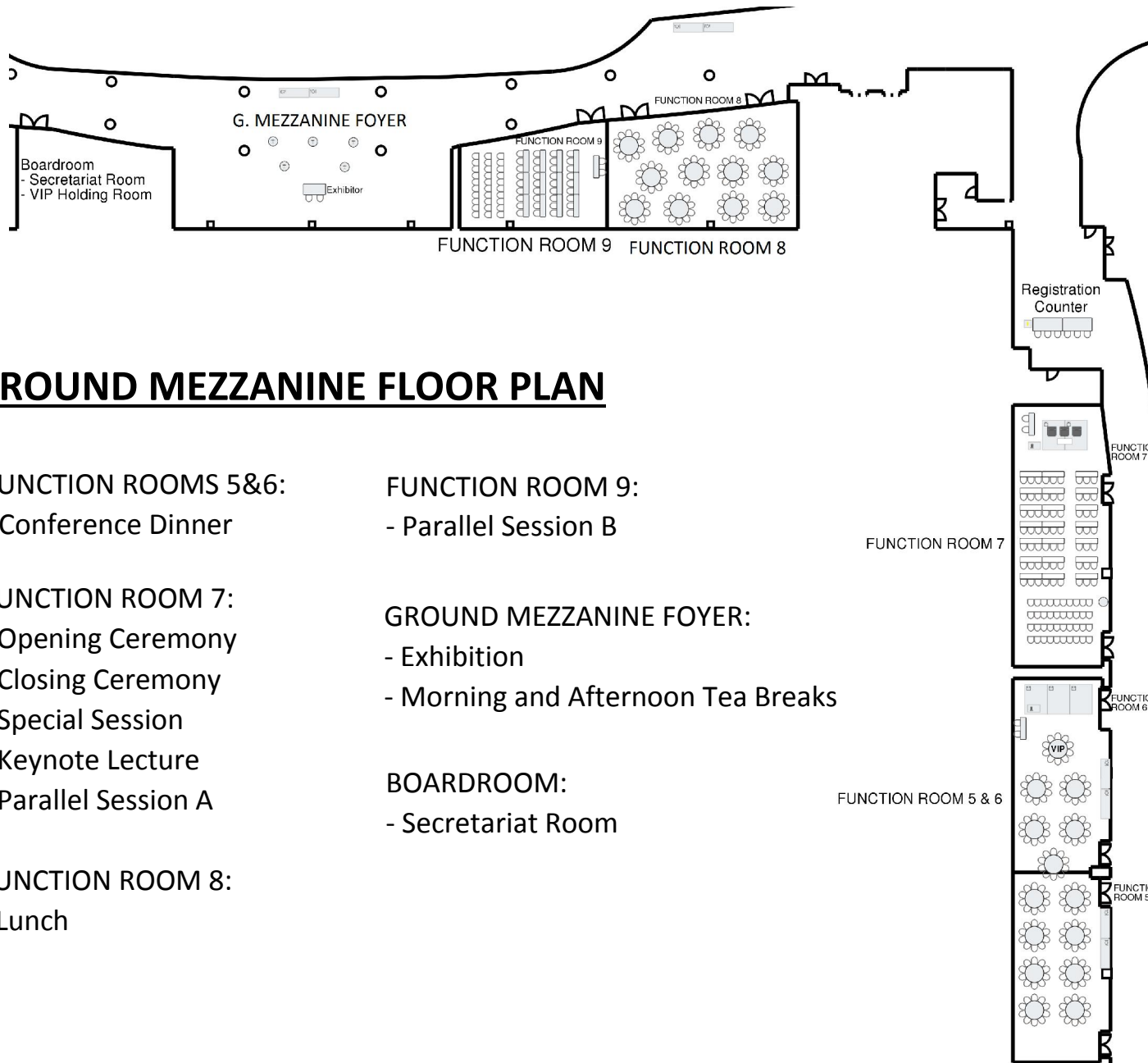


APCS2018 CONFERENCE PROGRAM

28 October 2018	Time	29 October 2018	Venue	Time	30 October 2018	Venue	31 October 2018
20:00-22:00 Pre-registration Venue: In front of Function Room 7, Setia SPICE Convention Centre	08:00 – 08:30	Registration	In Front of Function Room 7	08:30 – 09:10	Keynote Lecture 4 Prof. Siu-Lai CHAN	Function Room 7	07:30 – 16:00 Technical Visit (Curtis Crest and Langur Way at The Habitat Penang Hill) 07:30 Depart from Setia SPICE Convention Centre 16:00 Reach Setia SPICE Convention Centre
	08:30 – 09:00	Opening Ceremony	Function Room 7	09:10 – 09:50	Keynote Lecture 5 Prof. Richard Jat Yuen LIEW		
	09:00 – 09:40	Keynote Lecture 1 Ir. Hin Cheong SAW		09:50 – 10:20	Morning Tea Break		
	09:40 – 10:20	Keynote Lecture 2 Prof. Su-Duo XUE		10:20 – 10:50	Morning Tea Break	G. Mezzanine Foyer	
	10:20 – 10:50	Parallel Session 1A: Seismic Analysis, Behavior & Design	Function Room 7	10:20 – 11:35	Parallel Session 5A: Origami & Active Bending Structures Parallel Session 5B: Metal Spatial Structures and Deployable Structures	Function Room 7	
	10:50 – 11:50	Parallel Session 1B: Bio-Inspired Shell & Spatial Structures	Function Room 9			Function Room 9	
	11:50 – 12:00	Break		11:35 – 11:45	Break		
	12:00 – 13:00	Parallel Session 2A: New Approaches, Materials and Construction Methods Parallel Session 2B: Project and Construction	Function Room 7	11:45 – 12:45	Parallel Session 6A: Seismic Analysis, Behavior & Design and Shells Parallel Session 6B: Tension and Membrane Structures	Function Room 7	
			Function Room 9			Function Room 9	
	13:00 – 14:00	Lunch	Function Room 8	13:00 – 14:00	Lunch	Function Room 8	
	14:00 – 14:40	Keynote Lecture 3 Prof. Nozomu KOGISO	Function Room 7	14:00 – 14:40	Keynote Lecture 6 Prof. SunWoo PARK	Function Room 7	
	14:40 – 14:45	Break		14:40 – 14:45	Break		
	14:45 – 16:00	Parallel Session 3A: Shells Parallel Session 3B: Metal Spatial Structures	Function Room 7	14:45 – 15:30	Parallel Session 7A: Computational Methods Parallel Session 7B: Form Finding & Optimization	Function Room 7	
			Function Room 9			Function Room 9	
	15:30 – 16:00	Afternoon Tea Break	G. Mezzanine Foyer	15:30 – 16:00	Afternoon Tea Break	G. Mezzanine Foyer	
	16:00 – 16:30	Afternoon Tea Break	G. Mezzanine Foyer	16:00 – 16:45	Special Session for Best Paper Awards	Function Room 7	
16:30 – 17:45	Parallel Session 4A: Tension and Membrane Structures Parallel Session 4B: Optimization Approaches Analysis and Design	Function Room 7	16:45 – 17:30	Special Commemorative Session for the Late Prof. Yasuhiko HANGAI, Co-founder of APCS			
		Function Room 9	17:30 – 18:00	Closing Ceremony			
17:45 – 19:00	Break						
19:00 – 21:00	Conference Dinner	Function Rooms 5&6					



GROUND MEZZANINE FLOOR PLAN

FUNCTION ROOMS 5&6:

- Conference Dinner

FUNCTION ROOM 7:

- Opening Ceremony
- Closing Ceremony
- Special Session
- Keynote Lecture
- Parallel Session A

FUNCTION ROOM 8:

- Lunch

FUNCTION ROOM 9:

- Parallel Session B

GROUND MEZZANINE FOYER:

- Exhibition
- Morning and Afternoon Tea Breaks

BOARDROOM:

- Secretariat Room

FUNCTION ROOM 7

FUNCTION ROOM 5 & 6

FUNCTION ROOM 7

FUNCTION ROOM 6

FUNCTION ROOM 5

Registration Counter

Boardroom
- Secretariat Room
- VIP Holding Room

G. MEZZANINE FOYER

Exhibitor

FUNCTION ROOM 9

FUNCTION ROOM 8

FUNCTION ROOM 9 FUNCTION ROOM 8

APCS2018 PRESENTATION SCHEDULE

Day 1: 29 October 2018 (Monday)

Keynote Lecture 1

Room: Function Room 7

Session Chairman: Assoc. Prof. Kok Keong CHOONG

Time	Presentation Title	Presenter
09:00 – 09:40	Iconic Roof of Setia SPICE, Penang, Malaysia	Ir. Hin Cheong SAW

Keynote Lecture 2

Room: Function Room 7

Session Chairman: Prof. Ken'ichi KAWAGUCHI

Time	Presentation Title	Presenter
09:40 – 10:20	Spatial Structure in China: New Development and Engineering Practice	Prof. Su-Duo XUE

Parallel Session 1A: Seismic Analysis, Behavior & Design

Room: Function Room 7

Session Chairman: Prof. Toku NISHIMURA

Time	Paper ID	Presentation Title	Presenter
10:50 – 11:05	APCS2018-0017	Prediction Method of Bearable PGA For Single Layer Lattice Domes under Vertical Loading	Prof. Yoshiya TANIGUCHI
11:05 – 11:20	APCS2018-0022	Damage Evaluation of Space-Frame Gymnasiums Damaged in 2016 Kumamoto Earthquake	Mr. Shogo INANAGA
11:20 – 11:35	APCS2018-0025	Strengthening of Steel Circular Tube Truss Member Using Semicircle-Shaped CFRPS under Axial Compression	Assoc. Prof. Yukihiko MATSUMOTO
11:35 – 11:50	APCS2018-0046	Seismic Evaluation of Steel Buildings with Concentrically Braced Frame Structure	Mr. Alex KURNIAWANDY

Parallel Session 1B: Bio-Inspired Shell & Spatial Structures

Room: Function Room 9

Session Chairman: Dr. Mustafasanie M. YUSSOF

Time	Paper ID	Presentation Title	Presenter
10:50 – 11:05	APCS2018-0027	The Design Characteristics of Nature-Inspired Spatial Structures	Prof. Kanggeun PARK
11:05 – 11:20	APCS2018-0060	Overview on The Application of Tensegrity in Biology Systems	Ms. Nadia Farhana ABDUL HALIM
11:20 – 11:35	APCS2018-0074	The Stability Analysis and Monitoring of a Steel Spatial Hybrid Structure Stadium during Construction Stage	Prof. Hai-Ying WAN
11:35 – 11:50	APCS2018-0006	Vibration Characteristics of Airship Hangar in Augusta, Italy	Prof. Takayoshi AOKI

Parallel Session 2A: New Approaches, Materials & Construction Methods**Room: Function Room 7****Session Chairman: Prof. Yue WU**

Time	Paper ID	Presentation Title	Presenter
12:00 – 12:15	APCS2018-0037	Design and Construction of Temporary Pavilion Using Reed as Structural Material	Assoc. Prof. Takuo NAGAI
12:15 – 12:30	APCS2018-0059	Inactivation of Virus in Aerosol by Membrane Materials Coated with Visible-Light-Sensitive Photocatalyst in a Simulated Living Space	Mr. Yuki SHIOZAWA
12:30 – 12:45	APCS2018-0069	Experimental and Analytical Work of Fiber Reinforced Geopolymer Composites	Mr. Khoa PHAM
12:45 – 13:00	APCS2018-0031	Research on Computational Method of Cross Section Bearing Capacity of Specially Shaped Composite Wall with Wide-Flange	Mr. Feng JUN

Parallel Session 2B: Project and Construction**Room: Function Room 9****Session Chairman: Prof. Kenji YAMAMOTO**

Time	Paper ID	Presentation Title	Presenter
12:00 – 12:15	APCS2018-0005	Structural Design of Free-Curved RC Surface	Dr. Toshiaki KIMURA
12:15 – 12:30	APCS2018-0021	Structural Health Monitoring of Some Space Frames in China	Assoc. Prof. Jinzhi WU
12:30 – 12:45	APCS2018-0061	Environmental Protection Fully Enclosed Coal Shed Design	Mr. Hao LI
12:45 – 13:00	APCS2018-0068	Hybrid CLT-Concrete Composite Floor Performance with Several Types of Shear Connector	Mr. Khai Mai QUANG

Keynote Lecture 3**Room: Function Room 7****Session Chairman: Prof. Makoto OHSAKI**

Time	Presentation Title	Presenter
14:00 – 14:40	Robust Design for Large-Scale Highly Precise Space Smart Structure System	Prof. Nozomu KOGISO

Parallel Session 3A: Shells**Room: Function Room 7****Session Chairman: Dr. Dongwoo LEE**

Time	Paper ID	Presentation Title	Presenter
14:45 – 15:00	APCS2018-0008	Evaluation of Buckling Load Using Continuum Analogy for Anisotropic Latticed Shells	Mr. Takahiro MATSUDA
15:00 – 15:15	APCS2018-0024	The Geometric and Material Nonlinear Behaviors of Shell Structures	Prof. Kanggeun PARK
15:15 – 15:30	APCS2018-0051	Dynamic Experiments on an HP Shell Roof	Assoc. Prof. Jingyao ZHANG
15:30 – 15:45	APCS2018-0058	Experimental and Numerical Studies of Metal-Timber Composite Gridshell Roof	Mr. Naoki IRIGUCHI
15:45 – 16:00	APCS2018-0066	A Study on Nonlinear Partial Simulation of Incheon International Airport Terminal-2 Using Rigid Replacement Method of Boundary	Ms. Hyewon JUNG

Parallel Session 3B: Metal Spatial Structures**Room: Function Room 9****Session Chairman: Prof. Bostjan BRANK**

Time	Paper ID	Presentation Title	Presenter
14:45 – 15:00	APCS2018-0009	Effects of Installing Direction of TMDs on Seismic Response Reduction of Cylindrical Lattice Shell Roofs	Mr. Yuichi MAMA
15:00 – 15:15	APCS2018-0026	Accumulated Downward Deformation of Large-Span Steel Moment Frames Due to Inelastic Earthquake Response	Prof. Tetsuo YAMASHITA
15:15 – 15:30	APCS2018-0029	Reliability Analysis of Cylindrical Lattice Shell Roofs under Snow Loads with Various Distributions	Mr. Ryohei USUI
15:30 – 15:45	APCS2018-0033	Vibration Tests of Cylindrical Lattice Shell Roofs Subjected to Tri-Directional Earthquake Motions	Ms. Mengmeng ZHANG
15:45 – 16:00	APCS2018-0038	Cyclic Shear Tests of Steel Double Layer Truss Walls	Ms. Etsuko SASAKI

Parallel Session 4A: Tension and Membrane Structures**Room: Function Room 7****Session Chairman: Assoc. Prof. Jingyao ZHANG**

Time	Paper ID	Presentation Title	Presenter
16:25 – 16:40	APCS2018-0020	The Design and Nonlinear Behaviors of Cable Spoke Wheel Roofs with Retractable System to Open and Close	Prof. Kanggeun PARK
16:40 – 16:55	APCS2018-0039	Basic Study on the Mechanical Behavior of Roof Structures Consisting of Inner Tension Ring and Radially Arranged Cables	Mr. Akira OSHIUMI
16:55 – 17:10	APCS2018-0065	A Study of Natural Frequency of Damaged Cable Net Supported Façade Panel	Mrs. Nur Ashikin MARZUKI
17:10 – 17:25	APCS2018-0004	Structural Investigation of Folded Shell Surface Inspired by Non-Crease Origami	Mr. Tamure HASAN

Parallel Session 4B: Optimization Approaches Analysis and Design**Room: Function Room 9****Session Chairman: Prof. Jaehong LEE**

Time	Paper ID	Presentation Title	Presenter
16:25 – 16:40	APCS2018-0003	Optimization of Support Structure for Reduction of Reaction Force of Roof of a School Gymnasium	Prof. Makoto OHSAKI
16:40 – 16:55	APCS2018-0010	Structural Performance of Triangular Latticed Shells with Regularized Panels for Bézier Design Surfaces	Dr. Kazuki HAYASHI
16:55 – 17:10	APCS2018-0028	A Parametric Structural Optimal Design for a Large-Span Cylindrical Truss String Structure	Ms. Li GU
17:10 – 17:25	APCS2018-0049	Deep Learning for Topology Optimization Using Convolutional Neural Networks	Ms. Hyunjoo KIM

Day 2: 30 October 2018 (Tuesday)**Keynote Lecture 4****Room: Function Room 7****Session Chairman: Prof. Richard Jat Yuen LIEW**

Time	Presentation Title	Presenter
08:30 – 09:10	Application and Recent Research on Direct Analysis with Completed Project in Macau and Hong Kong	Prof. Siu-Lai CHAN

Keynote Lecture 5**Room: Function Room 7****Session Chairman: Prof. Su-Duo XUE**

Time	Presentation Title	Presenter
09:10 – 09:50	Design and Construction of Large Span Lattice Structures	Prof. Richard Jat Yuen LIEW

Parallel Session 5A: Origami & Active Bending Structures**Room: Function Room 7****Session Chairman: Prof. Kanggeun PARK**

Time	Paper ID	Presentation Title	Presenter
10:20 – 10:35	APCS2018-0055	Simulation of Rigid Tessellation Origami with High Degrees-of-Freedom Using Parametric Modeling Method	Dr. Chen Chu CHAI
10:35 – 10:50	APCS2018-0073	Folded Structure Based on Symmetry Breaking Rigid Origami Pattern	Dr. Chen Chu CHAI
10:50 – 11:05	APCS2018-0023	Effects of Slenderness Ratio of Principle Member on Buckling Behavior of Axially Compressed Member Stiffened by Eccentrically Loaded Compression Members	Mr. Yuya SUGIZAKI
11:05 – 11:20	APCS2018-0048	Vision-Based Compression Bending Test Device: Stiffness Grading of Plywood Fiberglass Composite Strips	Mr. Alexandros PETEINARELIS
11:20 – 11:35	APCS2018-0053	An Efficient Computational Approach for Nonlinear Bending Analysis of Functionally Graded Material Plates	Mr. Ngoc Tan NGUYEN

Parallel Session 5B: Metal Spatial Structures and Deployable Structures**Room: Function Room 9****Session Chairman: Prof. Weijing ZHANG**

Time	Paper ID	Presentation Title	Presenter
10:20 – 10:35	APCS2018-0042	Elastic Buckling Behavior of Triangle Grid Shells Composed of H-Shaped Steel	Mr. Kai KAGEYAMA
10:35 – 10:50	APCS2018-0045	Influences of Mass of Supporting Substructures on Seismic Response Behavior of HP Lattice Shells with Straight Edge Lines	Mrs. Mari WAKAO

10:50 – 11:05	APCS2018-0047	Linear Buckling Analysis Considering No-Compression Property of Reticulated Shells Stiffened by Tension Braces	Prof. Kenji YAMAMOTO
11:05 – 11:20	APCS2018-0050	Effect of Member Eccentricity on Load-Carrying Capacity of Three-Way Single-Layer Cylindrical Reticulated Shell	Prof. Yoshiya TANIGUCHI
11:20 – 11:35	APCS2018-0054	Group Theoretic Approach to Detecting Finite Mechanisms of Bar-Hinge Models of Retractable Structures	Mr. Ryo WATADA

Parallel Session 6A: Seismic Analysis, Behavior & Design and Shells

Room: Function Room 7

Session Chairman: Prof. Yoshiya TANIGUCHI

Time	Paper ID	Presentation Title	Presenter
11:45 – 12:00	APCS2018-0062	The Severe Earthquake on the Design of Long Span Truss Structure	Mr. Hao LI
12:00 – 12:15	APCS2018-0032	Earthquake Response Analysis of Large Span Facilities Considering Restoring Force Characteristics of Roof Bearings	Mr. Shunya WATANABE
12:15 – 12:30	APCS2018-0040	Effects of Initial Imperfections on Ultimate Load of Single-Layer Cylindrical Lattice Shells Subjected to Strong Earthquakes	Prof. Weijing ZHANG
12:30 – 12:45	APCS2018-0063	Theoretical Analyses for High Temperature Response of Single Layer Spherical Lattice Shells	Mr. Zhiyong WU

Parallel Session 6B: Tension and Membrane Structures

Room: Function Room 9

Session Chairman: Prof. Tetsuo YAMASHITA

Time	Paper ID	Presentation Title	Presenter
11:45 – 12:00	APCS2018-0011	Development and Construction of Prestressed Lightweight Skeletons: Tensegrity and Tension Truss System	Prof. Ken'ichi KAWAGUCHI
12:00 – 12:15	APCS2018-0071	Development of Disaster Prevention System for Membrane Structure	Prof. Jae-Yeol KIM
12:15 – 12:30	APCS2018-0070	Development of Dynamic Control System for Damaged Membrane Structure	Prof. Jae-Yeol KIM
12:30 – 12:45		Creating Spaces - Where Dreams Come True	Ms. Migico SING

Keynote Lecture 6

Room: Function Room 7

Session Chairman: Prof. Seung-Deog KIM

Time	Presentation Title	Presenter
14:00 – 14:40	The Approach to Modelling for the Planner in Structural Design	Prof. SunWoo PARK

Parallel Session 7A: Computational Methods**Room: Function Room 7****Session Chairman: Assoc. Prof. Jinzhi WU**

Time	Paper ID	Presentation Title	Presenter
14:45 – 15:00	APCS2018-0015	Structural Behavior of Thin-Walled Trestles	Ms. Yu WAN
15:00 – 15:15	APCS2018-0001	Advanced Computational Procedures for Nonlinear Static and Dynamic Analysis of Shell-Like Structures	Prof. Bostjan BRANK
15:15 – 15:30	APCS2018-0075	Post-Buckling Analysis of Shell-Like Structures by Numerically Dissipative Implicit Dynamic Algorithms	Mr. Marko LAVRENČIČ

Parallel Session 7B: Form Finding & Optimization**Room: Function Room 9****Session Chairman: Assoc. Prof. Yukihiro MATSUMOTO**

Time	Paper ID	Presentation Title	Presenter
14:45 – 15:00	APCS2018-0019	Form Finding of Freeform Grid Structures with Multiple Height Control Points	Prof. Yue WU
15:00 – 15:15	APCS2018-0052	Material Distribution and Thickness Variation Optimization of In-Plane Bi-Directional Functionally Graded Plates Using Isogeometric Analysis and Firefly Algorithm	Dr. Qui X. LIEU
15:15 – 15:30			

Special Session for Best Papers**Room: Function Room 7****Session Chairman: Dr. Mustafasanie M. YUSSOF**

Time	Paper ID	Presentation Title	Presenter
16:00 – 16:20	APCS2018-0016	Study on Minimal Area Surface Search Using Tunnel Method	Prof. Toku NISHIMURA
16:20 – 16:45	APCS2018-0030	Proposal of String Crescent Structure - About Concept and Structural Characteristic for String Crescent Structure	Dr. Akira TANAKA

Time	Room	Program	Session Chairman
16:45 – 17:30	Function Room 7	Special Commemorative Session for the Late Prof. Yasuhiko HANGAI, Co-founder of APCS	Chair: Prof. Ken'ichi KAWAGUCHI Co-Chair: Assoc. Prof. Kok Keong CHOONG