

Hanoi University of Pharmacy

AFPS CONFERENCE

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Asian Federation for Pharmaceutical Sciences 2023 "Collaboration for Breakthroughs in Pharmaceutical Sciences"





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HANOI UNIVERSITY OF PHARMACY

AFPS CONFERENCE 2023

Asian Federation for Pharmaceutical Sciences 2023 "Collaboration for Breakthroughs in Pharmaceutical Sciences"

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In-Charge of the Content:

Prof. Dr. Nguyen Hai Nam, Rector, Hanoi University of Pharmacy

In-Charge of Scientific Programs:

Prof. Dr. Nguyen Ngoc Chien

Member of the Scientific Programs:

Prof. Dr. Phung Thanh Huong

Prof. Dr. Vu Dinh Hoa

Prof. Dr. Tran Phuong Thao

Prof. Dr. Nguyen Thach Tung

Dr. Pham Nu Hanh Van

Prof. Dr. Nguyen Thanh Hai

Prof. Dr. Nguyen Thi Thanh Huong

MSc. Pham Cam Anh

Prof. Dr. Nguyen Thuy Duong

Dr. Nguyen Khac Tiep

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Dr. La Thi Quynh Lien

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Dr. Duong Thi Hong Anh

Prof. Dr. Do Quyen

Dr. Hoang Quynh Hoa

MSc. Le Ngoc Khanh

Dr. Tran Ngoc Bao

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Welcome Address



Esteemed Colleagues,

On behalf of the Asian Federation for Pharmaceutical Sciences (AFPS), I am honored and delighted to invite you to the AFPS conference 2023 on November 8-10, 2023, in Hanoi, Vietnam.

It is an exciting time for AFPS as we continue to grow and promote the cooperation between national, regional and Asian societies or associations for the advancement of pharmaceutical sciences, especially with the rise of 4.0 Industrial Revolution.

This conference is organized with the Theme: Collaboration for Breakthroughs in Pharmaceutical Sciences.

In this event, there will be international professionals and presenters in the field of pharmacy, pharmaceutical and biological sciences with plenary talks and invited speakers, scientific sessions, poster presentations.

We will take great pleasure to bring inspiring people such as scientists, researchers, policy makers, educators and entrepreneurs to participate and witness in highly professional scientific sessions and discussions.

I do appreciate your participation and hope you can bring your expertise to our gathering.

Once again, welcome to Hanoi and welcome to AFPS 2023!

Prof. Nguyen Hai Nam

Rector

Hanoi University of Pharmacy



Hanoi Vietnam, 8th-10th November 2023

AFPS Executive Committee





Prof. Yahdiana Harahap (Dean of the Faculty of Military Pharmacy, the Republic of Indonesia Defense University) **President-Elect**

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(Hanoi University of Pharmacy, Vietnam)

Immediate Past President

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INTERNATIONAL ORGANIZING COMMITTEE

Including AFPS Executive Committee with:

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Prof. Kwon-Yeon Weon (Daegu Catholic University, Korea)
Prof. Kim Jin-Seok (Sookmyung Women's University, Korea)
Prof. Jong Oh Kim (Yeungnam University, Korea)
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Prof. Surakit Nathisuwan (Mahidol University, Thailand)
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Prof. Andrew McLachlan (The University of Sydney, Australia)
Prof. Jackson Chieh-Hsi Wu (Taipei Medical University, Taiwan, China)
Prof. Chi-Ying F. Huang (National Yang Ming Chiao Tung University, Taiwan, China)
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LOCAL ORGANIZING COMMITTEE

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ABOUT ASIAN FEDERATION FOR PHARMACEUTICAL SCIENCES (AFPS)

The Asian Federation for Pharmaceutical Sciences (AFPS) serves as a dynamic hub, actively facilitating the exchange of cutting-edge scientific knowledge among pharmaceutical scientists across Asia.

In 2007, the first gathering of AFPS occurred in Makati, Philippines, with the leadership of President Tsuneji Nagai from Japan. President Prof. Tsuneji Nagai, who was honored with the esteemed Hoest-Madsen Medal from the International Pharmaceutical Federation (FIP) in 1986, inaugurated the AFPS Nagai Distinguished Scientist Award.

With a visionary mission to create a dynamic network for the dissemination of innovative research, AFPS has played a pivotal role in advancing pharmaceutical sciences throughout the region. Through its biennial conferences in various Asian cities, such as Fukuoka, Japan (2009), Kuala Lumpur, Malaysia (2011), Jeju, Korea (2013), Bangkok, Thailand (2015), Xiamen, China (2017), and Bali, Indonesia (2019), AFPS has cultivated an environment where experts from diverse fields converge to explore boundless avenues in pharmaceutical research.

Despite canceling the 2021 conference due to the COVID-19 pandemic, AFPS has shown remarkable resilience by organizing the highly anticipated AFPS conference 2023 in Hanoi, Vietnam, hosted by Hanoi University of Pharmacy (HUP) in collaboration with Ho Chi Minh City University of Medicine and Pharmacy (UMP). Under the dynamic leadership of President Prof. Yahdiana Harahap from the Faculty of Military Pharmacy of the Republic of Indonesia Defense University, Indonesia, and President-Elect Prof. Nguyen Hai Nam, Rector of HUP, Vietnam, the executive committee remains committed to driving the federation's mission forward. This exciting phase for AFPS is characterized by concerted efforts to promote collaboration between national, regional, and Asian societies, particularly in the context of the emerging Fourth Industrial Revolution.

The upcoming conference, themed "Collaboration for Breakthroughs in Pharmaceutical Sciences", promises to provide a platform for international professionals and presenters in the fields of pharmacy, pharmaceutical, and biological sciences. Attendees can look forward to enriching valuable opportunity for updating your scientific knowledge and networking for future collaboration not only in Asia but also globally.











ABOUT HANOI UNIVERSITY OF PHARMACY (HUP)

Located at 13-15 Le Thanh Tong, Hoan Kiem District, Hanoi Capital of Vietnam, Hanoi University of Pharmacy has a long history and tradition.

Originated from Indochina Medical School, which was established in 1902, Hanoi University of Pharmacy is regarded as one of the oldest universities in Vietnam.

In 1941, the Experimental School of Medicine and Pharmacy was renamed to the Indochina Medical and Pharmaceutical University. After August revolution (that followed by the foundation of the Democratic Republic of Vietnam) in 1945, it was Vietnam renamed to University of Medicine and Pharmacy. In 1961, with the increase in the demand of medical and pharmaceutical human resources, the Ministry of Health decided to split Vietnam University of Medicine and Pharmacy into two separate colleges including Hanoi College of Medicine and Hanoi College of Pharmacy. In 1985, due to substantial growth, Hanoi College of Pharmacy was renamed to Hanoi University of Pharmacy as it is today.

Currently, Hanoi University of Pharmacy is the only independent specialized university in pharmacy in Vietnam which is



Brief History

1902: Hanoi Medical School was established, later that year was renamed to Indochina Medical School.

1908: The Indochina Medical School was renamed to Hanoi Medical School.

1913: Hanoi Medical School was renamed to the Indochina Medical School.

1914: The Department of Pharmacy was established; the Indochina Medical School was renamed to the Indochina Medical and Pharmaceutical School.

1923: The Indochina Medical and Pharmaceutical School was renamed to the Experimental Medical and Pharmaceutical School.

1941: The Experimental Medical and Pharmaceutical School was renamed to the Indochina Medical and Pharmaceutical University.

1945: The Indochina Medical and Pharmaceutical University was renamed to Vietnam Medical and Pharmaceutical University

1961: Vietnam Medical and Pharmaceutical University was split into Hanoi Medical College and Hanoi College of Pharmacy.

1985: Hanoi College of Pharmacy was renamed to Hanoi University of Pharmacy. commissioned to train pharmacists with good morality; sound knowledge in basic as well as pharmaceutical sciences; with sufficient knowledge and skills to be able to provide consultation on rational, effective, and safe drug usage to patients and physicians; with firm capability in manufacturing, management, and supply of drugs. Hanoi University of Pharmacy plays an

Facts and Figures

Number of faculties: 8 with 22 academic departments Number of students: 4800; Number of staffs: 320

Number of undergraduate programs: 4 (Pharmacist (5 years), Bachelor of Chemistry (4 years), Bachelor of Pharmaceutical Chemistry (4 years), Bachelor of Biotechnology (4 years).

Number of master and Ph.D programs: 7 (Pharmaceutics and Pharmaceutical Technology, Pharmaceutical Chemistry, Pharmaceutical Biochemistry, Pharmacology and Clinical Pharmacy, Pharmacognosy and Traditional Medicine, Drug Quality Control & Toxicology, Pharmaceutical Management and Administration)

important role in the training of pharmaceutical human resources in response to the task of people's healthcare. The University is committed to create the best conditions and environment for teaching, study, as well as research. Students, lecturers and researchers alike are offered the favorable working conditions with as sufficient and modern facilities as possible, with the self-governed and flexible financial structure, with open and flexible working scheme in which talents are highly treasured. University is the place where the passion for excellence in study and research is fostered, the creativity is encouraged, the collaboration is promoted, professionality is advanced, and the harmony of common



interests is assured. The University also is the bridge for cooperation between its research scientists and researchers of other institutions, both domestic and international. Furthermore, the University will also be the bridge for success of students, its staff as well its collaborators.

Building Hanoi University of

Pharmacy to become one of the key universities, an accredited center for training of pharmacists in Vietnam and region is not only the aspiration of the University's staff but is also an objective and mission of the University in response to the common task in people's healthcare in Vietnam in the new period. Therefore, the University is looking forwards to further collaboration with more institutions from both academic and industrial sectors, domestic as well as international.

ABOUT UNIVERSITY OF MEDICINE AND PHARMACY AT HO CHI MINH CITY (UMP HCM)

The University of Medicine and Pharmacy at Ho Chi Minh City (UMP), conveniently headquartered at 217 Hong Bang Street, Ward 11, District 5, Ho Chi Minh City, Vietnam, takes pride in its long history of exceptional healthcare education and illustrious reputation for leading professionals.

Originally a medical school founded in 1947, UMP was re-inaugurated by the late Prime Minister Pham Van Dong's Decision numbered 426/TTg dated October 27th, 1976 decreeing the University's official establishment based on the merger of the three schools of Medicine, Pharmacy and Dentistry. The then UMP comprised of three associated Faculties of Medicine, Pharmacy, and Odonto-Stomatology. Later during the period of 1994 - 1999, pursuant to the Vietnam Ministry of Health's directive for UMP's development strategy as a multidisciplinary health sciences university, the establishment of four additional Faculties of Basic Sciences, Traditional Medicine, Nursing - Medical Technology, and Public Health followed suit respectively in 1994, 1998 and 1999. In 2000, UMP's successful polyclinic, previously set up in 1994 with beds for patients requiring close

observation, was upgraded to the University Medical Center (UMC), and the new building of UMC was brought into operation in 2013.

Ever since its new inauguration, UMP has forged its Educational Philosophy that aims to mobilize internal resources and fostering international



cooperation in order to optimize the educational environment; embracing learnercentered approach; developing versatile healthcare professionals, with competency, ethical values and responsibilities, ready to adapt and integrate globally, which is motivated by its Mission to train high quality health professionals, advance research and apply modern technology in order to protect, care for and promote health for all people, and on the basis of its Core Values of Professionalism - Excellence - Dynamics - Innovation.

FACULTY OF PHARMACY

Faculty of Pharmacy has continuously improved its training capacities by enhancing and standardizing its faculty staff's teaching competencies for higher quality, as well as promoted its scientific research activities, ensuring that its students can meet the constantly increasing social demands for high-quality healthcare workforce as well as for global integration. With 14 Departments, the Faculty presently employs 157 personnel overall, including both academic staff (in which the number of professor title holders accounts for 6%, Associate Professor holders 26%, PhD degree holders 29%, and MPharm degree holders 39%) and support staff. The overall number of undergraduates across the 5-year Pharmacist Program amounts to over 2,500 students, and the annual number of Pharmacy Graduates is over 250.

Education Quality Assurance: The Faculty established its Education Quality Assurance (EQA) Unit in 2011 to get ready for the external evaluation of its Pharmacy (Undergraduate Education Program) by CIDPHARMEF (Conférence International des Doyens des faculté de PHARMacie d'Expresion Francaise) twice in 2014 and 2019, as well as by the Asean University Network-Quality Assurance (AUN-QA) in May 2021.

Academic Training:

- Undergraduate Education Program: Includes Bachelor of Pharmacy, 5-year full-time curriculum, enrolment target: high school graduates, with 2 primary academic pathways: Pharmaceutical Care and Pharmaceutical Sciences.

- Master's degree in pharmacy: 2-year full-time curriculum, with five specialized majors to choose from: 1) Pharmacology & Clinical Pharmacy, 2) Pharmacognosy & Traditional Pharmacy, 3) Drug Quality Control & Toxicology, 4) Industrial Pharmacy and Pharmaceutics, and 5) Pharmaceutical Administration.

- PhD degree in Pharmacy: 3 - 5 years, full-time curriculum.

International Cooperation: Faculty of Pharmacy has successfully forged and expeditiously implemented its sustainable international collaborative ties with numerous foreign universities, educational institutions in order to enhance its training and research capacities, thereby further promoting its endeavors in regional and global integration through various forms of collaborations including undergraduate exchanges, faculty staff exchange, research/consultancy activities & workshops & academic meetings, exchange of academic materials and other information, dual or joint degree programs, and collaborative joint research projects.

Apart from its involvement in many of UMP's bilateral collaborative agreements, Faculty of Pharmacy has also entered into many MOUs in terms of academic training and research with various faculties/schools/colleges of pharmaceutical sciences and enterprises in the Southeast Asia, East Asia, Europe, and North America regions.

GENERAL AGENDA

Location: Foreign Relations Hotel, 33C Pham Ngu Lao, Hoan Kiem, Hanoi

Time	Торіс	PIC/Speaker		
November 07 th , 2023				
16.00 17.40	AFPS annual meeting	AFPS Executive members		
10.00 - 17.40	Meeting room (Trung Gia)			
18 20 - 20 20	Welcome dinner	Plenary, invited speakers; Executive members; Organizing		
18.30 - 20.30	Moc Mien restaurant	Members		
	November 08 th , 20	23		
08.00 - 08.30	Reception and Registration	Organizing committee		
	Opening ceremony	Representatives of Ministry of Health		
08.30 - 09.00	Ballroom 1 - 3 (Hung Vuong Convention Center)	AFPS President		
	Plenary I			
09.00 - 12.00	Ballroom 1 - 3 (Hung Vuong Convention Center)			
09.00 - 10.00	Chairmen: Prof. Tran Thanh Dao, Prof. Yahdiana Harahap			
00 00 00 20	Drug repurposing of herbal medicines for anti-COVID: from big	Prof. Chi-Ying F. Huang		
09.00 - 09.50	data to therapeutics	National Yang Ming Chiao Tung University, Taiwan, China		
09 30 - 10 00	Clinical implementation of genome-guided therapeutics: If not	Prof. George P. Patrinos		
05.50 - 10.00	now, when?	University of Patras, Greece		
10.00 - 10.15	Tea break			
10.15 - 11.15	Chairmen: Prof. Masatoshi Tomi, Prof. Dae-Duk Kim			
10 15 - 10 45	Discovery of Highly Potent Glutaminyl Cyclase (QC) Inhibitors as	Prof. Jeewoo Lee		
10.15 10.45	Anti-Alzheimer's Agents	College of Pharmacy, Seoul National University, Korea		
10.45 - 11.15	Manufacturing platform for papomedicine	Prof. Tetsuya Ozeki (Nagai award winner 2023)		
		Nagoya City University, Japan		
11.15 - 11.30	Nagai Award			
11.30 - 12.00	Conference photography	All participants		
12.00 - 13.00	Lunch			
13.00 - 14.00	Poster presentation			

Time		Торіс			PIC/Speaker	
	Parallel sessions SS2 - S	S6				
14.00 - 18.00	Satellite Symposium: Advanced Therapies - Cell and Gene	SS2: Pharmaceutical Biology & Biotechnology	SS3: Drug Design & Analytical methods	SS4: Clinical Pharmacy & Pharmacoepidemiology	SS5: Pharmaceutics & Drug Delivery	SS6: Natural Products and Herbal Medicines
	14.00 - 17.00	15.00 - 18.00	14.00 - 15.00			14.00 - 18.00
	Ballroom 1	Ballroom 5 (Van Tuong)	Ballroom 5 (Van Tuong)	14.00 - 18.00 Ballroom 4 (Ngoc Lan)	14.00 - 18.00 Ballroom 2	Ballroom 3
19.00 - 22.00	Gala dinner Ballroom 1 - 3 (Hung Vuong Convention Center)					
			November 09 th , 20)23		
	Parallel sessions SS2 - S	S6				
08.00 - 12.00	Satellite Symposium: Health Technology Assessment	SS2: Pharmaceutical Biology & Biotechnology	SS3: Drug Design & Analytical methods 08.00 - 10.30	SS4: Clinical Pharmacy & Pharmacoepidemiology	SS5: Pharmaceutics & Drug Delivery	SS6: Natural Products and Herbal Medicines
	08.00 - 12.00	10.30 - 12.00	Ballroom 5	08.00 - 12.00	08.00 - 12.00	08.00 - 12.00
	Ballroom 1	Ballroom 5 (Van Tuong)	(Van Tuong)	Ballroom 4 (Ngoc Lan)	Ballroom 2	Ballroom 3
12.00 - 13.00	Lunch					
	Parallel sessions SS1 - S	S5				
13.00 - 14.30	SS1: Regulatory science & Pharmacoeconomics 13.00 - 15.00	SS2: Pharmaceutical Biology & Biotechnology	SS3: Drug Design & Analytical methods	SS4: Clinical Pharmacy & Pharmacoepidemiology 13.00 - 14.30	SS5: Pharmaceutics & Drug Delivery	
	Ballroom 5	13.00 - 14.30	13.00 - 14.30	Ballroom 4	13.00 - 14.30 Dellas ene 2	
	(Van Tuong)	Ballroom T	Bailloom 3	(Ngoc Lan)	Bailroom 2	
14.30 - 14.45	Tea break					
14.45 - 15.45	Poster presentation					

Time	Торіс	PIC/Speaker	
15 45 17 20	Plenary II		
15.45 - 17.50	Ballroom 1 - 3 (Hung Vuong Convention Center)		
15.45 - 16.45	Chairmen: Prof. Chi-Ying F. Huang, Prof. Wojciech Chrzanowski		
15.45 - 16.15	Quanties of Advanced Therapy Medicinal Products (ATMPs)	Dr. Martin O'Kane	
	Overview of Advanced Therapy Medicinal Products (ATMPS)	Head of Regional Regulatory Affairs EU Policy & Liaison Novartis	
16.15 - 16.45	Nanonarticles for chemo-immunotherany of cancer	Prof. Chul Soon Yong	
	Nanoparticles for chemo-inimunotrierapy of cancer	Yeungnam University, Republic of Korea	
16.45 - 17.00	Discussion		
17.00 - 17.10	Award Ceremony		
17.10 - 17.30	Closing speech		
	November 10 th , 20	023	
08.30 - 11.30	Pharmacy Education Session/Professional group meeting (Optic	nal)	
	Hanoi University of Pharmacy, 13-15 Le Thanh Tong, Hanoi		
	Sightseeing Tours (Optional)		
08.30 - 17.15	Symposium: Clinical pharmacy practice teaching methods		
	Hanoi University of Pharmacy, 13-15 Le Thanh Tong, Hanoi		

Annotation

- SS1: Regulatory Science & Pharmacoeconomics
- **SS2:** Pharmaceutical Biology & Biotechnology
- **SS3:** Drug Design & Analytical methods
- **SS4:** Clinical Pharmacy & Pharmacoepidemiology
- **SS5:** Pharmaceutics & Drug Delivery
- SS6: Natural Products & Herbal Medicine

INVITED AND ORAL PRESENTATIONS DETAILED SESSION AGENDA

TRƯỜNG ĐẠI HỌC DƯỢC HÀ NỘI HANOI UNIVERSITY OF PHARMACY

Session 1: Regulatory science and Pharmacoeconomics

Time	Торіс	PIC/Speaker		
November 09 th , 2023				
12.00 15.00	13.00 - 15.00 Session 1: Regulatory science & Pharmacoeconomics - Ballroom 5 (Van Tuong) Chairmen: Prof. Nguyen Thi Thanh Huong, Prof. Arthorn Riewpaiboon			
13.00 - 15.00				
13.00 - 13.20	[Invited speaker] Approaches to implementing reliance to ensure timely availability of medicines - What is the role of regulatory science and collaboration in shaping policies and regulations?	Dr. Magda Bujar The Centre for Innovation in Regulatory Science (CIRS) United Kingdom		
	[SS1-O-Online-3106] Defining and supporting a professional role for	Dr. Joanna Harnett		
13.20 - 13.35	pharmacists associated with traditional and complementary medicines - a	The University of Sydney		
	cross-country survey of pharmacists	Australia		
40.05 40.50	[SS1-O-3100] Botanicals drugs in the West: Why so few and how to	Dr. Jean Paul Thenot		
13.35 - 13.50	improve it?	Provensional USTH		
13.50 - 13.55	084			
10.00 10.00		Dr. Sabina Seidaliyeya		
13.55- 14.05	[SS1-O-Online-165] Exploring Recruitment Strategies and Skill Priorities in the Pharmaceutical Industry of Kazakhstan	South Kazakhstan Medical Academy		
		Kazakhstan		
	[SS1-O-076] Analyzing semi-automatic inpatient drug dispensing system at 108 Central Military hospital: A mixed method study	Le Thu Thuy		
14.05 - 14.15		Hanoi University of Pharmacy		
		Vietnam		
	[SS1-O-189] Accessibility and acceptance of awareness-raising	Bui Ini Inu Hien		
14.15 - 14.25	communications on antibiotic use and resistance among caregivers of	Vietnam		
14.25 - 14.30	Q&A			
	[SS1-O-3082] The impact of COVID-19 on healthcare utilization associated	Dr. Nguyen Thi Quynh Nga		
14.30 - 14.40	with antibiotic resistance among inpatients at the Hospital for Tropical	University of Medicine and Pharmacy at HCMC		
	diseases	Vietnam		

Time	Торіс	PIC/Speaker
	4.40 - 14.50 [SS1-O-215] The direct and indirect cost of treatment for HER2-positive breast cancer in Vietnam	Luu Nguyen Nguyet Tram
14.40 - 14.50		Hanoi University of Pharmacy
		Vietnam
14.50 - 15.00	[SS1-O-085] A systematic review of treatment costs of diabetes in Vietnam	Nguyen Linh Viet
		Hanoi University of Pharmacy
		Vietnam
15.00 - 15.05	Q&A	

Session 2: Pharmaceutical Biology & Biotechnology

Time	Торіс	PIC/Speaker	
November 08 th , 2023			
15.00 - 16.00	15.00 - 16.00 Session 2.1: Pharmaceutical Biology & Biotechnology - Ballroom 5 (Van Tuong) Chairmen: Prof. Makiya Nishikawa, Dr. Hien Duong		
15.00 - 15.20	[Invited speaker] Structural optimization of oligonucleotide therapeutics for targeted or sustained delivery	Prof. Makiya Nishikawa Tokyo University of Science Japan	
15.20 - 15.30	[SS2-O-152] Cytotoxic evaluation of Drosera extracts: from monolayer cell culture to a Galleria mellonella larvae model	Dr. Nadin Schultze University of Greifswald Germany	
15.30 - 15.40	[SS2-O-164] Transport mechanism of propionic acid in human choriocarcinoma JEG-3 cells	Akari Kasuya Keio University Japan	
15.40 - 15.50	[SS2-O-221] The impact of locally-delivered tacrolimus-releasing microspheres and polyethylene glycol-based islet surface modification on xenogeneic islet survival	Linh Nguyen Sungkyunkwan University Korea	
15.50 - 16.00	Q&A		

Time	Торіс	PIC/Speaker	
16.00 - 16.15	Tea break		
16 15 - 19 00	Session 2.2: Pharmaceutical Biology & Biotechnology - Ballroom 5 (Van Tuong)		
10.13 - 18.00	Chairmen: Prof. Giorgia Pastorin, Prof. Chih-kuang Yeh		
	[Invited sneaker] Angiogenesis-targeting Microhubbles Combined with	Prof. Chih-Kuang Yeh	
16.15 - 16.35	Ultrasound-Mediated Gene Therapy in Brain Tumors	National Tsing Hua University	
		Taiwan, China	
	[Invited speaker] Exosome-mediated mRNA delivery protects against hone	Dr. Hsiu-Jung Liao	
16.35 - 16.55	and cartilage degradation in cartilage diseases	Far Eastern Memorial Hospital	
		Taiwan, China	
	[SS2-O-155] Fetal transfer of tadalafil a PDF5 inhibitor is limited by BCRP	Prof. Tomohiro Nishimura	
16.55 - 17.10	at murine placental barrier	Keio University	
		Japan	
	[SS2-O-37] Extracellular vesicles and their biomimetics: new exciting nanomedicines or another academic exercise?	Prof. Giorgia Pastorin	
17.10 - 17.25		National University of Singapore	
		Singapore	
	[SS2-O-3113] Bacteriophage nanobots	Dr. Hien Duong	
17.25 - 17.40		University of Sydney	
		Australia	
	[SS2-O-139] Single-agent AZD1775, a WEE1 kinase inhibitor, shows anticancer effects on colorectal cancer	Nguyen Tai Suc	
17.40 - 17.50		Hanoi University of Pharmacy	
		Vietnam	
17.50 - 18.00	Q&A		
	November 09 th , 2023		
10.30 - 12.00	Session 2.3: Pharmaceutical Biology & Biotechnology - Ballroom 5 (Van Tu	ong)	
10130 12100	Chairmen: Prof. Tran Manh Hung, Prof. Nguyen Thi Thu Phuong, Prof. Tom	ohiro Nishimura	
	[Invited speaker] Integration of pharmacogenomics and pharmacovigilance	Prof. Phung Thanh Huong	
10.30 - 10.50	in allopurinol-prescription safety assurance	Hanoi University of Pharmacy, Vietnam	

Time	Торіс	PIC/Speaker
10.50 - 11.05	[SS2-O-Online-3109] Point-of-care saliva tests to facilitate therapeutic drug monitoring of anti-infectives in community health care setting	Prof. Jan-Willem Alffenaar University of Sydney Australia
11.05 - 11.20	[SS2-O-Online-3108] HER2 inhibitors are novel candidate drugs of human uveal melanoma	Prof. Fanfan Zhou The University of Sydney Australia
11.20 - 11.30	[SS2-O- 216] HLA-B*15:02 Screening before Carbamazepine therapy in Vietnam: It is time to implement	Prof. Nguyen Thi Thu Phuong Hai Phong University of Medicine and Pharmacy Vietnam
11.30 - 11.40	Q&A	
13.00 - 14.30	Session 2.4: Pharmaceutical Biology & Biotechnology - Ballroom 1 Chairman: Prof. Pil-Hoon Park, Prof. Patrick Kestemont, Prof. Nguyen Tu Au	nh
13.00 - 13.20	[Invited speaker] Modulation of mesenchymal stem cell fate during obesity	Prof. Pil-Hoon Park Yeungnam University Korea
13.20 - 13.40	[Invited speaker] Characterization of endocrine disruptive effects of two estrogens used in women's oral contraception: Estetrol (E4) and Ethinylestradiol (EE2)	Prof. Patrick Kestemont Université de Namur Belgium
13.40 - 13.55	[SS2-O-251] Enhanced invasion of extravascular trophoblast cells by human vascular endothelial cells and its effect on gene expression	Yukako Harada Keio University Japan
13.55 - 14.05	[SS2-O-115] Assessment of the hair regrowth-stimulating efficacy of Perilla leaf extract on Testosterone-induced hair growth inhibition model in Swiss albino mice	Truong Giang Tran University of Medicine and Pharmacy at HCMC Vietnam
14.05 - 14.30	Q&A	

Session 3: Drug Design & Analytical methods

Time	Торіс	PIC/Speaker		
November 08 th , 2023				
14.00 - 15.00	Session 3.1: : Drug Design & Analytical methods - Ballroom 5 (Van Tuong) Chairmen: Prof. Jeewoo Lee, Prof. Tran Thanh Dao			
14.00 - 14.20	[Invited speaker] Molecular Modeling and Artificial Intelligence (AI) based Drug Design, and their Applications in Drug Discovery	Prof. Sun Choi Ewha Womans University, Korea		
14.20 - 14.40	[Invited speaker] Design and Develop Novel Drug WW1302 for Vascular Dementi	Prof. Xiaoliang Wang Chinese Academy of Medical Sciences, China		
14.40 - 14.50	[SS3-O-079] Alkoxyaurone derivatives as potential pancreatic lipase inhibitors	Dr. Vo Cam Van University of Medicine and Pharmacy at HCMC Vietnam		
14.50 - 15.00	Q&A			
November 09 th , 2023				
08.00 - 09.15	Session 3.2: Drug Design & Analytical methods - Ballroom 5 (Van Tuong) Chairmen: Prof. Sun Choi, Prof. Xiaoliang Wang			
08.00 - 08.20	[Invited speaker] Genotyping and Phenotyping Study for Personalized Medicine in Indonesia	Prof. Yahdiana Harahap The Republic of Indonesia Defense University Indonesia		
08.20 - 08.30	[SS3-O-128] Exploration of SARS-CoV-2 Mpro Natural Non-covalent Inhibitors Using Structure-Based Approaches	Duong Quoc Cuong University of Medicine and Pharmacy at HCMC Vietnam		
08.30 - 08.40	Q&A			

Time	Торіс	PIC/Speaker
08.40 - 08.50	[SS3-O-194] Discovery of Indazole Surrogates of Ring-Truncated Deguelin as HSP90 C-Terminal Inhibitor with Potent Antitumor Activity	La Minh Thanh Seoul National University Korea
08.50 - 09.00	[SS3-O-269] Development of a Machine Learning Model for the Synthesis and Molecular Docking Study of HIV Integrase Inhibitors	Tuyet Minh Phan University of Medicine and Pharmacy at HCMC Vietnam
09.00 - 09.10	[SS3-O-Online-123] In-silico analysis of Hesperetin-rutinoside as dual PI3K- mTOR inhibitor for ovarian cancer	Prof. Dr. Suvarna G Kini Manipal College of Pharmaceutical Sciences India
09.10 - 09.15	Q&A	
09.15 - 10.15	Session 3.3: Drug Design & Analytical methods - Ballroom 5 (Van Tuong) Chairmen: Prof. Vu Dang Hoang, Prof. Federico Marini	
09.15 - 09.35	[Invited speaker] Analysis of Nitrosamines and Azido Impurities in Drug Substances and Products	Prof. Nguyen Duc Tuan University of Medicine and Pharmacy at HCMC Vietnam
09.35 - 09.55	[SS3-O-3121] Determination of emerging environmental contaminants with liquid chromatography-mass spectrometry	Prof. Hyung Min Kim Chungnam National University Korea
09.55 - 10.05	[SS3-O-135] Method development and application for analysis of addictive drugs in sewage sludge collected at Kim Nguu River	Dr. Vu Ngan Binh Hanoi University of Pharmacy Vietnam
10.15 - 10.15	Q&A	
13.00 - 14.30	Session 3.4: Drug Design & Analytical methods - Ballroom 3	

Time	Торіс	PIC/Speaker	
	Chairmen: Prof. Nguyen Duc Tuan, Prof. Pham Hung Viet		
13.00 - 13.20	[Invited speaker] State-of-the-art chemometric-based strategies for pharmaceutical and biomedical analysis	Prof. Federico Marini University of Roma La Sapienza Italia	
13.20 - 13.40	[Invited speaker] Validating analysis of pharmaceutical products based on development and application of capillary electrophoresis: Qualitative and quantitative control of Parkinson's drugs	Prof. Pham Hung Viet Vietnam National University Vietnam	
13.40 - 13.50	[SS3-O-130] Single versus double coffee-ring effect patterns in thin-layer chromatography coupled with surface-enhanced Raman spectroscopic analysis of anti-diabetic drugs adulterated in herbal products	Prof. Pham Thi Thanh Ha Hanoi University of Pharmacy Vietnam	
13.50 - 14.00	[SS3-O-179] Development of analytical method for determination of ketamine, ketamine precursors and diluents in wastewater by LC-MS/MS	Dr. Tran Nguyen Ha Hanoi University of Pharmacy Vietnam	
14.00 - 14.10	[SS3-O-211] Determination of warfarin in volumetric absorptive microsampling (VAMS) for therapeutic drug monitoring using liquid chromatography-tandem mass spectrometry	Callista Andinie Mulyadi Universitas Indonesia Indonesia	
14.10 - 14.20	[SS3-O-025] Developing an HPLC method for simultaneous qualification of 2 specific related substances in impurity B of terazosin, a material for establishing reference standard	Dr. Do Thi Thanh Thuy Hanoi University of Pharmacy Vietnam	
14.20 - 14.30	Q&A		

Session 4: Clinical Pharmacy & Pharmacoepidemiology

Time	Торіс	PIC/Speaker
November 08 th , 2023		
14.00 - 16.00	Session 4.1: Clinical Pharmacy & Pharmacoepidemiology - Ballroom 4 (Ngoc Lan) Chairmen: Prof. Cecilia Stalsby Lundborg, Prof. Alan Lau, Dr. Do Xuan Thang	
14.00 - 14.20	[Invited speaker] Advancing pharmacotherapeutic frontiers and pharmacy practice through research and scholarship	Prof. Alan Lau University of Illinois Chicago USA
14.20 - 14.40	[Invited speaker] Antibiotic research - Approaches in pharmacoepidemiology and public health	Prof. Cecilia Stalsby Lundborg Karolinska Institutet Sweden
14.40 - 14.55	[SS4-O-204] Survey on drug use in the treatment of common cold at community pharmacies in Ho Chi Minh city: a simulated patient study	Prof. Ngoc Khoi Nguyen University of Medicine and Pharmacy at HCMC Vietnam
14.55 - 15.10	Q&A	
15.10 - 15.20	[SS4-O-122] Adverse Drug Reaction (ADR) reporting by New Zealand community pharmacists: practices, facilitators, and barriers	Dr. Mudassir Anwar University of Otago New Zealand
15.20 - 15.30	[SS4-O-210] Risk factors of insomnia in the elderly: a cross-sectional study in 2 hospitals, HCMC, Vietnam	Dr. Nhu Ho Nguyen University of Medicine and Pharmacy at HCMC Vietnam
15.30 - 15.40	[SS4-O-192] Knowledge, attitude and practice of antibiotic use in prevention or treatment of COVID-19 in a rural commune in Vietnam	Dr. La Thi Quynh Lien Hanoi University of Pharmacy Vietnam
15.40 - 16.00	Q&A	
16.00 - 16.15	Tea break	

Time	Торіс	PIC/Speaker
16.15 - 18.00	Session 4.2: Clinical Pharmacy & Pharmacoepidemiology - Ballroom 4 (Ngoc Lan) Chairmen: Prof. Yuh Lih Chang, Prof. Masatoshi Tomi, Prof. Ngoc Khoi Nguyen	
16.15 - 16.35	[Invited speaker] The development and futures perspectives of clinical pharmacy services - the experience from Taiwan	Prof. Yuh Lih Chang Taipei Veterans General Hospital Taiwan, China
16.35 - 16.55	[Invited speaker] Prediction of Fetal Drug Exposure by integrating in vitro, in vivo, ex vivo, and in silico approaches	Prof. Masatoshi Tomi Keio University Japan
16.55 - 17.10	[SS4-O-3137] Advancing clinical pharmacy education using a flipped learning approach - a sleep health case study	Prof. Bandana Saini The University of Sydney Australia
17.10 - 17.20	Q&A	
17.20 - 17.30	[SS4-O-178] Developing an AI assistant to support assessment of outpatient prescriptions	Huy Hoang Ha University of Medicine and Pharmacy at HCMC Vietnam
17.30 - 17.40	[SS4-O-228] Clinical Decision Support System: Enhancing the Quality use of medicine in patients with renal insufficiency	Le Trong Hieu Hanoi University of Pharmacy Vietnam
17.40 - 18.00	Q&A	
November 09 th , 2023		
08.00 - 10.00	Session 4.3: Clinical Pharmacy & Pharmacoepidemiology - Ballroom 4 (Ngoc Lan) Chairmen: Prof. Jennifer Le, Prof. Vu Dinh Hoa	
08.00 - 08.20	[Invited speaker] Reverse Translational Clinical Pharmacology in Pediatrics to Enhance Antimicrobial Stewardship	Prof. Jennifer Le University of California San Diego USA

Time	Торіс	PIC/Speaker
08.20 - 08.35	[SS4-O-3123] The Role of Pharmacometrics for evidence-based pharmacotherapy	Prof. Hwi-yeol Chungnam university Korea
08.35 - 08.45	[SS4-O-257] AUC-guided therapeutic drug monitoring of vancomycin: An application case of model-informed presicion dosing on critically ill children	Ha Pham Vietnam National Children's Hospital Vietnam
08.45 - 08.50	Q&A	
08.50 - 09.00	[SS4-O-206] Implementation of Therapeutic Drug Monitoring of Vancomycin in Vietnamese children using Bayesian Methods at Saint Paul General Hospital	Bich Hanh Vu Saint Paul General Hospital Vietnam
09.00 - 09.10	[SS4-O-094] Evaluate the predictive performance of amikacin blood concentration using Bayesian approach in ICU patients in Bach Mai Hospital	Ngoc Thi Nguyen Hong National DI & ADR Centre Vietnam
09.10 - 09.20	[SS4-O-023] Dose optimization of meropenem for critically ill patients by pharmacokinetic/ pharmacodynamic simulation	Van Dinh Le National DI & ADR Centre Vietnam
09.20 - 09.30	[SS4-O-153] A population pharmacokinetic model for individualized dosage regimens of vancomycin in Vietnamese pediatric patients	Phung Chi Kien Hanoi University of Pharmacy Vietnam
09.30 - 09.40	[SS4-O-102] Dose optimization of vancomycin for post-operative neurosurgical patients: A population PK/PD application	Linh Hoang Hai National DI & ADR Centre Vietnam
09.40 - 10.00	Q&A	

Time	Торіс	PIC/Speaker
10.00 - 10.15	Tea break	
10.15 - 12.00	Session 4.4: Clinical Pharmacy & Pharmacoepidemiology - Ballroom 4 (f Chairmen: Prof. Surakit Nathisuwan, Prof. Keri S. Kim, Prof. Nguyen Thi	Ngoc Lan) Lien Huong
10.15 - 10.35	[Invited speaker] Clinical Pharmacy Movement in Thailand: Past, Present and Future	Prof. Surakit Nathisuwan Mahidol University Thailand
10.35 - 10.50	[SS4-O-209] Impact of pharmacist-led interventions on medication adherence and inhaler use technique in patients with asthma treated at Pham Ngoc Thach Hospital	Prof. Nguyen Huong Thao University of Medicine and Pharmacy at HCMC Vietnam
10.50 - 11.00	[SS4-O-176] Investigation on antibiotic use in the treatment of acute cholangitis and acute cholecytitis at the Gia Dinh People's Hospital	Thi Mai Hoang Nguyen University of Medicine and Pharmacy at HCMC Vietnam
11.00 - 11.10	[SS4-O-Online-3081] The prevalence, clinical characteristics and medication patterns of asthma - COPD overlap: A cross-sectional study	Thu Hang Nguyen Vinh Medical University Vietnam
11.10 - 11.15	Q&A	
11.15 - 11.25	[SS4-O-3153] Clinical Pharmacy at the Bedside: Challenges of anticoagulation therapy management	Dr. Keri S. Kim University of Illinois Chicago USA
11.25 - 11.35	[SS4-O-186] Practice and perception of physicians on VTE prophylaxis after surgery in Institute of Gastrointestinal Surgery in 108 Military Central Hospital: A mixed methods study	Thuy Thi Thu Nguyen Hanoi University of Pharmacy Vietnam
11.35 - 11.45	[SS4-O-086] Analyze the effectiveness of clinical pharmacy interventions with antibiotic use in vascular surgery at the Department of Thoracic surgery, Bach Mai Hospital	Thi Nguyet Minh Le National DI & ADR Centre Vietnam

Time	Торіс	PIC/Speaker
11.45 - 11.55	[SS4-O-150] Assessing the appropriateness of antibacterial therapy in patients hospitalized with community-acquired pneumonia in a Vietnamese hospital	Minh Anh Vo Ho Chi Minh City University of Technology Vietnam
11.55 - 12.00	Q&A	
12.00 - 13.00	Lunch	
13.00 - 14.30	Session 4.5: Clinical Pharmacy & Pharmacoepidemiology - Ballroom 4 (I Chairmen: Prof. Renee Petzel Gimbar, Prof. Dang Nguyen Doan Trang	Ngoc Lan)
13.00 - 13.15	[SS4-O-3122] Clinical Pharmacist Bacterial Culture Follow-Up: More than just antibiotics	Prof. Renee Petzel Gimbar University of Illinois Chicago USA
13.15 - 13.30	[SS4-O-119] Investigation on antibiotic use for sepsis treatment among patients admitted via The Emergency Department at one teaching hospital in Ho Chi Minh City	Prof. Dang Nguyen Doan Trang University of Medicine and Pharmacy at HCMC Vietnam
13.30 - 13.40	[SS4-O-2236] Prediction of antibiotic resistance in hospitalised patients using machine learning algorithms with medical record data	Dr. Hoa Quoc Nguyen University of Medicine and Pharmacy at HCMC Vietnam
13.40 - 13.50	[SS4-O-042] Modeling of MGIT culture conversion during initial 8-week treatment phase of Vietnamese non-MDR pulmonary tuberculosis patients	Son Nhat Bui Vietnam National University Vietnam
13.50 - 14.00	Q&A	
14.00 - 14.10	[SS4-O-190] Risk of poor glycemic control associated with tamsulosin monotherapy versus finasteride monotherapy in patients with type 2 diabetes mellitus: A nationwide population-based study	Minh Ha Nguyen University of Medicine and Pharmacy at HCMC Vietnam

Time	Торіс	PIC/Speaker
14.10 - 14.20	[SS4-O-185] Enhancing individual concentration predictions of tacrolimus in renal transplant patients: practical application and adaptation of a population pharmacokinetic model in clinical settings	Vu Duong Anh Minh Hanoi University of Pharmacy Vietnam
14.20 - 14.45	Q&A	

Session 5: Pharmaceutics & Drug Delivery

Time	Торіс	PIC/Speaker
November 08 th , 2023		
14.00 - 16.00	Session 5.1: Pharmaceutics & Drug Delivery - Ballroom 2 Chairmen: Prof. Nguyen Thien Hai, Prof. Sompol Prakongpan	
14.00 - 14.20	[Invited speaker] Comparing and Contrasting Dry Powder Inhalations for use in COVID-19 and Tuberculosis	Prof. Amit Misra CSIR-Central Drug Research Institute, India
14.20 - 14.40	[Invited speaker] Inhaled phage delivery for respiratory infections caused by superbugs	Prof. Hak-Kim Chan University of Sydney, Australia
14.40 - 15.00	Q&A	
15.00 - 15.15	[SS5-O-154] Development of a nanoliposomal formulation for alpha- mangostin in overcoming cisplatin-induced nephrotoxicity	Dr. Gigi N.C. Chiu National University of Singapore Singapore
15.15 - 15.30	[SS5-O-077] Investigation on modeling and correlating drug release profiles in the accelerated and real-time conditions to formulate leuprolide acetate-loaded biodegradable microspheres	Prof. Tran Thi Hai Yen Hanoi University of Pharmacy Vietnam
15.30 - 15.45	[SS5-O-127] Formation and stabilization mechanism of colloidal dispersions of drug nanoparticles obtained from ternary solid dispersions	Dr. Kenjrou Higashi Kumamoto University Japan
15.45 - 16.00	Q&A	

Time	Торіс	PIC/Speaker
16.00 - 16.15	Tea break	
16.15 - 18.00	Session 5.2: Pharmaceutics & Drug Delivery - Ballroom 2 Chairmen: Prof. Jeonghwan Kim, Prof.Tetsuya Ozeki	
16.15 - 16.30	[SS5-O- 041] Development and characterization of hydroxyethyl cellulose- based gel containing metronidazole solid lipid nanoparticles for buccal mucosal drug delivery	Dr. Ho Hoang Nhan Hue University Vietnam
16.30 - 16.45	[SS5-O-022] Development of nanoformulation containing fluconazole and ibuprofen to tackle the drug-resistance phenomenon in oral Candidiasis in Vietnamese cancer patients	Dr. Nguyen Phuoc Vinh Vietnam National University Ho Chi Minh City Vietnam
16.45 - 17.00	Q&A	
17.00 - 17.10	[SS5-O-040] Nanocarriers with retention in respiratory system for long- lasting effects of drugs	Kohei Yamada University of Shizuoka Japan
17.10 - 17.20	[SS5-O-3093] Exploring the function of COL2A1 - infused MSC-derived exosomes in promoting chondrogenesis, resulting in cartilage regeneration in Osteoarthritis	Tran Khanh Huyen National Yang Ming Chiao Tung University Taiwan, China
17.20 - 17.30	[SS5-O-222] A dual ROS/pH-responsive polymer-based drug delivery system for effective colitis treatment	Nguyen Nhu Nam Sungkyunkwan university Korea
17.30 - 17.40	[SS5-O-172] Self-micellizing solid dispersion of zerumbone with improved biopharmaceutical properties	Shintaro Suzuki University of Shizuoka Japan
17.40 - 17.50	[SS5-O-116] Charge-conversion of photobleaching cyclodextrin-based nanomaterials for enhanced penetration of phototherapy in rectal cancer	Nguyen Duy Thuc Seoul National University South Korea
17.50 - 18.00	Q&A	

November 09 th , 2023		
09 00 10 00	Session 5.3: Pharmaceutics & Drug Delivery - Ballroom 2	
08.00 - 10.00	Chairmen: Prof. Yu Seok Youn, Prof. Amit Misra	
08.00 - 08.20	[Invited speaker] Advanced Application of Cyclodextrins for Pharmaceutical Sciences	Prof. Keiichi Motoyama Kumamoto University Japan
08.20 - 08.40	[Invited speaker] Renal clearable nanocarriers for enhancing tumor- targetability with minimal off-target accumulation	Prof. Dae-Duk Kim Seoul National University Korea
08.40 - 09.00	Q&A	
09.00 - 09.15	[SS5-O-3132] Inhalation delivery of cannabinoids for bacterial infection	Dr. Philip Chi Lip Kwok The University of Sydney Australia
09.15 - 09.30	[SS5-O-3114] Development of a povidone iodine-loaded niosome	Dr. Huynh Truc Thanh Ngoc University of Medicine and Pharmacy at HCMC Vietnam
09.30 - 9.40	[SS5-O-024] Development of Physiologically Based Pharmacokinetic Modeling to Predict Bioavailability of Capsules Containing Rosuvastatin- Loaded Self Nanemulsifying Drug Delivery System	Phan Thi Nghia Hanoi University of Pharmacy Vietnam
09.40 - 10.00	Q&A	
10.00 - 10.15	Tea break	
10.15 - 12.00	Session 5.4: Pharmaceutics & Drug Delivery - Ballroom 2 Chairmen: Prof. Hak-Kim Chan, Prof. Keiichi Motoyama	
10.15 - 10.30	[SS5-O-049] Natural polymer in pharmaceutical coating technology: Combining with solid lipid nanoparticle to enhance controlled-release film properties	Dr. Tran Ngoc Bao Hanoi University of Pharmacy Vietnam
10.30 - 10.45	[SS5-O-230] Development of poly(lipoic acid)-based nanoparticles to improve oral bioavailability and hepatoprotective effects of quercetin	Dr. Hideyuki Sato University of Shizuoka

		Japan
10.45 - 11.00	Q&A	
11.00 - 11.10	[SS5-O-099] Tackling the menace of antimicrobial resistant urinary tract infection by developing β Cyclodextrin Nanosponges loaded with cefotaxime sodium	Akhil Nair Manipal College of Pharmaceutical Sciences India
11.10 - 11.20	[SS5-O-117] Preparation of drug-loaded citrus lemon-derived extracellular vesicles for drug delivery to glioma	Susumu Suwabe Nagoya City University Japan
11.20 - 11.30	[SS5-O-064] Development of microparticles using spray-congealing technology to reduce the bitter taste of paracetamol for chewable tablets	Pham Van Hung Hanoi University of Pharmacy Vietnam
11.30 - 11.40	[SS5-O-073] Trehalose-based respirable powder formulation of pranlukast for the treatment of airway inflammatory diseases	Kazuki Masui University of Shizuoka Japan
11.40 - 12.00	Q&A	
12.00 - 13.00	Lunch	
13.00 - 14.30	Session 5.5: Pharmaceutics & Drug Delivery - Ballroom 2 Chairmen: Prof. Chul Soon Yong, Prof. Le Hau	
13.00 - 13.20	[Invited speaker] Extracellular vesicles as the next-generation multifunctional therapeutics	Prof. Wojciech Chrzanowski University of Sydney Australia
13.20 - 13.40	[Invited speaker] Advanced therapy of hypoxic breast cancers using highly photoreactive upconverting nanoparticles	Prof. Yu Seok Youn Sungkyunkwan University Korea
13.40 - 13.55	Q&A	

13.55 - 14.10	[SS5-O-097] Development of proniosome gels for the treatment of osteoarthritis	Dr. Ayca Altay Benetti National University of Singapore Singapore
14.10 - 14.20	[SS5-O-114] Effect of PEG modification on drug encapsulation efficiency and morphology of doxorubicin-loaded liposome	Taiki Fujimoto Chiba University Japan
14.20 - 14.30	Q&A	

Session 6: Natural Products and Herbal Medicines

Time	Торіс	PIC/Speaker	
	November 08 th , 2023		
14.00 - 16.00	Session 6.1: Natural Products and Herbal Medicines - Ballroom 3 Chairmen: Prof. Ain Raal, Prof. Mi Kyeong Lee		
14.00 - 14.20	[Invited speaker] Navigation for discovering nature's molecular potential	Prof. Sang Kook Lee Seoul National University Korea	
14.20 - 14.35	[SS6-O-032] The American cranberry (<i>Vaccinium macrocarpon</i> Aiton) leaves - a promising source for the creation of medicines for prevention and management of metabolic syndrome and liver diseases	Prof. Dr. Oleh Koshovyi National University of Pharmacy, Kharkiv, Ukraine; and a visiting professor at University of Tartu Estonia	
14.35 - 14.50	[SS6-O-010] Berberine treats atherosclerosis via down-regulating Choline-TMA-TMAO production pathway in the gut microbiota	Prof. Dr. Yan Wang Chinese Academy of Medical Sciences & Peking Union Medical College China	
14.50 - 15.00	Q&A		
15.00 - 15.20	[Invited speaker] R&D in the uses of Aconitum herbal drugs	Prof. Fang Rong Chang	

Time	Торіс	PIC/Speaker
		Kaohsiung Medical University, Taiwan, China
15.20 - 15.35	[SS6-O-3099] Characterizing the pharmacological actions of the mangosteen (<i>Garcinia mangsotana</i>) in prostate and colon cancer	Prof. Dr. Jeremy J. Johnson University of Illinois Chicago USA
15.35 - 15.50	[SS6-O-255] Neuroprotective Effects of <i>Polyscias fruticosa</i> Extract against Glutamate Induced Neuronal Toxicity	Dr. Jae Wook Lee Korea Institute of Science and Technology, Korea
15.50 - 16.00	Q&A	
16.00 - 16.15	Tea break	

16.15 - 18.00	Session 6.2: Natural Products and Herbal Medicines - Ballroom 3 Chairmen: Prof. Karl Wah Keung Tsim, Prof. Sang Hoon Jung	
16.15 - 16.25	[SS6-O-098] Development and Evaluation of Polyherbal formulations for Cognitive Dysfunction	Dr. Vasudev Pai Manipal College of Pharmaceutical Sciences India
16.25 - 16.35	[SS6-O-129] From Nature's Palette to Fungal Foes: Unleashing the Potent Anticandidal Power of Compounds Isolated from <i>Arcangelisia flava</i> (L.) Merr.	Dr. Rudi Hendra University Riau Indonesia
16.35 - 16.45	[SS6-O-065] An unexpected genetic diversity pattern and morphological and phytochemical complexity of <i>Panax vietnamensis</i>	Dr. Vo Ngoc Linh Giang University of Medicine and Pharmacy at HCMC Vietnam
16.45 - 16.55	[SS6-O-126] Identifying phenolic compounds with biofilm-inhibiting effect against multidrug-resistant E. coli: An ethnopharmacological approach using <i>Elephantorrhiza elephantina</i> as an example	Niclas Neumann University of Greifswald Germany
16.55 - 17.05	[SS6-O-090] Phytochemical investigation of <i>Momordica cochinchinensis</i> (Lour.) Spreng Pulps from Vietnam	Dr. Tam Thi Le Korea Institute of Science and Technology, Korea
17.05 - 17.20	Q&A	
17.20 - 17.30	[SS6-O-039] Embryo toxicity profile of commercial herbal supplements and their inhibitory potential against cytochrome P450 (CYP) enzymes	Yih Wei Lim University Putra Malaysia

Time	Торіс	PIC/Speaker		
17.30 - 17.40	[SS6-O-110] Chemometric-Guided Chemical Marker Selection: A Case Study of the herb Scrophularia ningpoensis Hemsl	Huong-Giang Le Taipei Medical University, Taiwan, China		
17.40 - 17.50	[SS6-O-212] <i>Moringa oleifera</i> Extracts as an Potential Defense Against Biological Threats	Muhammad Raihan Zulfikar The Republic of Indonesia Defense University Indonesia		
17.50 - 18.00	Q&A			
November 09 th , 202 <mark>3</mark>				
08.00 - 10.00	Session 6.3: Natural Products and Herbal Medicines - Ballroom 3 Chairmen: Prof. Sang Kook Lee, Prof. Tran Hung			
08.00 - 08.20	[Invited speaker] <i>Hericium erinaceus</i> and <i>Cordyceps militaris</i> as potential candidates for drug discovery with various active metabolites	Prof. Dr. Mi Kyeong Lee Chungbuk National University Korea		
08.20 - 08.35	[SS6-O-121] Towards understanding the mechanism/s of anti- inflammatory action of andrographolide, a bioactive constituent of Xuyen Tam Lien (<i>Andrographis paniculata</i>)	Prof. Dr. Christina Chai National University of Singapore Singapore		
08.35 - 8.50	[SS6-O-3119] Chemical compositions and Effect of the Aerial Parts of <i>Glinus oppositifolius</i> on FAS and SREBP-1c via AMPK Activation in HepG2 and C2C12 Cells	Prof. Dr. Do Thi Ha National Institute of Medical Materials Vietnam		
08.50 - 9.00	Q&A			
09.00 - 9.20	[Invited speaker] Danggui Buxue Tang (A Chinese Angelica Decoction): A Sample Trial in Traditional Chinese Medicine Standardization	Prof. Dr. Karl Wah Keung Tsim Hong Kong University of Science and Technology China		
09.20 - 9.35	[SS6-O-062] Machine Learning Approaches for Predicting E. coli Biofilm Inhibition by Phenolic Natural Compounds	Prof. Dr. Sebastian Guenther University of Greifswald, Germany		
09.35 - 9.50	[SS6-O0072] Propolis of stingless bees in Vietnam: Chemical composition, biological activities and plant sources	Prof. Dr. Thanh Nguyen Le Vietnam Academy of Science and Technology Vietnam		
09.50 - 10.00	Q&A			
10.00 - 10.15	Tea break			

Time	Торіс	PIC/Speaker
10.15 - 11.15	Session 6.4: Natural Products and Herbal Medicines - Ballroom 3 Chairmen: Prof. Hanh DUFAT, Prof. Christina Chai	
10.15 - 10.35	[Invited speaker] Research in pharmacognosy at the University of Tartu (Estonia) in cooperation with colleagues from Vietnam and Ukraine	Prof. Dr. Ain Raal University of Tartu Estonia
10.35 - 10.50	[SS6-O-3130] UIC-VAST Partnership to establish antibiotic discovery from East Sea bacteria	Prof. Dr. Brian Murphy University of Illinois Chicago USA
10.50 - 11.05	[SS6-O-3131] Mekong Pharma Network - collaborative projects	Prof. Dr. Do Quyen Hanoi University of Pharmacy Vietnam
11.05 - 11.15	Q&A	
Meeting Agenda

ANNUAL MEETING OF AFPS EXECUTIVE COMMITTEE MEMBERS

Meeting participants: Executive Committee members of AFPS and related partners (if any).

Meeting time: 16h00 - 17h05, 07th November 2023

Meeting place: Meeting room - Trung Gia (Foreign Relations Hotel, 33C Pham Ngu Lao, Hoan Kiem, Hanoi)

Meeting agenda:

Time	Торіс	PIC/Speaker
16.00 - 16.10	Introduction	All participants
		Prof. Dr. Yahdiana Harahap President of AFPS Executive Committee
16.10 - 16h15	Welcome remarks	Dean, Faculty of Military Pharmacy of the Republic of Indonesia Defense University Indonesia
		Prof. Nguyen Ngoc Chien
16.15 - 16.25	Overview presentation of the AFPS Conference 2023	Head of AFPS 2023 Scientific Committee
		Hanoi University of Pharmacy, Vietnam
16.25 - 16h35	Overview presentation of AFPS and activities of AFPS Executive Committee	Prof. Dr. Masatoshi Tomi Faculty of Pharmacy, Keio University Japan
16.35 - 16.55	Discussion on the activities for the coming time of AFPS Executive Committee and identification of the host country for the 9th AFPS Conference	All participants
16h55 - 17h00	Conclusion	Prof. Dr. Yahdiana Harahap
17.00 - 17.05	Photograph	All participants
18.30 - 21.00	Reception Dinner (invited by AFPS 2023 Organizing Committee)	All participants

Symposium Agenda

ADVANCED THERAPIES - CELL AND GENE

Time: 14.00 - 17.00 on 08th November 2023

Location: Ballroom 1 - Foreign Relations Hotel

Chairmen:

- Prof. Dr. Nguyen Hai Nam (Rector of Hanoi University of Pharmacy)
- Representative(s) of Drug Administration of Vietnam (DAV), Ministry of Health

Language: English - Vietnamese (Cabin interpretation)

Meeting agenda:

Time	Торіс	PIC/Speaker
14:00 - 14:20	Opening remarks	HUP Leader DAV Representative
14:20 - 14:35	Overview of the EU regulatory framework for Advanced Therapy Medicinal Products (ATMPs)	Dr. Martin O'Kane Head of Regional Regulatory Affairs EU Policy & Liaison, Novartis
14:35 - 14:55	Overview of Advanced Cell and Gene Therapy - CMC Challenges	Dr. Lawrence C. Starke Head of Regulatory CMC Policy and Intelligence for Cell and Gene Therapy, Novartis
14:55 - 15:25	Management of Biologics including Cell & Gene Therapy - Experience sharing from other Authorities	Dr. Karen Jean Loft TGA Australia Representative
15:25 - 15:40	Management of biological drugs - Advanced therapies in Vietnam	Prof. Pham Thi Thuy Van Deputy Dean, Faculty of Pharmacology and Clinical Pharmacy, HUP
15:40 - 15:50	Symposium photography	All participants
15:50 - 16:00	Tea break	
16:00 - 16:55	Open discussion/Q&A with panel members	All participants Prof. Nguyen Hai Nam Prof. Pham Thi Thuy Van Prof. Phung Thanh Huong Dr. Paul Huleatt Dr. Karen Jean Loft Dr. Martin O'Kane
16:55 - 17:00	Closing	

Symposium Agenda

HEALTH TECHNOLOGY ASSESSMENT

Time: 08:00 - 12:00 on 9th November 2023 Location: Ballroom 1 - Foreign Relations Hotel Chairmen:

- Dr. Tran Thi Trang, Director of Health Insurance Department- Ministry of Health
- Dr. Le Van Phuc, Director of Health Insurance Implementation Department
- Dr. Dang Viet Hung, Chair of University Council, Hanoi University of Pharmacy
- Prof. Hoang Van Minh, Rector of Hanoi University of Public Health

Language: English - Vietnamese (Cabin interpretation)

Meeting agenda:

Time	Торіс	PIC/Speaker
08:30 - 08:40	Opening remarks	HUP Board of Directors Health Insurance Department Representatives
08:40 - 09:00	HTA application for developing reimbursement policy in Vietnam	Vu Nu Anh Department of Health Insurance, Ministry of Health, Vietnam
09:00 - 09:20	The demand to apply HTA in health insurance fund management in Vietnam	Nguyen Thi Hong Van Deputy Director of Health Insurance implementation Department, Vietnam
09:20 - 09:40	Application of Pharmacoeconomics in the Development of the National List of Essential Medicines in Thailand	Prof. Arthorn Riewpaiboon Faculty of Pharmacy, Mahidol University, Thailand
09:40 - 10:00	Unleasing Patient access: Lessons Learned for Effective and Sustainable implementation	Sirin Petcharapiruch Senior Principal, Real World Solutions, APAC, IQVIA, Thailand
10:00 - 10:05	Symposium photography	All participants
10:05 - 10:15	Tea break	All participants
10:15 - 10:35	Challenges in Pricing and Reimbursement for Fixed Dose Combination medicine: International comparison and recommendations for Vietnam	Dr. Kieu Thi Tuyet Mai Faculty of Pharmaceutical Management and Pharmacoeconomics, Hanoi University of Pharmacy, Vietnam
10:35 - 10:55	Overview of cancer drugs in Vietnam and cost-effectiveness	Dr. Pham Tuan Anh Deputy Head of Department of Optimal Clinical Care, K hospital, Vietnam
10:55 - 11:15	Alternatives to cost / QALY economic evaluations for middle income markets	Prof. Lotte Steuten Deputy Chief Executive, The Office of Health Economics (OHE), London, UK
11:15 - 11:55	Discussion	All participants
11:55 - 12:00	Closing	

Symposium Agenda

CLINICAL PHARMACY PRACTICE TEACHING METHODS

Time: 08:30 - 17:15 on 10th November 2023 Location: Hanoi University of Pharmacy Chairperson: Prof. Dinh Thi Thanh Hai Language: English - Vietnamese Meeting agenda:

Time	Торіс	PIC/Speaker
8.30 - 9.00	Opening Ceremony	HUP Leaders
9.00 - 9.30	Presentation and discussion Clinical practice and clinical pharmacy training at University of Illinois Chicago	 Pharm.D. Nancy Shapiro Clinical Professor and Associate Head for Education, Department of Pharmacy Practice, College of Pharmacy, University of Illinois Chicago Pharm.D. Alan Lau Professor and Director, International Clinical Pharmacy Education, College of Pharmacy, University of Illinois Chicago
9.30 - 10.00	Clinical practice and clinical pharmacy training at University of Sydney	Prof. Bandana Saini School of Pharmacy, Faculty of Medicine and Health, University of Sydney
10.00 - 10.30	Clinical practice and clinical pharmacy training in National University of Singapore	Prof. Paul John Gallagher Deputy Head-Clinical, Department of Pharmacy, National University of Singapore
10.30 - 11.00	Clinical practice and clinical pharmacy training at Mahidol University	Prof. Surakit Nathisuwan Dean at the Faculty of Pharmacy, Mahidol University
11.00 - 11.30	Clinical practice and clinical pharmacy training in Hanoi University of Pharmacy	Associate. Prof. Nguyen Thi Lien Huong Faculty of Pharmacology and Clinical Pharmacy, Hanoi University of Pharmacy
11.30 - 12.00	Summary & photograph	All participants
13.30 - 1700	An extensive patient case demonstrating. Discussion on application of clinical teaching methods My path to becoming a clinical pharmacist and educator	Pharm.D. Keri Kim Clinical Assistant Professor, Department of Pharmacy Practice, College of Pharmacy Clinical Pharmacist, UI Health Pharm.D. Renee Petzel Gimbar Clinical Associate Professor, Department of Pharmacy Practice, College of Pharmacy Clinical Pharmacist, UI Health
17.00 - 17.15	Closing remarks	All participants

POSTER PRESENTATIONS DETAILED SESSION AGENDA

Session 1: Regulatory science and Pharmacoeconomics

Time	Торіс	PIC/Speaker
November 08 th , 2023		
13.00 - 14.00	Session 1: Regulatory science & Pharmacoeconomics - Standee 1	Hung Vuong Convention Center -
13.00 - 13.06	[SS1-P-015] Evaluation of prescription indicators in a district-level medical center in Vietnam: a cross-sectional study in 2019	Dai Xuan Dinh Hanoi University of Pharmacy Vietnam
13.06 - 13.12	[SS1-P-058] Mapping the EORTC QLQ-C30 onto EQ-5D- 5L to determine utility among chronic myeloid leukemia patients	Thi Huong Vuong Hanoi University of Pharmacy Vietnam
13.12 - 13.18	[SS1-P-069] A meta-analysis of Health-Related Quality of Life values derived from EQ-5D-5L in psoriatic patients	Minh Anh Hoang Hanoi University of Pharmacy Vietnam
13.18 - 13.24	[SS1-P-084] Direct treatment cost of patients with psoriatic arthritis disease covered by the Vietnam National Health Insurance at the National Hospital of Dermatology and Venereology from 2021 to 2022	Thi Mai Phuong Nguyen Hanoi University of Public Health Vietnam
13.24 - 13.30	[SS1-P-093] Analyzing the patient adherence to antibiotic use bought in some community pharmacies in Hanoi	Dr. Thi Phuong Thuy Nguyen Hanoi University of Pharmacy Vietnam
13.30 - 13.36	[SS1-P-236] Mental health issues and demand for mental health services among pharmacy students: A point-prevalence survey	Dr. Hoa Quoc Nguyen University of Medicine and Pharmacy at HCMC Vietnam
13.36 - 13.42	[SS1-P-3085] Health-Related Quality Of Life Of Chronic Kidney Disease At Thong Nhat Hospital, Ho Chi Minh City In 2023	Thi Hong Nguyen Tran University of Medicine and Pharmacy at HCMC Viet Nam
13.42 - 13.48	[SS1-P-3116] Health-Related Quality Of Life Of Type 2 Diabetes Patients: An Structural Equation Modeling Study In Vietnam	Thi Hai Yen Nguyen University of Medicine and Pharmacy at HCMC Viet Nam
13.48 - 14.00	Q&A	

Session 2: Pharmaceutical Biology & Biotechnology

Time	Торіс	PIC/Speaker
November 08 th , 2023		
13.00 - 14.00	Session 2.1: Pharmaceutical Biology & Biotechn	ology - Ballroom 5 (Van Tuong) - Standee 10
40.00 40.00	[SS2-P-017] A simple sequencing protocol for	Dr. Pham Tran Thu Ha
13.00 - 13.06	genotyping the HLA-C locus by the Sanger	Hanoi University of Pharmacy
	includu	Dr. Vu Thi Hong Hanh
13.06 - 13.12	[SS2-P-029] Zebrafish (Dannio rerio): A model	Hanoi University of Pharmacy
	to investigate the tocxicity of berberin clorid	Vietnam
	[SS2-P-048] Effect of ultrasonic parameters on	Prof. Dr. Nguyen Thi Lap
13.12 - 13.18	gene transfection efficiency and cell viability of	Hanoi University of Pharmacy
		Vietnam
13.18 - 13.24	[SS2-P-058] Safety assessment of compounds after in vitro metabolic conversion using	Dr. Nguyen Xuan Bac Hanoi University of Pharmacy
10.10 10.2	zebrafish model	Vietnam
	[SS2-P-059] Anti-inflammatory properties of	Dr. Nguyen Thu Hang
13.24 - 13.30	the ethanol extract from Clerodendrum	Hanoi University of Pharmacy
	cyrtophyllum leavesin animal models	Vietnam
12 20 - 12 26	[SS2-P-060] NLRP3 inflammasomes contributes	Dr. Pham Duc Vinh
13.30 - 13.30	through activation of lung fibroblasts	Vietnam
	[SS2-P-074] Effect of chitosan on some	Ngo Nguyen Quynh Anh
13.36 - 13.42	properties of alginate - starch probiotics	Hai Duong Central College of Pharmacy
	microcapsules	Vietnam
	[SS2-P-078] Investigation of the nutrition	Nguyen Anh Vu
13.42 - 13.48	reproduction ability of zebrafish - an animal	Hanoi University of Pharmacy
	model for biomedical research - In Hanoi	Vietnam
	University of Pharmacy	
13.48 - 14.00	Q&A	
13.00 - 14.00	Session 2.2: Pharmaceutical Biology & Biotechn	ology - Ballroom 5 (Van Tuong) - Standee 11
	[SS2-P-081] Microencapsulation of	Prof. Dr. Dam Thanh Xuan
13.00 - 13.06	method utilizing a natural polysaccharide of κ -	Hanoi University of Pharmacy
	carrageenan	Vietnam
	[SS2-P-103] Antimicrobial and antibiofilm	Do Thi Huyen Thuong
13.06 - 13.12	effects of some semi - synthetic derivatives	Hanoi University of Pharmacy
	Irom component of some essential oils	Vietnam
	of Human Dermal Papilla Cells and Promotes	Dr. Yuen Ka Wing Gary
13.12 - 13.18	Hair Shaft Elongation in Mouse Vibrissae Hair	Shenzhen Research Institute
	Follicle Culture	China
	[SS2-P-124] Transcriptional induction of	
	Suppressors of Cytokine Signaling isoforms in macrophages during infection with	Trisha Roy
13.18 - 13.24	<i>Mycobacterium tuberculosis</i> as an immune	CSIR-Central Drug Research Institute
	evasion strategy: scope of intervention via	India
	host-directed therapy	
12.24 12.20	[SS2-P-141] Evaluation of triglycerides, total	Dung Thi Van Nguyen
13.24 - 13.30	human whole blood and plasma samples	Vietnam
	[SS2-P-148] Protocol for deploying a xenograft	Tho Tran Thi Anh
13.30 - 13.36	brain tumor model on in-house	Vinh Medical University
	immunodeficient mice by irradiation	Vietnam

Time	Торіс	PIC/Speaker
13.36 - 13.42	[SS2-P-160] Microarray data analysis to evaluate the changes of mRNA expression level in Mest and several adipogenesis-related genes in mice under different conditions	Nhat-Le Bui Vietnam National University Vietnam
13.42 - 13.48	[SS2-P-182] Evaluating antibiofilm activities of <i>Psidium guajava</i> extract and <i>Myristica fragrans</i> extract against <i>Staphylococcus aureus</i>	Tran Thi Minh Thu Hanoi University of Pharmacy Vietnam
13.48 - 14.00		
13.00 - 14.00	Session 2.3: Pharmaceutical Biology & Biotechn	ology - Ballroom 5 (Van Tuong) - Standee 12
13.00 - 13.06	[SS2-P-183] How have biochemical and hematological parameters in patients with moderate to critical COVID-19 changed over the periods of the COVID-19 pandemic in Vietnam?	Prof. Dr. Thuan Thi Minh Nguyen University of Medicine and Pharmacy at HCMC Vietnam
13.06 - 13.12	[SS2-P-189] A new method to form and evaluate biofilms of 2 microorganism species on 96-well plates	Dr. Nguyen Khac Tiep Hanoi University of Pharmacy Vietnam
13.12 - 13.18	[SS2-P-227] Biosynthesize HMG-CoA reductase inhibitor (lovastatin) by the red mold Monascus <i>purpureus</i>	Nhat Linh Nguyen Hanoi University of Pharmacy Vietnam
13.18 - 13.24	[SS2-P-231] Utility of AGP-KO mice to assess the contribution of AGP in drug pharmacokinetics	Yuka Nakamura Kumamoto University Japan
13.24 - 13.30	[SS2-P-234] General Toxicity in Animal Model after Chronic Use Tramadol	Aliyah Nur Ariza Republic Indonesia Defense University Indonesia
13.30 - 13.36	[SS2-P-235] Preclinical pharmacodynamics and molecular mechanisms of W1302 on improving vascular dementia	Weiping Wang Chinese Academy of Medical Sciences China
13.36 - 13.42	[SS2-P-238] The pathophysiological role of α 1-acid glycoprotein (AGP) in LPS-induced sepsis	Nao Yumoto Kumamoto University Japan
13.42 - 13.48	[SS2-P-239] An AI automatic recognition and analysis software for basic research and drug evaluation of acute cerebral ischemia -TD ACI	Jie Cai Chinese Academy of Medical Sciences China
13.48 - 14.00	Q&A	
	November 09 th , 2023	
14.45 - 15.45	Session 2.4: Pharmaceutical Biology & Biotechr	ology Ballroom 1-3 - Standee 10
14.45 - 14.51	[SS2-P-240] Preclinical pharmacodynamic studies of antiarrhythmic drug SIPI-2011	Nan Feng Chinese Academy of Medical Sciences China
14.51 - 14.57	[SS2-P-250] Isolation of brain capillaries from a single frozen mouse brain for quantitative proteomics	Dr. Shingo Ito Kumamoto University Japan
14.57 - 15.03	[SS2-P-1017] A Novel Allele-Specific PCR Protocol for the Detection of the HLA-C*03:02 Allele, a Pharmacogenetic Marker, in Vietnamese Kinh People	Dr. Pham Tran Thu Ha Hanoi University of Pharmacy Vietnam
15.03 - 15.09	[SS2-P-3098] Study on acute oral toxicity and gonadotropic effect of film-coated tablet containing a combination of <i>Extractum herba</i> <i>epimedii</i> and <i>Herba radix Eurycomae longifoliae</i>	Prof. Dr. Thi-Hong-Tuoi Do University of Medicine and Pharmacy at HCMC Vietnam
15.09 - 15.15	[SS2-P-3107] Myxobacterial metabolite profiling analysis of the highly effective anti- breast cancer extracts using LC-HRMS	Yen T.N. Nguyen Nguyen Tat Thanh University Vietnam
15.15 - 15.21	[SS2-P-3111] Regulation of NAA80 in renal cancer cell migration and stemness	Nguyen Thi Thu Hien Hanoi University of Pharmacy, Vietnam

Time	Торіс	PIC/Speaker
15.21 - 15.45	Q&A	
14.45 - 15.45	Session 2.5: Pharmaceutical Biology & Biotech Standee 11	nology - Hung Vuong Convention Center -
14.45 - 14.51	[SS2-P-3118] Study on real-time PCR method to examine some criteria on bacterial limits	Dr. Trinh Tuy An University of Medicine and Pharmacy at HCMC Vietnam
14.51 - 14.57	[SS2-P-3120] New stilbene-phenylpropanoid derivatives and anthraquinone with anti- inflammatory and anti-diabetic effects from <i>Chamaecrista pumila</i>	Prof. Dr. Nguyen Manh Tuyen Hanoi University of Pharmacy Vietnam
14.57 - 15.03	[SS2-P-3131] Antitumor effects of octyl gallate on human hypopharyngeal cells and tongue cancer cells	Nguyen Thi Kieu Trang Thai Binh University of Medicine and Pharmacy Vietnam
15.03 - 15.09	[SS2-P-3141] Expression and purification of recombinant human interleukin-6 in <i>Escherichia coli</i>	Dr. Nguyen Quoc Thai University of Medicine and Pharmacy at HCMC Vietnam
15.09 - 15.15	[SS2-P-3145] Isolation and identification of antimicrobial marine-derived actinobacteria from Cat Ba, Vietnam	Dr. Cao Duc Tuan Hai Phong University of Medicine and Pharmacy Vietnam
15.15 - 15.21	[SS2-P-3155] Investigate the effects of an anti- emetic drug in non-small cell lung cancer cell proliferation and metastasis	Thi Tuong Linh Nguyen National Yang Ming Chiao Tung University Taiwan, China
15.21 - 15.27	[SS2-P-224] <i>In vitro</i> probiotic potential of lactic acid bacteria (Lab) isolated from Vietnamses pickles anti- <i>H. pylori</i> activity	Thi Viet Ha Cao University of Medicine and Pharmacy at HCMC Vietnam
15.27 - 15.45	Q&A	

Session 3: Drug Design & Analytical methods

Time	Торіс	PIC/Speaker
November 08 th , 2023		
13.00 - 14.00	Session 3.1: Drug Design & Analytical methods - Ba	llroom 5 (Van Tuong) - Standee 13
13.00 - 13.06	[SS3-P-009] Design, synthesis and evaluation the bioactivities of novel 1,3-dimethyl-6-amino-1H-indazole derivatives as anticancer agents	Prof. Hoon Yoo Chosun University, Korea
13.06 - 13.12	[SS3-P-035] Identifying Possible AChE Inhibitors from Drug-Like Molecules via Machine-Learning and Experimental Studies	Dr. Ngo Son Tung Ton Duc Thang University Vietnam
13.12 - 13.18	[SS3-P-046] A HPLC method for determination of fenofibrate and fenofibric acid in beagle dog plasma	Prof. Dr. Nguyen Thi Thuan Hanoi University of Pharmacy Vietnam
13.18 - 13.24	[SS3-P-213] In silico Discovery of Dual AChE and BACE1 Inhibitors for Alzheimer's Disease	Prof. Dr. Phan Thi Phuong Dung Hanoi University of Pharmacy Vietnam
13.24 - 13.30	[SS3-P-066] Innovative Exploration of VEGFR-2 Inhibitors in Chemical Space with Gradient Ascent and Junction Tree Variational Autoencoder	Gia-Bao Truong University of Medicine and Pharmacy at HCMC Vietnam

Time	Торіс	PIC/Speaker
13.30 - 13.36	[SS3-P-087] Simultaneous determination of non paraben preservatives phenoxyethanol and sodium benzoate in shampoo by an HPLC method.	Dr. Tong Thi Thanh Vuong Hanoi University of Pharmacy Vietnam
13.36 - 13.42	[SS3-P-088] Synthesis and evaluation of anticancer and anti-inflammatory activities of some 1,2,4-triazole-derived NHC gold(I) and gold(III) complexes	Dr. Luong Thi Thanh Huyen Hanoi University of Pharmacy Vietnam
13.42 - 13.48	[SS3-P-092] Microwave-assisted synthesis and antibacterial activity evaluation of 4,6- dihydroxyaurone derivatives	Trang Thanh Nguyen Danang University Vietnam
13.48 - 13.54	[SS3-P-100] The use of powdered paracetamol as matrix modifier to develop quantitative ATR- IR methods for assay of APIs in commercial tablets with unknown manufacturing formula	Prof. Dr. Le Dinh Chi Hanoi University of Pharmacy Vietnam
13.54 - 14.00	Q&A	
13.00 - 14.00	Session 3.2: Drug Design & Analytical methods - Ba	llroom 5 (Van Tuong) - Standee 14
13.00 - 13.06	[SS3-P-134] <i>In silico</i> screening for natural compounds against protein NS4B of dengue virus 2	Pham Nguyen Phat University of Medicine and Pharmacy at HCMC Vietnam
13.06 - 13.12	[SS3-P-140] Comparison of excitation wavelength in thin-layer chromatography coupled with surface-enhanced Raman spectroscopic analysis: case study in phosphodiesterase-5 inhibitors	Nguyen Thi Thuy Linh Hanoi University of Pharmacy Vietnam
13.12 - 13.18	[SS3-P-142] Structure-based pharmacophore models for screening natural dual SGLT1 and SGLT2 inhibitors	Nguyen Phu Doan University of Medicine and Pharmacy at HCMC Vietnam
13.18 - 13.24	[SS3-P-151] Determination of synthesis compounds adulterated in herbal products by LC-MS/MS	Prof. Dr. Nguyen Thi Kieu Anh Hanoi University of Pharmacy Vietnam
13.24 - 13.30	[SS3-P-156] An <i>in silico</i> approach to unveil the mechanism of action of Hibiscus sabdariffa against non-alcoholic fatty liver disease (NAFLD)	Quynh Nguyen Nhu Le University of Medicine and Pharmacy at HCMC Vietnam
13.30- 13.36	[SS3-P-159] Development and validation of an LC-MS/MS method for simultaneous determination of nitrosamine and azido impurities in tetrazole-containing sartans	Nguyen Minh Luan University of Medicine and Pharmacy at HCMC Vietnam
13.36 - 13.42	[SS3-P-161] Development and Validation of an HPLC Method for the qualification and quantification of feruloylmethane in modified curcumin nanoproduct	Nguyen Thi Khanh Ly Hanoi University of Pharmacy Vietnam
13.42 - 13.48	[SS3-P-163] Synthesis and purity determination of N-hydroxycytidine (Molnupiravir impurity A) and dimethyl dioxol impurity (Molnupiravir impurity B)	Bui Thi Hong Phuong University of Medicine and Pharmacy at HCMC Vietnam
14.48 - 14.54	[SS3-P-166] Process of preparing 3-methyl-5- nitro-1H-indazole by scale of 200 g/batch as an important intermediate for the preparation of pazopanib	Bui Thi Thanh Cham Hanoi University of Pharmacy Vietnam
13.54 -14.00	Q&A	

November 09 th , 2023		
14.45 - 15.45	Session 3.3: Drug Design & Analytical metho	ods - Hung Vuong Convention Center -
	Standee 13	
14.45 - 14.51	[SS3-P-171] Synthesis, Antibacterial Assay and <i>In silico</i> study of Curcumin Analogs: 3,5-Bis-(2',4'-dichlorobenzilyden)-N-methyl-4-piperidone and 3,5-Bis-(2',4'-dichlorobenzilyden)-4-piperidone	Dr. Tesia Aisyah Rahmania Indonesia Defense University Indonesia
14.51 - 14.57	[SS3-P-172] In silico Study: Molecular Docking Targeting KRAS Receptor In Lung Cancer	Dr. Arya Wijaya Harahap Indonesia Defense University Indonesia
14.57- 15.03	[SS3-P-177] Comparative analysis by TLC-SERS and HPTLC-UV: Improvement in determination of sildenafil as an adulterant in herbal products by TLC-SERS	Dr. Dang Thi Ngoc Lan Hanoi University of Pharmacy Vietnam
15.03 - 15.09	[SS3-P-209] 2D-QSAR and molecular docking studies of histone deacetylase 6 inhibitors with benzimidazole scaffold	Nguyen Quoc Thang Hanoi University of Pharmacy Vietnam
15.09 - 15.15	[SS3-P-063] Exploring the Chemical Space of HDAC6 Inhibitors: A deep generative study using a Gradient Ascent Algorithm	Thanh-An Pham University of Medicine and Pharmacy at HCMC, Vietnam
15.15 - 15.21	[SS3-P-229] Application of Molecular Similarity and Artificial Neural Networks for PD-L1 inhibitors Virtual Screening	To Van Thinh University of Medicine and Pharmacy at HCMC Vietnam
15.21 - 15.27	[SS3-P-249] Synthesis and evaluation of 6- aminoquinazolin-4(3H)-one derivatives as anticancer agents	Nu Huyen My Nguyen Hanoi University of Pharmacy Vietnam
15.27 - 15.33	[SS3-P-253] A Comparative Analysis of Individual and Ensemble Pharmacophore-Based Models for the Identification of Apelin Agonists	Xuan Truc Tran Dinh University of Medicine and Pharmacy at HCMC Vietnam
15.33 - 15.39	[SS3-P-254] Revolutionizing Drug Repurposing for FGFR1 Inhibitors: An <i>In silico</i> Study Utilizing Machine learning-based Consensus Similarity Model and Molecular Docking	Dong-Nghi Hoang Nguyen University of Medicine and Pharmacy at HCMC Vietnam
15.39 - 15.45	Q&A	
14.45 - 15.45	Session 3.4: Drug Design & Analytical methods - H	ung Vuong Convention Center - Standee 14
14.57 - 15.03	[SS3-P-271] Identification of a potential binding site on the ST2 receptor using blind-docking and automated cavity-detection approach	Tan Thanh Mai University of Medicine and Pharmacy at HCMC Vietnam
15.03 - 15.09	[SS3-P-272] Identification of Novel Inhibitors of Interleukin-33 Using a 3D Shape-Based Similarity Approach	Tan Thanh Mai University of Medicine and Pharmacy at HCMC Vietnam
14.57 - 15.03	[SS3-P-3061] Developing a novel synthesis process of methyl (5-benzoyl-1 <i>H</i> -benzimidazol- 2-yl) <i>N</i> -methylcarbamate	Huy Duc Ngo Hanoi University of Pharmacy Viet Nam
15.09 - 15.15	[SS3-P-3067] New Thorough Molecular Docking Approach: A Virtual Screening Study Targeting the Colchicine Binding Site	Hoang-Son Lai Le University of Medicine and Pharmacy at HCMC Vietnam
15.15 - 15.21	[SS3-P-3068] Unleashing the Potential of Artificial Intelligence in PIK3-Alpha Prediction: A	Hoang-Huy Nguyen University of Medicine and Pharmacy at HCMC

	Benchmarking Study of 2D-QSAR, Receptor- Dependent and Independent 3D-QSAR	Vietnam
15.21 - 15.27	[SS3-P-3105] Study Molecular Docking Dpp-4 Inhibitors As Antidiabetic Medicine Candidate	Dr. Okta Nursanti Indonesia Defense University Indonesia
15.21 - 15.27	[SS3-P-3124] Enhancing Water Solubility of Diclofenac through Molecular Interaction with Caffeine: Insights from Fluorescence and NMR Spectroscopy	Ryotaro Koga Tokyo University of Science Japan
15.21 - 15.27	[SS3-P-3125] Thermodynamic and kinetic analysis of the melting process of S-ketoprofen and lidocaine mixtures	Kanji Hasegawa Tokyo University of Science Japan
15.27 - 15.33	[SS3-P-3128] Utilizing the response surface methodology (RSM) to optimize the synthesis reaction of Fenofibrate related compound C (USP).	Prof. Dung Phan Thanh University of Medicine and Pharmacy at HCMC Vietnam
15.33 - 15.45	Q&A	

Session 4: Clinical Pharmacy & Pharmacoepidemiology

Торіс	PIC/Speaker	
November 08 th , 2023		
Session 4.1: Clinical Pharmacy & Pharmacoepidem	niology - Ballroom 4 (Ngoc Lan) - Standee 8	
[SS4-P-026] Knowledge and behavior of patients	PhD. Phoutsathaphone Sibounheuang	
with poor type 2 diabetes control in central	University of Health Sciences	
hospital, Lao PDR	Laos	
[SS4-P-034] Knowledge, attitude on traditional	Vilaylack Phoupaseuth	
medicines used of 6 weeks post-partum women	University of Health Sciences	
at central hospital, Lao PDR.	Laos	
[SS4-P-056] Anaphylaxis in the Vietnamese	Thi Thu Huyen Cao	
Pharmacovigilance Database: An updated	Hanoi University of Pharmacy	
review	Vietnam	
[SS4-P-059] Impact of CYP3A5 Genetic	Prof. Dr. Thi Lien Huong Nguyen	
Polymorphism on Early Tacrolimus Exposure in	Hanoi University of Pharmacy	
Vietnamese Kidney Transplant Patients	Vietnam	
[SS4-P-076] Factors associated with medication non-adherence among patients with diabetes	Thuy Thu Le	
	Hanoi University of Pharmacy	
mellitus at Hanoi Medical University Hospital	Vietnam	
[SS4-P-136] Medication adherence among	Dr. Dong Thi Xuan Phuong	
outpatients following percutaneous coronary	Hanoi University of Pharmacy	
Intervention at Friendship Hospital	Vietnam	
[SS4-P-173] Antibiotics use for pediatric	Minh Anh Hoàng	
community-acquired pneumonia and barriers to	Hanoi University of Pharmacy	
compliance with national guidelines.	Vietnam	
Q&A		
Session 4.2: Clinical Pharmacy & Pharmacoepidemi	ology - Ballroom 4 (Ngoc Lan) - Standee 9	
[SS4-P-184] Antimicrobial treatment and	Son Nhat Bui	
outcome of diabetic foot infection patients at	Vietnam National University	
	Vietnam	
[SS4-P-223] Impact of pharmacist-led intervention	Dr. Tu Son Nguyen	
control level among asthmatic patients	Hanoi University of Pharmacy	
	Iopic November 08 th , 2023 Session 4.1: Clinical Pharmacy & Pharmacoepidem [SS4-P-026] Knowledge and behavior of patients with poor type 2 diabetes control in central hospital, Lao PDR [SS4-P-034] Knowledge, attitude on traditional medicines used of 6 weeks post-partum women at central hospital, Lao PDR. [SS4-P-056] Anaphylaxis in the Vietnamese Pharmacovigilance Database: An updated review [SS4-P-059] Impact of CYP3A5 Genetic Polymorphism on Early Tacrolimus Exposure in Vietnamese Kidney Transplant Patients [SS4-P-076] Factors associated with medication non-adherence among patients with diabetes mellitus at Hanoi Medical University Hospital [SS4-P-136] Medication adherence among outpatients following percutaneous coronary intervention at Friendship Hospital [SS4-P-173] Antibiotics use for pediatric community-acquired pneumonia and barriers to compliance with national guidelines. Q&A Session 4.2: Clinical Pharmacy & Pharmacoepidemi [SS4-P-184] Antimicrobial treatment and outcome of diabetic foot infection patients at National Hospital of Endocrinology [SS4-P-223] Impact of pharmacist-led intervention on knowledge of self- management and asthma control level among	

Time	Торіс	PIC/Speaker
		Vietnam
13.12 - 13.18	[SS4-P-237] Prevalence and factors associated with drug-related problems (DRPs) among inpatients at Hue University Hospital	Dr. Viet Thanh Truong Hue University of Medicine and Pharmacy Vietnam
13.18 - 13.24	[SS4-P-241] Implementation and Evaluation of Comprehensive Clinical Pharmacy Services on Outpatients with Type 2 Diabetes	Dr. Nguyen Thi Thao Hanoi University of Pharmacy Vietnam
13.24 - 13.30	[SS4-P-270] Assessment Of Quality Of Life And Factors Influencing The Quality Of Life Of Colorectal Cancer Patients Undergoing Chemotherapy	Ly Nguyen Hai Du University of Medicine and Pharmacy at HCMC Vietnam
13.30 - 13.36	[SS4-P-3060] Investigation on medications used in the treatment of exacerbation chronic obstructive pulmonary disease at Gia Dinh People's Hospital	Huong Thao Nguyen University of Medicine and Pharmacy at HCMC Vietnam
13.36 - 13.42	[SS4-P-3090] Clinical pharmacy activities in the program "Collaboration and friendship in Clinical Pharmacy" - experience from Thong Nhat Hospital	Prof. Dr. Bui Thi Huong Quynh University of Medicine and Pharmacy at HCMC Vietnam
13.42 - 14.00	Q&A	
	November 09 th , 2023	
14.45 - 15.45	Session 4.3: Clinical Pharmacy & Pharmacoepidemi	ology - Ballroom 4 (Ngoc Lan) - Standee 8
14.45 - 14.51	[SS4-P-3091] Repurposing pitavastatin and atorvastatin to overcome the chemo-resistance in metastatic colorectal cancer patients co- morbid with hyperglycemia	Po-Chen Li National Yang Ming Chiao Tung University Taiwan, China
14.51 - 14.57	[SS4-P-3094] Analysis of the Probability of Achieving PK/PD Targets with Different Dosing Regimens of Imipenem in neonatal patients at the central maternity in National Hospital of Obstetrics and Gynecology	Nguyen Huy Tuan National Hospital For Obstetrics And Gynecology Vietnam
14.57 - 15.03	[SS4-O-3095] Deferiprone, an iron chelator, alleviates platelet hyperactivity in patients with β -thalassaemia/HbE	Dr. Ngan Thi Tran Haiphong University of Medicine and Pharmacy, Vietnam
15.03 - 15.09	[SS4-P-3104] The effects of body mass index on respiratory parameters	Prof. Dr. Gulam Muhammad Khan Pokhara University Nepal
15.09 - 15.15	[SS4-P-3127] Effect of Pharmacist's Educational Intervention on Improving Antibiotic Knowledge Among the General Community in Indonesia	Hidayah Karuniawati Universitas Muhammadiyah Surakarta Indonesia
15.15 - 15.21	[SS4-P-3136] Investigation on the appropriate use of proton pump inhibitors at intensive care units of a tertiary hospital in Ho Chi Minh City	Thi-Mai-Hoang Nguyen University of Medicine and Pharmacy at HCMC Vietnam

Time	Торіс	PIC/Speaker
15.21 - 15.27	[SS4-P-3140] Impact of an Antimicrobial Stewardship Program on the Usage of Linezolid in Bach Mai Hospital	Nhi Nguyen Ha Hanoi University of Pharmacy Vietnam
15.27 - 15.45	Q&A	

Session 5: Pharmaceutics & Drug Delivery

Time	Торіс	PIC/Speaker
	November 08 th , 2023	
13.00 - 14.00	Session 5.1: Pharmaceutics & Drug Delivery - Hur	ng Vuong Convetion Center - Standee 2
13.00 - 13.06	[SS5-P-016] Development of taste masking microcapsules containing azithromycin by fluid bed coating for powder for suspension and in vivo evaluation	Pham Thi Phuong Dung Hanoi University of Pharmacy Vietnam
13.06 - 13.12	[SS5-P-021] Investigation of parameters affecting the quality of 3D printing tablets containing methylprednisolone	Trang T.T Le Hanoi University of Pharmacy Vietnam
13.12 - 13.18	[SS5-P-031] The Preparation and Characterization of phytosome quercetin for liver protection activities	Prof. Vu Thi Thu Giang Hanoi University of Pharmacy Vietnam
13.18 - 13.24	[SS5-P-036] Development of an anti-colitic peptide prodrug selectively activated in inflamed colon	PhD. Yunjin Jung Pusan National University Korea
13.24 - 13.30	[SS5-P-043] Synthesis of polycatenanes via condensation of two polypseudorotaxanes and their application for drug delivery	PhD. Taishi Higashi Kumamoto University Japan
13.30 - 13.36	[SS5-P-044] A Continuous Droplet Congealing Process for Preparation of Fenofibrate Microparticles	Dr. Anh Q. Vo Hanoi University of Pharmacy Vietnam
13.36 - 13.42	[SS5-P-045] Nanostars functionalised with nitroxides: A new paradigm of antioxidant polymers exhibiting preferential accumulation in co-cultured breast cancer cells	Dr. Nam V. Dao Hanoi University of Pharmacy Vietnam
13.42 - 13.48	[SS5-P-057] Development of nanostructured lipid-carrier to increase bioavailability of hydrophilic drugs	PhD. Taek Lee Kwangwoon University Korea
13.48 - 13.54	[SS5-P-012] Targeted therapeutic effects of oral inulin-modified double-layerednanoparticles containing chemotherapeutics on orthotopic colon cancer	Prof. Dr. Zhonggao Gao Chinese Academy of Medical Sciences and Peking Union Medical College China
13.54 -14.00	Q&A	
13.00 - 14.00	Session 5.2: Pharmaceutics & Drug Delivery - Hur	ng Vuong Convetion Center - Standee 3
13.00 - 13.06	[SS5-P-061] Design and Optimization of Hydrophilic Matrix-Based Sustained Release Felodipine Tablets	Prof. Duyen Nguyen Thi Thanh Hanoi University of Pharmacy Vietnam
13.06 - 13.12	[SS5-P-063] Preparation of diclofenac microemulsion as an ocular delivery system	Nhat Hoang Thi Anh Hanoi University of Pharmacy Vietnam

Time	Торіс	PIC/Speaker
13.12 - 13.18	[SS5-P-064] Propellant-free foam formulation with Tamanu oil microemulsion and nanocurcumin for enhanced burn healing	Prof. Dinh Duy Pham University of Medicine and Pharmacy at HCMC Vietnam
13.18 - 13.24	[SS5-P-066] Study on preparation of salt crystals of albendazole with carboxylic acid towards improving solubility	Tung Nguyen Thanh Hanoi University of Pharmacy Vietnam
13.24 - 13.30	[SS5-P-080] Injectable lyophilized powder containing paclitaxel dihydroartemisinin hybrid nanoparticles for stability improvement and synergic anticancer therapeutics	Dr. Tran Ngoc Bao Hanoi University of Pharmacy Vietnam
13.30 - 13.36	[SS5-P-083] Solid self-nanoemulsifying drug delivery system (S-SNEDDS) for improved solubility of enzalutamide	Su Min Lee Gyeongsang National University Korea
13.36 - 13.42	[SS5-P-091] Development of Solid Self- nanoemulsifying Drug Delivery Systems of Ticagrelor Using Porous Carriers	Seo Wan Yun Gyeongsang National University Korea
13.42 - 13.48	[SS5-P-104] Polyrotaxanes-based multistep transformable polymers for delivery platform of nucleic acid drugs, mRNA, protein drugs, and genome-editing ribonucleoproteins	Toru Taharabaru Kumamoto University Japan
13.48 -14.00	Q&A	
13.00 - 14.00	Session 5.3: Pharmaceutics & Drug Delivery - Hun	g Vuong Convention Center - Standee 4
13.00 - 13.06	[SS5-P-118] Dry Powder Inhalation of Lytic Mycobacteriophages in Pulmonary Tuberculosis	Sunil Kumar Raman CSIR-Central Drug Research Institute India
13.06 - 13.12	[SS5-P-144] Preparation and characterization of 20(S)-protopanaxadiol-loaded nanoemulsion eye drop with comprehensive pseudo-triangular diagram systems	Jun Hak Lee Inje University Korea
13.12 - 13.18	[SS5-P-145] Review of worldwide commercialized oral pharmaceutical products with solubilization technology	Sung Mo Park Inje University Korea
13.18 - 13.24	[SS5-P-146] Super-saturated formulation of pazopanib hydrochloride for the enhanced solubility and dissolution	Jin Woo Park Inje University Korea
13.24 - 13.30	[SS5-P-147] Novel gastro-retentive combination tablets for the treatment of resistant Helicobacter pylori	Da Hun Kim Inje University Korea
13.30 - 13.36	[SS5-P-180] Development of a novel ticagrelor solid dispersion-loaded tablet with enhanced solubility	Tae Han Yun Gyeongsang National University Korea
13.36 - 13.42	[SS5-P-181] Development of enzalutamide solid dispersion loaded tablet with enhanced solubility	Jeong Gyun Lee Gyeongsang National University Korea
13.42 - 13.48	[SS5-P-191] Development of silver sulfadiazine nanocrystal-based hydrogels using wet milling	Dr. Anh Quang Luong Vietnam Military Medical University Vietnam

Time	Торіс	PIC/Speaker
	technique for enhancement of drug retention on ex vivo rat skin and <i>in vitro</i> antimicrobial activity	
13.48 - 13.54	[SS5-P-195] Fabrication of bone tumor-targeting nanotherapeutics with enhanced apoptotic process via hydroxyapatite adsorption and mevalonate pathway inhibition	Min Jae Kim Seoul National University Korea
13.54 -14.00	Q&A	
	November 09 th , 2023	
14.45 - 15.45	Session 5.4: Pharmaceutics & Drug Delivery - Hur	ng Vuong Convention Center - Standee 2
14.45 - 14.51	[SS5-P-196] Bentonite as a matrix for amorphous solid dispersion formulations and its application to poorly water-soluble drugs	Dahan Kim Seoul National University Korea
14.51 - 14.57	[SS5-P-217] Development formulation of a bitterness-masked multi-dose granules for oral suspension of cefuroxime 125 mg/5 mL	Thi Anh Thu Nguyen University of Medicine and Pharmacy at HCMC Vietnam
14.57 - 15.03	[SS5-P-218] Development of Liquid Oral Suspension of Ibuprofen for pediatric patient by using Quality by Design approach	Nguyen Tran Kieu Trinh University of Medicine and Pharmacy at HCMC Vietnam
15.03 - 15.09	[SS5-P-226]A novel energy nano-disruptor for enhancing phototherapy and suppressing tumor growth in triple-negative breast cancer	Xuan Thien Le Sungkyunkwan University Korea
15.09 - 15.15	Q&A	
15.15 - 15.21	[SS5-P-233] Application of surface adsorption and solid dispersion methods to prepare olmesartan medoxomil 20 mg tablet	Van Ha Nguyen University of Medicine and Pharmacy at HCMC Vietnam
15.21 - 15.27	[SS5-P-243] Development of a sorafenib formulation based on solid self-nanoemulsifying drug delivery system	Chaeyeon Kim Chung-Ang University Korea
15.27 - 15.33	[SS5-P-244] Photothermal-chemotherapeutic nanosystems for the reversal of multi-drug resistant cancer using combinatorial agents	Yuseon Shin Chung-Ang University Korea
15.33 - 15.39	[SS5-P-245] Importance of the PEG-linker length of folate-conjugated liposomes on the treatment of folate receptor-overexpressing cancer	Jaehyun Cheong Chung-Ang University Korea
15.39 - 15.45	Q&A	
14.45 - 15.45	Session 5.5: Pharmaceutics & Drug Delivery - Hur	ng Vuong Convention Center - Standee 3
14.45 - 14.51	[SS5-P-246] pH-sensitive chemo-photothermal combination nanoparticles for synergistic effect against acidic tumors	Hyewon Jeon Chung-Ang University Korea
14.51 - 14.57	[SS5-P-256] Hypoglycemic effects of oral Zn-insulin combined with small intestine-permeable cyclic peptides in mouse models of diabetes mellitus	Shoma Chikamatsu Kumamoto University Japan

Time	Торіс	PIC/Speaker
14.57 - 15.03	[SS5-P-1021] Fabrication of Tailorable Pills Containing Levodopa for Treatment of Parkinson's Disease by Conjugation of Melt Extrusion and 3D FDM	Trang T.T Le Hanoi University of Pharmacy Vietnam
15.03 - 15.09	[SS5-P-1045] Impacts of particle size distribution on physicochemical properties and in vivo dissolution of mangiferin suspensions	Dr. Nam V. Dao Hanoi University of Pharmacy Vietnam
15.09 - 15.15	[SS5-P-3064] Respirable particulate systems containing pyrazinamide for tuberculosis treatment	Prof. Dinh-Duy Pham University of Medicine and Pharmacy at HCMC Vietnam
15.15 - 15.21	[SS5-P-3065] Formulation of a film-forming throat spray solution containing povidone-iodine	Dr. Truc-Thanh-Ngoc Huynh University of Medicine and Pharmacy at HCMC Vietnam
15.21 - 15.27	[SS5-P-3079] Targeted nanoparticles for a combination of immune checkpoint blockade miRNA and dabrafenib to improve the anti-cancer effect	Le Ngoc Duy Yeungnam University Korea
15.27 - 15.45	Q&A	
14.45 - 15.45	Session 5.6: Pharmaceutics & Drug Delivery - Hur	ng Vuong Convention Center - Standee 4
14.45 - 14.51	[SS5-P-3089] Enhancement of the checkpoint blockade therapy by modulating the tumor microenvironment with the hybrid nanoparticles co-delivering immunogenic cell death inducer and TGF-b1 siRNA	Bao Loc Nguyen Yeungnam University Korea
14.51 - 14.57	[SS5-P-3092]Formulation and evaluation of permeability through excised mice intestine, acute toxicity and regulating effect on acute dyslipidemia of smedds containing rosuvastatin	Prof. Thien-Hai Nguyen University of Medicine and Pharmacy at HCMC Vietnam
14.57 - 15.03	[SS5-P-3096] Physical and microbiological stability studies of iv admixtures for hospital use	Erza Genatrika Universitas Muhammadiyah Purwokerto Indonesia
15.03 - 15.09	[SS5-P-3112] Preparation and evaluation of histone H1.4 C-terminal peptide for cellular delivery of oligonucleotides	Dr. Thanh Do Le Duy Tan University Vietnam
15.09 - 15.15	[SS5-P-3114] Development of a naringenin- loaded self-microemulsifying drug delivery system	Dr. Truc-Thanh-Ngoc Huynh University of Medicine and Pharmacy at HCMC Vietnam
15.15 - 15.21	[SS5-P-3117] Investigation of <i>in vitro</i> toxicity of deep eutectic solvents as novel ingredient for cutaneous drug formulation and cosmetics	Dr. Nguyen Canh Hung Hanoi University of Pharmacy Vietnam
15.21 - 15.27	[SS5-P-3144] Synthesis of Black Turmeric Extract Nanoemulsion and Evaluation of Its Antioxidant Activities using the DPPH Method	Dr. Erindyah Retno Wikantyasning Universitas Muhammadiyah Surakarta Indonesia

Time	Торіс	PIC/Speaker
15.27 - 15.45	Q&A	

Session 6: Natural Products and Herbal Medicines

Time	Торіс	PIC/Speaker
November 08 th , 2023		
13 00 - 14 00	Session 6.1: Natural Products and Herbal Medi	cines - Hung Vuong Convention Center -
13.00 - 14.00	Standee 5	
13.00 - 13.06	[SS6-P-3084] α -Glucosidase inhibitory compounds from the leaves of <i>Eriobotrya japonica</i>	Min Hee Kim Chungbuk National University Korea
13.06 - 13.12	[SS6-P-028] Total phenolic content, total flavonoid content and antioxidant properties of Dangshen (<i>Codonopsis pilosula</i> Franch.) in Dak Chueng district, Xekong province, Lao PDR	Souphaphone Sorsavanh University of Health Science Laos
13.12 - 13.18	[SS6-P-030] Determination of Total Phenolic Compounds and Antioxidant Capacity in <i>Azadirachta indica</i> A Leaf Extracts	Dr. Sysay Palamy University of Health Science Laos
13.18 - 13.24	[SS6-P-033] Antioxidant and α-Glucosidase Inhibitory Activities-Guided Isolation of Phytochemicals from <i>Distichochlamys citrea</i> <i>Rhizomes</i>	Dr. Thanh Triet Nguyen University of Medicine and Pharmacy at HCMC Vietnam
13.24 - 13.30	[SS6-P-047] Characterization of neuroprotective mechanism of certain marine pigments against cell death pathways on HT-22 cells	Dr. Nguyen Thi Ngoc Dung University of Medicine and Pharmacy at HCMC Vietnam
13.30 - 13.36	[SS6-P-067] The antidepressive effect of ginsenoside Rg1 and <i>Panax notoginseng</i> saponins in a depression model induced by chronic unpredictable mild stress in rats	Khanh Van Nguyen Vietnam National University Vietnam
13.36 - 13.42	[SS6-P-070] Investigation of the extraction and purification process of quercetin from <i>Styphnolobium japonicum</i> (L.) Schott. flower buds	Dr. Bui Thi Thuy Luyen Hanoi University of Pharmacy Vietnam
13.42 - 13.48	[SS6-P-071] Enhancement of the anti- hyperuricemic activity of modified Simiao wan by optimizing the conditions of extraction of the active compounds identified from network pharmacology analysis	Prof. Dr. Thu Hang Nguyen Hanoi University of Pharmacy Vietnam
13.48 - 13.54	[SS6-P-075] Formulation of body lotion from tea leaves extracts (<i>Camellia sp.</i>)	Dr. Chithdavone HER University of Health Science Laos
13.54 - 14.00	Q&A	
13.00 - 14.00	Session 6.2: Natural Products and Herbal Medi Standee 6	cines - Hung Vuong Convention Center -
13.00 - 13.06	[SS6-P-3080] Design of experiment as a tool develops Thai herbal remedies for musculoskeletal disorders	Kritsaya Chaithatwatthana Chiang Mai University Thailand
13.06 - 13.12	[SS6-P-089] Screening of some medicinal plant in Vietnam on anti-dengue virus: <i>in-silico</i> and <i>in-vitro</i> investigation	Dr. Hoang Quynh Hoa Hanoi University of Pharmacy Vietnam

Time	Торіс	PIC/Speaker
	[SS6-P-096] Anthraguinones and xanthones from	Do Thi Thuy
13.12 - 13.18	propolis of <i>Tetragonula laeviceps</i> stingless bee in	Dai Nam University
	Vietnam	Vietnam
	[SS6-P-107] Anti-inflammatory, anti-cancer	Thanh Cong Nguyen
13.18 - 13.24	activities and chemical constituents from	Dai Nam University
	propolis of <i>letrigona iridipennis</i> stingless bee	Vietnam
	[SS6-P-109] In silico study on the relationship	
	between chemical composition and effect on	Hoang Hung Vuong
13.24 - 13.30	COVID-19 of Andrographis paniculata (Burm.f)	Hanoi University of Pharmacy
	Nees	vietnam
	[SS6-P-113] Phytochemical screening, total	Toum Lathsamee
13.30 - 13.36	phenolic and total flavonoid content and	University of Health Science
	antioxidant activity of different parts of	Laos
	Micrometum minutum (G.Forst.) Wight & Am	Dref Namer Thi Nace Ver
	extraction and quantification of polyphenol	Can The University of Medicine and
13.36 - 13.42	compounds in Avicennia officinalis L by	Pharmacy
	UELC/DAD from Vietnam	Vietnam
		Dusadee Ospondpant
	[SS6-P-133] A combination of herbal medicines	Shenzhen Research Institute
13.42 - 13.48	inhibits Aβ aggregation and enhances neuronal	Hong Kong University of Science and
	cell differentiation	Technology, China
	[SSC D 140] Acori Tataringwii Bhizoma proventa	Jia-Hui Wu
13 48 - 13 54	[556-P-149] ACOT Informown Knizomu prevents	Hong Kong University of Science and
10.40 10.04	of Escherichia coli	Technology
42 54 44 00	0.8.4	China
13.54 - 14.00	Q&A	trings
13.00 - 14.00	Standag 7	cines - Hung vuong convention center -
	[SS6-P-157] Chemical compositions and anti-	Prof. Dr. Tuan Nguyen Hoang
	microbial activity of the essential oil of the	Hanoi University of Pharmacy
13.00 - 13.06	rhizome of <i>Kaempferia daklakensis</i> N.H.Tuan&	Vietnam
	N.D.Trong	
	[SS6-P-158] Isolation hederacoside C and α -hederin,	Mong Kha Tran
12.06 12.12	simultaneous quantification of two isolated	Ton Duc Thang University
15.00 - 15.12	compounds from Hedera helix L. leaves grown in	Vietnam
	Binh Dinh Province using the HPLC-DAD method	
	[SS6-P167] Computational Insights: Harnessing	Priyanka Kumari
13.12 - 13.18	Herbo-Chemicals for Hair Care	Guru Ghasidas Vishwavidyalaya
		India
	[SS6-P-174] Seabuckthorn flavonoids mimic	Chen-Xi Xia
13.18 - 13.24	neurotrophic functions in inducing neuronal	Hong Kong University of Science and
	in CLIMS induced mice	Technology
		Voung lun Kim
13 24 - 13 30	[SS6-P-203] Interleukin-33 inhibitors of	Korea University
10.24 10.00	Astragalus membranaceus roots	Korea
	[SS6-P-205] The identification of antioxidant	Dr. Chiobouaphong Phakeovilay
13.30 - 13.36	compounds from Phanera rubra Lanors. &	University of Health Science
	Mattapha. though a metabolomic approach	Laos
12 26 12 /2	[SS6-P-208] Morphological and anatomical	Dr. Nguyen Thi Ngoc Huong
13.30 - 13.42	characteristics of Curcuma alismatifolia Gagnep.	

Time	Торіс	PIC/Speaker
		University of Medicine and Pharmacy at HCMC Vietnam
13.42 - 13.48	[SS6-P-219] Development of lozenges containing extract of <i>Codonopsis javanica</i> (Blume) Hook. F. & Thomson)	Prof. Dr. Duc Hanh Nguyen University of Medicine and Pharmacy at HCMC Vietnam
13.48 - 14.00	Q&A	

November 09 th , 2023			
14.45 - 15.45	4.45 - 15.45 Session 6.4: Natural Products and Herbal Medicines - Hung Vuong Convention Center - Standee 5		
		Dr. Quynh-Mai Thi Ngo	
14.45 - 14.51	[SS6-P-225] Sesquiterpenes From <i>Curcuma zedoaria</i> Rhizomes	Haiphong University of Medicine and Pharmacy	
		Vietnam	
14.51 - 14.57	[SS6-P-242] Quality control of <i>Capsicum annuum</i> L. cultivated in Indonesia according to Indonesia Pharmacopeia	Reynatha C.A. Pangsibidang The Republic of Indonesia Defense University Indonesia	
14.57 - 15.03	[SS6-P-247] Simultaneous quantification of 12 polyphenol compounds in Artichoke dry leaf extracts and pharmaceutical preparations by UPLC-PDA	Anh Nguyet Thi Nguyen University of Medicine and Pharmacy at HCMC Vietnam	
		Makawan Lumpoon	
15.03 - 15.09	[SS6-P-248] Effect of extraction method on	Mahidol University	
	antioxidant activity of Wolffia globosa extract	Thailand	
15.09 - 15.15	[SS6-P-3069] Assessment of the effects of morphological and agro-biological characteristics on yield and Geniposid contents of some samples of <i>Gardenia jasminoides</i> Ellis in Hoa Binh province, Vietnam	Pham Thi Linh Giang Hanoi University of Pharmacy Vietnam	
	[SS6-P-3070] Bioactive constituents of	Min Gyu Park	
15.15 - 15.21	halophyte <i>, Suaeda glauca</i> Bunge that promote hair growth	Gyeongsang National University Korea	
45 34 45 37	[SS6-P-3071] Chemical constituents of Salvia	Solip Lee	
15.21 - 15.27	libanotica	Chungbuk National University, Korea	
	[SS6-P-3072] Development of quantitative	Jae Hwan Baek	
15.27 - 15.33	analytical method for cordycepin in	Chungbuk National University	
	Cordyceps militaris	Korea	
15.33 - 15.45	Q&A		
14.45 - 15.45	Session 6.5: Natural Products and Herbal Medi Standee 6	cines - Hung Vuong Convention Center -	
14.45 - 14.51	[SS6-P-3073] Correlation between content of major components and α -glucosidase inhibitory activity according to the cultivation stage of <i>Hericium erinaceus</i>	Se Hwan Ryu Chungbuk National University Korea	
14.51 - 14.57	[SS6-P-3074] Lignans from the roots of <i>Asarum</i> <i>heterotropoides</i> var. <i>mandshuricum</i> and their anti-inflammatory activity	Prof. Byung Sun Min Daegu Catholic University Korea	

14.57 - 15.03	[SS6-P-3075] Comparative analysis of essential oils of Vietnamese ginsengs from dissimilar origins based on GC-MS based metabolomics approach	Ngo Thi My Duyen Ton Duc Thang University Vietnam
15.03 - 15.09	[SS6-P-3076] Chemical constituents of Adenophora triphylla	Hak Hyun Lee Chungbuk National University Korea
15.09 - 15.15	[SS6-P-3077] Flavonoids and saponins from <i>Millettia pulchra radix</i> and their neuroprotective activity	Thanh Hoa Vo Vietnam National University Ho Chi Minh City, Vietnam
15.15 - 15.21	[SS6-P-3078] Isolation and quantitative analysis of major compounds of <i>Atractylodes macrocephala</i> roots	So Yeong Jeong Chungbuk National University Korea
15.21 - 15.27	[SS6-P-1089] Morphological and anatomical diversity of some <i>Elsholtzia species</i> in the North of Vietnam	Dr. Hoang Quynh Hoa Hanoi University of Pharmacy Vietnam
15.27 - 15.45	Q&A	
14.45 - 15.45	Session 6.6: Natural Products and Herbal Medi Standee 7	cines - Hung Vuong Convention Center -
14.45 - 14.51	[SS6-P-3135] Sunscreen cream formulation combination of ethanol extract of lime peel (<i>Citrus aurantifolia</i>) and zinc oxide	Setyo Nurwaini Universitas Muhammadiyah Surakarta Indonesia
14.51 - 14.57	[SS6-P-3142] Screening some bioactivity of <i>Polyscias</i> species planted in Vietnam	Thuy Huong Vu Hanoi University of Pharmacy Vietnam
14.57 - 15.03	[SS6-P-3143] Neolignans and diarylnonanoid derivatives from nutmeg (<i>Myristica fragrans</i> Houtt.) seeds and their inhibitory activities of soluble epoxide hydrolase <i>in vitro</i> and <i>in silico</i>	Dr. Vu Thi Oanh Vietnam-Korea Institute of Science and Technology Vietnam
15.03 - 15.09	[SS6-P-3146] Study on essential oils from three <i>Piper</i> species: chemical composition, <i>in vitro</i> antibacterial effect against <i>Staphylococcus aureus</i> and molecular docking of some main compounds	Dr. Tung Nguyen Thanh Hanoi University of Pharmacy Vietnam
15.09 - 15.15	[SS6-P-3148] Morphological and microbiological characteristics of <i>Zingiber zerumbet</i> (L.) Roscoe ex Sm.	Dr. Nguyen Thi Ngoc Huong University of Medicine and Pharmacy at HCMC Vietnam
15.15 - 15.45	Q&A	

ABSTRACTS OF THE PLENARY AND INVITED PRESENTATIONS



PLENARY

DRUG REPURPOSING OF HERBAL MEDICINES FOR ANTI-COVID: FROM BIG DATA TO THERAPEUTICS

Presenter: Professor Chi - Ying F.Huang

bpshuang@gmail.com; cyhuang5@nycu.edu.tw



Professor and Chairman in Institute of Biopharmaceuticial Sciences I Deputy Director in Biomedical Engineering Research and Development Center I National Yang Ming Chiao Tung University, Taiwan (China) I Board of Director at PharmaEngine Inc.

Purpose Since SARS-CoV-2 broke out in late 2019, it has rapidly become a pandemic that the World Health Organization has declared an emergency issue. It is imperative to have a rapid drug repurposing strategy for us to prepare for the next pandemic.

Methods Developing an entirely new drug is expensive and time-consuming. Drug repurposing offers an alternative strategy for novel anti-coronavirus therapeutics. The Connectivity Map (or CLUE), which stores expression profiles of diseases, genes and chemicals, provides a tool for making inferences based on a query and the internal drug-induced gene expression profiles. We have previously built an herbal connectivity map with ~12,000 gene expression profiles. Then, we hypothesized that drugs (or herbal medicines) with the ability to reverse the expression of COVID-19 gene signatures could effectively treat COVID-19 patients.

Results Further biological assays revealed that PG2, Virofree, and YQ1 could prevent the fusion of BHK21-expressing wild-type (WT) viral spike (S) protein and Calu-3-expressing ACE2. Additionally, it specifically prevents the binding of recombinant viral S of various strains to ACE2 receptor in our non-cell-based system. Furthermore, macrophage activation is one of the primary issues leading to the complicated condition of COVID-19 patients. Here, I will use PG2 as an example. PG2 could regulate the activation of macrophages by promoting the polarization of THP-1-derived macrophages into an anti-inflammatory phenotype. PG2 stimulated M2 macrophage activation and increased the expression levels of anti-inflammatory cytokines IL-10 and IL-1RN. Additionally, PG2 was recently used to treat patients with severe COVID-19 symptoms by reducing the neutrophil-to-lymphocyte ratio (NLR). Therefore, our data suggest that PG2, a repurposed drug, halts severe COVID-19 development by regulating the polarization of macrophages to M2 cells.

Conclusions PG2[®] lyophilized injection (PhytoHealth Corporation, Taipei, Taiwan) is an injectable medicinal product containing an active fraction of Astragalus polysaccharides. It has been clinically proven to ease fatigue among advanced cancer patients and has been approved by the Taiwan Food and Drug Administration (TFDA) as a prescription drug for relieving cancer-related fatigue (CRF). Therefore, we can use PG2 to treat severe COVID-19 patients. As a result, all patients were successfully recovered from severe COVID-19 symptoms. Taken together, using Connectivity Map approach can accelerate the drug repurposing development for COVID-19 and further pandemic.

PLENARY

CLINICAL IMPLEMENTATION OF GENOME-GUIDED THERAPEUTICS: IF NOT NOW, WHEN?

Presenter: Professor George P. Patrinos

gpatrinos@upatras.gr



Director of the Laboratory of Pharmacogenomics and Individualized Medicine, Head of Division of Pharmacology and Biosciences, Department of Pharmacy, University of Patras. Adjunct Professorships at Erasmus MC, Faculty of Medicine, Rotterdam (the Netherlands) and the United Arab Emirates University, College of Medicine, Department of Genetics and Genomics, Al-Ain (UAE). \Co-Chair of the Global Genomic Medicine Collaborative (G2MC). Chief Editor of The Pharmacogenomics Journal - Nature.

Genome-guided treatment or pharmacogenomics is considered to be the cornerstone in modern medical practice. The PREPARE study is the central pillar of the "Ubiquitous Pharmacogenomics" project (U-PGx, www.upgx.eu), the 1st European study of the implementation of Pharmacogenomics in clinical practice. It started in 2016, within the Horizon 2020 program, and involves clinical centers seven European countries, including Greece, represented by the Laboratory of Pharmacogenomics and Personalized Therapy of the Department of Pharmacogenomic analysis of clinically important biomarkers will lead to a reduction in adverse drug reactions associated with each patient's genotype. The study results are expected to lead to safer and more economically and clinically effective treatments, helping to improve the quality of life of patients and their caregivers. Similarly, the Em-HEART project is the first prospective pharmacogenomics clinical study in Middle East and Asia, envisaging to recruit more than 2000 cardiovascular disease patients in the UAE. These studies can contribute to bypass the obstacles that still hold back the field and would allow the smooth integration of genome-guided treatment in the clinical practice.

PLENARY

DISCOVERY OF HIGHLY POTENT GLUTAMINYL CYCLASE (QC) INHIBITORS AS ANTI-ALZHEIMER'S AGENTS

Presenter: Professor Jeewoo Lee

jeewoo@snu.ac.kr



Professor of Medicinal Chemistry | Seoul National University, Korea | President of Asian Federation of Medicinal Chemistry (AIMECS) | Editoral advisory board member of Journal of Medicinal Chemistry (JMC) - ACS Publications; Bioorganic & Medicinal Chemistry (BMC) - Elsevier, Bioorganic & Medicinal Chemistry Letters (BMCL) - Elsevier | CEO of JMackem Co., Ltd (2019-Present); CEO of Medifron DBT Co., Ltd (2002-2005) | Korea. *Purpose* Discovery of highly potent and drug-like glutaminyl cyclase (QC) inhibitors as potential Alzheimer's disease (AD) drugs based on the rational design.

Methods New classes of potent QC inhibitors designed by employing pharmacophorebased and structure-based approaches were investigated. On the basis of pharmacophoric analysis of the N-terminal EFR of the substrate A β 3-42, a series of potent inhibitors were investigated by inserting an Arg-mimicking group as an additional pharmacophore into the prototype inhibitor. In addition, based on the X-ray structure of the hQC-PBD150 complex, wherein the ligand resides at the hQC active site in a bent conformation, a series of potent inhibitors were also explored by incorporating a conformational blocker into the prototype inhibitor to maintain an active Z-E conformation. Finally, the two effective design approaches were combined to design a new scaffold in which a series of novel inhibitors with an Argmimicking group and a bioactive conformation were investigated.

Results Comprehensive SAR analyses of rationally designed QC inhibitors indicated that the addition of an extra pharmacophore as well as the incorporation of a conformational blocker on thiourea/urea into the prototype inhibitor led to a dramatic improvement in potency, supporting our rationale that combining two rational approaches into one scaffold results in synergistic potency effects. Among the synthesized inhibitors, NHV-1009 was found to be the most potent inhibitor with an IC50 = 0.1 nM, which is ca 300-fold higher than those of parent inhibitor and PQ912, a clinical QC inhibitor. The crystal structure of hQC in complex with NHV-1009 confirmed that its principal pharmacophores interacted with the key residues in the binding pocket of hQC via metal coordination, hydrogen bonding and pi-pi stacking interactions. To further evaluate the selected inhibitors, the pyroform A β (pE-A β 3-40) levels in an acute model were measured and the selectivity, cytotoxicity, hERG and CYP inhibitions, metabolic stability and BBB permeability of the inhibitors were also examined. The result indicated that HVH-2323 exhibited the most favorable in vitro efficacy, selectivity and druggable profiles. In the 5xFAD transgenic AD models, HVH-2323 significantly reduced the concentrations of pE-A β 3-40/42 and total A β 40/42 in the brain and improved behavioral deficits during a Y-maze test.

Conclusions A highly potent and selective QC inhibitors with favorable drug-like properties were discovered by the rational design approach based on the pharmacophore-based and structure-based designs.

PLENARY

MANUFACTURING PLATFORM FOR NANOMEDICINE

Presenter: Professor Tetsuya Ozeki - Nagai Award

ozekit@phar.nagoya-cu.ac.jp



Professor of Pharmaceutics | Nagoya City University, Japan | Chair of the SIG on Drug Discovery and Manufacturing in the International Pharmaceuticals Federation (FIP) | Editorial Advisory Board of J. Pharm. Sci; Editor of Asian J. Pharm. Sci; Editor of J. Pharmaceutics | Councilor of the APSTJ, the Japan Society of Drug Delivery System, the Japan Society of Pharmaceutical Machinery and Engineering | Japan. I have been developing novel drug delivery and therapeutic systems based on nanoparticles. For many years, I have been developing nano-enhanced drug preparation techniques using spray-drying methods to solubilize and enhance the functionality of pharmaceuticals. Recently, I have been conducting research on drug delivery system (DDS) technology for new-modality drugs such as proteins, nucleic acids, mRNAs, and genes. Although DDS for new-modality drugs is being researched worldwide, there are still medical needs such as the development of sustained release technology for proteins with short half-lives and intranasal and intratracheal administration of mRNA. Therefore, our group is studying sustained release technology of protein using poly (lactic-co-glycolic acid) (PLGA) particles and powder formulation of mRNA medicine. Furthermore, our group is also working on cancer therapy with fewer side effects by using gold nanoparticles in combination with external energy such as light. In this presentation, I will explain the DDS/nanomedicine using nanoparticles that our group has developed.

PLENARY

OVERVIEW OF ADVANCED THERAPY MEDICINAL PRODUCTS (ATMPS)

Presenter: Doctor Martin O'Kane

martin.okane@novartis.com



Regional Head of Regulatory Affairs EU Policy & Liaison at Novartis Pharmaceuticals.

This presentation provides a high-level overview of advanced therapy medicinal products (cell and gene therapy) and what makes them unique from all other pharmaceutical products. Topics include the current landscape of cell and gene therapy products, including in-vivo and ex-vivo delivery systems, viral vector platforms, and the unique clinical and CMC challenges encountered in the development of advanced therapies. A regulatory overview of the history and recent growth of cell and gene therapy applications will be provided, along with a focus on the regulatory framework for ATMPs in the European Union and an overview of international collaboration towards regulatory convergence and reliance.

PLENARY

NANOPARTICLES FOR CHEMO-IMMUNOTHERAPY OF CANCER

Presenter: Professor Chul Soon Yong

csyong@yu.ac.kr



Professor of Pharmaceutics | Yeungnam University | Former President of The Korean Society of Pharmaceutical Sciences and Technology (KSPST), The Asian Federation for Pharmaceutical Sciences (AFPS) and The Pharmaceutical Society of Korea (PSK) | Korea.

Cancer is still the leading cause of death worldwide attributable to the development of drug resistance, and severe adverse effects associated with conventional chemotherapy. Hence, drug targeting to cancer cells would improve outcomes of cancer therapy, and utilization of nanoparticle-based drug delivery systems could be a promising approach to achieve desirable therapeutic effects. Nanoparticle-based delivery of a single chemotherapeutic agent, however, may not be sufficient for effective cancer treatment. Combination chemo-immunotherapy would therefore be a viable strategy owing to the synergistic effects of drugs and suppression of drug resistance.

We have designed novel nanoparticles based on different organic and inorganic components to deliver combination of chemotherapeutic and immunotherapeutic agent for the treatment of various cancers.

Overall, these nanoparticles appeared capable of successfully delivering of a variety of chemo- and immuno-therapeutic agents in different cancers with excellent in vitro and in vivo effects and illustrated great potential for application into the clinical context for effective cancer therapy.

INVITED SPEAKER

SS1: REGULATORY SCIENCE & PHARMACOECONOMICS



APPROACHES TO IMPLEMENTING RELIANCE TO ENSURE TIMELY AVAILABILITY OF MEDICINES - WHAT IS THE ROLE OF REGULATORY SCIENCE AND COLLABORATION IN SHAPING POLICIES AND REGULATIONS?

Presenter: Doctor Magda Bujar

mbujar@cirsci.org Centre for Innovation in Regulatory Science, London, United Kingdom **Purpose** Outline a roadmap for the implementation of reliance based on outcomes from regulatory science studies and international collaborative workshops.

Objectives

- Describe and compare approaches to regulatory reliance and collaboration across ASEAN agencies.
- Discusses ways of measuring the impact of reliance.
- Provide recommendations for a roadmap on how to implement reliance.

Methods Desk-based research of published literature, agency websites, outputs from CIRS surveys and multistakeholder workshops.

Discussion Regulatory reliance is occurring globally to ensure timely approval of medicines and greater collaboration across regulators. It is regarded as a 21st century regulatory science tool and is no longer a question of 'if' but 'how' regulatory agencies should implement it. CIRS has been working with agencies and companies (see publications here) to understand the challenges and opportunities for reliance, as well as provide recommendations on approaches to implement reliance and measure its impact. As agencies look to implement reliance, a roadmap may be helpful to support this, which will be outlined in this session.

SS2: PHARMACEUTICAL BIOLOGY & BIOTECHNOLOGY



STRUCTURAL OPTIMIZATION OF OLIGONUCLEOTIDE THERAPEUTICS FOR TARGETED OR SUSTAINED DELIVERY

Presenter: Professor Makiya Nishikawa

makiya@rs.tus.ac.jp

Tokyo University of Science, Japan

Purpose To control the cellular uptake and tissue distribution of oligonucleotide therapeutics by using structurally optimized DNA nanostructures.

Methods DNA nanostructures with diverse structural properties, including polypod-like structured nucleic acid and G-quadruplex oligodeoxynucleotides (ODNs), were constructed, and were self-assembled into hydrogels. Then, unmethylated cytosine-phosphate-guanine ODN (CpG ODN) was incorporated into them. The interaction with cells and tissue distribution after administration to mice were evaluated, and the effect of structural properties on the cellular uptake, tissue distribution and therapeutic efficacy was examined.

Results The uptake of CpG ODN by antigen-presenting cells was dependent on the structural properties of CpG ODN-containing DNA nanostructures, and the incorporation into such nanostructures significantly increased the immunostimulatory activity of CpG ODN. DNA hydrogel consisting of CpG ODN was suitable to control allergen-specific immune responses when the hydrogel incorporating a cedar pollen allergen was administered to mice.

Conclusions The DNA nanostructures are useful for the therapeutic application of oligonucleotide therapeutics.

SS2: PHARMACEUTICAL BIOLOGY & BIOTECHNOLOGY



ANGIOGENESIS-TARGETING MICROBUBBLES COMBINED WITH ULTRASOUND-MEDIATED GENE THERAPY IN BRAIN TUMORS

Presenter: Professor Chih-Kuang Yeh

ckyeh@mx.nthu.edu.tw

National Tsing Hua University, Taiwan, China

Purpose The major challenges in gene therapy for brain cancer are poor transgene expression due to the blood-brain barrier (BBB) and neurologic damage caused by conventional intracerebral injection. Non-viral gene delivery using ultrasound-targeted microbubbles (MBs) oscillation via the systematic transvascular route is attractive, but there is currently no high-yielding and targeted gene expression method. In this study, we developed a non-viral and angiogenesis-targeting gene delivery approach for efficient brain tumor gene therapy without brain damage.

Methods We developed a VEGFR2-targeted and cationic microbubbles (VCMBs) gene vector for use with transcranial focused ultrasound (FUS) exposure to allow transient gene delivery. The system was tested in a brain tumor model using the firefly luciferase gene and herpes simplex virus type 1 thymidine kinase/ganciclovir (pHSV-TK/ GCV) with VCMBs under FUS exposure for transgene expression and anti-tumor effect.

Results In vitro data showed that VCMBs have a high DNA-loading efficiency and high affinity for cancer cells. In vivo data confirmed that this technique enhanced gene delivery into tumor tissues without affecting normal brain tissues. The VCMBs group resulted in higher luciferase expression (3.8 fold) relative to the CMBs group (1.9 fold), and the direct injection group. The tumor volume on day 25 was significantly smaller in rats treated with the pHSV-TK/GCV system using VCMBs under FUS (9.7 ± 5.2 mm³) than in the direct injection group (40.1 ± 4.3 mm³).

Conclusions We demonstrated the successful use of DNA-loaded VCMBs and FUS for nonviral, non-invasive and targeted gene delivery to brain tumors.

SS2: PHARMACEUTICAL BIOLOGY & BIOTECHNOLOGY



ENCAPSULATION OF THERAPEUTIC MRNA IN EXTRACELLULAR VESICLES FOR THE TREATMENT OF OSTEOARTHRITIS

Presenter: Doctor Hsiu - Jung Liao

liaohsiujung@gmail.com

Department of Medical Research, Far Eastern Memorial Hospital, Taiwan, China

Purpose Utilizing mesenchymal stromal cells (MSCs)-derived extracellular vesicles (EVs) loaded with mRNA offers potent osteoarthritis (OA) therapy via allogeneic MSCs for ffective bioengineering.

Methods This bioengineering solution consists of two main components: source enhancement and a modified production process. The high-potency MSC screening and

quality control system employs next-generation sequencing and extensive data analysis to establish a biomarker panel evaluating the regenerative potential of clinical-grade MSCs and their EVs. Furthermore, an engineered EV production platform utilizes nano-electroporation techniques to generate potent EVs loaded with therapeutic mRNA. Within this framework, we've developed the novel OA treatment "EXOS (EV-SOX9)," encapsulating SOX9 mRNA, a critical inducer in the modulation of chondrogenesis, in MSC-derived EVs.

Results Our results demonstrate a 100-fold increase in EV production rate and the encapsulation of 10,000-fold more therapeutic SOX9 mRNA compared to untreated EVs. This highlights significantly improved capabilities compared to other reported EV loading methods. Additionally, we have shown the remarkable ability of EV-SOX9 to promote chondrocyte regeneration in both controlled settings and living organisms.

Conclusions To conclude, our bioengineering platform aims to create therapeutic mRNAloaded allogeneic MSC-derived EVs as a dependable and effective approach for treating OA. Additionally, we've initiated the development of clinical-grade EV products, such as EV-SOX9, for canine OA clinical trials. Our goal is to establish EV-SOX9 as a pioneering treatment for OA.

SS2: PHARMACEUTICAL BIOLOGY & BIOTECHNOLOGY



INTEGRATION OF PHARMACOGENOMICS AND PHARMACOVIGILANCE IN ALLOPURINOL-PRESCRIPTION SAFETY ASSURANCE

Presenter: Professor Phung Thanh Huong

huongpt@hup.edu.vn

Hanoi University of Pharmacy, Vietnam

Purpose Allopurinol, the first-line medication for hyperuricemia is well-known for its association with severe cutaneous adverse reactions (SCARs), especially Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (*TEN*). Firstly, we analyzed the Vietnamese spontaneous reporting database to identify signals and preventability of allopurinol-induced SJS/TEN in Vietnam from 2010 to 2019. Then, a case-control study was conducted to reveal the association of three class I HLA alleles, including *HLA-A*33:03*, *HLA-B*58:01*, and *HLA-C*03:02*, and allopurinol-induced SCARs in Vietnamese patients.

Methods Signal generation was assessed using the case/non-case method. Reporting odds ratios (RORs) and 95% confidence intervals (95% CI) were calculated. A case-control study on 100 allopurinol-induced SCARs patients, 183 tolerant controls, and 810 population controls was performed.

Results Among 72822 spontaneous ADR reports submitted to the Vietnam National Drug Information and Adverse Drug Reaction Monitoring Centre, 392 reports were on SJS/TEN, of which, 65 cases (16.6%) were related to allopurinol. The signals of allopurinol-induced SJS/TEN in Vietnam started in 2014 and annually increased until 2019. The preventability assessment showed that no allopurinol-induced SJS/TEN case was definitely unpreventable. 61.6% of the SJS/TEN cases were avoidable.

The case-control study showed strong associations between *HLA-B*58:01*, *HLA-C*03:02*, and allopurinol-induced SCARs. The specific associations were found with *HLA-B*58:01* and SJS/TEN; *HLA-C*03:02* and DRESS, with a gene dosage effect. The multivariate regression analysis indicated two significant independent risk factors: *HLA-B*58:01/HLA-C*03:02*, and eGFR<60 ml/min/1.73m². The specificity of *HLA-B*58:01* testing was higher than the *HLA-C*03:02* or the multiplex testing, especially in patients with impaired renal function.

Conclusions Correction of medical errors relating to prescription could prevent more than 60% of SJS/TEN cases in Vietnamese allopurinol users. Additionally, our results supported the pre-treatment *HLA-B*58:01* testing in Vietnamese patients with declined renal function to prevent SCARs.

SS2: PHARMACEUTICAL BIOLOGY & BIOTECHNOLOGY



REGULATION OF IMMUNOMODULATORY FUNCTION OF MESENCHYMAL STROMAL CELLS BY ADIPOKINES

Presenter: Professor Pil-Hoon Park parkp@yu.ac.kr Yeungnam University, Korea

Purpose To investigate the effects of adiponectin and leptin, which are a kind of adipose tissue-derived hormones, collectively referred to as adipokines, on the immunomodulatory function of mesenchymal stem cells (MSC).

Methods Adipose-derived MSC (ADSC) were isolated from C57BL/6 mice by digestion with collagenase. Effects of adiponectin and leptin on the immunomodulatory function of ADSC are determined by measurement of viability and apoptosis of ADSC, secretion of immune mediators by ADSC, and T cell proliferation. Modulation of ADSC therapeutic functions by adipokines was validated in vivo using a DSS-induced colitis model.

Results Priming with globular adiponectin significantly improved the immunomodulatory function of ADSC, determined by increased survival rate of ADSC, expression of various immune-related genes, and enhanced suppressive activity of ADSC on T cell proliferation. Adiponectin also potentiates the therapeutic effectiveness of ADSC in a DSS-induced colitis mouse model. Mechanistically, adiponectin induces a metabolic swift toward glycolysis through adiponectin receptor type 1/p38 MAPK/Hypoxia inducible factor-1 α axis. In contrast to adiponectin, leptin causes decreased cell viability and induces apoptotic cell death in ADSC. Moreover, injection of ADSC primed with leptin suppressed therapeutic efficacy of ADSC against DSS-induced colitis.

Conclusions Adiponectin enhances the immune modulatory functions and therapeutic effects of ADSC, whereas leptin exerts opposite effects. These findings suggest that modulation of adipokines signaling would be a promising strategy for enhancing the therapeutic efficacy of MSC against immune-mediated disorders.

SS2: PHARMACEUTICAL BIOLOGY & BIOTECHNOLOGY



CHARACTERIZATION OF ENDOCRINE DISRUPTIVE EFFECTS OF TWO ESTROGENS USED IN WOMEN'S ORAL CONTRACEPTION: ESTETROL (E4) AND ETHINYLESTRADIOL (EE2)

Presenter: Professor Patrick Kestemont

patrick.kestemont@unamur.be University of Namur, Belgium *Purpose* To characterize and compare the endocrine disruptive potential of Estetrol (E4), a natural estrogen, and Ethinylestradiol (EE2), a synthetic estrogen, along with their respective mixture with the progestin drospirenone (DRSP) in zebrafish.

Methods In a first experiment, zebrafish breeders were exposed during 3 weeks to different concentrations of E4 or EE2 (10, 100 and 1000x the environmental concentrations). In a second experiment, fish were exposed over 3 generations to 1 to 30x the environmental concentrations of E4/DRSP or EE2/DRSP. Endpoints assessed effects at both individual and population levels, including fecundity, fertility, gonad histopathology, sex differentiation and transcriptional analysis of genes related to sex steroid hormones synthesis.

Results No impacts of E4 were detected on fecundity and testicular histopathology after short-term exposure while exposure to high concentrations of EE2 resulted in a significant reduction of fecundity along with severe alterations of female gonads (oocyte atresia, granulomatous inflammation and interstitial fibrosis). Several genes related to steroidogenesis were downregulated in ovaries upon exposure to EE2 while only minor changes were detected with E4 at the highest concentrations.

In the second experiment, gonad and steroidogenesis disruption was observed in F0 fish following exposure to EE2/DRSP. In F1 generation, sex determination was impaired in fish exposed to EE2/DRSP at concentration as low as 3X the environmental concentration, along with decreased fecundity and fertility, and gonad histopathological damages. In contrast, E4/DRSP induced only minor changes, at the highest concentration.

Conclusions Overall, data suggest that E4 might be an ecological alternative to EE2 in hormonal contraception.

SS3: DRUG DESIGN & ANALYTICAL METHODS



MOLECULAR MODELING AND ARTIFICIAL INTELLIGENCE (AI) BASED DRUG DESIGN, AND THEIR APPLICATIONS IN DRUG DISCOVERY

Presenter: Professor Sun Choi

sunchoi@ewha.ac.kr Ewha Womans University, Korea

Drug discovery is highly technology-intensive and interdisciplinary process, which integrates the various scientific fields such as chemistry, biology, pharmacology, pharmaceutics, and computational sciences. Since the drug discovery process requires much time and resources, it would be very beneficial to find efficient ways to reduce the cost. Molecular modeling and Computer-Aided Drug Design (CADD) are the interdisciplinary fields, which could accelerate the entire process and save time, money, and efforts. As field of bioinformatics gets expanded, computational technologies are playing more and more important roles in various fields of drug discovery. It has been utilized throughout the entire steps of drug discovery including target identification, target validation, lead discovery, lead optimization, and in silico ADME/Tox prediction. In addition, we propose the utilization of Artificial Intelligence (AI) and **big** data to enhance the current state of drug discovery. While previous CADD attempts relied on known databases, novel machine/deep learning methodologies can generate many suitable molecules that were previously unknown. One example can be reinforcement learning (RL) based deep learning method; while the generative

model produces numerous unique molecules, the predictive model built from big data accurately estimates the drug-like properties of generated molecules, yielding promising candidates. This talk will cover our recent applications for drug design and discovery based on the CADD and our machine/deep learning-based approaches.

SS3: DRUG DESIGN & ANALYTICAL METHODS



DESIGN AND DEVELOP NOVEL DRUG W1302 FOR VASCULAR DEMENTIA

Presenter: Professor Xiaoliang Wang

wangxl@imm.ac.cn

Institute of Materia Medica | Chinese Academy of Medical Sciences, Beijing, China

Vascular dementia is about 20% of all dementia, at the second position after Alzheimer's diseases. It is mainly from acute or chronic cerebral ischemia, stroke, diabetic, obesity and so on. However, till now, it is in short in medicines for treatment of vascular dementia. Recently, we design and develop a novel drug for this disease.

W1302, a chloromagnesium thiazole derivative, is a NO donor. After oral administration, it may release NO in blood. It is also an allosteric activator of GABA_A receptor in the brain and might balance GABA and NMDA systems. In addition, W1302 might against neuronal inflammation and lower the TNF-a. In animal studies, W1302 showed to increase cerebral blood flow, improve space cognition in MCAO animal model compared with the control group, and prolong survival significantly. Meanwhile, it was found to increase ATP and BDNF levels in brain. It was approved for clinic trial by China FDA, as a candidate for treatment of vascular dementia in April 2023.

SS3: DRUG DESIGN & ANALYTICAL METHODS



ANALYSIS OF NITROSAMINES AND AZIDO IMPURITIES IN DRUG SUBSTANCES AND PRODUCTS

Presenter: Professor Nguyen Duc Tuan

ductuan@ump.edu.vn

University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam

Purpose Review of recent works (guidelines, regulations, analytical techniques,...) about nitrosamines and azido genotoxic impurities in pharmaceutical products.

Methods Genotoxic impurities are controlled refer to ICH M7 and health authorities. Analytical methodologies for determination of nitrosamines typically utilize either liquid or gas chromatography coupled with mass spectrometry. Steps developed and optimized for methods include sample preparation, chromatographic separation and detection. **Results** Nitrosamines are high potency mutagenic carcinogens referred to as the "cohort of concern". Azido should be controlled at or below TTC, 1.5 μ g/day. LC-HRMS or LC-MS/MS can provide highly sensitive, specific, accurate, and reliable tools for analysis of these impurities.

Conclusions There may not be one universal analytical method of all genotoxic impurities even with high-end MS detectors. Published methods offer a practical starting point for high sensitivity quantification of nitrosamines, azido.

SS3: DRUG DESIGN & ANALYTICAL METHODS



GENOTYPING AND PHENOTYPING STUDY FOR PERSONALIZED MEDICINE IN INDONESIA

Presenter: Professor Yahdiana Harahap

yahdiana@farmasi.ui.ac.id The Republic of Indonesia Defense University, Indonesia

Personalized medicine is a therapy option tailored to groups of patients based on yahlaboratory results revealing predictive biomarkers (which indicate who will benefit from the drug) or to people based on their unique genetic profile or status, such as age and gender. Based on a previous study, one medication does not fit all people which can be determined through genotyping and phenotyping. Use genetic information to guide drug selection and/or dosing to maximize efficacy and minimize adverse effects. While in phenotyping, there should be the determination of drug and metabolite concentration around maximum concentration and elimination phase to know the effectiveness of treatment. Personalized medicine can improve healthcare Personalized medicine is a therapy option tailored to groups of patients based on yahlaboratory results revealing predictive biomarkers (which indicate who will benefit from the drug) or to people based on their unique genetic profile or status, such as age and gender. Based on a previous study, one medication does not fit all people which can be determined through genotyping and phenotyping. Use genetic information to guide drug selection and/or dosing to maximize efficacy and minimize adverse effects. While in phenotyping, there should be the determination of drug and metabolite concentration around maximum concentration and elimination phase to know the effectiveness of treatment. Personalized medicine can improve healthcare.

SS3: DRUG DESIGN & ANALYTICAL METHODS



STATE-OF-THE-ART CHEMOMETRIC-BASED STRATEGIES FOR PHARMACEUTICAL AND BIOMEDICAL ANALYSIS

Presenter: Professor Federico Marini

federico.marini@uniroma1.it University of Rome "La Sapienza", Italia

Purpose Providing an overview of recent chemometric approaches, especially focusing on their applications in pharmaceutical and biomedical analysis.

Methods & Results In the first case, the potential of the application of spectroscopic techniques in combination with different chemometric methods will be illustrated through representative examples. The relevance of these methodologies is due to the fact that spectroscopy (in particular, NIR) combined with different data analytical tools can lead to effective, high performing, fast, nondestructive, and sometimes, online methods for checking the quality of pharmaceuticals and their compliance to production and/or pharmacopeia standards. Selected examples will include the possibility of nondestructively quantifying the enantiomeric excess of APIs or the amount of dexamethasone in pharmaceutical formulations by coupling infrared spectroscopy and chemometric calibration. Moreover, the possibility of developing a quantitative structure-activity relationship (QSAR) model for the determination of gut permeability of 228 pharmacological drugs at different pH conditions (3, 5, 7.4, 9, intrinsic) will also be presented.

On the other hand, the role of chemometric techniques in the omic field will also be discussed. In this context, a part of the communication will be devoted to presenting and discussing a general chemometric framework for building and validating models for the omics (mostly, metabolomics) both for exploratory and predictive purposes, focusing, in particular, on the aspect of biomarker discovery. In particular, the different strategies for data processing, data integration and validation will be extensively presented and compared.

Across all the examples, the advantages of combining information from two (or more) matrices, when available, to build the final chemometric model (i.e., of multi-block data analysis or "data-fusion") will be stressed.

Conclusions Chemometric tools are extremely powerful and versatile.

SS3: DRUG DESIGN & ANALYTICAL METHODS



VALIDATING ANALYSIS OF PHARMACEUTICAL PRODUCTS BASED ON DEVELOPMENT AND APPLICATION OF MICROCHIP ELECTROPHORESIS: QUALITATIVE AND QUANTITATIVE CONTROL OF PARKINSON'S DRUGS

Presenter: Professor Pham Hung Viet

vietph@vnu.edu.vn or phamhungviet@hus.edu.vn

University of Science, Vietnam National University, Hanoi, Vietnam

Capillary electrophoresis (CE), especially when combined with contactless conductivity detection (C4D), is considered an effective and green technique for pharmaceutical analysis. In this research, a novel CE-C4D method was developed by applying the design of experiments (DoE) for the simultaneous determination of three main active ingredients in typical Parkinson's drugs, including levodopa (LD), carbidopa (CD), and benserazide (BZ). The CE conditions were optimized using 10 experiments based on the face-centered central composite design (FCCD) with the resolution between LD and CD (Y1) and the peak height of CD (Y2) were selected responses, and the acid concentration (X1, in the range of 0.5 - 2.5 M) and the magnitude of the applied voltage (X2, with the interval variation of 18 - 22 kV) are main factors. The optimal background electrolyte was 2.5 M of formic acid, and the applied voltage was 18 kV. The developed method was used to analyze two types of Parkinson's drugs, with recoveries ranging from 98.3 to 102.9%, and the differences between obtained results from the CE-C4D method and those from HPLC-DAD in cross-checking tests were less than 7%.

SS4: CLINICAL PHARMACY AND PHARMACOEPIDEMIOLOGY



ADVANCING PHARMACOTHERAPEUTIC FRONTIERS AND PHARMACY PRACTICE THROUGH RESEARCH AND SCHOLARSHIP

Presenter: Professor Alan Lau alanlau@uic.edu University of Illinois at Chicago, USA

Purpose Discuss opportunities for pharmacists engaging in research and scholarship to advance practice and sphere of influence in healthcare delivery and education.

Methods and Results Research and scholarship, in addition to patient care and teaching, are often part of the encompassing responsibilities and job expectations of clinical pharmacists, especially those working in academic health centers. Research is defined as a careful or diligent search, studious inquiry or examination, investigation, or experimentation aimed at discovering and interpreting facts. Scholarship could broadly include discovery (research), integration, application and teaching. Pharmacists, because of their patient care responsibilities, are in an excellent position to conduct bench, bedside and/or practice research. Translational research is now common, bridging the gap between the aforementioned areas. Research and scholarship can help improve pharmacotherapy efficacy and outcomes, advance clinical practice, thereby expanding the pharmacists' contribution towards patient care and healthcare delivery. Examples of research and scholarship will be used to illustrate how ideas for projects could naturally evolve through patient care and clinical practice. The importance of having vibrant and relevant research questions and hypotheses will be emphasized.

Conclusions Research and scholarship are important tools for pharmacists to expand their sphere of influence, through the advancement of pharmacotherapeutic frontiers, the enhancement of roles in patient care as well as the enrichment of education programs.

SS4: CLINICAL PHARMACY AND PHARMACOEPIDEMIOLOGY



ANTIBIOTIC RESEARCH - APPROACHES IN PHARMACOEPIDEMIOLOGY AND PUBLIC HEALTH

Presenter: Professor Cecilia Stålsby Lundborg

Cecilia.Stalsby.Lundborg@ki.se Karolinska Institutet, Sweden

Purpose The presentation will discuss examples of studies and methods that have been used in our research for various types of studies regarding antibiotic use, antibiotic resistance, and related areas.

Methods Pharmacoepidemiological and public health research uses a multitude of approaches, qualitative as well as quantitative methods. Among qualitative methods individual interviews and focus group discussions are common. Among quantitative methods, use of register data, questionnaire data and other data collected specifically for studies are used. Also, various types of samples including patient samples or environmental samples both microbiological and chemical

analysis may be used. Interventions may be used both to influence behaviour of the general public, patients or care-givers or health care providers and to mitigate release of antibiotic residues or antibiotic resistant bacteria in the environment. Hand-hygiene and general hygiene are other important areas to work with for containment of antibiotic resistance. Health systems and policy-studies and implementation research are essential.

Results Knowledge and attitudes regarding antibiotic use and resistance as well as antibiotic prescribing and dispensing vary in different contexts and between various categories of the public and health professionals. Antibiotic residues and antibiotic resistance bacteria in the environment is an area that get increased attention. The complex interplay between humans, animals and the environment, the One health approach gets more and more attention in relation to antibiotics and antibiotic resistance.

Conclusions Antibiotic use and antibiotic resistance are complex topics that need a multitude of methods and approaches to understand and influence.

SS4: CLINICAL PHARMACY AND PHARMACOEPIDEMIOLOGY



THE DEVELOPMENT AND FUTURE PERSPECTIVES OF CLINICAL PHARMACY SERVICES - THE EXPERIENCE FROM TAIWAN Presenter: Professor Yuh Lih Chang ylchang@vghtpe.gov.tw

Taipei Veterans General Hospital, Taiwan, China

Taiwan has established a comprehensive single health insurance system, which offers some of the best healthcare coverage and accessibility in the world. In terms of education, most of the pharmacy schools have progressed to a 6-year pharm D system, and a general professional advancement and PGY training system has been established for pharmacists in healthcare institutions. Many pharmacists in Taiwan have obtained U.S. specialist pharmacist certification and certain institutions have established residency and specialist system. Taking advantage of the development of the technology island, the pharmacy operation has fully utilized information technology and automation to handle the huge demand for dispensing operations in hospitals, and has commonly established self-developed information systems and software such as clinical decision support and prescription verification to enhance the efficiency of clinical pharmacy services. In recent years, Taiwan pharmacists have been actively pursuing the reimbursement of clinical pharmacy services, and the items for which payment has been granted (on a trial basis) include: pharmacy care for critically ill patients, for PreESRD patients, and for outpatients taking anticoagulant medication, etc.. Pharmacogenetics has also been progressively developed and applied to pharmaceutical care. Challenges to the future development of clinical pharmacy in Taiwan include the establishment of a national specialist certification system, a sound pharmacy manpower structure, a training system for pharmacy auxiliary manpower, and the pursuit of permanent insurance coverage for clinical services provided by pharmacists. It is expected that pharmacists will continue to expand their professional influence with a patient-centered approach for the best interest of public health.
SS4: CLINICAL PHARMACY AND PHARMACOEPIDEMIOLOGY



PREDICTION OF FETAL DRUG EXPOSURE BY INTEGRATING: IN VITRO, IN VIVO, EX VIVO, AND IN SILICO APPROACHES

Presenter: Professor Masatoshi Tomi tomi@keio.jp

Keio University, Japan

Purpose As there are many obstacles to the direct assessment of fetal drug exposure in humans, the development of reliable methods for predicting the transplacental transfer of drugs has been anticipated. We have tried to estimate the transplacental transfer in humans from alternatives to human testing, such as *ex vivo* human placental perfusion and animal studies.

Methods A pharmacokinetic model of transplacental transfer has been developed to predict *in vivo* placental perfusion systems. We have also analyzed the effect of species differences in the expression of placental transporters on drug transfer of drugs to the fetus.

Results Although there is an inconsistency between *in vivo* and *ex vivo* (determined by placental perfusion) fetal/maternal (F/M) ratios of metformin and digoxin, the pharmacokinetic model successfully predicted F/M ratios that were consistent with the mean *in vivo* values. Regarding the species differences, MATE1 protein expression was selectively detected in rat placenta, but not in human and mouse placenta. The F/M ratio of metformin and 1-methyl-4-phenylpyridinium (MPP⁺) was significantly lower in the rat than in the mouse. Pre-administration of pyrimethamine increased the F/M ratio of MPP⁺ in the rat, but not in the mouse, suggesting that rat placental MATE1 expression caused lower fetal transfer.

Conclusions The developed pharmacokinetic model and information on species differences in placental transpoter expression are useful for estimating human fetal transfer from alternative assays.

SS4: CLINICAL PHARMACY AND PHARMACOEPIDEMIOLOGY



REVERSE TRANSLATIONAL CLINICAL PHARMACOLOGY IN PEDIATRICS TO ENHANCE ANTIMICROBIAL STEWARDSHIP

Presenter: Professor Jennifer Le

jenle@health.ucsd.edu University of California at San Diego, USA

The overall goal of this education session is to introduce a unique concept of "reverse" translational clinical pharmacology where the research idea originates from the patients and clinicians within the community or "bedside", rather than laboratory bench. This origination of the research engages patients and clinicians to inform gaps in clinical knowledge and practice, with results that are clinically relevant for rapid assimilation into clinical practice. This reverse translational clinical pharmacology will be applied to enhance antimicrobial stewardship in highly vulnerable populations of critically-ill premature infants and children.

This session will demonstrate the value of reverse translational clinical pharmacology to enhance antimicrobial stewardship in pediatrics through recently published original research, national guidelines and novel cutting-edge concept termed post-discontinuation antibiotic exposure introduced by U.S. Pediatric Trials Network's Pediatrix to justify shorter courses of antibiotics in critically-ill infants. The session will explore estimation of renal function and define its wide spectrum from acute kidney injury to augmented renal clearance. The learning objectives are:

1. Discuss new concepts to optimize judicious use of antibiotics in critically-ill infants and children.

2. Evaluate the antibiotics that exhibit adequate post-discontinuation antibiotic exposure to justify early discontinuation of therapy.

3. Evaluate the renal function of an infant or child, potentially integrating the use of renal biomarkers.

4. Optimize antibiotic dosing in infants and children using Bayesian estimation tools.

SS4: CLINICAL PHARMACY AND PHARMACOEPIDEMIOLOGY



CLINICAL PHARMACY MOVEMENT IN THAILAND: PAST, PRESENT AND FUTURE

Presenter: Professor Surakit Nathisuwan

surakit.nat@mahidol.ac.th Mahidol University, Thailand

Purpose To describe movement of clinical pharmacy in Thailand during the recent decades along with projecting future direction based on both national and international health issues.

Methods Literature search along with personal experience in the field.

Results Clinical pharmacy has been defined as a health science discipline in which pharmacists provide patient care that optimizes medication therapy and promotes health, and disease prevention. Based on the philosophy of pharmaceutical care, clinical pharmacists blend a caring orientation with specialized therapeutic knowledge, experience, and judgment to ensure optimal patient outcomes. For Thailand, the country has adopted and adapted the concept of clinical pharmacy, and later, pharmaceutical care to guide the change in both pharmacy education and practice. Throughout over four decades of clinical pharmacy implementation in Thailand, significant progress has been made in all fronts. Within only two decades, specialization of clinical pharmacy in Thailand is rapidly expanding and receive national recognition beyond pharmacy circle. Throughout this practice development, research works conducted to formally evaluate pharmacist interventions in Thailand's context started to flourish. Increasing number of high-quality experimental studies show clear or potential benefit of pharmacist participation in Thai healthcare system and help promote visibility and knowledge sharing of Thailand's clinical pharmacy movement. Certain key information generated from these data were later used to support policy movement toward promoting pharmacy agenda at a national level and guiding national drug policy/health policy.

Conclusions Over three decades, clinical pharmacy movement in Thailand has continuously been flourishing. With national policy to improve and enhance service quality in certain disease-specific areas, demand for specialization is rapidly increasing. More high quality practice-based research works with direct social impact through changes in drug/health policy at a national and international levels are needed to push forward this new S-curve of clinical pharmacy movement in Thailand.

SS5: PHARMACEUTICS & DRUG DELIVERY



COMPARING AND CONTRASTING DRY POWDER INHALATIONS FOR USE IN COVID-19 AND TUBERCULOSIS Presenter: Professor Amit Misra

amit_misra@cdri.res.in Central Drug Research Institute at Lucknow, India

Purpose SARS-CoV-2 infects epithelial cells and evokes pro-inflammatory host responses. Mycobacterium tuberculosis (Mtb) infects (alveolar) macrophages and suppress proinflammatory responses. We attempted to specify optimal properties of dry powder inhalation (DPI) formulations for treating COVID-19 and tuberculosis (TB) infections based on disease biology and host response.

Methods We prepared DPI of Favipiravir (FPV) as a water-soluble powder and a DPI of isoniazid (INH) and rifabutin (RFB) as phase-separated particles in a matrix of poly(L-lactide). We compared the blood plasma pharmacokinetics (PK) and biodistribution in mice. We also evaluated host responses and efficacy of the TB DPI in mouse and guinea pig models of Mtb infection.

Results FPV rapidly attained Cmax after administration of the soluble DPI, and generated significantly higher concentration in the lung tissue compared to IV bolus. The particulate DPI of INH and RFB resulted in delayed Cmax, significant targeting to alveolar macrophages, rescue of infected macrophages from the M2 (anti-inflammatory) phenotype and induction of autophagy. In seven different animal models of TB, the DPI was able to achieve relapse-free sterilization of the lungs in one month if administered as adjunct to standard oral treatment with four anti-TB drugs. Oral treatment alone achieved reduction of the bacterial burden, but not sterilization or relapse-free cure.

Conclusions Whereas pulmonary drug delivery is obviously the preferred route of administration for treating respiratory infections, the physico-chemical properties of DPI to be used for the purpose should be engineered to address the cells that host intracellular infection.

SS5: PHARMACEUTICS & DRUG DELIVERY



INHALED PHAGE DELIVERY FOR RESPIRATORY INFECTIONS CAUSED BY SUPERBUGS

Presenter: Professor Hak-Kim Chan

kim.chan@sydney.edu.au

University of Sydney, Australia

Respiratory infection caused by multidrug-resistant (MDR) Gram-negative bacteria ('superbugs') is a major health problem worldwide. Bacteriophages (phages) have been documented to be efficacious against MDR bacteria with minimal side effects. In addition, endolysins are enzymatic proteins derived from phages with strong antibacterial properties. However, intravenous administration of these biologics may not be effective against lung infections, as degradation and clearance in the systemic circulation occur before they can reach the infection site. Inhalation administration for respiratory infection is thus emerging as a promising alternative delivery route. We have successfully produced liquid and powder

aerosols suitable for respiratory delivery of phages and endolysins. The powder formulations of phages were shown to be stable, highly dispersible and inhalable, and capable of killing 'superbugs' in the lungs of infected animals. Our study provides the much-needed formulation and pharmacological information on inhalation delivery for fast-tracking translational research into a new therapy.

SS5: PHARMACEUTICS & DRUG DELIVERY



ADVANCED APPLICATION OF CYCLODEXTRINS FOR PHARMACEUTICAL SCIENCES

Presenter: Professor Keiichi Motoyama

motoyama@kumamoto-u.ac.jp

Kumamoto University, Japan

Purpose Cyclodextrins (CyDs) and their derivatives are host molecules that form inclusion complexes with hydrophobic drugs and are widely applied as pharmaceutical additives and drug delivery carriers in the pharmaceutical field. Recently, supramolecular necklaces using CyDs have attracted considerable attention, and their functions are often superior to those of conventional drug carriers. In addition, a paradigm shift is taking place in which CyDs themselves are being used as active pharmaceutical ingredients. In the present study, we evaluated the potentials of CyD derivatives as active pharmaceutical ingredients (APIs) for treatment of intractable diseases such as cancer and Nieman-Pick disease Type C (NPC).

Methods Folate-appended methyl- β -CyD (FA-M- β -CyD), mannose-appended methyl- β -CyD (Man-M- β -CyD), and lactose-appended hydroxypropyl- β -CyD (Lac-HP- β -CyD) were synthesized as reported previously [1-4]. Treatment efficacy of these CyD derivatives for cancer or NPC was evaluated *in vitro* and *in vivo*.

Results FA-M- β -CyD and Man-M- β -CyD induced autophagy mediated antitumor activity through intracellular uptake via folate receptor- and mannose receptor, respectively. Lac-HP- β -CyD lowered cholesterol accumulation and alleviates motor dysfunction in NPC model mice.

Conclusions These results suggested the potential of CyD derivatives as APIs for treatment of cancer and NPC.

SS5: PHARMACEUTICS & DRUG DELIVERY



RENAL CLEARABLE NANOCARRIERS FOR ENHANCING TUMOR-TARGETABILITY WITH MINIMAL OFF-TARGET ACCUMULATION

Presenter: Professor Dae-Duk Kim

ddkim@snu.ac.kr

Seoul National University, Korea

Purpose Design of delicately engineered structure of a renal-clearable zwitterionic β -cycodextrin (CD) derivative for colorectal cancer (CRC)-selective imaging and drug delivery.

Methods A series of CD derivatives with different charged moieties and spacers were synthesized and screened for colloidal stability. Based on the results of the screening test, candidates were complexed with adamantyl sulfocyanine 7 (ACy7) and their biodistribution profiles were evaluated using near-infrared imaging. CRC targetability, organ distribution, and renal clearance of CD derivatives were screened in the form of ACy7 inclusion complexes. From

these screening results, PBA-(ZW)-CD was selected as the optimized structure, with enhanced tumor selectivity and reduced off-target accumulation. Doxorubicin and ulixertinib were separately loaded into PBA-(ZW)-CD to evaluate the feasibility as a CRC-selective drug delivery system. The PBA-(ZW)-CD/drug inclusion complexes were applied in combination therapy for CRC, and the therapeutic efficacy and safety was investigated.

Results PBA-(ZW)-CD exhibited a high tumor-to-background ratio of 3.7-4.1. Inclusion complexes of doxorubicin and ulixertinib with PBA-(ZW)-CD enhanced tumor accumulation of doxorubicin and ulixertinib (2.0-fold and 2.1-fold increase compared to free doxorubicin and ulixertinib, respectively). Their facilitated elimination and tumor penetration were verified through mass-spectrometric quantitation and imaging. The improved antitumor efficacy of PBA-(ZW)-CD/drug combination therapy was demonstrated in heterotopic and orthotopic CRC models, with tumor size reduction by 52.0% and 76.2%, respectively, compared to free drug combination.

Conclusions A delicately tailored design of a renal-clearable zwitterionic cyclodextrin (PBA-(ZW)-CD) was developed for CRC-selective imaging and drug delivery. The optimized complex formulation showed improved tumor retention and facilitated elimination from normal tissues. These results suggest that PBA-(ZW)-CD can be applied as a CRC-targeted nanoplatform.

SS5: PHARMACEUTICS & DRUG DELIVERY



EXTRACELLULAR VESICLES AS THE NEXT-GENERATION MULTIFUNCTIONAL THERAPEUTICS

Presenter: Professor Wojciech Chrzanowski

wojciech.chrzanowski@sydney.edu.vn

University of Sydney, Australia

Purpose To determine the molecular composition of individual EVs, populations and subpopulations and define the correlation between the molecular composition of EVs and their therapeutic efficacy for tissue repair and regeneration.

Backgrounds Current medicine, which is predominantly based on small-molecule drugs, has only taken us so far in beating disease and tissue degeneration. Extracellular vesicles (EVs), which are highly specialised, yet ubiquitous nanoscale messengers secreted by cells have emerged as the new generation of medicine. The problem is, their power cannot be harnessed because they are heterogeneous, and little is known about them.

Methods To characterize what is inside individual vesicles we developed a methodology that utilizes the ultra-high-resolution capability of atomic force microscopy nano-infrared spectroscopy (NanoIR).

Results Our study showed that EVs isolated from different types of placenta stem cells, which are exposed to different levels of oxidative stress, have major differences in protein, RNA/DNA and lipid contents. We further cross valid AFM-IR technique with the nanoflow analyser (nanoflow cytometry, NanoFCM) to determine the concentration of nucleic acids (RNA/DNA), proteins and membrane lipids of EVs. We also studied the effects of different purifications of EVs using ultracentrifugation, tangential flow filtration and size exclusion column, and indeed we demonstrated that the molecular composition, i.e. protein, is substantially different for EVs depending on the purification method. Analyzing these variations at the nanoscale may also provide robust evidence of pathological processes - diagnostic applications.

Conclusions Taken together, there is a potential for AFM-IR coupled with NanoFCM to be utilized as a highly sensitive, precise and relatively fast measurement of EV structure and composition to determine the most effective EVs purification protocols as well as to gain new knowledge of how they are produced to be able to harness their power for diagnostic and therapeutic applications.

SS5: PHARMACEUTICS & DRUG DELIVERY



ADVANCED THERAPY OF HYPOXIC BREAST CANCERS USING HIGHLY PHOTOREACTIVE UPCONVERTING NANOPARTICLES

Presenter: Professor Yu Seok Youn ysyoun@skku.edu Sungkyunkwan University, Korea

Purpose Development of highly photoreactive nanoparticle systems emitting red or ultraviolet light based on upconversion phenomenon using lanthanide elements and their photothermal and photodynamic therapeutic application to the hypoxic triple- negative breast cancer xenograft mice model.

Methods An ultraviolet (UV) upconversion luminescence-fueled nanoreactor (~360 nm) was developed to combine ferroptosis and apoptosis through the UV-catalyzed Fe-dependent Fenton reaction using ferric ammonium citrate and cisplatin loaded and functionalized in a mesoporous silica layer. Separately, homogenous-sized erythrocyte-like Hb microgels (μ Gels) (5-6 μ m) consisting of hemoglobin (Hb), bovine serum albumin (BSA), chlorin e6 (Ce6) and Er@Lu upconverting nanoparticles (UCNPs;~35 nm) was designed and fabricated to emit heat, supply oxygen, and generate reactive oxygen species (ROS; 1 O 2) in response to near-infrared (NIR) laser irradiation (808 nm).

Results The first folate-liposome-coated liposome UV light-emitting upconversion nanoplatform (Y;Yb;Tm@Lu) was capable of converting Fe³⁺ to Fe²⁺ to boost the hydroxyl radicals (·OH), causing devastating oxidate stress and lipid peroxidation, in terms of Fenton-reaction. Apart from DNA damage-induced apoptosis, the loaded cisplatin also catalyzed Fenton-based therapy by its abundant production of hydrogen peroxide (H₂O₂). The second delivery system, Hb µGels was able to supply oxygen to generate sufficient reactive oxygen species ($1O_2$) from UCNPs/Ce6 under hypoxic condition upon 808 nm NIR laser irradiation for efficient photodynamic activity. Also, the resulting Hb µGels emit heat and increase surface temperature due to NIR light absorption by heme (iron protoporphyrin IX) and display photothermal activity. Such combined photodynamic and photothermal effect driven by the Hb µGels was useful for suppressing hypoxic breast cancers.

Conclusions Superior antitumor efficacy has been observed in a 4T1 tumor-bearing mouse model with negligible side effects, suggesting that folate-liposome-coated liposome UV light-emitting upconversion nanoplatform could play a significant role in effective apoptosis-strengthened ferroptosis TNBC therapy Moreover, Also, bespoke formulating Hb μ Gels by controlling Hb/UCNP/Ce6 ratio and NIR laser irradiation would be effective for either photothermal or photodynamic activity or both, in the context of combined therapeutic effect, and these Hb μ Gels effectively ablated highly hypoxic 4T1 cell-xenograft mice tumors in vivo.

SS6: NATURAL PRODUCTS & HERBAL MEDICINE



NAVIGATION FOR DISCOVERING NATURE'S MOLECULAR POTENTIAL

Presenter: Professor Sang Kook Lee

sklee61@snu.ac.kr

College of Pharmacy, Seoul National University, Korea

Natural products have been played major roles in drug discovery and development programs. We also tried to identify bioactive natural products with anticancer and anti-inflammatory activities. In this presentation, the antitumor activity of diverse classes of compounds isolated from natural sources will be briefly introduced with plausible mechanisms of action.

In particular, phenanthroindolizidine alkaloids from Cynanchum paniculatum (Asclepiadaceae) exhibited a potent antitumor activity against a variety of cancer cells. The biological activity, underlying molecular mechanism, and approaches for development of further druggable candidates will be introduced. In addition, daphnane-type diterpenoids isolated from the flower of Daphne genkwa (Thymelaceae) showed a potent growth inhibition and a relatively strong selectivity against human lung cancer cells including epidermal growth factor receptor-tyrosine kinase inhibitor (EGFR-TKI)-resistant cancer cells. One plausible mechanism of action in the overcome of EGFR TKI-resistance by these compounds will be also suggested for better understanding the acquired drug resistance in lung cancer cells. In target-based screening program for identifying Wnt signaling pathway inhibitors from natural sources, periplocin, a cardiac glycoside isolated from the bark of Telectadium dongnaiense (Asclepiadaceae) (TDB), was found to exhibit antitumor activity by modulation of the Wnt/ β -catenin signalings in colon cancer cells. Some natural products-derived compounds will also be introduced with their biological activities.

This presentation will highlight our experiences to explore biologically active natural products with the antitumor activity and elucidation of the underlying molecular mechanisms with the bioactive compounds.

SS6: NATURAL PRODUCTS & HERBAL MEDICINE



R&D IN THE USES OF ACONITUM HERBAL DRUGS Presenter: Professor Fang-Rong Chang aaronfrc@kmu.edu.tw Kaohsiung Medical University, Taiwan, China

Purpose Aconitum herbal drugs are known with toxicity and have wildly uses in traditional medicine. The history, analysis, uses as well as safety issues in scientific and real-world data evidence in using of the represent herbal medicine, Fuzi [Aconitum carmichaelii, the most important Aconitum herbal drug in Chinese medicine (TCM)], will be revealed in this talk.

Methods Before the studies, two important review articles related to aconitum had been finished and published in Planta Med., 81, 1017-1028 and J. Food Drug Anal., 24, 29-45. The preparation processes of Fuzi in how to reduce the toxicity and increase the bioactivity had been developed. Using the Taiwan National Health Insurance Database, the roles of Fuzi on clinical applications in modern TCM system, including its indications, characteristics, combination principle with other TCM drugs, comorbidities, and concomitant Western medications had been explored.

Moreover, clinical evidence and safety issues on Fuzi and Fuzi-based formulas in the treatment of chronic heart failure (HF) and chronic obstructive pulmonary disease (COPD) on top of routine Western medications had been studied.

Results We evidence that Fuzi with optimized toxic-reducing processes and its formulas are essential in modern TCM, and market basket analysis is useful in evaluating the combination principle of TCM drugs. In our survey to well-prepared Fuzi and formulas, they have no significant pros and cons on chronic HF with routine HF Western medications; however, they can decrease risks of COPD exacerbation.

Conclusions Both scientific methods and real-world data can help in the research and development of modern traditional medicine, and Fuzi serves as a wonderful example to be practiced.

SS6: NATURAL PRODUCTS & HERBAL MEDICINE



HERICIUM ERINACEUS & CORDYCEPS MILITARIS AS POTENTIAL CANDIDATES FOR DRUG DISCOVERY WITH VARIOUS ACTIVE METABOLITES

Presenter: Professor Mi Kyeong Lee

mklee@chungbuk.ac.kr

Chungbuk National University, Korea

Purpose Characterization of active constituents from mushrooms, *Hericium erinaceus* and *Cordyceps militaris*.

Methods The compounds of mushroom were isolated using chromatographic techniques and spectroscopic analysis. The biological activity was assessed by measuring α -glucosidase inhibition and neurotrophic activity. The amount of active constituent was quantitated using HPLC for quality control. To maximize the active constituents, the cultivation condition was optimized including cultivation substrates, additives, temperature and maturation stages. In addition, several factors involving the synthesis of active constituents were also suggested.

Results Purification and structural characterization resulted n the isolation of diverse compounds including new compounds from *H. erinaceus* and *C. militaris*. The constituents of *H. erinaceus* showed α -glucosidase inhibition and neurotrophic activity and can be secured by the optimization of cultivation conditions and organic synthesis. Cordycepin, the active constituent of *C. militaris* was greatly increased by edible insects as substrates by the regulation of biosynthetic pathway including *cns 1* and *cns 2*. Also the inhibition of adenosine deaminase by additives also contributes to the cordycepin content.

Conclusions Mushrooms such as *H. erinaceus* and *C. militaris* are good candidates for drug discovery with various active substances. In addition, mushrooms with increased content of active constituents can be secured by the optimization of cultivation conditions.

SS6: NATURAL PRODUCTS & HERBAL MEDICINE



DANGGUI BUXUE TANG (A CHINESE ANGELICA DECOCTION): A SAMPLE TRIAL IN TRADITIONAL CHINESE MEDICINE STANDARDIZATION

Presenter: Professor Karl Wah Keung Tsim

botsim@ust.hk

Hong Kong University of Science and Technology, China

Purpose Danggui Buxue Tang (DBT), an ancient Chinese herbal decoction commonly used to mitigate menopausal osteoporosis, contains two herbs: Astragali Radix and Angelicae Sinensis Radix. The exact efficacy of individual chemical(s) within DBT, or in any herbal mixture, is hard to be revealed. In DBT, calycosin and ferulic acid are hypothesized to have major roles in regulating osteoblastic differentiation.

Methods To understand the mechanism of DBT, we performed chemical and biological assays to identify active ingredients in the decoction. To probe the roles of calycosin and ferulic acid, these chemicals were specifically depleted from the DBT herbal extracts. In cultured osteoblasts, the treatments of calycosin-depleted DBT (DBT_{Δcal}) and ferulic acid-depleted DBT (DBT_{Δfa}) were employed to probe with omics analyses to reveal the synergistic functions of individual chemicals within a complex herbal mixture.

Results The DBT-induced osteogenic genes were markedly reduced in the absent of calycosin, i.e., DBT_{Δcal}. In cultured osteoblasts, the DBT-activated Wnt/β-catenin and MAPK/Erk signalings were affected when calycosin was depleted. In parallel, the profile of metabolites, triggered by DBT_{Δcal}, showed distinction to that of DBT and/or DBT_{Δfa}.

Conclusions Calycosin, rather than ferulic acid, could be an indispensable chemical in DBT to orchestrate the multi-components of DBT in achieving maximal osteogenic properties.

SS6: NATURAL PRODUCTS & HERBAL MEDICINE



RESEARCH IN PHARMACOGNOSY AT THE UNIVERSITY OF TARTU (ESTONIA) IN COOPERATION WITH COLLEAGUES FROM VIETNAM AND UKRAINE

Presenter: Professor Ain Raal

ain.raal@ut.ee University of Tartu, Tartu, Estonia

Purpose The University of Tartu (founded in 1632) has a long tradition of research. The purpose of this presentation is to provide an overview of pharmacognostic research since Estonia regained its independence (1991), with a focus on cooperation with colleagues in Vietnam and Ukraine.

Methods This presentation is descriptive and offers an overview of the research work in pharmacognosy with colleagues in Vietnam and Ukraine. The main criterion for the description is joint articles indexed in the Web of Science and Scopus databases.

Results The scientific contacts started thanks to the international program ERASMUS+. Together with Vietnamese colleagues, more than 35 scientific articles have been published since 2015. Joint articles (nearly 20) with Ukrainian pharmacognosts started to be published in 2020. In total, 36 different medicinal plants have been studied. The main cooperation has been with the Hue University of Medicine and Pharmacy (Prof. Nguyen Thi Hoai, Dr. Nguyen Viet Khan, etc) and the Hanoi University of Pharmacy (Dr. Nguyen Thanh Tung, etc). In Ukraine, with the National University of Pharmacy, Kharkiv (Prof. Oleh Koshovyi, etc). Dr. Kahn has defended his doctoral thesis at the University of Tartu, many other PhD students have used the published articles as part of their doctoral thesis.

Conclusions A working environment at the university open to international relations and active international cooperation between researchers from different countries is an excellent guarantee for the flourishing of research.

SYMPOSIUM: ADVANCED THERAPIES - CELL AND GENE



OVERVIEW OF THE EU REGULATORY FRAMEWORK FOR ADVANCED THERAPY MEDICINAL PRODUCTS (ATMPS)

Presentor: Doctor Martin O'Kane

martin.okane@novartis.com

Regional Head of Regulatory Affairs EU Policy & Liaison at Novartis Pharmaceuticals

This presentation provides a high-level overview of the regulatory landscape for the classification, assessment, and monitoring of advanced therapy medicinal products (cell, tissue, and gene therapy) in the European Union (EU). An overview of the evolution of the EU regulatory framework and the role of the National health authorities and the European Medicines Agency will be provided, as well as an outline of the incentives and support available for developers of advanced therapy medicinal products in the EU.

SYMPOSIUM: ADVANCED THERAPIES - CELL AND GENE



OVERVIEW OF ADVANCED MEDICAL PRODUCT, CELL AND GENE THERAPY

Presenter: Doctor Lawrence C. Starke

lawrence.starke@novartis.com

Head of Regulatory CMC Policy and Intelligence for Cell and Gene Therapy | Novartis Pharmaceuticals Corporation | USA

This presentation provides an overview of some of the unique CMC issues encountered by industry and regulators in cell and gene therapy. The following unique challenges will be discussed: manufacturing sites and manufacturing process, quality control testing, comparability, logistics and local testing requirements.

SYMPOSIUM: ADVANCED THERAPIES - CELL AND GENE



GENE AND CELL THERAPY - OVERVIEW OF THE REGULATORY FRAMEWORK IN AUSTRALIA

Presenter: Doctor Karen Loft

Karen.Loft@health.gov.au

Senior Regulatory Scientist for Quality - The Therapeutic Goods Administration (TGA)'s Regulatory Strengthening Program, Australia

Cell and gene therapies are able to modify or manipulate cell function or gene expression and provide new, innovative ways of disease treatment and opportunities for enhanced therapeutics. Over the last few years, research has expanded and these products are moving from development to the clinic. Several cell and gene therapy products have been registered in Australia and the Therapeutic Goods Administration (TGA) is responsible for the regulation of those with a therapeutic claim.

This presentation provides the audience with a general overview of the regulatory framework in Australia and will discuss the expectations and challenges of cell and gene based therapeutic products from an Australian perspective.

Cell and gene therapies are able to modify or manipulate cell function or gene expression and provide new, innovative ways of disease treatment and opportunities for enhanced therapeutics. Over the last few years, research has expanded and these products are moving from development to the clinic.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



HTA APPLICATION FOR DEVELOPING REIMBURSEMENT POLICY IN VIETNAM

Presenter: MSc. Vu Nu Anh

nuanh.vu@gmail.com

Health insurance department, MOH, Vietnam

Health Technology Assessment (HTA) is defined as a multidisciplinary process involving a wide range of capacities that summarizes information about the characteristics, short- and long-term effects and/or impacts of health technologies and interventions. In Vietnam, given constraints in health budget, especially the shortage of health insurance fund, HTA has been being more and more important. According to statistics, drugs account for a significant portion of total health insurance expenditures, accounting for 61.6% and 39% in 2010 and 2020. As a result, the promulgation of the list of drugs covered by health insurance is one of the most important factors for operating efficiency of the health insurance system. In which case, HTA is a tool for developing the list of drugs covered by health insurance, as well as payment conditions and rates. The application of HTA was being paid attention by the Government since 2013 when when it was stated in the national strategy to protect, care for, and improve people's health for the period of 2011-2020, with a vision to 2030. During 2014-2017, several HTA related activities were conducted in Vietnam, such as HTA conferences, workshops, training courses and small scale HTA research studies. In 2018, the Ministry of Health issued the Decision No. 5315/QD-BYT on the regulation for considering new drugs to be added to the list of drugs covered by the Vietnam health insurance scheme. Additionally, the Ministry of Health, in collaboration with experts, issued guidelines for preparing and evaluating pharmacoeconomic analysis reports. For other reimbursement areas such as medical devices or medical service, HTA also starts to be considered as an important tool to provide appropriate evidence to develop the reimbursement policy.

This presentation will illustrate the current situation of HTA application for developing reimbursement policy with analyzing difficulties and limitations and proposing solution in order to enhance HTA application in Vietnam.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



THE DEMAND TO APPLY HTA IN HEALTH INSURANCE FUND MANAGEMENT IN VIETNAM

Presenter: Doctor Nguyen Thi Hong Van

vannth@vss.gov.vn

Department of Health Insurance Policy Implementation, Vietnam Social Security, Vietnam

Health insurance in Vietnam has achieved many accomplishments in recent times, including a coverage rate exceeding 90% from 2020 to the present, gradually moving towards universal health coverage. A large number of healthcare facilities participate in providing health insurance-based medical examination and treatment, making it convenient for insured patients. The benefits of health insurance in terms of medication, medical supplies, and technical services are increasingly expanding.

However, the health insurance fund faces many challenges, including minimal financial resources and the challenge of meeting the demand for access to new, effective, but costly medications, medical supplies, and treatment methods. Given the financial constraints, it is essential to allocate resources wisely to ensure effective spending and health insurance participants' medical examination and treatment rights. There is a need for evidence-based assessments of medical technology to manage the health insurance fund more accurately, reasonably, and effectively, especially in constructing the list of medications, medical supplies, technical services, and the conditions and rates of payment from the health insurance fund.

In Vietnam, the initial use of HTA in constructing the list of medications covered by the health insurance fund aims to select effective, safe medicines compatible with the fund's payment capabilities. HTA is also a tool that provides additional evidence applied in the process of negotiating drug prices to achieve the most appropriate price levels. The results of HTA provide additional information to help experts and doctors make the most relevant and practical prescriptions for patients.

The rate of universal health insurance coverage, along with medical examination and treatment costs using health insurance in Vietnam, has been increasing over the years (2008-2021). Those figures have raised concerns about the balance of revenue and expenditure of the health insurance fund and delved into the challenges that health insurance fund managers/policymakers face.

Two typical challenges in health insurance fund management are health insurance revenues and expenditures and resource allocation, which require health technology assessment evidence to manage the health insurance fund more appropriately, reasonably, and effectively.

Utilizing health technology assessment evidence is integral in building the list of drugs, medical devices, and technical services. Accordingly, the list is effective, safe, and aligned with the affordability of the health insurance fund. Furthermore, this evidence also helps health facilities have an index to meet the criteria of drug treatment, selection, bidding, and procurement. In drug selection, using health technology assessment is crucial to help professionals and doctors make the most precise and effective patient indications.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



APPLICATION OF PHARMACOECONOMICS IN THE DEVELOPMENT OF THE NATIONAL LIST OF ESSENTIAL MEDICINES IN THAILAND

Presenter: Professor Arthorn Riewpaiboon

arthorn.rie@mahidol.ac.th

Mahidol University, Thailand

Purpose To provide information on the process of incorporation of drugs and vaccines into the national list of essential medicines (NLEM) in Thailand.

Methods Documentation review and synthesis of direct experiences.

Results Thailand has started the national list of essential medicines since 1981. Drug selection criteria have been developed and included Health Technology Assessment, Health Economics/ Pharmacoeconomics, and economic evaluation since 2006. Working structure and practice guidelines have been established. Health Economics Working Group has played an important role in the process. Drivers of the system development are analyzed employing the concept of six building blocks.

Conclusions Lessons learned on the systematic development of application of the Pharmacoeconomics on the drug system in Thailand can be useful for other countries.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



UNLEASHING PATIENT ACCESS: LESSONS LEARNED FOR EFFECTIVE AND SUSTAINABLE IMPLEMENTATION Presenter: MSc. Sirin Petcharapiruch Sirinthip.Petcharapiruch@IQVIA.com Real World Solutions, IQVIA APAC Thailand

The implementation of a Health Technology Assessment (HTA) framework is crucial for ensuring that patients have access to the best possible healthcare. However, building a sustainable HTA framework requires careful consideration of several key factors. In this session, we will explore the lessons learned from successful case studies of HTA implementation in different countries. We will also identify common pitfalls and challenges in HTA implementation and discuss how to overcome them.

One key consideration for building a sustainable HTA framework is to ensure that it is not too rigid to become a barrier to patient access. This requires balancing the need for rigorous evaluation and budget prioritization with the need for flexibility to accommodate different patient needs and preferences. We will also examine successful case studies of HTA implementation in different countries, particularly in the APAC region. By learning from these examples, we can identify best practices and strategies for building a sustainable HTA framework that delivers effective outcomes for patients.

Finally, we will identify common pitfalls and challenges in HTA implementation, such as inadequate data management, fragmented health systems, and shifting political contexts as a lesson learned for future consideration. By understanding these challenges, we can develop effective strategies for overcoming them and building a sustainable HTA framework that delivers effective outcomes for patients.

In conclusion, this session presentation will provide valuable insights into how to build a sustainable HTA framework that unleashes patient access and delivers effective outcomes.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



CHALLENGES IN PRICING AND REIMBURSEMENT FOR FIXED DOSE COMBINATION MEDICINE: INTERNATIONAL COMPARISON AND RECOMMENDATIONS FOR VIETNAM

Presenter: Kieu Thi Tuyet Mai

maiktt@hup.edu.vn

Faculty of Pharmaceutical Management and Pharmacoeconomics, Hanoi University of Pharmacy, Vietnam

The use of two or more medications in one product with the goal of improving patient health (i.e., length and health-related quality of life) or providing other beneficial effects to health systems or society (e.g., lowering drug resistance, enhancing the experiences of healthcare providers, or lowering absenteeism) is known as a fixed-dose combination.

Combination therapies are beneficial when a single therapy is less likely to produce the desired results and when there are interventions with various but complimentary mechanisms of action. In fields like infectious disease, respirology, neurology, ophthalmology, cardiovascular disease, and diabetes, the use of combinations has grown widespread. The pricing and reimbursement processes for combination regimens could also be more complicated. Without an adequate framework to address these complexities, providing access to combination regimens may be associated with avoidable delays (or even failures) in access and ultimately have a negative impact on patients and the care community.

It is crucial to close this information gap for payers who are moving toward value-based healthcare. The objective is to build the infrastructure necessary to collect usage data on all medications, whether they are taken alone or in combination, so that different pricing can be charged. An effective pricing strategy is key to securing reimbursement and maximizing the potential of therapies.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



OVERVIEW OF CANCER DRUGS IN VIETNAM AND COST-EFFECTIVENESS

Presenter: Doctor Pham Tuan Anh phamtuananh@hmu.edu.vn National cancer Hospital of Vietnam, Vietnam

Major breakthroughs have been realized in controlling cancer in the past two decades. However, for patients in low-and middle-income countries like Vietnam, many of these advances are inaccessible. Drug pricing remains a key challenge. Many new drugs improve median overall survival by just a few months at a very expensive cost. Indeed, the greatest challenge we face in oncology today with the exponentially increasing costs of new treatments is developing evidence-based guidelines adapted for circumstances in a lower middle-income country like Vietnam. In this review, we examine cancer drugs and cost - effectiveness in Vietnam as well as offer suggestions to address the important issue of access to cancer medications. It will require multiple stakeholder involvement including governments, industry and civil society.

SYMPOSIUM: HEALTH TECHNOLOGY ASSESSMENT



ALTERNATIVES TO COST / QALY HEALTHCARE EVALUATION IN MIDDLE INCOME COUNTRIES

Presenter: Professor Lotte Steuten

LSteuten@ohe.org Office of Health Economics, London, United Kingdom

Approaches to health technology assessment (HTA) for pharmaceutical drugs varies widely between countries. Some countries use clinical effectiveness (Japan, Germany, France) whilst other use cost-effectiveness in the form of cost / QALY (Quality Adjusted Life Year; Australia, UK, Canada); also known as a cost-utility analysis.

Limiting the value capture of pharmaceutical innovations to QALY gains and net costs is not capturing all aspects of value that are important to society. There are also methodological limitations of the extrapolation of clinical benefits and calculations of utility.

Conducting a cost utility analysis is a data and resource intensive exercise both on the side of creating the economic models and on evaluating these models, and the access to data required to do so in low to middle income countries may be limited and unreliable. These countries may also have limited people with the specialized skill set to create and evaluate these models.

Therefore a workable alternative to a cost-utility assessment is needed in low-middle income countries. This presentation will discuss potential alternatives to the cost / QALY economic evaluation and also share some examples from how other countries have approached improving access to patients with cancer or rare diseases.

Top thíngs to do ín Hanoí - Capítal of Víetnam

Founded over 1000 years ago, Vietnam's capital city is rich in history, with the streets of its rambling Old Quarter dating back to the 14th century. Wandering these tree-lined lanes past crumbling colonial facades will transport you back in time. However, today's Hanoi is about much more than the past. The ancient city is being invigorated with modern cafes, world-class restaurants, and cool art galleries. When the sun goes down, you have your pick of watering holes, from sophisticated rooftop bars to buzzing bia hoi.

TOP THINGS TO DO IN HANOI

Sample the street food

For an authentic taste of Hanoi, look to the street kitchens of the Old Quarter. Steaming pots of its star anise-infused Pho broth simmer on every corner; while every day, the scent of bun cha fills the air as barbecued pork sizzles over hot coals.

Stroll the Old Quarter

Hanoi's Old Quarter serves up a sensory overload. Wisps of incense drift out onto

streets from ancient temples, while the clang of blacksmiths' hammers mingles with mobile fruit sellers' call. Jump in a cyclo and tour this intoxicating maze.

Explore Hanoi's cafe culture

Fast-paced on the surface, the true rhythm of Hanoi life is far from hurried and is reflected well in its leisurely coffee hours. Alongside traditional coffee houses, an ever-growing band of unique cafes serve new brews in cool caffeine dens.

Check out the art scene

Hanoi is Vietnam's art capital. The elegant Fine Arts Museum houses the country's foremost collection, such as ancient Cham artifacts and impressionist pieces. For something more contemporary, head for Manzi or the Vietnam Art Gallery.

Join the locals at Hoan Kiem Lake

Hoan Kiem Lake rests in the heart of Hanoi. Every morning it comes alive with walkers, aerobics classes, and even a laughing yoga group; and bursts back into activity at sunset, thronged with locals taking in the evening air.

Hanoi Weather

Hanoi is most inviting from April to June, but the capital is particularly beautiful in May when trees suddenly come into bloom. September and October are also excellent months to visit as temperatures cool and the sky clears.

Hanoi Transport

Vietnam's capital is served by Noi Bai international airport, 45km from the city centre. The Reunification Express line has trains to many major destinations including Lao Cai (Sapa) and Dong Hoi (Phong Nha.) There are many options for getting around Hanoi, including taxis, buses, and motorbikes. Grab, and a few other ride-hailing apps offer on-demand services for getting around. Hanoi's bus network has an extensive network around the city and low-cost fare. Finally, the classic cyclo can be hired to take you around the Old Quarter on a sightseeing tour (*According to Vietnam.travel*).



Halong - the World Herítage

For many, the seascape of Ha Long Bay is synonymous with Vietnam. Cruises sail emerald green waters among thousands of rugged islands and islets, stopping at spectacular caves through which visitors can wander, viewing impressive, centuries-old formations. Ha Long Bay's mystical beauty has made it a bucket list attraction within the country, but it's still possible to find secluded corners to call your own.



Cruise the bay

Nothing beats spending watching the sun set

over the calm waters of Ha Long Bay and waking up to a serene morning surrounded by karsts. Relaxing on a sun deck surrounded by magnificent panoramas is the highlight of many a trip.

Explore a floating village

Ha Long Bay is not just a UNESCO-listed site, it's also home to a number of fishing communities who have lived on the water for centuries. Take a boat tour around a floating village for a glimpse of this rare and beautiful way of life.

Paddle out in a kayak

Even if you're not an experienced kayaker, you can't miss the chance to navigate your way around Ha Long's gorgeous seascape. Just before sunset is an ideal time to kayak to see quiet lagoons and fishing boats up close.

Clamber into a cave

Beneath their rocks and jungled exteriors, many of Ha Long's ancient karsts have been carved out by rain and water currents. Take a look inside these geological wonders on foot - some are a squeeze while others are enormous.

Try your hand at rock climbing

There are countless routes in the bay to keep climbing junkies entertained. Deep water soloing is becoming increasingly popular in beautiful Ha Long Bay and Lan Ha Bay, especially on Butterfly Island.

Ha Long Weather

Ha Long Bay's climate can be cool with clear skies from September to November. Mist drifts in from December to March making the bay look all the more mysterious. April and May offer sunshine and a refreshing breeze, while the monsoon season can make visits unpredictable from June to August.

Ha Long Transport

Most visitors to Ha Long Bay opt for a packaged cruise, including transport to and from Hanoi. Independent travellers can take a bus to Ha Long City or Hai Phong and a taxi to the port. It's also possible to charter a seaplane for a 45-minute ride direct from Noi Bai International Airport. Travelling Ha Long Bay is best by boat. Those looking for a bird's-eye view can book a 15-minute seaplane ride over the bay. In Ha Long City you can hire a taxi to get around town.

From November 2021, Ha Long will open to an unlimited number of vaccinated tourists, who will be able to travel without quarantine requirements. Please check the current *travel advisory* for updates and application details (*According to Vietnam.travel*).

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