第七届亚太国际工程计算方法学术会议

The 7th Asia-Pacific International Conference on Computational Methods in Engineering

第十三届全国工程计算方法学术会议

The 13th Chinese National Conference on Computational Methods in Engineering

ICOME 2023

November 2-5,2023

Xiamen University, China

第7届亚太国际工程计算方法学术会议

The 7th Asia-Pacific International Conference on Computational Methods in Engineering

第13届全国工程计算方法学术会议

The 13th Chinese National Conference on Computational Methods in Engineering

ICOME 2023

会议手册

Technical Program

November 2-5, 2023

Xiamen, China

Welcome

Dear friends and colleagues:

Welcome to the 7th Asia-Pacific International Conference on Computational Methods in Engineering (ICOME 2023). This conference series was developed based on the eight times of the Joint China-Japan/Japan-China Symposium on Boundary Element Method (BEM) in 1980s and 1990s. The scope of participants gradually expanded from China and Japan to Asia-Pacific countries and regions. In addition to the BEM, the themes of the conference have been significantly extended to meshfree and particle methods, high performance and generalized finite element methods and other advanced computational methods in engineering. The previous six events of this conference series have been held in Sapporo, Japan (2003), Hefei, China (2006), Nanjing, China (2009), Kyoto, Japan (2012), Hangzhou, China (2015), and Dalian, China (2019).

The 7th Asia-Pacific International Conference on Computational Methods in Engineering is held in Xiamen, China, during November 2-5, 2023, and is hosted by Xiamen University (XMU). The conference takes place at the on-campus Science and Art Center of Xiamen University. This conference provides a wonderful platform to exchange the latest research in the broad field of computational methods in engineering, which brings together researchers and practitioners in academia, government, and industry from Asia-Pacific countries and regions as well as other places around the world.

Xiamen is a beautiful seaside city and located in the center of the west coast of Taiwan straits and the southern Fujian golden triangle area. It is one of the most popular places in China for the tourists from all over the world. The average temperature is 20.9℃ through the year and usually the temperature in November is 18-25℃. Xiamen Gaoqi International Airport is located at the northeastern corner of Xiamen island and the transportation within Xiamen city is very convenient.

We are looking forward to seeing you in Xiamen for ICOME2023!

Conference Date

Conference Date: **November 2-5, 2023 (Registration: November 2; Technical Sessions: November 3-5)**
Conference Venue: **Xiamen University Science and Art Center** (厦门大学科学艺术中心)

Registration Fee and Payment Options

Participants	Early-Bird Registration (Before August 15th , 2023)	Regular Registration (From August 16th, 2023 to September 30th, 2023)	Late and On-site Registration (After October 1st, 2023)
Regular Delegates	CNY 2800 or USD 450	CNY 3100 or USD 500	CNY 3500 or USD 550
Students	CNY 2100 or USD 330	CNY 2400 or USD 380	CNY 2700 or USD 430
Accompanying Person	CNY 1200 or USD 200		

All delegates are required to complete the registration in the conference website.

The full payment of registration fee covers: access to all technical sessions, refreshment breaks, banquet, lunch & supper, and one copy of the conference material. The registration fee does not include insurance for the participants regarding accidents, sickness or loss of personal property. It is advisable that participants make their own arrangements regarding the health and travel insurance before leaving their countries.

Two payment options are supported: transfer remittance and on-site payment. For payment by transfer, please be sure to indicate payment information (ICOME2023+Name) in the remittance message, and submit the bank transfer voucher in the conference website or send it to icome2023@163.com. The student representative should submit his/her student ID card or other identification together. On-site payment is supported by POS machine for credit cards. When the representatives attending the conference report on site, they need to present their valid student ID.

Overseas participants remitting information in USD:

BENEFICIARY'S BANK: BANK OF CHINA XIAMEN BRANCH

BENEFICIARY'S A/C NO: 428658381176

BENEFICIARY'S NAME： Xiamen University

BENEFICIARY'S ADDRESS IN CHINA OR TELEPHONE NUMBER： Office of Financial Affairs, Xiamen University, Siming South Road, No. 422, Siming District, Xiamen

0086-05922183540

SWIFT CODE: BKCHCNBJ73A

会议注册：

方式一：通过厦门大学对公账户（境内人民币电汇）

单位开户名：厦门大学

单位开户银行： 建行厦门厦大支行

单位开户账号： 35101567001050002375-0027

会议只能开具“会务费”的增值税普通发票。开票信息请在注册系统中填写完整，务必核实准确，开票金额与实际缴款金额一致。

方式二：通过如下微信二维码在线注册：

Contact Information

For inquiries please send emails to icome2023@163.com.

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Conference Organization

Conference Chairs

Honorary Chair	Zhenhan Yao		
Chair	Xiaowei Gao		
Co-Chairs	Dongdong Wang	Toshiro Matsumoto	Jeng-Tzong Chen

Local Organizing Committee

Chair	Dongdong Wang			
Members	Zhiwei Chen	Jing Gao	Tingjie Huang	Quan Gu
	Zhijian Qiu	Huakun Wang	Ronghua Wang	Xinye Wu
	Kaigui Kang	Minghui Yang	Jianguo Zhang	Yao Zhang

Organized by

Xiamen University (XMU), Xiamen, Fujian, China 厦门大学
Fujian Key Laboratory of Digital Simulations for Coastal Civil Engineering 福建省滨海土木工程数字仿真重点实验室
Dalian University of Technology, Dalian, Liaoning, China 大连理工大学
Tsinghua University, Beijing, China 清华大学

Sponsored by

Chinese Society of Computational Mechanics, China 中国力学学会计算力学专业委员会
China Society of Theoretical and Applied Mechanics, China 中国力学学会
Japan Society of Computational Mechanics, Japan 日本计算力学学会

Co-sponsored by

Engineering Analysis with Boundary Elements (EABE)

Conference Instructions

会议服务指南

1. Conference Hotel 会议酒店

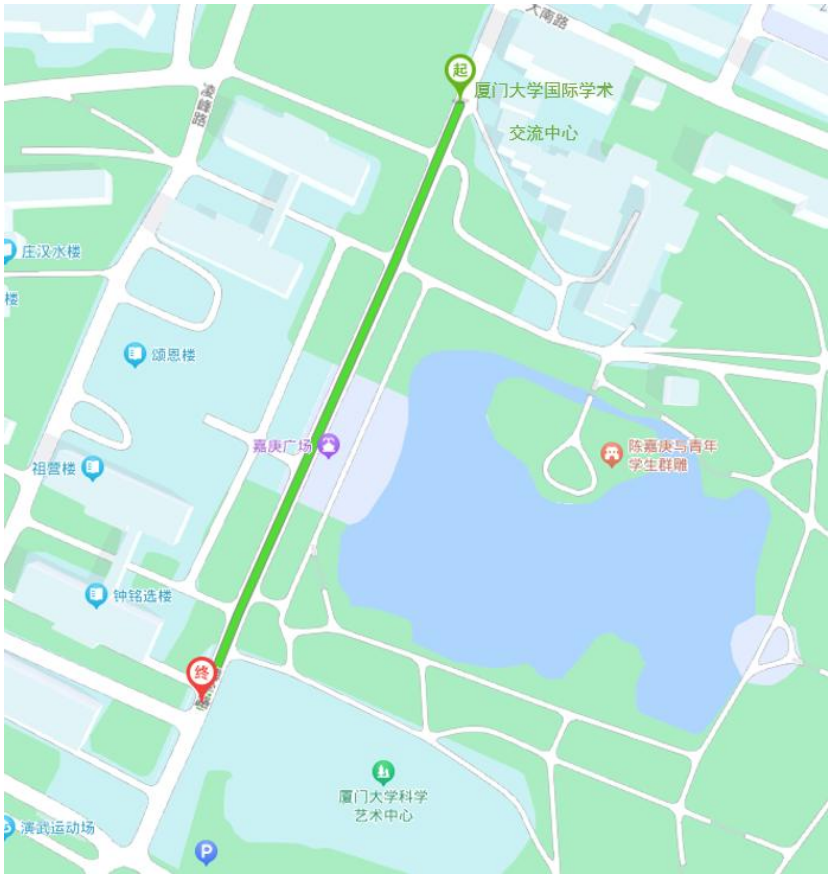
厦门大学国际学术交流中心(厦门市思明区思明南路 422 号厦门大学)

Xiamen University Campus Hotel, Hotel name: Xiamen University International Academic Exchange Center (No. 422 Siming South Road, Siming District, Xiamen)

2. Conference Venue 会场

厦门大学科学艺术中心(厦门市思明区思明南路 422 号厦门大学)

Xiamen University Science and Art Center (No. 422 Siming South Road, Siming District, Xiamen)



酒店到会场路线 (From Conference Hotel to Science and Art Center)

厦门大学科艺中心(Concert Hall)

音乐厅: 2 楼 (Concert Hall, 2nd floor)

1 号会议室: 1 楼 (Conference Room #1, 1st floor)

4 号会议室: 2 楼 (Conference Room #4, 2nd floor)

5 号会议室: 2 楼 (Conference Room #5, 2nd floor)

7 号会议室: 3 楼 (Conference Room #7, 3rd floor)

3. Conference Registration 会议注册

时间:：2023 年 11 月 2 日 9:00-21:00

Time: 9:00-21:00, November 2nd, 2023

地点：厦门大学国际学术交流中心(逸夫楼)大堂

Place: The Lobby of Xiamen University International Academic Exchange Center (Yifu Building)

4. Transportation 交通路线

(1) From Xiamen Gaoqi International Airport to Danan Gate of XMU (Nanputuo Gate)厦门高崎国际机场-厦门大学大南校门（南普陀校门）

A：Terminal T3 arrived (T3 候机楼到达)

Taxi: About 40 yuan (乘坐的士：约 40 元)

B：T4 Terminal arrived (T4 候机楼到达)

B：Taxi: About 40 yuan (乘坐的士：约 40 元)

机场与火车站到厦门大学路线图 (From Airport or Railway Station to XMU)

(2) From Xiamen Railway Station to Danan Gate of XMU 厦门站-厦门大学大南校门

A：Taxi: About 20 yuan (乘坐的士：约 20 元)

B：Bus: Take the buses of Line 1 or 21 to Danan Gate of XMU (Nanputuo Gate)

B：乘坐公交：在火车站南广场站乘 1 路或小广场乘 21 路公交车到厦门大学大南校门(南普陀)站

(3) From Xiamen North Railway Station to Danan Gate of Xiamen University 厦门北站-厦门大学大南校门

A：Taxi: About 90 yuan (乘坐的士：约 90 元)

B：Bus: Take the BRT Express Line 1 to the railway station and change to the bus of Line 1 to

Danan Gate of XMU (Nanputuo Gate)

Take BRT Express Line 1 to the railway station and change to the bus of Line 21 to Danan Gate of XMU (Nanputuo Gate)

B：乘坐公交: 乘 BRT 快 1 线到火车站，换乘 1 路到厦大南门(南普陀)站

乘 BRT 快 1 线到火车站，换乘 21 路到厦大南门(南普陀)站

5. Kindly Reminders 温馨提示

(1) Student delegates need to show their effective identity certificates at registration, e.g. the student ID or certification issued by their college.
学生注册时需凭有效身份证件（如学生证或所在学院的证明材料）。

(2) The plenary, keynote and parallel session presentations are 30 minutes, 25 minutes and 20 minutes in length, including 2-5 minutes for Q & A.
大会报告时长为 30 分钟（含提问），主题报告时长为 25 分钟（含提问），分会场报告时长为 15 分钟（含提问），请报告人和主持人控制时间。

(3) Please copy your slides into the conference computers before your sessions.
请提前将报告拷贝至会场电脑。

(4) Please mute your cell phone before entering the conference room.
为维持良好的会场环境，请在进入会场前将手机调为静音。

6. Contacting Information of Conference Secretaries 会务人员联系方式

(1)	**Registration** **注册**	Zhijian Qiu-15695923170 邱志坚-15695923170
(2)	**Accommodation** **酒店住宿**	Kaigui Kang-13599518154 康开贵-13599518154
(3)	**Conference Room** **会场事务**	Tingjie Huang-18205932851 黄庭杰-18205932851
(4)	**Session Arrangement** **报告安排**	Huakun Wang-18060958936 王华昆-18060958936

If you have any question or need any help, please contact our conference secretaries volunteers。
如需任何帮助，请与会议志愿者联系。

Technical Program at a Glance

Date	Time	Item	Location
Nov. 2nd Friday	09:00~22:00	Registration	Lobby of Yifu Builing，逸夫楼大堂
	18:00~20:00	Dinner	Faculty Center of Yifu Builing，逸夫楼教工餐厅
Nov. 3rd Saturday	08:00~08:20	Opening Ceremony	Concert Hall，科艺中心音乐厅
	08:20~9:50	Plenary Lectures	Concert Hall，科艺中心音乐厅
	9:50-10:10	Coffee Break/Photograph	
	10:10~12:10	Plenary Lectures	Concert Hall，科艺中心音乐厅
	12:00~13:00	Lunch	Second Floor of Yifu Building，逸夫楼二层
	14:00~16:00	Plenary Lectures	Concert Hall，科艺中心音乐厅
	16:00~16:10	Coffee Break	
	16:10~17:40	Plenary Lectures	Concert Hall，科艺中心音乐厅
	18:00~20:00	Banquet	Second Floor of Yifu Building，逸夫楼二层
Nov. 4th Sunday	08:00~9:50	Parallel Sessions	Concert Hall，Conference Room #1、4、5、7 科艺中心，1、4、5、7 号会议室
	9:50-10:00	Coffee Break	
	10:00~12:00	Parallel Sessions	Concert Hall，Conference Room #1、4、5、7 科艺中心，1、4、5、7 号会议室
	12:00~13:00	Lunch	Second Floor of Yifu Building，逸夫楼二层
	14:00~15:50	Parallel Sessions	Concert Hall，Conference Room #1、4、5、7 科艺中心，1、4、5、7 号会议室
	15:50~16:00	Coffee Break	
	16:00~18:00	Parallel Sessions	Concert Hall，Conference Room #1、4、5、7 科艺中心，1、4、5、7 号会议室
	18:00~20:00	Dinner	Second Floor of Yifu Building，逸夫楼二层
Nov. 5th Monday	08:00~9:50	Parallel Sessions	Concert Hall，Conference Room #1、4、7 科艺中心，1、4、7 号会议室
	9:50-10:00	Coffee Break	
	10:00~12:00	Parallel Sessions	Concert Hall，Conference Room #1、4、7 科艺中心，1、4、7 号会议室
	12:00~12:10	Closing Ceremony	Concert Hall，Conference Room #1 科艺中心，1 号会场
	12:00~13:00	Lunch	Second Floor of Yifu Building，逸夫楼二层

Technical Sessions (TS) at a Glance

TS	Time
TS1	Saturday, November 4th, 8:00-12:00
TS2	Saturday, November 4th, 14:00-18:00
TS3	Sunday, November 5th, 8:00-12:00

Session Schedule for Minisymposia

MS	Title	Sessions
MS01	Boundary Element and Related Mesh-Reduction Methods	TS1, TS2, TS3
MS02	Meshfree, Particle and Peridynamic Methods	TS1, TS2, TS3
MS03	High Performance and Generalized Finite Element Methods	TS1, TS2
MS04	Novel Computational Methods for Engineering and Science	TS1, TS2
MS05	Fundamental Solution, Trefftz and Other Mesh-Reduction Methods	TS3
MS06	Multiscale and Multiphysics Problems and Methods	TS3

Opening Ceremony

Location: Concert Hall (科艺中心音乐厅)

Time: 08:00~08:20, Date: November 3rd

Closing Ceremony

Location: Conference Room #1 (科艺中心 1 号会议室)

Time: 12:00~12:10, Date: November 5th

Opening Ceremony and Plenary Lectures

Date: November 3rd (Friday); **Time**: 8:00-18:00: **Location: Concert Hall (科艺中心音乐厅)**

Time	Speakers	Titles	Chair
8:00-8:20	Invited Guest Speakers	Conference opening ceremony	Dongdong Wang
8:20-8:50	Alexander H.-D. Cheng University of Mississippi	The use of fundamental solutions and T-complete functions as basis functions for the solution of PDEs	
8:50-9:20	Y. B. Yang Chongqing University	Internal instability of box-girder bridges under harmonic moving loads	
9:20-9:50	Toshiro Matsumoto Nagoya University	An exact treatment of volume constraint on achieving the exact boundary representation of topology optimization	
Coffee Break/ Photograph			
10:10-10:40	Jeng-Tzong Chen Taiwan Ocean University	On the role of degenerate kernels for the BEM/BIEM	Toshiro Matsumoto
10:40-11:10	Xiaowei Gao Dalian University of Technology	Generalized weak-form free element method	
11:10-11:40	Pihua Wen Queen Mary University of London	Review on the method of fundamental solution and its applications	
11:40-12:10	Qing Zhang Hohai University	Multi-field coupled peridynamics for mechanism analysis of clay soil desiccation cracking and curling	
Time	**Speakers**	**Titles**	**Chair**
14:00-14:30	Hong Zheng Beijing University of Technology	Associative approximation of Galerkin and FVM for the HMC fully coupled model under the NMM framework	Jeng-Tzong Chen
14:30-15:00	Cheng Su South China University of Technology	Nonstationary random vibration analysis of cracked plates by SFBEM-FEM coupling method	
15:00-15:30	Haibo Chen University of Science and Technology of China	Microstructural topology optimization of vibro-acoustic interaction systems based on the piecewise constant level set method	
15:30-16:00	Song Cen Liaoning Technical University & Tsinghua University	Some advances in the shape-free unsymmetric finite element method based on analytical trial functions—one possible way for solving sensitivity problem to mesh distortion	
Coffee Break			
16:10-16:40	Jianming Zhang Hunan University	Advances in boundary face method based on non-conforming meshes	Xiong Zhang
16:40-17:10	Miao Cui Dalian University of Technology	Inverse problems and the solution methods as well as applications in thermal protection systems of hypersonic vehicles	
17:10-17:40	Dongdong Wang Xiamen University	Towards fast and accurate meshfree methods: From Galerkin to collocation	

Parallel Sessions

November 4th (Saturday)

Session: MS01 Boundary Element and Related Mesh-Reduction Methods

Date: November 4th (Saturday); **Time:** 8:00-12:00 **Location:** Conference Room #1 (科艺中心，1 号会议厅)

Chair: Yijun Liu, Zhongrong Niu

Time	Speakers	Titles
8:00-8:25	**Yijun Liu *** **Southern University of Science and Technology**	**Some advances on the fast BEM for 3D acoustic problems**
8:25-8:50	**Zhongrong Niu*** **Hefei University of Technology**	**Analysis of 2-D elastic solid with multiple V-notches by a fast multipole BEM with a novel singular element with multi-order asymptotic terms**
8:50-9:10	Fenglin Zhou Hunan University of Technology	The Runge-Kutta dual reciprocity method for acoustic scattering problem
9:10-9:30	Taizo Maruyama Tokyo Institute of Technology	Three-dimensional hybrid SAFE-BEM for elastic guided wave scattering in a plate with finite width
9:30-9:50	Xiangjuan Yang Peking University	An improved partial pivot adaptive cross approximation algorithm for boundary element method in elasticity
Coffee Break		
10:00-10:20	Bo Yu Hefei University of Technology	SCTBEM: Scaled coordinate transformation boundary element method
10:20-10:40	Leilei Chen Huanghuai University	Structural optimization of electromagnetic and acoustic scattering problems based on isogeometric analysis
10:40-11:00	Yongtong Zheng Sounthern University of Science and Technology	High-accuracy isoparametric closure boundary elements and their applications in mechanics analysis
11:00-11:20	Baotao Chi Shandong University of Technology	An adaptive element subdivision method based on affine transformations for evaluating singular and nearly singular integrals
11:20-11:40	Cong Li Anhui Jianzhu University	Effectiveness of the stress solutions of 3-D V-notched/cracked structures by using extended boundary element method
11:40-12:00	Kemin Cai South China University of Technology	Nonstationary random vibration analysis of cracked plates by SFBEM-FEM coupling method

***Keynote speakers**

Session: MS01 Boundary Element and Related Mesh-Reduction Methods

Date: November 4th (Saturday); **Time**: 14:00-18:00 **Location:** Conference Room #1 (科艺中心，1 号会议厅)

Chair: Mingsong Zou, Zhuojia Fu

Time	Speakers	Titles
14:00-14:25	**Mingsong Zou*** **China Ship Scientific Research Center**	**An efficient method for calculating acoustic radiation of underwater structures**
14:25-14:50	**Zhuojia Fu*** **Hohai University**	**Physical-informed kernel functions: collocation discretizations and neural networks**
14:50-15:10	Jiayue Hou Peking University	Application of optimized fast multipole subdomain boundary element method to potential problems of three dimensional thin structures
15:10-15:30	Huilin Liu Wuhan University of Technology	Prediction of flow-induced noise of underwater vehicles based on the Wave Superposition Method
15:30-15:50	Takahiro Saitoh Gunma University	Convolution quadrature time-domain boundary element method for 2-D pure SH wave propagation in anisotropic and viscoelastic materials
Coffee Break		
16:00-16:20	Jiawei Lee Tamkang University	Meshfree boundary integral equation method for the steady state heat conduction in exchanger tubes: degenerate scale and treatments
16:20-16:40	Xiaoqi Guo Dalian University of Technology	An efficient numerical algorithm to solve steady state heat conduction problems with local uncertainty
16:40-17:00	Xinyue Lin University of Science and Technology of China	Multi-material topology optimization method of acoustic-structure interaction systems based on mixed FEM-BEM
17:00-17:20	Qiang Xi Hohai University	Singular boundary method for structural vibration induced underwater acoustic propagation in the ocean environment
17:20-17:40	Menghui Liang Hefei University of Technology	Resonance analysis of thermoviscous acoustic problems by using an equivalent source method
17:40-18:00	Weiyu Zhou Peking University	A mixed cell compressed sparse row method for time domain boundary element

***Keynote speakers**

Session: MS02 Meshfree, Particle and Peridynamic Methods

Date: November 4th (Saturday); **Time:** 8:00-12:00 **Location:** Conference Room #4 (科艺中心，4 号会议厅)

Chair: Yonggang Zheng, Judy P. Yang

Time	Speakers	Titles
8:00-8:25	**Yonggang Zheng *** **Dalian University of Technology**	**Phase-field material point method for simulating the fracture behaviors of materials involving large deformation**
8:25-8:50	**Judy P. Yang*** **Yang Ming Chiao Tung University**	**A collocation framework for multi-phase nonlinear dynamic system**
8:50-9:10	Hui Zheng Nanchang University	The localized radial basis function collocation method theory and applications
9:10-9:30	Zheng Sun Jiangxi University of Science and Technology	Application of Cross model for soil granular flow and impact analysis using 3D BSMPM
9:30-9:50	Mingjing Li Beihang University	Recent development on the fragile points method for predicting complex structural failure
Coffee Break		
10:00-10:20	Yang Yang Southern University of Science and Technology	Crack propagation analysis by coupling the boundary element method and peridynamics
10:20-10:40	Junchao Wu Huaqiao University	A Hellinger-Reissner meshfree Kirchhoff plate formulation with naturally accommodating essential boundary conditions
10:40-11:00	Zhihao Qian Peking University	Extraction of Lagrangian coherent structures in the framework of the Lagrangian-Eulerian stabilized collocation method (LESCM)
11:00-11:20	Ding Chen Hohai University	A multi-resolution smoothed particle hydrodynamics with multi-GPUs acceleration for fluid-structure interaction problems
11:20-11:40	Jinxing Ding Dalian University of Technology	Free element method for turbulent combustion
11:40-12:00	Weiwu Jiang Dalian University of Technology	Multi-Physics zonal Galerkin free element method and its application in magneto-electro-elastic structures

***Keynote speakers**

Session: MS02 Meshfree, Particle and Peridynamic Methods

Date: November 4th (Saturday); **Time**: 14:00-18:00 **Location:** Conference Room #4 (科艺中心，4 号会议厅)

Chair: Lihua Wang, Jun Lv

Time	Speakers	Titles
14:00-14:25	**Lihua Wang*** **Tongji University**	**Stabilized Lagrange interpolation collocation method: a meshfree method incorporating the advantages of finite element method**
14:25-14:50	**Jun Lv*** **Dalian University of Technology**	**Research on calculation method of the structural static and dynamic fracture problems based on the free element collocation method (FREMAN)**
14:50-15:10	Xiaoxing Liu Sun Yat-Sen University	Study of film boiling behavior on horizontal surface using MPS method
15:10-15:30	Yumeng Shi Northwestern Polytechnical University	A research of water dropping of fire-fighting aircraft based on VOF to DPM Method
15:30-15:50	Zhanqi Cheng Zhengzhou University	Fatigue failure behavior of ECC based on peridynamics
Coffee Break		
16:00-16:20	Chengxuan Li Dalian University of Technology	Peridynamic modeling of swelling behavior in soft matter
16:20-16:40	Pengnan Sun Sun Yat-sen University	Towards Industrial applications of smoothed particle hydrodynamics method for high-speed free-surface Flows
16:40-17:00	Zhongjian Ling Wuhan University of Technology	Simulations of bubble rising using meshfree Lagrangian generalized finite difference method
17:00-17:20	Yao Lu Peking University	GPU-accelerated 3D modeling of fluid–structure interactions using a SPH shell model coupled with Riemann-SPH
17:20-17:40	Dongming Li Wuhan University of Technology	Recent advances in computational fracture modelling with complex variable meshless methods
17:40-18:00	Ni Sun Jilin University	An improved smoothed particle hydrodynamics method

***Keynote speakers**

Session: MS03 High Performance and Generalized Finite Element Methods

Date: November 4th (Saturday); **Time:** 8:00-12:00 **Location:** Conference Room #5 (科艺中心，5 号会议厅)

Chair: Ran Guo, Hongling Ye

Time	Speakers	Titles
8:00-8:25	**Ran Guo*** **Kunming University of Science and Technology**	**Hybrid stress element method and CAE software for multiphase composite materials**
8:25-8:50	**Hongling Ye*** **Beijing University of Technology**	**Concurrent optimization method of principal stress orientation interpolated continuous fiber angle and structural topology**
8:50-9:10	Songhao Wang Nanjing University of Aeronautics and Astronautics	Thermo-mechanical FEM for porous multi-directional FG structures based on modified couple stress theory
9:10-9:30	Fan Peng Chang'an University	Study on fracture of nonlinear Kirchhoff-Love plates and shells by phase field method
9:30-9:50	Xiwei Li Shijiazhuang Tiedao University	On the significance of basis interpolation for accurate lumped mass isogeometric formulation
Coffee Break		
10:00-10:20	Dongliang Qi Hebei University of Water Resources and Electric Engineering	A superconvergent isogeometric collocation method with recursive transformed gradients
10:20-10:40	Sikai Fu Nanjing University of Aeronautics and Astronautics	Two-dimensional DtN-FEM scattering analysis of lamb guided waves by an interface debonding in a double-layered plate
10:40-11:00	Huayu Liu Dalian University of Technology	The control volume finite element method for investigating the effectiveness transpiration cooling
11:00-11:20	Zeng Lin Shenzhen Institutes of Advanced Technology	A highly parallel simulation of patient-specific hepatic flows
11:20-11:40	Luzhen Dou University of Science and Technology of China	Unsymmetric finite element method with radial basis functions
11:40-12:00	Seishiro Matsubara Nagoya University	Study on the effects of mesh resolution and surface

***Keynote speakers**

Session: MS03 High Performance and Generalized Finite Element Methods

Date: November 4th (Saturday); **Time**: 14:00-18:00 **Location:** Conference Room #5 (科艺中心，5 号会议厅)

Chair: Yanping Lian, Shunqi Zhang

Time	Speakers	Titles
14:00-14:25	**Yanping Lian*** **Beijing Institute of Technology**	**Multi-physics and multi-scale numerical methods for metal additive manufacturing**
14:25-14:50	**Shunqi Zhang*** **Shanghai University**	**Numerical analysis of functionally graded magneto-electro-elastic plates and shells**
14:50-15:10	Ruxia Ma Tsinghua University	The unsymmetric 8-node hexahedral solid and solid-shell elements to nonlinear elastic finite deformation analysis
15:10-15:30	Shixuan Liu Tsinghua University	Extension of the 4-node 12-DOF element US-Q4θ-CS for modified couple stress theory to geometric nonlinear analysis
15:30-15:50	Hao Zhen Beijing Institute of Technology	A Phase-field model of damage in polymer-matrix composites with isogeometric analysis
Coffee Break		
16:00-16:20	Takuma Fuse Nagoya University	Computational homogenization of mechanical nonreciprocity in a uniform composite
16:20-16:40	Yufei Wang Tsinghua University	Application of the unsymmetric 8-node hexahedral solid element US-ATFH8 in modeling nearly-incompressible hyperelastic soft tissues
16:40-17:00	Zhuangjing Sun Xiamen University	An isogeometric frequency accuracy study for curved Euler-Bernoulli beams and Kirchhoff-Love cylindrical shells
17:00-17:20	Jianghuai Li Ningbo University	Quadrilateral scaled boundary spectral shell elements
17:20-17:40	Pengmin Hu Beijing Institute of Technology	Higher-order phase field fracture implementation in nearly incompressible viscoelasticity
17:40-18:00	Songyang Hou Xiamen University	An accurate mid-node mass lumping formulation for dynamic finite element analysis with serendipity elements

***Keynote speakers**

Session: MS04 Novel Computational Methods for Engineering and Science

Date: November 4th (Saturday); **Time:** 8:00-12:00 **Location:** Conference Room #7 (科艺中心，7 号会议厅)

Chair: Shan Tang, Yan Liu

Time	Speakers	Titles
8:00-8:25	**Shan Tang*** **Dalian University of Technology**	**Mechanistic data-driven modeling and computational mechanics for viscoelastic materials**
8:25-8:50	**Yan Liu*** **Tsinghua University**	**Some developments of the material point method for impact simulations**
8:50-9:10	Jie Zhang Jinan University	The accuracy equivalence and difference between the linear multistep and single-step time integration methods for structural dynamics
9:10-9:30	Hanshu Chen Hohai University	Stochastic dynamic analysis of underwater vehicle subjected to multiple stochastic excitations via DPIM
9:30-9:50	Zhiyuan Ma Hohai University	A unified numerical procedure for low cycle fatigue and creep-fatigue assessments of high-temperature structures
Coffee Break		
10:00-10:20	Boxue Wang North China Electric Power University	A new method for solving the thermal conductivity equation of cylindrical coordinates
10:20-10:40	Jingda Li Dalian University of Technology	The lightweight design method for the overall fuel tank cap sealing structure for supersonic aircrafts
10:40-11:00	Sonal Nirwal Yang Ming Chiao Tung University	A novel approach for calculating Green-function in a piezoelectric layered half-space
11:00-11:20	Xiangyuan Meng North China Electric Power University	Application of half boundary method in one-dimensional inverse heat convection problem
11:20-11:40	Powei Li Qingdao University	A space-time meshless numerical scheme for the time-dependent double-diffusive natural convection in fluid-saturated porous media
11:40-12:00	Zhijian Qiu Xiamen University	RKPM2D-EQ: An open-source implementation of reproducing kernel particle method for geotechnical earthquake engineering applications

***Keynote speakers**

Session: MS04/7-10 Novel Computational Methods for Engineering and Science

Date: November 4th (Saturday); **Time**: 14:00-18:00 **Location:** Conference Room #7 (科艺中心，7 号会议厅)

Chair: Leiting Dong, Takemi Shigeta

Time	Speakers	Titles
14:00-14:25	**Leiting Dong*** **Beihang University**	**Structural integrity issues of aging general aviation aircrafts and a digital twin-driven strategy**
14:25-14:50	**Takemi Shigeta*** **Showa Pharmaceutical University**	**An iterative domain decomposition method with the modified method of fundamental solutions and the fast Fourier transform**
14:50-15:10	Hui Wang Hainan University	A novel double-BPNN model for inverse structural design of the perforated auxetic phononic crystals with desired bandgap properties
15:10-15:30	Xiangrong Fu Guangzhou University	A more stable explicit second-order integration method compare to the central difference method
15:30-15:50	Zhuochao Tang Anhui University of Technology	The application of least squares-generalized finite difference method in bulk-surface problems
Coffee Break		
16:00-16:20	Tatsuya Ishida Nagoya University	Deformation in wrinkle-to-crease transformation
16:20-16:40	Yanchuan Hui Shenyang University	An advanced beam model in the framework of Data-driven computational mechanics
16:40-17:00	Zhetong Wu Dalian University of Technology	Discovering hidden governing equations in mechanics systems: the unsupervised data-driven approach of Seq-SVF
17:00-17:20	Tao Pan Dalian University of Technology	Finite line method for simulating two-dimensional incompressible fluid flow
17:20-17:40	Zhaosong Ma GDEM Technology Beijing	A DDN based digital twin system for oilfield hydro-fracturing
17:40-18:00	Tengfei Zhu Hunan University	Study on low-rank approximation algorithm of middle-range field matrix by two-layer interpolated boundary surface method

***Keynote speakers**

Parallel Sessions

November 5th (Sunday)

Session: MS01 Boundary Element and Related Mesh-Reduction Methods

Date: November 5th (Sunday); **Time:** 8:00-12:00 **Location:** Conference Room #1 (科艺中心，1 号会议厅)

Chair: Changzheng Cheng, Haifeng Peng

Time	Speakers	Titles
8:00-8:25	**Changzheng Cheng*** **Hefei University of Technology**	**Analysis of nearly singular boundary integrals and singularity in V-notch**
8:25-8:50	**Haifeng Peng*** **Dalian University of Technology**	**Application of the coupling algorithm of boundary element method and element differential method in fracture mechanics**
8:50-9:10	Chong Zhang Hunan University	An adaptive generation method of surface binary tree non-continuous mesh dispense with geometry repair
9:10-9:30	Rongxiong Xiao Hunan University	Comparison study of non-overlapping DiBFM-domain decomposition methods for solving multi-domain problems
9:30-9:50	Jiayue Hou Peking University	A new multidomain fast multipole boundary element method
Coffee Break		
10:00-10:20	Zhetong Wang Beijing Institute of Technology	Isogeometric boundary element method based on radial integral for linear viscoelastic analysis
10:20-10:40	Tengyue Li Hefei Polytehnic University	Nearly singularity analysis of the boundary element method for the non-homogeneous Poisson's equation
10:40-11:00	Bin Hu Anhui University of Science & Technology	A new multi-level scheme for evaluating boundary integrals in the fast multipole BEM for 3D potential problems
11:00-11:20	Yifan Huang Hefei University of Technology	Analysis of singularity in advection-diffusion-reaction equation with semi-analytical boundary elements
11:20-11:40	Huiwen Li Taiyuan University of Technology	A level set based topology optimization for finite elastic phononic structures using boundary element method
11:40-12:00	Weizhe Feng Key Laboratory of Advanced Technology for Aerospace Vehicles	Coupled EDM/DLM method for solving flutter problem of aircrafts
Closing Ceremony		

***Keynote speakers**

Session: MS02 Meshfree, Particle and Peridynamic Methods

Date: November 5th (Sunday); **Time:** 8:00-12:00 **Location:** Conference Room #4 (科艺中心，4 号会议厅)

Chair: Shenshen Chen, Yang Yang

Time	Speakers	Titles
8:00-8:25	**Shenshen Chen*** **East China Jiaotong University**	**Upper bound limit analysis of thin plates using a quadrilateral area coordinate based thin plate element**
8:25-8:50	**Yang Yang*** **Northwestern Polytechnical University**	**A new computational framework of FPM based on matrix decoupling**
8:50-9:10	Nana Pu Ningxia University	Analysis of static and dynamic fracture parameters of cracked materials by an efficient meshless method
9:10-9:30	Zhixin Zeng Tsinghua University	An explicit phase-field material point method for dynamic brittle fracture problem
9:30-9:50	Zixian Sun Tsinghua University	A localized subdomain smoothing MMALE particle method
Coffee Break		
10:00-10:20	Jiasheng Li Tsinghua University	A solid shell material point method for efficient large deformation modeling of thin structures
10:20-10:40	Yixiang Xu Hunan University	Comparison of surface tension models based on a conservative ISPH-FVM coupling method
10:40-11:00	Jiancong Wen Nanchang University	Application of Galerkin finite block method in fracture mechanics for mixed mode problems
11:00-11:20	Jiyuan Ye Northwestern Polytechnical University	Research on the water spray generated by elastomer entry based on the TL-SPH Method
11:20-11:40	Deyi Liu Chuzhou University	Strong-form meshless method based on polynomial basis function

***Keynote speakers**

Session: MS05 Fundamental Solution, Trefftz and Other Mesh-Reduction Methods

Session: MS06 Multiscale and Multiphysics Problems and Methods

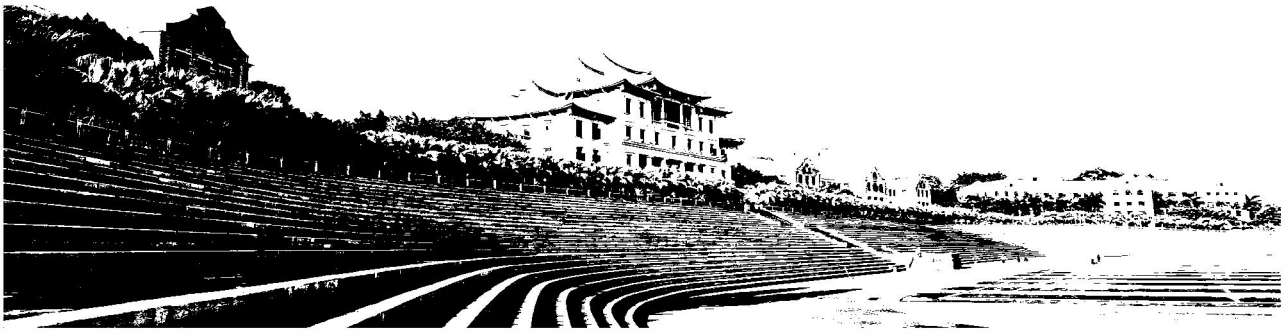
Date: November 5th (Sunday); **Time:** 8:00-12:00 **Location:** Conference Room #7 (科艺中心，7 号会议厅)

Chair: Qingcheng Yang, Kai Yang

Time	Speakers	Titles
8:00-8:25	**Qingcheng Yang * Shanghai University**	**Multiresolution peridynamics: A concurrent framework without local-nonlocal coupling for reducing the computational cost and removing the boundary effect of Peridynamics**
8:25-8:50	**Kai Yang* Dalian University of Technology**	**Identify unsteady thermal load using element differential method**
8:50-9:10	Yezeng Huang Beihang University	A multiscale modeling method for the damage simulations of 2.5D braided composite sandwich structures under shock wave loading
9:10-9:30	Lijuan Jiang Hohai University	Investigation on multi-scale pore seepage model of shale gas reservoir considering diffusion and slippage effect
9:30-9:50	Yilun Liao Taiwan University	Image forces and interfacial stresses induced by an edge dislocation or concentrated force in an infinite plate with a polygonal coated hole
Coffee Break		
10:00-10:20	Liang Xu Nanjing University of Aeronautics and Astronautics	Two-scale design optimization of grid stiffened plates with in-plane varying microstructures
10:20-10:40	Tsunghan Li Taiwan Ocean University	Localized method of fundamental solutions with normalized technique for solving two-dimensional Laplace and Biharmonic equations
10:40-11:00	Zhilin Han Donghua University	The multi-scale method stems from the relations between interphase layer and imperfect interface in elasticity
11:00-11:20	Guozhao Dai Taiwan University	Transverse vibration characteristics and transient behaviors determination of multi-span bridge plates by theoretical analysis and numerical simulation
11:20-11:40	Jia Yang Ningxia University	Finite element for coupled diffusion induced stress model for Lithium-Ion battery
11:40-12:00	Like Deng Xiamen University	Unified accuracy analysis for meshfree collocation methods

***Keynote speakers**

Notebook



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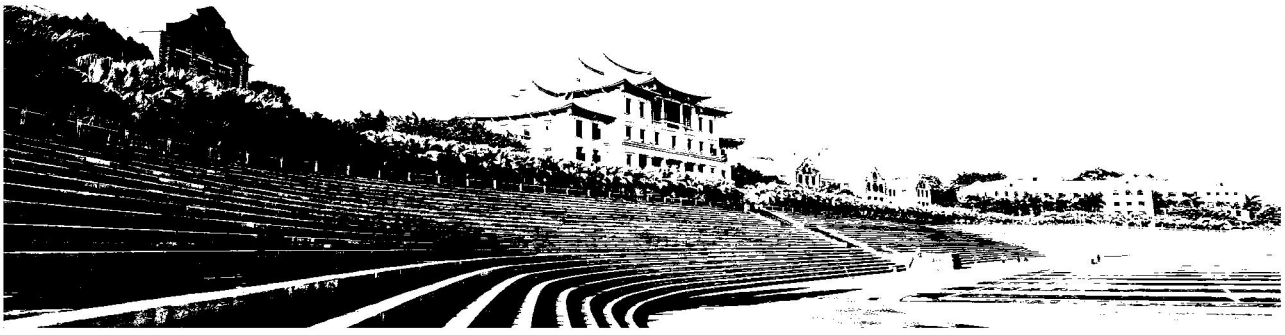

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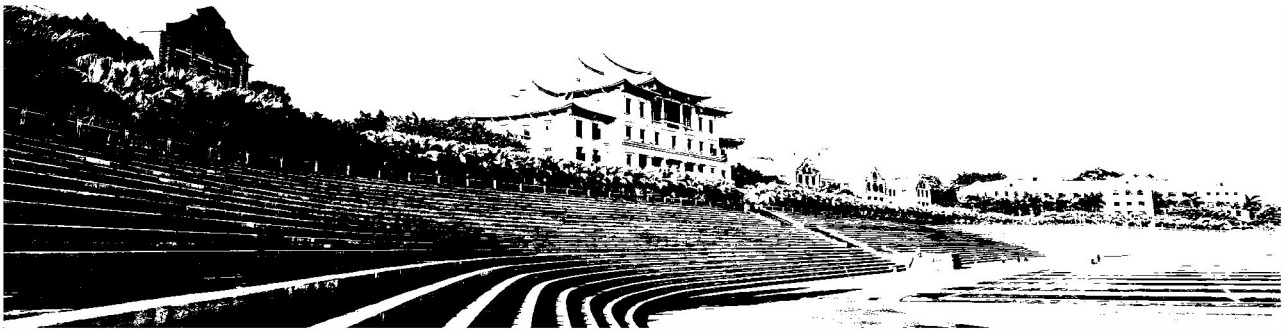

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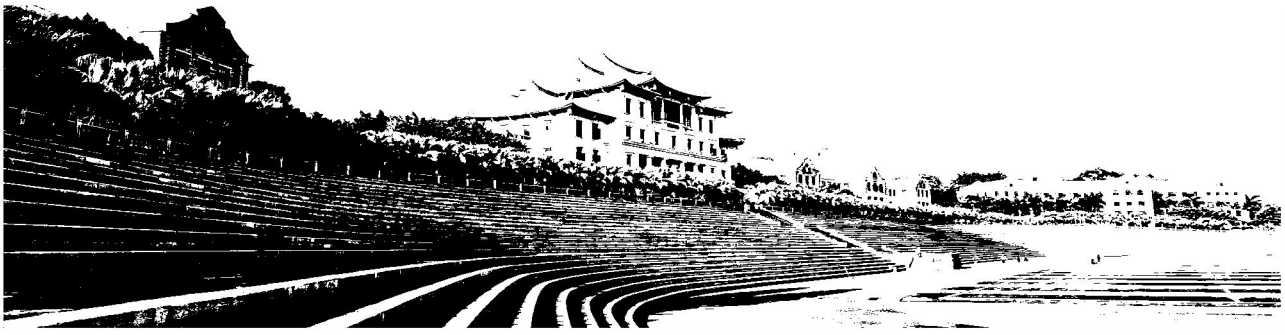

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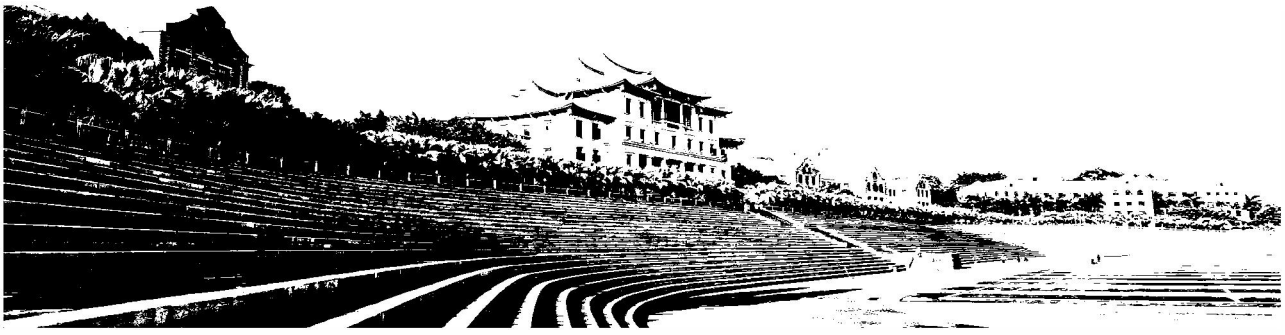

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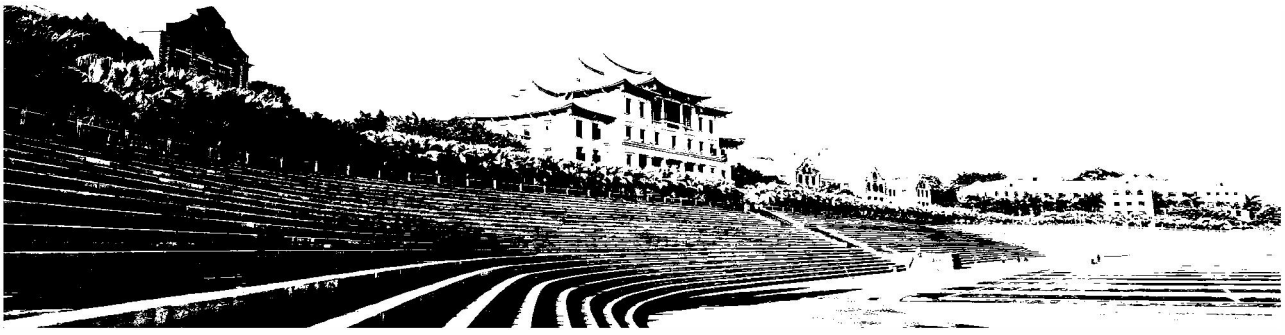

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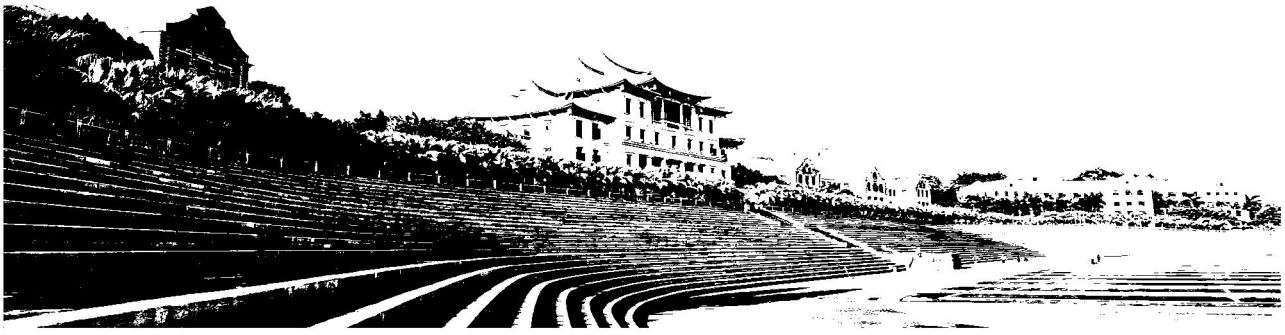

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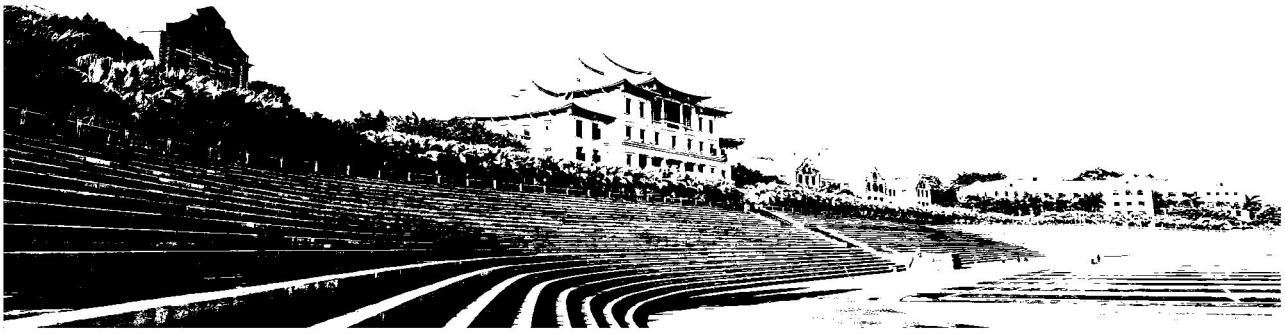

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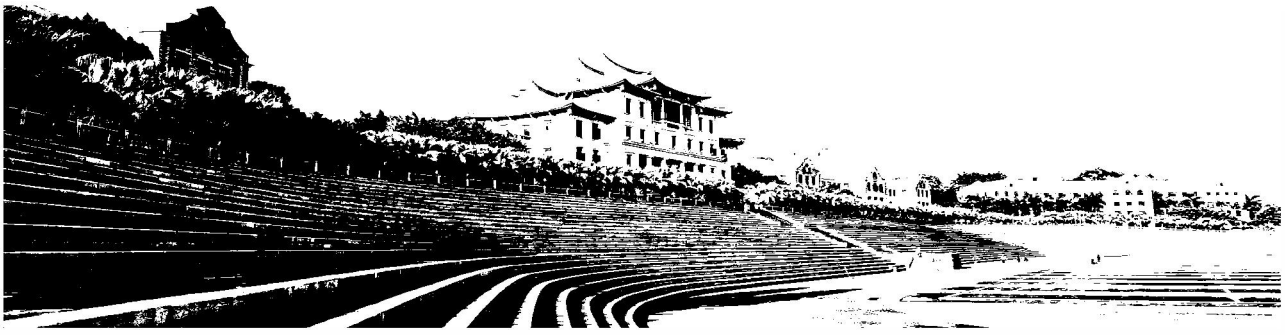

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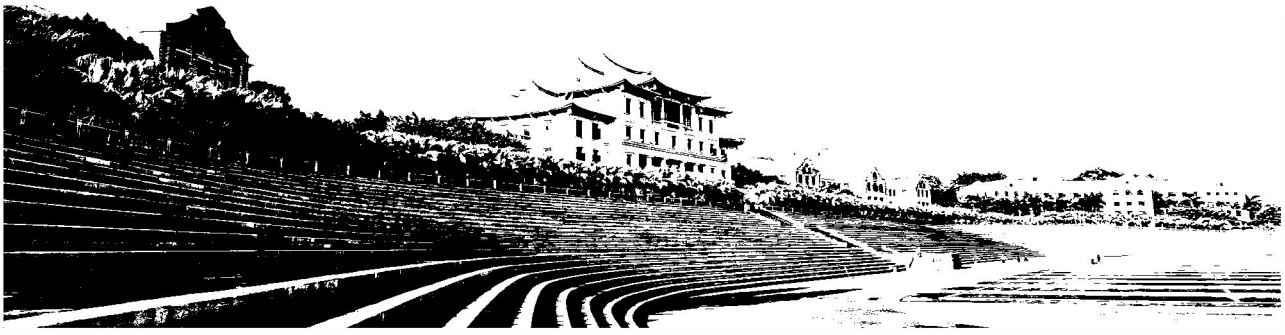

Brief Introduction to Local Organizer

Xiamen University (XMU), established in 1921 by the renowned patriotic overseas Chinese leader, Mr. Tan Kah Kee, is the first university founded by an overseas Chinese in the history of modern Chinese education. XMU is among China's leading universities on the national 211 Project, 985 Project and Double First-Class Initiative, which have been launched by the Chinese government to support selected universities in achieving world-class standing.

With a graduate school, six academic divisions consisting of 33 schools and colleges, and 16 research institutes, XMU boasts a total enrollment of nearly 44,000 full-time students with over 20,000 undergraduates, 18,000 graduate students toward a master's degree and 5,000 doctoral students. XMU currently has a faculty of over 3,000 full-time teachers and researchers.

XMU has forged partnerships with 259 universities in countries and regions, including the UK, the US, Japan, France, Russia, etc., as well as Hong Kong SAR, Macao SAR and Taiwan, China. Established in 2014, Xiamen University Malaysia (XMUM) is the first overseas campus set up by a renowned Chinese university and the first Chinese university branch campus in Malaysia.

The School of Architecture and Civil Engineering at XMU can be dated back to 1937, when the Department of Civil Engineering was officially set up as the first engineering discipline in the university. In 1953, due to the nationwide departmental restructuring, the Civil Engineering Department was suspended at XMU and the related faculty and students were transferred to other renowned institutions. XMU launched the Architecture Department in 1987 and subsequently the Civil Engineering major was resumed in 1999. In 2004, the Civil Engineering Department was re-established, which along with the Architecture Department formed the School of Architecture and Civil Engineering. The Department of Urban Planning was added to the school in 2007.

The School of Architecture and Civil Engineering currently has three undergraduate disciplines, four master's disciplines, and two doctoral programs. Both Architecture and Civil Engineering majors are recognized as the national top-tier programs. The school has an enrollment of nearly 1000 full-time undergraduate and graduate students and an excellent faculty with over 100 teachers and researchers. The school boasts several laboratories and research centers, including Fujian Key Laboratory of Digital Simulations for Coastal Civil Engineering, Fujian Provincial Experimental Teaching Center for Civil Engineering, and Fujian Provincial Experimental Teaching Center for Virtual Reality with BIM, etc.