Jin Park (Korea University, Korea)

## P6

### Plenary Lecture VI

09:30-10:00

Lecture Hall

Chair: Da-Ming Wang (National Taiwan University, Taiwan)

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#### Translational Research on Chitosan: Bridging Innovation and Healthcare

Jayakumar Rangasamy (Amrita University, India)

## S6-4

### Medical Application IV

10:20-11:25

R301

Chair: Er-Yuan Chuang (Taipei Medical University, Taiwan)

Ming-Hua Ho (National Taiwan University of Science and Technology,  
Taiwan)

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#### S6-4-1 10:20 [Invited]

##### Evolutionary hyperactivation of human acidic chitinase (Chia) for potential medical and agricultural use

Fumitaka Oyama (Kogakuin University, Japan)

#### S6-4-2 10:35 [Invited]

##### Engineered carboxymethyl chitosan hydrogels for biomedical applications

Yu-Jung Lin (Academia Sinica, Taiwan)

#### S6-4-3 10:50 [Invited]

##### The 3D printed chitosan phantoms with spontaneously generated porous structures for minimally-invasive ultrasound-guided surgeries

Ming-Hua Ho (National Taiwan University of Science and Technology, Taiwan)

#### S6-4-4 11:05 [Invited]

##### Wireless, self-powered phototrophic microalgae-embedded nanotherapeutic hydrogel accelerates diabetic wound repair

Andrew E.-Y. Chuang (Taipei Medical University, Taiwan)

# August 29 (FRI)

## S6-5

### Medical Application V

11:25-12:30

R301

Chair: Hsieh-Chih Tsai (National Taiwan University of Science and  
Technology, Taiwan)

Katja Richter (Heppe Medical Chitosan GmbH, Germany)

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**S6-5-1      11:25    [Keynote]**

**Redefining precision: chitosan-calibrated GPC for accurate molecular weight profiling**

Katja Richter (Heppe Medical Chitosan GmbH, Germany)

**S6-5-2      11:45    [Keynote]**

**BioLab-on-chip and 3D cell/chitosan hydrogel bioprinting for tissue engineering**

Anayancy Osorio Madrazo (University of Bayreuth, Germany)

**S6-5-3      12:05    [Invited]**

**Adaptive chitosan systems: from nanoparticles to hydrogels for integrated care**

Hsieh-Chih Tsai (National Taiwan University of Science and Technology, Taiwan)

**S6-5-4      12:20    [Invited]**

**Sustained intradermal delivery of gold nanoparticle-conjugated subunit vaccines via  
implantable chitosan microneedles to enhance robust and durable humoral immunity**

Mei-Chin Chen (National Cheng Kung University, Taiwan)

## S8

### Resource and Product

10:20-11:25

R302

Chair: Mitsumasa Osada (Shinshu University, Japan)

San-Lang Wang (Tamkang University, Taiwan)

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**S8-1          10:20    [Keynote]**

**The diversity and structural features of biomaterials used for producing chitin and chitosan**

Jae Kweon Park (Gachon University, Korea)

**S8-2          10:40    [Invited]**

**Environmentally sustainable techniques for chitin purification and preparation of chitin  
materials using only water**

Mitsumasa Osada (Shinshu University, Japan)

**S8-3          10:55**

**Preparation of chitin (chitosan) solvated gels and solutions through solvation of chitin**

Seiichi Tokura (Hokkaido University, Japan)

**S8-4          11:07**

**The fruitful effects of chitosan oligomers on the cultivation of vegetables**

Parvin Begum (Hokkaido University, Japan)

## S9

### **Chitosan and Other Biomaterials**

**11:25-12:30**

**R302**

Chair: Jui-Yang Lai (Chang Gung University, Taiwan)

Jia-Shing Yu (National Taiwan University, Taiwan)

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**S9-1            11:25   [Invited]**

#### **Functionalized chitosan coatings: Engineering antimicrobial surfaces**

Hsiu-Wen Chien (National Kaohsiung University of Science and Technology, Taiwan)

**S9-2            11:40   [Invited]**

#### **Bone morphogenetic protein-2-laden chitosan-based membrane for applications in bone differentiation**

Yi-Chen Li (Feng Chia University, Taiwan)

**S9-3            11:55   [Invited]**

#### **Biomaterial advances for dry eye therapy**

Jui-Yang Lai (Chang Gung University, Taiwan)

**S9-4            12:10   [Invited]**

#### **Engineering injectable, antioxidative, and adhesive hydrogel for biomedical and tissue regenerative applications**

Jiasheng Yu (National Taiwan University, Taiwan)

# Poster Session

## BIOTECHNOLOGY

### B-01

#### **Characteristics of chitinolytic bacterium *Bacillus licheniformis* CT-100 and its potential as a biocontrol agent**

Yeonji Han\*, Jinjung Woo (Chonnam National University, Korea)

### B-02

#### **Optimization of chitosanase activity in *Bacillus subtilis* EG1 and *Bacillus wiedmannii* DAM2**

Mi Dam Kim\*, Woo-Jin Jung (Chonnam National University, Korea)

### B-03

#### **Characterization of a chitinase- and cellulase-producing *Cellulomonas biazotea* M8N1 from rapeseed rhizosphere**

Seongeun Mun\*, Woojin Jung (Chonnam National University, Korea)

### B-04

#### **Inhibitory effects of abalone (*haliotis discus hannai*) viscera in LPS-induced colonic epithelial cells' activation and DSS-induced colitis in mice**

Jiyeon Chun\* (Suncheon National University, Korea), Ginnae Ahn (Chonnam National University, Korea), Mina Lee (Suncheon National University, Korea), Ji Yeon Choi, Hye Min Seol (Southeast Medi Chem Institute, Korea), Han-Gil Choi (Wonkwang University, Korea), Sun-Yup Shim (Suncheon National University, Korea)

### B-05

#### **Quaternized chitosan/polyaniline composite coatings: engineering antimicrobial surfaces with enhanced performance**

Fang-Xun Lian\*, Hsiu-Wen Chien (National Kaohsiung University of Science and Technology, Taiwan)

### B-06

#### **An injectable chitosan-pluronic hydrogel for sustained chemo-immunotherapy of glioblastoma via localized intratumoral delivery**

Shunhao Chuang\* (National Taiwan University of Science and Technology, Taiwan), Hsiehchih Tsai (National Taiwan University of Science and Technology, Taiwan; Chung Yuan Christian University, Taiwan)

### B-07

#### **Tannic acid-loaded oxidized alginate hydrogels: a functional biomaterial with promising wound dressing potential**

Bo-Chun Wang\*, Rashmiranjan Patra, Ya-Hui Tsai, Po-Chih Yang (Yuan Ze University, Taiwan), Yun Chen (Yuan Ze University, Taiwan; Far Eastern Memorial Hospital, Taiwan)

### B-08

#### **Eco-benign synthesis of chitosan-bacterial cellulose-gold nanocomposite from spent coffee kombucha: a biocompatible scaffold for antimicrobial and wound healing applications**

Ping-Ping Lin\* (National Taiwan University of Science and Technology, Taiwan), Chun-Chiang Huang (National Center for Instrumentation Research, Taiwan), Hsieh-Chih Tsai (National Taiwan University of Science and Technology, Taiwan; Chung Yuan Christian University, Taiwan)

### B-09

#### **Molecular arrangements that accompany binding of rice xylanase inhibitor protein OsXIP and the *Rhizopus oryzae* GH11 xylanase RXyn2**

Miki Okugawa\*, Takayuki Ohnuma (Kindai University, Japan)

# Poster Session

## BIOTECHNOLOGY

### B-10

#### **Identification of chitinolysome, an elaborate multichitinases nanomachine, in chitinbacter tainanensis degrading chitin into N-acetyl-D-glucosamine**

Chao-Lin Liu\*, Thi Nhat-Tuyen Nguyen (Ming Chi University of Technology, Taiwan), Jeen Kuan Chen (CPC Corporation, Taiwan), Chia Rui Shen (Chang Gung University, Taiwan)

### B-11

#### **Characterization and performance of chitosan/pluronic F127/silver nanoparticles composites as drug carriers**

Ting-Yu Liu\* (Ming Chi University of Technology, Taiwan), Andri Hardiansyah (National Research and Innovation Agency, Indonesia), Andri Hardiansyah (Brawijaya University, Indonesia), Hsiang-Ting Lan, Yu-Wei Cheng (Ming Chi University of Technology, Taiwan)

### B-12

#### **Enhanced multi-enzyme SWCNT/graphite/cobalt/chitosan biosensor for simultaneous determination of glucose, lactic acid, and urea**

Dong Sup Kim (Suncheon National University, Korea), Jinyoung Lee\* (Sangmyung University, Korea)

### B-13

#### **Preparation of Nano-Dispersible Sacchachitin by Freeze-Thaw Cycles for BDDE-Cross-linked Hydrogel Dressings with Antibacterial and Diabetic Wound Healing Properties**

Bang-Yu Wen\* (Yuanpei University of Medical Technology, Taiwan), Ray-Neng Chen (Mackay Junior College of Medicine, Nursing, and Management, Taiwan), Shih-Syuan Yeh, Yu-Ching Ku, Ling-Chun Chen (Yuanpei University of Medical Technology, Taiwan)

## CHEMICAL ASPECTS

### CA-01

#### **Solubility of guanidinylated chitosans having different degree of substitutions and molecular weights**

Miho Araki\*, Hironori Izawa (University of Miyazaki, Japan)

### CA-02

#### **Synthesis of cardanol-bonded mixed chitin esters with thermoplasticity**

Tatsuya Kawano\*, Masayasu Totani, Jun-Ichi Kadokawa (Kagoshima University, Japan)

### CA-03

#### **Preparation of environmental friendly bio-based flame retardant chitosan derivatives for enhanced fire safety performance of epoxy resins**

Hsuan-Han Kuo\*, Chin-Lung Chiang (National Chin-Yi University of Technology, Taiwan)

### CA-04

#### **Polymerization behaviors of PMMA on chitosan derivative by ATRP**

Hiroki Nagasawa\*, Hiroshi Tamura, Tetsuya Furuike (Kansai University, Japan)



# Poster Session

## CHEMICAL ASPECTS

### CA-05

#### **Preparation and physical property of chondroitin sulfate/chitosan-coated bacterial cellulose membranes**

Keigo Yanagino\*, Tomoki Okada, Hiroshi Tamura, Tetsuya Furuie (Kansai University, Japan)

### CA-06

#### **Development of fully biodegradable and low-toxicity organic solderability preservative (OSP) based on chitin and chitosan for sustainable electronics manufacturing**

Chung-Hung Hsieh (Tamkang University, Taiwan)

## ENVIRONMENTAL APPLICATION

### EA-01

#### **Comparative analysis of morphology and antifungal activity in chitin and chitosan extracted from *Tenebrio molitor***

Woo-Jin Jung (Chonnam National University, Korea), Yong-Su Song\* (Institute of Environmentally-Friendly Agriculture, Korea)

### EA-02

#### **Environmentally friendly germicidal agent based on photodynamic chitosan/iron oxide nanoparticles**

Yi-Cheng Ho\*, Yu-Teng Xu, Jia-Chen Zhou, Ssu-Chi Chang (National Chiayi University, Taiwan), Wei-Ting Lin (Ditmanson Medical Foundation Chia-yi Christian Hospital, Taiwan)

### EA-03

#### **Preparation and applications of iron(III)/graphene oxide/chitosan composite materials**

Yu-Wen Zhang\*, Yi Wen Huang, I Wen Chang, Kai Lun Hsieh, Shao Ung Wu (Ming Chi University of Technology, Taiwan)

### EA-04

#### **Development of a chitosan/graphene oxide composite for Cu(II) ion adsorption and tetracycline degradation via a fenton-like reaction**

Chen-Hua Teng\*, I-Wen Chang, Tsung-Wu Lai, Yun-Chen Tu, Yu-Syuan Lin, Shao-Jung Wu (Ming Chi University of Technology, Taiwan)

### EA-05

#### **Fabrication stable-superhydrophobic MD membrane based on high nonsolvent boiling temperature for enhanced seawater desalination**

Hau Thi Nguyen, Nguyen Cong Nguyen\* (Dalat University, Vietnam), Shiao-Shing Chen (National Taipei University of Technology, Taiwan)

### EA-06

#### **Fabrication of PSf/PEG-based support membranes via phase inversion for forward osmosis and future prospects for chitosan integration**

Nguyen Cong Nguyen, Hau Thi Nguyen\* (Dalat University, Vietnam), Shiao-Shing Chen (National Taipei University of Technology, Taiwan)

# Poster Session

## FOOD, NUTRITION AND OTHER APPLICATIONS

### FNO-01

#### **pH-Responsive nanoparticle carriers for the encapsulation of phycocyanin and their application in health food products**

Wei Xun Lin, Tsao-Jen Lin, Cheng-I Lee\* (National Chung Cheng University, Taiwan)

### FNO-02

#### **Design of imine-crosslinked random copolymer/chitosan hydrogels embedding anthocyanins for smart food packaging sensors**

Zhi-Wei Lu\*, Chih-Yu Kuo (National Taipei University of Technology, Taiwan)

### FNO-03

#### **Immunomodulatory effect of algal polysaccharides on cyclophosphamide-induced immunosuppressed mice**

Wei-Hao Huang, Pin-Yu Tsai\*, Chung-Hsiung Huang (National Taiwan Ocean University, Taiwan)

### FNO-04

#### **Evaluation of antibacterial effects of graphene oxide and chitosan with various molecular weights**

Melanie Valdrez\*, Chang Shun-Hsien (National Taiwan Ocean University, Taiwan)

### FNO-05

#### **Chitosan-based flame retardant system for simultaneously improving toughness and fire resistance of polybutylene succinate**

Hao-Yu Wang\*, Chih-Yu Kuo (National Taipei University of Technology, Taiwan)

### FNO-06

#### **Quaternized chitosan-based anion exchange membranes for high efficient hydrogen production**

Po-Yu Li\*, Bei-Ni Chen, Chi-Yang Chao (National Taiwan University, Taiwan)

### FNO-07

#### **Gel polymer electrolytes based on sulfonated chitosan-graft-PEO for lithium metal batteries**

Shih-Kang Yeo\*, Chi-Yang Chao (National Taiwan University, Taiwan)

### FNO-08

#### **Unravelling structural and functional insights into an archaeal GH18 chitinase from hydrothermal vent metagenomes**

Kotchamol Sakunsansern\*, Robert Charles Robinson (Vidyasirimedhi Institute of Science and Technology, Thailand)

### FNO-09

#### **Electrowriting of chitosan-based polysaccharide hydrogels and potential applications in deformation actuation and information encoding**

Si Wu\*, Weiwen Xu, Tao Feng (Wuhan University of Science and Technology, China)

# Poster Session

## MEDICAL APPLICATION

### MA-01

#### **Preparation of vitamin C-loaded maltodextrin/chitosan composite microspheres via ultrasonic atomization**

Z.-W. Cai, T.-Y. Lin, Kuo-Chung Cheng\* (National Taipei University of Technology, Taiwan)

### MA-02

#### **Injectable hydrogel constructed via N,O-carboxymethyl chitosan and therapeutically optimized modified citrus pectin for sustained berberine delivery in osteoarthritis treatment**

Chi Lin\*, Fang-Yu Hsu, Hsien-Tsung Lu, Fwu-Long Mi (Taipei Medical University, Taiwan)

### MA-03

#### **Thermosensitive and mucoadhesive N,O-carboxymethyl chitosan-based hydrogel for enhanced vaginal drug delivery**

Hsi-Chin Wu\*, Si-Fan Zhou (Tatung University, Taiwan)

### MA-04

#### **Self-assembling low-molecular-weight chitosan/gamma-polyglutamic acid nanoparticles for IRF9S2C nucleic acid delivery to develop a cytokine storm mouse model for evaluating therapeutic drugs**

En-Hsin Liu\*, Chia-Hsiung Cheng (Taipei Medical University, Taiwan)

### MA-05

#### **Oral quercetin-loaded chitosan/ $\gamma$ -polyglutamic acid/fucoidan/chitosan nanoparticles targeting inflamed endothelial cells for aortic dissection therapy**

Yi-Yu Chen\*, Chun-Che Shih, Chia-Hsiung Cheng, Hsin-Ying Lu (Taipei Medical University, Taiwan)

### MA-06

#### **Liquid-core hydrogel beads containing lavender essential oil and natural deep eutectic solvents for enhanced scent-based diagnostics and aromatherapy**

Piyaporn Tipayaars\* (Chulalongkorn University, Thailand), Ratana Rujiravanit (Chulalongkorn University, Thailand; Center of Excellence on Petrochemical and Materials Technology, Thailand)

### MA-07

#### **Artificial intelligence-assisted SERS detection of uric acid in bodily fluids based on flexible Ag NPs/polypyrrole/chitosan film**

Nazar Riswana Barveen\* (Ming Chi University of Technology, Taiwan), Petchi Raman Mariappan (National Taipei University of Technology, Taiwan), Yu-Wei Cheng (Ming Chi University of Technology, Taiwan)

### MA-08

#### **Immune checkpoint inhibitor-decorated ROS-responsive chitosan nanoparticles incorporating piperlongumine for treatment of oral carcinoma cells**

Young-Il Jeong\* (Chosun University, Korea), Ji-Sun Park (Chonnam National University, Korea), Se-Yoon Park, Ho-Joong Kim, Seok-Jun Kim (Chosun University, Korea)

### MA-09

#### **Biological activity of aqueous and organo-soluble chitosan derivatives**

Woojung Jeong\* (Jeonbuk National University, Korea), Dohoon Kim (Tyros Biotechnology Inc., Korea)

# Poster Session

## MEDICAL APPLICATION

### MA-10

#### **Oxidative stress induced chitosan nanoparticles complexed with mercaptosuccinic acid and piperlongumine for suppression of gastrointestinal carcinoma**

Won Jin Kim, Woong Kim, Se-Yoon Park, Ho-Joong Kim, Young-Il Jeong\*, Seok-Jun Kim (Chosun University, Korea)

### MA-11

#### **Preparation and characterization of electrospun chitosan/zein regenerative membranes with enhanced biocompatibility and antibacterial activity**

Ping-Wei Ko\*, Shu Chuan Liao (Tamkang University, Taiwan)

### MA-12

#### **Effect of melatonin released from asymmetric chitosan/hydroxyapatite for guided bone regeneration**

Chi-Ting Chuang, Min-Hsueh Chang\*, Shan-Ju Tang, Yi-Cheng Huang (National Taiwan Ocean University, Taiwan)

### MA-13

#### **Physicochemical properties of electrically conductive polypyrrole-ulvan/chitosan composite films for applications in wound dressings**

Hung-Chih Tai, Ying-Chun Chen\* (National Taiwan Ocean University, Taiwan), Trong-Ming Don (Tamkang University, Taiwan), Yi-Cheng Huang (National Taiwan Ocean University, Taiwan)

### MA-14

#### **Fabrication of functional thermo-sensitive submicron chitosan hydrogels by UV graft polymerization and their antibacterial applications in dental biomaterials**

Yin-Lin Wang, Wen-Hsin Lin (National Taiwan University, Taiwan), Hong-Kun Siao (Da-yeh University, Taiwan), Shu-Chuan Liao\* (Tamkang University, Taiwan)

### MA-15

#### **Non-conductive surfaces electro-fabrication of transparent high-performance layered chitosan-silver-montmorillonite composite hydrogels for infected wound dressing**

Yuncheng Xu, Fangjiu He\*, Xiaowen Shi (Wuhan University, China)

### MA-16

#### **Guanidinylated chitosan improves the formulation properties of insoluble drugs**

Sakura Migita\*, Nowshin Farzana Khan, Hideaki Nakamura, Tsuyoshi Ikeda (Sojo University, Japan), Shisuke Ifuku (University of Miyazaki, Japan), Hironori Izawa (Kyoto University, Japan), Masaki Otagiri, Makoto Anraku (Sojo University, Japan)

### MA-17

#### **Enhanced intestinal radioprotection using fucoidan-chitosan nanoparticles**

Jun-Sheng Wang\*, Chun-Chiang Huang, Yu-Hsiang Tang, Kuo-Cheng Huang (National Institutes of Applied Research, Taiwan), Ritta Ping-Ping Lin (National Taiwan University of Science and Technology, Taiwan), Hsieh-Chih Tsai (National Taiwan University of Science and Technology, Taiwan; Chung Yuan Christian University, Taiwan)

# Poster Session

## MEDICAL APPLICATION

### MA-18

#### **Polysaccharide-based double network hydrogel with toughness and shape memory effect for lumbar intervertebral disc replacement**

Tsung-Chiao Wu\* (Taipei Tzu Chi Hospital, Taiwan; National Tsing Hua University, Taiwan), Chen-Chie Wang (Taipei Tzu Chi Hospital, Taiwan), Tzu-Wei Wang (National Tsing Hua University, Taiwan)

### MA-19

#### **Development of self-powered PVDF/chitosan-based wound dressings containing MSC-EVs for the treatment of chronic wound**

Hao-Zhong Lu (National Taiwan University of Science and Technology, Taiwan)

### MA-20

#### **A bioadhesive hydrogel platform for tumor-derived extracellular vesicle delivery enhances nerve regeneration**

Kuan-Lin Wang\* (National Tsing Hua University, Taiwan; Academia Sinica, Taiwan), Chieh-Cheng Huang (National Tsing Hua University, Taiwan), Yu-Jung Lin (Academia Sinica, Taiwan)

### MA-21

#### **Molecular uptake of antibiotics through SmChiP: Chitooligosaccharide-specific channel in the pathogen *Serratia marcescens***

Piyakamon Bunkum\*, Rawiporn Amornloetwattana, Robert Charles Robinson, Wipa Suginta (Vidyasirimedhi Institute of Science and Technology, Thailand)

### MA-22

#### **Development of bacterial cellulose-based composite hydrogels containing chitosan-functionalized silica nanoparticles and marigold flower extract for advanced wound dressing materials**

Krittanan Chansuk\* (Chulalongkorn University, Thailand), Ratana Rujiravanit (Chulalongkorn University, Thailand ; Center of Excellence on Petrochemical and Materials Technology, Thailand)

## NANOTECHNOLOGY

### N-01

#### **Fe(III)-coordinated and doxorubicin-loaded PEGylated chitosan-covered polydopamine nanoparticles to amplify cancer chemodynamic-chemo therapy**

You-Rong Liu, Po-Chen Shi\*, Yu-Hsin Chen (National Chung Hsing University, Taiwan), Bor-Show Tzang (Chung Shan Medical University, Taiwan), Wen-Hsuan Chiang (National Chung Hsing University, Taiwan)

### N-02

#### **Magnolol-monoammonium glycyrrhizinate acid nanoparticles as a novel therapeutic strategy for chemoradiotherapy-induced oral mucositis**

Tun-Hsiang Kao\* (National Taiwan University of Science and Technology, Taiwan), Chen-Yu Kao (National Taiwan University of Science and Technology, Taiwan; National Defense Medical Center, Taiwan)

# Poster Session

## NANOTECHNOLOGY

### N-03

#### **Development of chitosan-based nanoparticle systems for enhanced delivery of antifungal peptides**

Yi-Sheng Chou (National Chung Cheng University, Taiwan)

### N-04

#### **Evaluating the effects of an ulvan- and squalane-based nanoemulgel on skin photoaging damage**

Shih-Yuan Fang\*, Chung-Hsiung Huang (National Taiwan Ocean University, Taiwan)

### N-05

#### **Chitosan-MXene quantum dot hybrid for simultaneous sensitive electrochemical detection of amoxicillin and tetracycline**

Reeba Mary Mammen, Mitch M. C. Chou (National Sun Yat-sen University, Taiwan), Chi-Te Liang (National Taiwan University, Taiwan), Da-Ren Hang\* (National Sun Yat-sen University, Taiwan)

### N-06

#### **Sustainable engineering of a chitosan-MoSe<sub>2</sub>-NiCo<sub>2</sub>O<sub>4</sub> ternary hybrid for bifunctional electrocatalysis in hydrogen evolution and methanol oxidation**

Debika Thongam (National Taiwan University, Taiwan), Mitch Chou, Da-Ren Hang (National Sun Yat-sen University, Taiwan), Chi-Te Liang\*, Po-Shao Lai (National Taiwan University, Taiwan)

### N-07

#### **Characterization and comparison of drug loading and release behaviors of chitosan-based electrospun nanofiber membranes**

Chen-Kai Liao\*, Chin-Hung Wu, Meng-Jeng Yu, Chih-Chin Hsu, Hsyue-Jen Hsieh (National Taiwan University, Taiwan)

### N-08

#### **Spray-dried mesenchymal stem cells-derived extracellular vesicles: toward chitosan-based pulmonary delivery with anti-inflammatory and anti-fibrotic potential**

Hong Hao Chan (Monash University Malaysia, Malaysia), Benson Koh, Yoong Yi Chong (CytoHealth, Malaysia), Yong Sze Ong (Monash University Malaysia, Malaysia), Qi Hao Daniel Looi (CytoHealth, Malaysia), Jhi Biau Foo (Taylor's University, Malaysia), Chee Wun How\* (Monash University Malaysia, Malaysia)

## OTHER BIOMATERIALS

### OB-01

#### **Mitochondrial stimulation through calcium peroxide/carrageenan/soybean lecithin-polypyrrole phototherapeutic microparticles**

Sih-Chi Chuang\* (National Taipei University of Technology, Taiwan), Andrew E.-Y. Chuang (Taipei Medical University, Taiwan), Hsu-Wei Fang (National Taipei University of Technology, Taiwan)

### OB-02

#### **Self-powered triboelectric nanogenerator hydrogel with rice husk-derived silicon dioxide for cardiac regeneration applications**

Yong-Ji Chen\*, Shwu-Jen Chang (I-Shou University, Taiwan)

# Poster Session

## OTHER BIOMATERIALS

### OB-03

#### **Development of a composite alginate hydrogel with lutein and caffeic acid phenethyl ester for ocular maintenance**

Chien-An Chen\*, Yu-Hsiang Lee (National Central University, Taiwan)

### OB-04

#### **From the sea to materials: a new mission for alginic acid, as bio-based halogen-free environmentally friendly flame retardant for epoxy composites**

Yi-Chen Lin\*, Chin-Lung Chiang (National Chin-Yi University of Technology, Taiwan)

### OB-05

#### **Bacterial cellulose composite for active food packaging**

Ting-Yu Lin\* (National Taiwan Ocean University, Taiwan), Chi Lin (Taipei Medical University, Taiwan), Min Lang Tsai (National Taiwan Ocean University, Taiwan), Fwu Long Mi (Taipei Medical University, Taiwan)

### OB-06

#### **Microbially synthesized P(4-Hydroxybuturate) 3D scaffolds for adipocyte adhesion and differentiation**

Wen-Chuan Hsieh\*, Yi-Hsuan Wang, Wei-Lun Wang (I-Shou University, Taiwan), Li-Yen Shiu (E-da Hospital, Taiwan)

### OB-07

#### **Development of reactive oxygen species-responsive and mucoadhesive carboxymethyl cellulose-based hydrogels for treating ocular surface diseases**

Yun-Hsuan Hsieh\*, Yung-Hsin Cheng (National Taiwan University of Science and Technology, Taiwan)

### OB-08

#### **TRPV1-targeting small molecules enhance exosome release and chemotherapeutic response in cancer cells**

Jae Hun Jeong (Kangwon National University, Korea), Sun Eun Choi (Jeonnam State University, Korea), Kwang-Hyun Park\* (Nambu University, Korea; Chonnam National University and Hospital, Korea)

### OB-09

#### **Molecular dynamics analysis of the structural and interaction properties of gellan gum and gellan gum-cellulose nanofiber complexes**

W.-Y. Chiu, W.-T. Lee\*, J. Yu, C.-C. Chou (National Taiwan University, Taiwan)

## PHYSICOCHEMICAL ASPECTS

### PA-01

#### **Adsorption kinetics of aristolochic acid in crosslinked chitosan particles and their in vivo renal protective effects using zebrafish model**

Yi-Lin Tsai, Tzu-Yu Chen, Yau-Hung Chen, Trong-Ming Don\* (Tamkang University, Taiwan)

# Poster Session

## PHYSICOCHEMICAL ASPECTS

### PA-02

#### **Chitin whiskers-g-polyaniline: synthesis, structural analysis, and electrical conductivity**

Chantiga Choochottiros\*, Surisara Phangkam, Pennapa Amonkol (Kasetsart University, Thailand), Jeeranan Prachanat, Theeranun Siritanon (Suranaree University of Technology, Thailand)

### PA-03

#### **Comparative Evaluation of Natural Deep Eutectic Solvents for $\alpha$ - and $\beta$ -Chitin Extraction: Yields, Structural Properties, and Extraction Efficiency**

Peng-Hui Hsueh, Yen-Tzu Chen, Rou Li, Ching-Wen Tsai (National Taiwan Ocean University, Taiwan), Shang-Ta Wang (National Taiwan Ocean University & National Taiwan Ocean University, Taiwan), Min-Lang Tsai (National Taiwan Ocean University, Taiwan)

## RESOURCES AND PRODUCTION

### RPO-01

#### **Preparation of $\beta$ -chitin using recyclable potassium carbonate/glycerol green solvent**

Peng-Hui Hsueh\*, Min-Lang Tsai (National Taiwan Ocean University, Taiwan)

### RPO-02

#### **Antifungal efficacy of chitosan hydrolysates against *fusarium foetens*, a pathogenic fungus infecting ginseng (*panax ginseng*)**

Ga Heun Lee\*, Sung Hyun Choi, Seol Ha Ju, Jae Kweon Park (Gachon University, Korea)

### RPO-03

#### **Preparation of active molecular chitosan with selective molecular weight and its activity in promoting wound healing**

Eung Take Lee\* (Gachon University, Korea), Yong Hyun Lee (RetonH& Co., Ltd., Korea), Jae Kweon Park (Gachon University, Korea)

### RPO-04

#### **One-step purification and biochemical characterization of a chitinolytic enzyme (PtChiA) from *Paenibacillus taichungensis* SH-01 using substrate-affinity chromatography**

Sung Hyun Choi\* (Gachon University, Korea), Kyung Su Han (RetonH& Co., Ltd., Korea), Jio Song, Seung Hyun Oh, Yong Hyun Lee, Jae Kweon Park (Gachon University, Korea)