



02-04 August 2017 | Phu Quoc Island, Vietnam



# Greetings from the Chairman and Co-chairman of the Conference

On behalf of the Organizing Committee, it is our great pleasure to welcome you to the 2<sup>nd</sup> International Conference on Advances in Computational Mechanics (ACOME 2017) in Phu Quoc island.

This conference is hosted by the Vietnam Association of Computational Mechanics (VACOM) and Ho Chi Minh City University of Technology (HUTECH). It is sponsored by the National Foundation for Science and Technology Development (NAFOSTED), SAKI Corporation, Duy Tan University (DTU) and China Medical University Taiwan (CMU).

The local organizing committee has worked very hard to achieve the best quality technical programme. All papers were peer-reviewed for possible publication as Lecture Notes in Mechanical Engineering indexed by Scopus. The papers will be presented throughout two and a half days in 6 parallel oral sessions, scheduled for each whole day. Particularly, there will be 8 plenary speeches. We have more than 180 researchers and scientists participating in this conference in order to share the state-of-the-art research findings and experience in the wide area of computational mechanics. A majority of them comes from universities and research institutes of 20 countries: Australia, Bangladesh, Belgium, China, Chile, France, Germany, Indonesia, India, Italy, Japan, Malaysia, Norway, Russia, South Korea, Switzerland, Singapore, UK, USA and Vietnam. There are more than 140 presentations of the following themes:

- Biological Systems
- Computational Fracture and Damage Mechanics
- Catastrophic Destruction Mechanics and Numerical Modelling
- Computational Mechatronics
- Composites and Hybrid Structures
- Flow Problems
- Multiscale Multiphysics Problems
- Numerical Methods and High-Performance Computing
- Optimization and Inverse Problems
- Reinforced Concrete, Steel and Steel-Concrete Composite Structures

We would like to thank the authors for their contributions to this conference. We also want to thank the staff members of the Center for Interdisciplinary Research, the Ho Chi Minh City university of Technology (Hutech) for providing assistance during the preparation stage of this conference. We also send our sincere gratitude to the dedicated reviewers for their time and contribution to enhance the scientific quality of the manuscripts. Last but not least, we acknowledge the support received from the sponsors. Without all this invaluable help, it is difficult to imagine the success of this conference.

We hope you enjoy your time participating in the conference and Phu Quoc island.

Nguyen Xuan Hung

Chair of ACOME 2017

Timon Rabczuk

Co-chair of ACOME 2017



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# **Organizing Committee**



Chairman Hung Nguyen-Xuan Hutech University, Vietnam



#### Co-Chairman

#### **Timon Rabczuk**

Bauhaus University Weimar, Germany



Finance Chair Duc Ngoc Nguyen Hutech University, Vietnam



Secretary Phuc Phung-Van Ghent University, Belgium



Secretary Tu Le-Van The University of Mebourne, Australia



Secretary Chi Kim Nguyen Hutech University, Vietnam





# **Overall Conference Program**

1/8 (Tue)	2/8 (Wed)	3/8 (Thu)	4/8 (Fri)
	Opening Ceremony & Plenary 1	Plenary 4 & Plenary 5	Plenary 7 & Plenary 8 Coffee Break
		Coffee Break	
	Coffee Break		Parallel Session
	Parallel Session	Parallel Session	Closing Plenary
	Lun	ch	
	Plenary 2	Plenary 6	
	&	Coffee Break	
	Plenary 3		
	Coffee Break	Parallel Session	
	Parallel Session	Short Break	

Parallel Session

**Time** 8:00 – 8:30

8:30 - 9:30

9:30 - 10:00 10:00 - 10:15 10:20 - 10:50 10:50 - 11:50 11:50 - 12:30 12:30 - 13:30 13:30 - 14:15 14:15 - 14:45 14:45 - 15:00 15:00 - 15:30 15:30 - 15:5515:55 - 16:10

16:10 - 16:40

16:40 - 16:5516:55 - 17:40

17:40 - 18:40

18:30 - 20:00

Registration

(16:00 - 18:30)

Welcome Reception

(18:30 - 20:00)

Information



Parallel Session



# **Plenary & Sessional Chairs**

### **Plenary Chairs**

Day & Time		
August 2 9:35 - 10:20 13:30 - 15:00		Gui Rong Liu
		Bernhard A Schrefler & Yuri Bazilevs
August 3 8:30 - 10:00 13:30 - 14:15		Chongmin Song & Timon Rabczuk
		Sung-Kie Youn & Stéphane Pierre Alain Bordas
8.00 - 9.30		Morten Willatzen & Timon Rabczuk
August 4		

### **Sessional Chairs**



gram Book								
	August 4		August 3			August 2		Day
	10:20 - 11:50	16:10 - 17:40	14:45 — 15:55	10:20 - 12:10	16:55 — 18:20	15:30 — 16:40	11:00 - 12:30	Day & Time
	Elena Atrosh- chenko & Nguyen Dinh Duc	Satoyuki Tanaka & Sung-Tae Hong	Satoyuki Tanaka & Sung-Tae Hong	Bernhard A Schre- fler & Takeshi Iwamoto	Lei Xu & Minh- Quy Le	Seiya Hagihara & Xiaoying Zhuang		Session 1
	Phan Thien Nhan & Yuri Bazilevs	Le Van Canh & Sundararajan Natarajan	Jaehong Lee & Seiya Hagihar	Buntara S. Gan & Seunghye Lee	Nguyen Dang Hung & Boris Galvan	Nguyen Dang Hung & Boris Galvan	Chongmin Song & Li Guo	Session 2
	Morten Willatzen & Nguyen Quoc Hung	Morten Willatzen & Ho Pham Huy Anh	Morten Willatzen & Ho Pham Huy Anh	Dongkyu Lee & Sundararajan Natarajan	Qingwen Ren & Nguyen Hoai Son	Qingwen Ren & Nguyen Hoai Son	Sung-Kie Youn & Nguyen Hoai Son	Session 3
	Stéphane Pierre Alain Bordas & Nam-II Kim	Luong Van Hai & Chao Su	Chao Su & Phung Van Phuc	Tiantang Yu & Timon Rabczuk	Nguyen Quang- Huy & Ying Wang	Magd A. Wahab & Ngo Duc Tuan	Magd A. Wahab & Nguyen Minh Long	Session 4
	Le Van Canh & Lei Xu	Gui Rong Liu & Nguyen Quang- Huy	Su & Phung Yinghua Liu & Ha /an Phuc Minh Cuong	Jaehong Lee & Ngo Duc Tuan	Nguyen Quang- Huy & Sofia W Alisjahbana	Guojian Shao & Nguyen Van Hieu	Thai Hoang Chien & Elena Atrosh- chenko	Session 5
	Yinghua Liu & Thai Hoang Chien	D. Rangeard & Nguyen The Hung	Hiroshige Kikura & D. Rangeard	Hiroshige Kikura & Nhan Phan- Thien	Phan Thien Nhan & Timon Rabczuk	Yuri Bazilevs & Y Quoc Nguyen	Nguyen The Hung & Sahadev Prad- han	Session 6

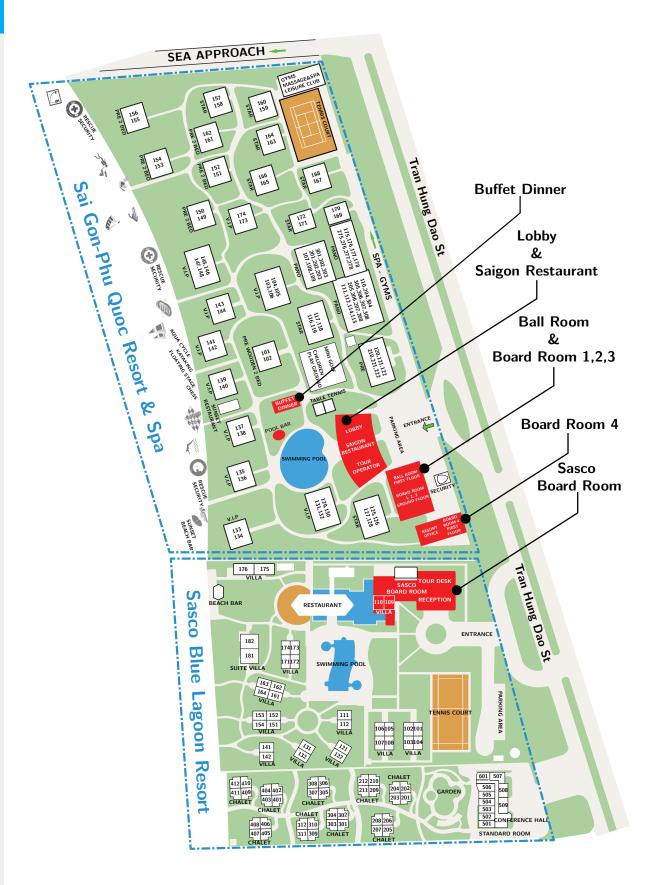


### Road Map from the Airport to Venue



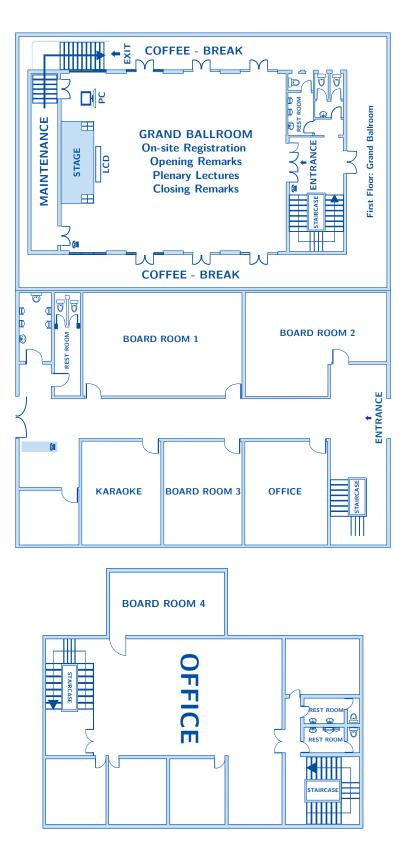


## **Resort Sketches**





### Venue Layout at Sai Gon-Phu Quoc Resort







# **General Information**

#### **Conference Venue**

- Grand Ballroom (First Floor), Saigon Phu Quoc Resort & Spa
- Board Room 1, 2, 3 (Ground Floor), Saigon Phu Quoc Resort & Spa
- Board Room 4 (First Floor), Saigon Phu Quoc Resort & Spa
- Sasco Board Room, Sasco Blue Lagoon Resort

#### Registration

- August 1 (Tue), 2017, 16:00 18:30
- August 2 (Wed), 2017, 8:00 9:00

#### Program

• The program includes invited plenaries, keynote lectures and parallel sessions.

#### **Badge Policy**

• A badge will be provided for each participant and required to be worn everywhere during the conference for security purposes.

#### **Conference Bag**

• One conference bag will be distributed to each registered participant. Each bag contains a program book, a notebook, a USB stick, a thermal bottle and a pen case with one pen involved.

#### **Oral Presentation**

• Oral presentations are scheduled for 15 minutes of presentation and 5 minutes of questions and answers. All presentations should be prepared in Microsoft PowerPoint or PDF formats. A laptop and projector will be available and accessible in all allocated rooms. Presentation should be stored in a USB drive of presenter beforehand and transferred to the laptop 15 minutes prior to the beginning of the session. All presentations will be eradicated at the end of the session. All presenters are encouraged to use the provided laptop for presentation in order to minimize changeover times. Please check and get accustomed to the equipment at the session room.

#### Publication

• All papers will be peer-reviewed and published in Lecture Notes in Mechanical Engineering www.springer.com/series/11236 indexed by Scopus.

• A number of papers will be selected and further considered for publication in the International journal of Computational Methods (IF = 1.123) and Composite Structures (IF = 3.853). Besides, best student papers will be selected for awards.

#### **Useful Phone Numbers**

- +84 969 823 608 (Dr. Duc Ngoc Nguyen, Finance Chair)
- +84 902 011 090 (Mr. Tu Le-Van, Conference Secretary)

#### Internet and WIFI

• Sai Gon-Phu Quoc Resort provides public WIFI for free.





# **Plenary Speakers**



Bernhard A Schrefler
University of Padova, Italy
Lecture Title: Computational Transport Oncophysics
Lecture Time: August 2 (Wednesday), 9:35 - 10:20



Gui Rong Liu University of Cincinnati, USA Lecture Title: Why Smooth Elements? Lecture Time: August 3 (Thursday), 13:30 – 14:15



Sung-Kie Youn

KAIST, Korea

**Lecture Title:** Topology optimization of viscoelastically damped structures under time varying loads

Lecture Time: August 3 (Thursday), 8:30 - 9:15



#### **Chongmin Song**

The University of New South Wales, Australia

**Lecture Title:** Integrating geometric models with numerical analysis: a scaled boundary finite element approach

Lecture Time: August 4 (Friday), 8:45 - 9:30



Technical University of Denmark, Denmark Lecture Title: Piezoelectric Phonon Coupling Effects In 2D Materials Lecture Time: August 2 (Wednesday), 14:15 – 15:00





Timon Rabczuk

Bauhaus University Weimar, Germany

Lecture Title: Optimization of flexoelectric and piezoelectric energy harvesters

Lecture Time: August 2 (Wednesday), 13:30 - 14:15



Yuri Bazilevs
University of California, USA
Lecture Title: Flexible FSI: From Wind Turbines to Air Blast
Lecture Time: August 3 (Thursday), 9:15 - 10:00



Stéphane Pierre Alain Bordas
Luxembourg University, Luxembourg
Lecture Title: Computational mechanics at interfaces
Lecture Time: August 4 (Friday), 8:00 – 8:45



# **Detailed Program Schedule**

# The First Day (August 2, 2017)

Plenary Session 1A: (8:00 – 10:50)						
Location: Gra	Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort					
Time	Content (Title)	Speaker	Affiliation			
8:00 - 8:30	On-site Registration	Receptionists	VACOM			
8:30 - 9:00	Music Performance	Singers	Sai Gon-Phu Quoc Resort			
9:00 - 9:15	Welcome Statement and Introduc- tion of Guests	MC	HUTECH University			
9:15 — 9:20	Welcome address by the President of Phu Quoc Island	Dinh Khoa Toan	President of Phu Quoc Island			
9:20 - 9:25	Speech of the Deputy Minister of Ministry of Education and Training	Bui Van Ga	Ministry of Education and Training			
9:25 — 9:30	Speech of the Rector of Hutech University	Ho Dac Loc	The Rector of HUTECH University			
9:30 - 9:35	Opening address by ACOME Chairman	Nguyen Xuan Hung	HUTECH University			
Plenary Chair: Gui Rong Liu						
9:35 — 10:20	Computational Transport Onco- physics	Bernhard A Schrefler (Plenary speaker)	University of Padova, Italy			
10:20 - 10:50	Co	offee break				

Parallel Session 1A.1: (Reserved)				
Location:				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs:				
11:00 - 11:30				
11:30 - 11:50				
11:50 - 12:10				
12:10 - 12:30				



Parallel Sessio	Parallel Session 1A.2: Multiscale Multiphysics Problems (11:00 – 12:30)				
Location: Boa	rd Room 1, Sai Gon-Phu Quoc Re	esort			
Time	Content (Title)	Speaker	Affiliation		
Session Chairs	: Chongmin Song & Li Guo				
11:00 - 11:30	A micro-MESO multiscale model- ling of impact behavior of woven fabrics	Cuong Ha-Minh (Keynote)	LMT, ENS Cachan, CNRS, Université Paris Saclay, France		
11:30 - 11:50	Atomistic simulation of boron ni- tride nanotubes under bending	Van-Trang Nguy- en	Hanoi University of Science and Technolo- gy, Vietnam		
11:50 - 12:10	Multiscale peridynamic model for analysis of mass diffusion in con- crete incorporating ITZs	Li Guo	Southeast University, Nanjing 210096, P.R. China		
12:10 - 12:30	Orientation-dependent response of pure Zinc grains under instrument- ed indentation: micromechanical modeling	NGUYEN Pham The Nhan	University of Reims Champagne-Ardenne, France		

Parallel Session 1A.3: Optimization and Inverse Problems $(11:00 - 12:30)$			
Location: Boa	rd Room 2, Sai Gon-Phu Quoc Re	esort	
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Sung-Kie Youn & Nguyen Hoai	Son	
11:00 - 11:30	Optimization of the longitudinal cooling fin by Levenberg-Mar- quardt Method	Nguyen Hoai Son (Keynote)	HCMC University of Technology and Educa- tion, Vietnam
11:30 — 11:50	Optimization of truss structures using a new adjusted differential evolution algorithm combined with artificial neural network	Lam Phat Thuan	HCMC University of Technology and Educa- tion, Vietnam
11:50 - 12:10	Optimizing steel frames using practical advanced analysis and micro-genetic algorithm	Nguyen Tran Trung	Open University, Viet- nam
12:10 - 12:30	An artificial neural network-based optimization of stiffened composite plate using a new adjusted differ- ential evolution algorithm	Lam Phat Thuan	HCMC University of Technology and Educa- tion, Vietnam



Parallel Session 1A.4: Reinforced Concrete, Steel and Steel-Concrete Composite Structures (11:00 - 12:30)

Location: Board Room 3, Sai Gon-Phu Quoc Resort

Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Magd A. Wahab & Nguyen Min	h Long	
11:00 - 11:30	Shear capacity of partially un- bonded post-tensioned concrete T-beams strengthened with CFRP and GFRP jackets	Long Nguy- en-Minh (Keynote)	HCMC University of Technology, Vietnam
11:30 - 11:50	Implementation of multisurface plasticity for micro cutting simula- tions	Robert Bischof	University of Kaiser- slautern, Germany
11:50 — 12:10	Experimental and numerical research on the fire behavior of steel column protected by gypsum plasterboard under fire condition	Tran Hung	Vietnam Institute for Building Science and Technology
12:10 - 12:30	Numerical study on a new through-column-type joint for RCS frame	Le Dang Dung	University of Transport and Communications, Vietnam

Parallel Session 1A.5: Composites and Hybrid Structures (11:00 – 12:30)				
Location: Boa	rd Room 4, Sai Gon-Phu Quoc Re	esort		
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Thai Hoang Chien & Elena Atro	shchenko		
11:00 - 11:30	Flexural strengthening of rein- forced concrete frames using FRP	Cao Van Vui	Ho Chi Minh City University of Technol- ogy – HCM National University, Vietnam	
11:30 — 11:50	Static response and free vibration analysis of functionally graded shells using a cell-based smoothed discrete shear gap method and three-node triangular elements	Doan Xuan-Le	Tran Dai Nghia Univer- sity, Ho Chi Minh City, Vietnam	
11:50 — 12:10	Comparison between numerical and experimental results of the hybrid walls subjected to bending and shear	Tran Van Toan	Thuyloi University, Hanoi City, Vietnam	
12:10 - 12:30	Bending analysis of laminated composite beams using hybrid shape functions	Ngoc-Duong Nguyen	Ho Chi Minh City Uni- versity of Technology and Education	



Location: Grai	Parallel Session 1A.6: Flow Problems (11:00 – 12:30) Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
Session Chairs	: Nguyen The Hung & Sahadev P	radhan			
11:00 - 11:30	Binary gas mixture in a high-speed channel	Sahadev Pradhan (Keynote)	Indian Institute of Sci- ence, Bangalore, India		
11:30 — 11:50	Analysis and evaluation of the ground wave propagation due to blasting activities of road con- struction by numerical models and experiments	Nguyen Lan	The University of Danang - University of Science and Technolo- gy, Vietnam		
11:50 - 12:10	Study the hull form and propel- ler-rudder system of the fishing vessel for Vietnam	Dam Van Tung	Far Eastern Federal University, Russia		
12:10 - 12:30	Fluid-structure interaction anal- ysis of revetment structures – an overview	Vu Huu Truong	Ghent University, Bel- gium		

### Lunch Buffet: (12:30 - 13:30)

Location: Saigon Restaurant (First Floor, Lobby), Sai Gon-Phu Quoc Resort.





Plenary Session 1B: (13:30 - 15:30)				
Location: Grai	Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation	
<b>Plenary Chairs</b>	Plenary Chairs: Bernhard A Schrefler & Yuri Bazilevs			
13:30 - 14:15	Optimization of flexoelectric and piezoelectric energy harvesters		Bauhaus University Weimar, Germany	
14:15 - 15:00	Piezoelectric Phonon Coupling Effects In 2D Materials		Technical University of Denmark, Denmark	
15:00 - 15:30	Coffee break			

Parallel Session 1B.1: Computational Fracture and Damage Mechanics (15:30 – 18:40)			
Location: Sasco Board Room, Sasco Blue Lagoon Resort			
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Seiya Hagihara & Xiaoying Zhua	ing	
15:30 - 16:00	Calculation of Ductile Fracture Parameters for Punching Processes	Seiya Hagihara	Saga University, Japan
16:00 - 16:20	Crack detection in a beam on elastic foundation using differential quadrature method and the Bees algorithm optimization	Reza Khademi Zahedi	Bauhaus-Universität Weimar, Germany
16:20 - 16:40	Crack propagation simulation of a T-shaped tubular joint including curved crack employing X-FEM	Takaaki Takei	Graduate School of Engineering, Hiroshima University, Japan
16:40 - 16:55	SI	hort break	
<b>Session Chairs</b>	: Lei Xu & Minh-Quy Le		
16:55 - 17:20	Stress analysis of silicon-based anode in Li-ion battery	Huu Tu Nguyen	Hanoi University of Science and Technolo- gy, Vietnam
17:20 - 17:40	Numerical validation for free vibration of cracked Mindlin plates using phase-field method	Trinh Duc Truong	Vietnam Japan Univer- sity, Vietnam
17:40 — 18:00	Numerical study of granular sys- tem with the fracture of polyhedral particles based on discrete element method	Jun Hong	Southeast University, Nanjing, China
18:00 - 18:20	Numerical studies on contact problem of inter-locking concrete blocks forming revetment structure	Loi Dang-Bao	HUTECH University, Ho Chi Minh City, Vietnam
18:20 - 18:40	Failure of building structures during the cooling phase of a fire	Chu Thi Binh	Hanoi Architectural University, Vietnam



Parallel Sessio 18:20)	n 1B.2: Numerical Methods and H	ligh Performance	Computing (15:30 –
	rd Room 1, Sai Gon-Phu Quoc Re		
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Nguyen Dang Hung & Boris Gal	van	
15:30 - 16:00	Efficient implementation of com- plex Elasto-Plastic Models in High Performance Computing Systems	Boris Galvan (Keynote)	Hydrogeology and Geo thermics of University of Neuchâtel, Switzer- land
16:00 - 16:20	Estimating the internal forces of raft in piled raft foundation for normal and groundwater pumping conditions	Huynh Van Hiep	Tra Vinh University, Vietnam
16:20 - 16:40	Establishment of artificial accelero- gram for shaking table test	Nguyen Trung Kien	Vietnam Institute for Building Science and Technology
16:40 - 16:55	SI	nort break	
Session Chairs	: Nguyen Dang Hung & Boris Gal	van	
16:55 — 17:20	Analytical Study on In-plane and Out-of-Plane Responses of a Curved Floating Bridge	Yap Gwo Chai	National University of Singapore, Singapore
17:20 - 17:40	Numerical analysis of hybrid col- umns using FEM	Tran Van Toan	Thuyloi University, Vietnam
17:40 - 18:00	A new beam theory considering horizontal shear strain	Vu Thanh Thuy	Hanoi Architectural University, Vietnam
18:00 - 18:20	Investigation of A5052 aluminum alloy to SS400 steel by MIG weld- ing process	Quoc Manh Nguyen	Hung Yen University or Technology and Educa tion, Vietnam

Parallel Session 1B.3: Optimization and Inverse Problems $(15:30 - 17:40)$					
Location: Boa	Location: Board Room 2, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
Session Chairs	: Qingwen Ren & Nguyen Hoai So	on			
15:30 - 16:00	A quick computational method for improving aerodynamic shape of UAV wing	Tran Duy Duyen (Keynote)	Vietnam Aerospace Association		
16:00 - 16:20	Nondestructive vibrational tests and analytical solutions to de- termine the Young's modulus of rammed earth material	Bui Quoc Bao	Ton Duc Thang Uni- versity, Vietnam		
16:20 - 16:40					
16:40 - 16:55	Short break				

Session Chairs: Qingwen Ren & Nguyen Hoai Son



Parallel Session 1B.3: Optimization and Inverse Problems $(15:30 - 17:40)$					
Location: Boa	Location: Board Room 2, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
16:55 — 17:20	A polytree-based adaptive polyg- onal finite element method for multi-material topology optimiza- tion	Khai Chau-Nguy- en	HUTECH University, Vietnam		
17:20 — 17:40	Engineering optimization using an improved epsilon differential evolu- tion with directional mutation and nearest neighbor comparison	Pham Hoang Anh	National University of Civil Engineering, Ha Noi, Vietnam		
17:40 - 18:00					
18:00 - 18:20					

Parallel Session 1B.4: Reinforced Concrete, Steel and Steel-Concrete Composite Structures ( $15:30 - 17:40$ )			
Location: Boa	rd Room 3, Sai Gon-Phu Quoc Re	sort	
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Magd A. Wahab & Ngo Duc Tu	an	
15:30 - 16:00	A Phase Field Model to Study the Influence of Temperature on Mar- tensitic Transformations	Simon Schmidt	University of Kaiser- slautern, Germany
16:00 - 16:20	Numerical analysis the behaviors of end-plate beam-to-column steel joints under cyclic loading	Le Anh Thang	HCMC University of Technical and Educa- tion, Vietnam
16:20 — 16:40	Flexural behavior of unbonded post-tensioned concrete T-beams externally bonded with CFRP sheets under static loading	Truong Thi Phuong Quynh	Van Lang University, Vietnam
16:40 - 16:55	SI	hort break	
Session Chairs	: Nguyen Quang-Huy & Ying War	ıg	
16:55 — 17:20	Theorical and experimental studies on hybrid Steel-RC walls	Nguyen Quang- Huy (Keynote)	Structural Engineering Research Group, INSA de Rennes, France
17:20 — 17:40	An investigation on longitudinal residual strains distribution of thin- walled press-braked cold formed steel sections using 3D FEM technique	Ayad Abdullah Mutafi	The University of Putra Malaysia, Ser- dang, 43400 Selangor, Malaysia
17:40 - 18:00			
18:00 - 18:20			



Parallel Session 1B.5: Composites and Hybrid Structures (15:30 $-$ 18:20)				
Location: Board Room 4, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Guojian Shao & Nguyen Van Hi	eu		
15:30 — 16:00	Damage-based seismic design method of reinforced concrete structures	Cao Van Vui	Ho Chi Minh City University of Technol- ogy – HCM National University, Vietnam	
16:00 - 16:20	An in-situ compression test and mesoscale modelling of lightweight cellular concrete using X-Ray Com- puted Tomography (XCT)	Tuan Nguyen	The University of Mel- bourne	
16:20 — 16:40	An ES-FEM for free vibration anal- ysis of FG-CNTRC plates	Nguyen Quoc Tuan	Ho Chi Minh City University of Technol- ogy and Education, Vietnam	
16:40 - 16:55	SI	hort break		
Session Chairs	: Nguyen Quang-Huy & Sofia W	Alisjahbana		
16:55 - 17:20	Analytical behaviour of orthotropic plates under in-plane and lateral dynamic loads	Sofia W Alisjah- bana (Keynote)	Bakrie University, Indonesia	
17:20 — 17:40	Equivalent inclusion approach and approximations for thermal conductivity of composites with fibrous fillers	Nguyen Trung Kien	University of Transport and Communication, Vietnam	
17:40 — 18:00	Nonlinear static bending analysis of functionally graded plates using MISQ24 elements with drilling rotations	Nguyen Van Hieu	Ho Chi Minh City Uni- versity of Architecture, Vietnam	
18:00 - 18:20	A node-based MITC3 element for static analyses of laminated com- posite plates using the higher-order shear deformation theory	Chau Dinh Thanh	Ho Chi Minh City University of Technol- ogy and Education, Vietnam	

Parallel Session 1B.6: Flow Problems (15:30 – 18:20)				
Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc ResortTimeContent (Title)SpeakerAffiliation				
Session Chairs: Yuri Bazilevs & Y Quoc Nguyen				
15:30 — 16:00	Studying convective flow in a ver- tical solar chimney at low Rayleigh number by Lattice Boltzmann Method: a simple method to sup- press the reverse flow at outlet	Y Quoc Nguyen (Keynote)	Bach Khoa Universi- ty, Ho Chi Minh City, Vietnam	



Parallel Session 1B.6: Flow Problems (15:30 - 18:20)					
Location: Gram	Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
16:00 - 16:20	Analysis of fluid-structures inter- action problem of revetment slope thin-walled structure using AB- AQUS	Phuong Truong- Thi	HUTECH University, Ho Chi Minh City, Vietnam		
16:20 - 16:40	The deck overlap strength research of the fishing vessel for Vietnam	Dam Van Tung	Far Eastern Federal University, Russia		
16:40 - 16:55	SI	hort break			
Session Chairs	: Phan Thien Nhan & Timon Rab	czuk			
16:55 — 17:20	Sediment disturbance and sedi- ment dispersion from technical activities at deep seafloor	Nhan Phan-Thien (Keynote)	National University of Singapore		
17:20 - 17:40	Modelling of pollutant diffusion in unsaturated double-porosity medi- um by a multiscale method	Tran Ngoc Tien Dung	Ho Chi Minh City Uni- versity of Technology		
17:40 - 18:00	Building the empirical formula defining parameters of blast wave in coral environment	Nguyen Huu The	Military Technical Academy, Vietnam		
18:00 - 18:20	A dual approach to modeling sol- ute transport	The-Hung Nguy- en	The University of Da- nang, Danang, Viet- nam		





# The Second Day (August 3, 2017)

Plenary Session 2A: (8:30 – 10:15)				
Location: Grai	nd Ballroom (1st floor), Sai Gon-F	hu Quoc Resort		
Time	Content (Title)	Speaker	Affiliation	
Session Chairs: Chongmin Song & Timon Rabczuk				
8:30 - 9:15	Topology optimization of visco- elastically damped structures under time varying loads	Sung-Kie Youn (Plenary speaker)	KAIST, Korea	
9:15 - 10:00	Flexible FSI: From Wind Turbines to Air Blast	Yuri Bazilevs (Plenary speaker)	University of California, USA	
10:00 - 10:15	Coffee break			

Parallel Session 2A.1: Computational Fracture and Damage Mechanics $(10:20 - 12:10)$					
Location: Sase	Location: Sasco Board Room, Sasco Blue Lagoon Resort				
Time	Content (Title)	Speaker	Affiliation		
Session Chairs	: Bernhard A Schrefler & Takeshi	lwamoto			
10:20 - 10:50	Limit and shakedown Analysis and Design of 2D and 3D frame structures	Nguyen-Dang Hung (Keynote)	Liège University, Bel- gium; Duy Tan Univer- sity, Viet Nam		
10:50 - 11:10	Truss damage detection using modified differential evolution algorithm and vibration data	Sumin Kim	Sejong University, Korea		
11:10 - 11:30	A novel direct method for shake- down analysis: stress compensation method	Yinghua Liu	Tsinghua University, China		
11:30 — 11:50	Applications of conservation integrals to atomic mixed-mode fracture of grain boundaries in crystalline solids	Seung Tae Choi	Chung-Ang University, Korea		
11:50 - 12:10	Electrically assisted springback elimination of 316L stainless steel by single pulse of electric current prior to unloading	Luu Viet Tien	University of Ulsan, Ulsan, South Korea		



# Parallel Session 2A.2: Numerical Methods and High Performance Computing (10:20 - 12:10)

### Location: Board Room 1, Sai Gon-Phu Quoc Resort

Time	Content (Title)	Speaker	Affiliation	
Session Chairs	Session Chairs: Buntara S. Gan & Seunghye Lee			
10:20 - 10:50	DOF condensation of thick curved beam element formulated by isogeometric approach	Buntara S. Gan (Keynote)	Nihon University, College of Engineering, Japan	
10:50 - 11:10	Effect of hyper-parameters on deep learning networks in structural engineering	Seunghye Lee	Sejong University, Korea	
11:10 - 11:30	Fuzzy time – history analysis of 2D-braced steel frame with fuzzy fixity factors	TRAN Thanh Viet	Duy Tan University, Vietnam	
11:30 - 11:50	Optimal airplanes' paths for minimizing airline company's cost subjected to passengers' demand: formulation and verification	Vi Hong Nguyen	Vietnamese German University	
11:50 - 12:10	Behaviour of two-chamber alumin- ium profiles under axial crushing: An experimental and numerical study	Hoang Nguy- en-Hieu	SINTEF Materials and Chemistry, N–7465 Trondheim, Norway	

Parallel Session 2A.3: Optimization and Inverse Problems $(10:20 - 12:10)$			
Location: Board Room 2, Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Dongkyu Lee & Sundararajan Na	atarajan	
10:20 - 10:50	A sequetial method in estimating laser heat flux on three-dimension- al conduction model	Nguyen Hoai Son	GACES, University of Technology Education in Ho Chi Minh City, Viet Nam
10:50 - 11:10	Aerodynamic optimal design for wind turbine airfoil using integrat- ed optimization method	Le Duc Thang	Vietnamese-German University, Vietnam
11:10 - 11:30	Graph representation for structural topology optimization using modi- fied differential evolution algorithm	Do Thi Thanh Dieu	Sejong University, Korea
11:30 - 11:50	Multi-material topology optimiza- tion of non-uniform thickness thin plate	Banh Thien Thanh	Sejong University, Korea
11:50 - 12:10	Optimal topology design of multi-material structures under stiffness and structural buckling constraints	Banh Thien Thanh	Sejong University, Korea



Parallel Session 2A.4: Catastrophic Destruction Mechanics and Numerical Modelling (10:20 - 12:10)

Location: Board Room 3, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	Session Chairs: Tiantang Yu & Timon Rabczuk			
10:20 - 10:50	V-notch fracture analysis using XFEM and strain energy approach	Tiantang Yu (Keynote)	Hohai University, Nan- jing, PR China	
10:50 - 11:10	Energy change and its criterion during the strength reduction pro- cess of gravity dam	Qiang Tong	Hohai University, Nan- jing, PR China	
11:10 - 11:30	Concrete Mesoscopic Model Based on Quadtree Mesh Refinement Technology	Guojian Shao	Hohai University, Nan- jing, PR China	
11:30 — 11:50	Multi-scale Analysis of Fatigue Performance for Long-span Bridge Considering Vehicle-bridge Coupled Dynamic Characteristics	Ying WANG	Southeast University, Nanjing 210096, P.R. China	
11:50 - 12:10	Cracking behavior of a concrete arch dam with weak upper abut- ment	Lei Xu	Hohai University, Nan- jing, PR China	

Parallel Session 2A.5: Composites and Hybrid Structures $(10:20 - 11:30)$				
Location: Boa	Location: Board Room 4, Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Jaehong Lee & Ngo Duc Tuan			
10:20 - 10:50	Optimisation of foam-filled auxetic unit cells under extreme loading	Tuan Nguyen	The University of Mel- bourne	
10:50 — 11:10	Static analysis of FG-CNTRC plates using higher-order shear deformation theory	Nguyen Quoc Tuan	Ho Chi Minh City University of Technol- ogy and Education, Vietnam	
11:10 - 11:30	A pull-out test to characterize the fibre/matrix interfaces ageing of hemp fibre reinforced polypropyl- ene composites	Nguyen Duy Cuong	Thuy Loi University, Vietnam	
11:30 - 11:50				
11:50 - 12:10				

Parallel Session 2A.6: Flow Problems $(10:20 - 12:10)$			
Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation

Session Chairs: Hiroshige Kikura & Nhan Phan-Thien



Parallel Session 2A.6: Flow Problems (10:20 - 12:10)				
Location: Grai	Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation	
10:20 - 10:50	Effect of low frequency flow on cable dry-state galloping	Vo Duy Hung	Danang University of Science and Technol- ogy	
10:50 - 11:10	Evaluate the change of viscous property of dampers to vibration of a horizontal-axis washing machine	Nguyen Thi Hoa	Thai Nguyen University of Technology, Viet- nam	
11:10 - 11:30	CFD simulations of natural cav- itating flow around high speed bodies	Nguyen Quang Thai	Institute of Mechanics, Vietnam Academy of Science and Technol- ogy	
11:30 - 11:50	Influence of swelling pressure on pore water in embankment core with swelling clay soil	Nguyen Ke Tu- ong	Ton Duc Thang Uni- versity, Ho Chi Minh City, Vietnam	
11:50 - 12:10	A Dissipative Particle Dynamics Model for Bingham-type Two- phase Flows	Nguyen Thi Yen Ngoc	University of Southern Queensland, Australia	

### Lunch Buffet: (12:30 - 13:30)

Location: Saigon Restaurant (First Floor, Lobby), Sai Gon-Phu Quoc Resort





Plenary Session 2B: (13:30 - 14:45)				
Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Sung-Kie Youn & Stéphane Pier	re Alain Bordas		
13:30 - 14:15	Why Smooth Elements?	Gui Rong Liu (Plenary speaker)	University of Cincinna- ti, USA	
14:15 - 14:45	Coffee break			

Parallel Session 2B.1: Computational Fracture and Damage Mechanics $(14:45 - 17:40)$				
Location: Saso	Location: Sasco Board Room, Sasco Blue Lagoon Resort			
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Satoyuki Tanaka & Sung-Tae Ho	ong		
14:45 — 15:15	Dual-horizon peridynamics and it application	Xiaoying Zhuang (Keynote)	College of Civil Engi- neering, Tongji Univer- sity, China	
15:15 — 15:35	Thermal buckling of cracked Mindlin FGM plates based on neu- tral surface and phase-field method	Trinh Duc Truong	Vietnam Japan Univer- sity, Vietnam	
15:35 — 15:55	The mechanical behavior of 5182 aluminum alloy under a pulsed electric current	Dinh Thi Kieu Anh	University of Ulsan, Ulsan, South Korea	
15:55 - 16:10	SI	nort break		
Session Chairs	: Satoyuki Tanaka & Sung-Tae Ho	ong		
16:10 - 16:40	Analysis of dynamic fracture prob- lems employing two-dimensional ordinary state-based peridynamics theory	Satoyuki Tanaka (Keynote)	Graduate School of Engineering, Hiroshima University, Japan	
16:40 - 17:00	An investigation on tensile defor- mation behaviour of pre-cracked thin specimens made of trip steel sheet	Shiguma Yoshida	Graduate School of Engineering, Hiroshima University, Higashi-Hi- roshima, Japan	
17:00 - 17:20	Upper bound limit analysis of circular tunnel in cohesive-fric- tional soils using the node-based smoothed finite element method	Vo Minh Thien	HUTECH University, Ho Chi Minh City, Vietnam	
17:20 - 17:40	Using a non-local elastic damage model to predict the fatigue life of asphalt pavement structure	H.T. Tai Nguyen	Thu Dau Mot Uni- versity, Binh Duong, Vietnam	



	rd Room 1, Sai Gon-Phu Quoc Re		
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Jaehong Lee & Seiya Hagihar		
14:45 — 15:15	Geometry Independent Field ap- proximation (GIFT): pairing CAD geometry with PHT-splines field	Elena Atrosh- chenko (Keynote)	University of Chile, Santiago, 8370448, Chile
15:15 - 15:35	Smoothed finite element method for shakedown analysis	Tran Trung Dung	Ho Chi Minh City Open University
15:35 — 15:55	A naturally stabilized nodal integration meshfree formulation for thermo-mechanical analysis of functionally graded material plates	Thai Hoang Chien	Ton Duc Thang Uni- versity, Vietnam
15:55 - 16:10	S	hort break	
Session Chairs	: Le Van Canh & Sundararajan Na	atarajan	
16:10 - 16:40	Displacement based formulation over arbitrary convex polyhe- dra: strain smoothing and scaled boundary finite element method	Sundararajan Natarajan (Keynote)	Indian Institute of Technology-Madras, Chennai - 600036, India
16:40 - 17:00	An effective two-point time discre- tisation scheme using integrated radial basis functions	Le Thi Thuy Van	University of Souther Queensland
17:00 - 17:20	Pre-post software for advanced analysis of steel frames	Phu-Cuong Nguyen	Open University, Viet nam
17:20 — 17:40	A coupling between Isogeometric analysis (IGA) and proper gener- alized decomposition (PGD) fosr problems with parametrized com- plex geometry	Thai Hoang Phuong	École normale supérieure Paris-Sacla France

Parallel Session 2B.3: Computational Mechatronics (14:45 $-$ 17:00)					
Location: Boa	Location: Board Room 2, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
Session Chairs: Morten Willatzen & Ho Pham Huy Anh					
14:45 — 15:15	Cascade Training Multilayer Fuzzy Model for Identifying MIMO Sys- tem	Cao Van Kien	Ho Chi Minh City Uni- versity of Technology, VNU-HCM, Vietnam		
15:15 — 15:35	Performance Evaluation of a 2D Haptic Joystick featuring bidirec- tional magneto-rheological actua- tors	Nguyen Quoc Hung	Vietnamese-German University, Binh Duong New City, Vietnam		



Parallel Session 2B.3: Computational Mechatronics (14:45 – 17:00)				
Location: Boa	rd Room 2, Sai Gon-Phu Quoc Re	esort		
Time	Content (Title)	Speaker	Affiliation	
15:35 — 15:55	Enhanced Adaptive Fuzzy Sliding Mode Control for Nonlinear Un- certain Serial Pneumatic Artifi- cial-Muscle (PAM) Robot System	Cao Van Kien	Ho Chi Minh City Uni- versity of Technology, VNU-HCM, Vietnam	
15:55 - 16:10	SI	Short break		
Session Chairs	: Morten Willatzen & Ho Pham F	luy Anh		
16:10 — 16:40	Design and Evaluation of a shear- mode MR damper for suspension system of front-loaded washing machines	Bui Quoc Duy	Vietnamese-German University, Binh Duong New City, Vietnam	
16:40 - 17:00	Development of a 3-DOF Haptic Tele-manipulator System using new Magnetorheological brakes	Nguyen Ngoc Diep	Industrial University of Ho Chi Minh City, Vietnam	
17:00 - 17:20				
17:20 - 17:40				

Parallel Session 2B.4: Computational Dynamics (14:45 – 17:20)					
Location: Boa	Location: Board Room 3, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
Session Chairs	: Chao Su & Phung Van Phuc				
14:45 — 15:15	Analysis of dynamic impact factors of bridge due to moving vehicles using finite element method	Duy Thao Nguy- en	University of Danang – University of Sci- ence and Technology, Vietnam		
15:15 - 15:35	Estimating modal parameters of structures using arduino platform	Ta Duc Tuan	Le Quy Don Techni- cal University, Hanoi, Vietnam		
15:35 — 15:55	Dynamic analysis of beams on two parameters viscoelastic Pasternak foundation subjected to the mov- ing load and considering effects of beam roughness	Khong Trong Toan	University of Technolo- gy Ho Chi Minh City		
15:55 — 16:10	SI	nort break			
Session Chairs	: Luong Van Hai & Chao Su				
16:10 — 16:40	The effects of boundary condi- tions on the dynamic response of floating structures subjected to a moving force by using a hybrid BEM-FEM method	Luong Van Hai (Keynote)	Ho Chi Minh City Uni- versity of Technology, Vietnam		



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# Parallel Session 2B.4: Computational Dynamics (14:45 – 17:20)

## Location: Board Room 3, Sai Gon-Phu Quoc Resort

Time	Content (Title)	Speaker	Affiliation
16:40 — 17:00	Stationary random vibration analysis of dynamic vehicle-bridge interaction due to road unevenness	Duy Thao Nguy- en	University of Danang – University of Sci- ence and Technology, Vietnam
17:00 — 17:20	Transient response of laminated composite spherical shells using an EDGE-based smoothed finite element method combining with MITC3	Hoa Quoc-Pham	Tran Dai Nghia Uni- versity, Ho Chi Minh City, Vietnam
17:20 - 17:40			

Parallel Sessio	n 2B.5: Composites and Hybrid S	tructures (14:45 –	- 17:00)
Location: Board Room 4, Sai Gon-Phu Quoc			
Time	Content (Title)	Speaker	Affiliation
Session Chairs	: Yinghua Liu & Ha Minh Cuong		
14:45 - 15:15	Finite element simulation of the strength of corrugated board boxes under impact dynamics	Luong Viet Dung	University of Reims Champagne-Ardenne, France
15:15 — 15:35	A moving element method for the dynamic analysis of composite plate resting on a Pasternak foun- dation subjected to a moving load	Luong Van Hai	Ho Chi Minh City Uni- versity of Technology, Vietnam
15:35 — 15:55	Optimal volume fraction of func- tionally graded beams with various shear deformation theories	Pham Hoang Anh	National University of Civil Engineering, Ha Noi, Vietnam
15:55 - 16:10	SI	hort break	
Session Chairs	: Gui Rong Liu & Nguyen Quang-	Huy	
16:10 - 16:40	Relationship between density and compressive strength of fly ash based geopolymer foam concrete: experimental and numerical ap- proach	Thang T. Nguyen	Monash University, Australia
16:40 — 17:00	A modified moving kriging inter- polation-based meshfree meth- od with refined sinusoidal shear deformation theory for analysis of functionally graded plates	Tan-Van Vu	HoChiMinh Univer- sity of Architecture, Vietnam
17:00 - 17:20			
17:20 - 17:40			



Parallel Sessio	Parallel Session 2B.6: Flow Problems (14:45 – 17:20)			
Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Hiroshige Kikura & D. Rangeard	l		
14:45 — 15:15	Extrusion flow modeling of con- centrated mineral suspensions	D. Rangeard (Keynote)	Laboratoire de Génie Civil et Génie Mé- canique, INSA, Rennes, France	
15:15 — 15:35	Numerical experiment of sub- cooled pool boiling by using CFD simulation	Nguyen Tat Thang	Institute of Mechanics, Vietnam Academy of Science and Technol- ogy	
15:35 — 15:55	Investigation on turbulence effects on flutter derivatives of suspended truss bridge section	Hoang Trong Lam	Danang University of Science and Technol- ogy, The University of Danang – Vietnam	
15:55 — 16:10	SI	ort break		
Session Chairs	: D. Rangeard & Nguyen The Hu	ng		
16:10 - 16:40	Structural kinematic model of cohesive sediment suspensions	Le Cao Khoa (Keynote)	National University of Singapore	
16:40 - 17:00	Optimization of precision die design on high pressure die casting of AlSi9Cu3 using Taguchi method	Do Anh Tuan	Hung Yen University of Technology and Edu- cation, Vietnam.	
17:00 - 17:20	Flow and performance analysis of a valveless micropump	Partha Kumar Das	Bangladesh University of Engineering and Technology	
17:20 - 17:40				



# Banquet – Gala Dinner: (18:30 – 20:00)

Locations: Buffet Dinner, Sai Gon-Phu Quoc Resort





## The Third Day (August 4, 2017)

Plenary Session 3A: $(8:00 - 10:00)$					
Location: Gra	Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation		
Session Chairs	Session Chairs: Morten Willatzen & Timon Rabczuk				
8:00 - 8:45	Computational mechanics at inter- faces	Stéphane Pierre Alain Bordas (Plenary speaker)	Luxembourg Universi- ty, Luxembourg		
8:45 — 9:30	Integrating geometric models with numerical analysis: a scaled boundary finite element approach	• •	The University of New South Wales, Australia		
9:30 - 10:00	Coffee break				

Parallel Session 3A.1: Computational Fracture and Damage Mechanics $(10:20 - 11:50)$				
Location: Sasc	o Board Room, Sasco Blue Lagoo	on Resort		
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	: Elena Atroshchenko & Nguyen [	Dinh Duc		
10:20 - 10:50	Phase-field based simulation of transverse cracking in laminated	Trinh Duc Truong	Vietnam Japan Univer- sity, Vietnam	
10:50 — 11:10	Numerical studies of some modi- fied polarization saturation models in 2-D semipermeable piezoelectric media using distributed dislocation method	Kuldeep Sharma	National Institute of Technology Uttara- khand, Srinagar (Gar- hwal), Uttarakhand, India	
11:10 - 11:30	Finite element simulation on small punch test for an evaluation of J-integral for trip steel	Pham Thi Hang	Vietnam National Uni- versity of Agriculture, Vietnam	
11:30 - 11:50	On the buckling behavior of multi- cracked FGM plates	Trinh Duc Truong	Vietnam Japan Univer- sity, Vietnam	

Parallel Session 3A.2: Biological Systems (10:20 — 11:30) Location: Board Room 1, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs: Phan Thien Nhan & Yuri Bazilevs				
10:20 - 10:50	Quantitative ultrasound in cancel- lous bone using the echographic response of a metallic pin: a nu- merical study	Vu-Hieu Nguyen (Keynote)	University Paris-Est, France	
10:50 - 11:10	A polygonal user defined finite element for efficiently modelling complex biological structures	Tuan Nguyen	The University of Mel- bourne	



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Parallel Session 3A.2: Biological Systems (10:20 — 11:30) Location: Board Room 1, Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation
11:10 - 11:30	The prevention of pressure ulcers: biomechanical modelization and simulation of human seat cushion contributions	He Thong BUI	University of Reims of Champagne-Ar- denne (URCA), Reims, France
11:30 - 11:50			

Parallel Session 3A.3: Computational Mechatronics (10:20 – 11:30)			
Location: Board Room 2, Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation
Session Chairs: Morten Willatzen & Nguyen Quoc Hung			
10:20 - 10:50	Dynamic analysis of hydraulic-me- chanical system using proportional valve	Dang Thanh Luan	University of Technol- ogy, Ho Chi Minh City, Vietnam
10:50 - 11:10	Analysis and summarization of a mechanism featuring variable stiffness	Do Xuan Phu	Vietnamese-German University, Vietnam
11:10 - 11:30	A tooth profile design for roots rotors of vacuum pump	Tran The Van	Hung Yen University of Technology and Educa- tion, Vietnam
11:30 - 11:50			

Parallel Session 3A.4: Catastrophic Destruction Mechanics and Numerical Modelling (10:20 - 11:30)

Location: Board Room 3, Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	Session Chairs: Stéphane Pierre Alain Bordas & Nam-II Kim			
10:20 — 10:50	A coupling three-dimensional finite element method and discontinu- ous deformation analysis based on complementary theory	Chao Su (Keynote)	Hohai university, Nan- jing, P.R.China	
10:50 - 11:10	Multiscale analysis of concrete damage and crack propagation under high cycle loading	Xiaoxiao SUN	Southeast University, Nanjing, China	
11:10 - 11:30	Application of energy-based dam- age indexes for seismic analysis of concrete dam	Zhang Pei	Hohai University, Nan- jing, PR China	
11:30 - 11:50				



Parallel Session 3A.5: Computational Fracture and Damage Mechanics $(10:20 - 11:10)$			
Location: Board Room 4, Sai Gon-Phu Quoc Resort			
Time	Content (Title)	Speaker	Affiliation
Session Chairs: Le Van Canh & Lei Xu			
10:20 - 10:50	Linear buckling analysis of thin- walled structures including cracks and cutouts	Kimihiro Tani- guchi	Graduate School of Engineering, Hiroshima University, Japan
10:50 — 11:10	Fracture analysis of functionally graded piezoelectric materials using the scaled boundary finite element method	A. L. N. Pramod	Indian Institute of Technology-Madras, Chennai, India
11:10 - 11:30			
11:30 - 11:50			

Parallel Session 3A.6: Flow Problems (10:20 - 11:30)				
Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort				
Time	Content (Title)	Speaker	Affiliation	
Session Chairs	Session Chairs: Yinghua Liu & Thai Hoang Chien			
10:20 - 10:50	Aeroelasticity analysis on wing structure using IBM method	Tran Ngoc Khanh	Hanoi University of Science and Technolo- gy, Vietnam	
10:50 - 11:10	Numerical modelling the aeroelas- tic response of irregular slender structures	Cung H. Nguyen	Industrial University of Ho Chi Minh City, Vietnam	
11:10 - 11:30	Evaluating the saltwater intrusion to aquifer upper-middle pleistocene (QP2-3) in coastal area of Tra Vinh province due to groundwater exploitation	Huynh Van Hiep	Tra Vinh University, Vietnam	
11:30 - 11:50				

### Closing Plenary: (11:50 - 12:20)

#### Location: Grand Ballroom (1st floor), Sai Gon-Phu Quoc Resort

11:50 – 12:20 Closing remarks by ACOME Chairman

### TOURS (14:00 - 18:00)

Location: Some nice places in Phu Quoc Island



