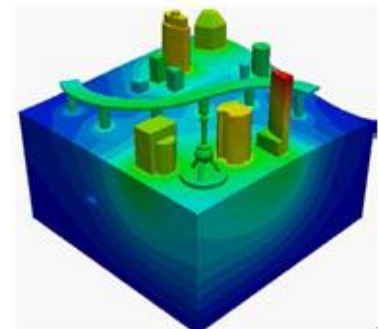
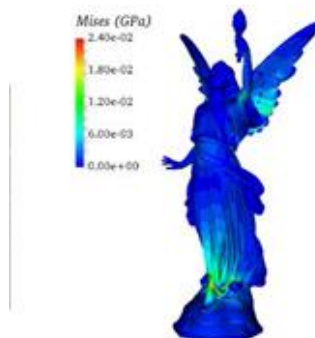
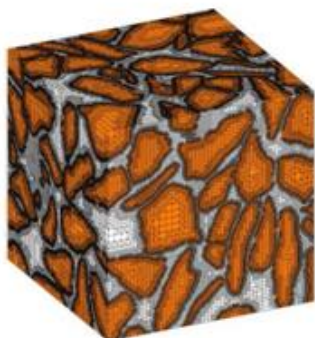




**The Second Workshop on Recent Progress of the Scaled Boundary Finite
Element Method (SBFEM2018)**

Faculty of Infrastructure Engineering, Dalian University of Technology, Dalian, China

Nov. 3-5, 2018



Foreword

The Second Workshop on Recent Progress of the Scaled Boundary Finite Element Method (SBFEM2018) is an annual meeting to exchange academic achievements, technological developments, and education experiences in the field of Scaled Boundary Finite Element Method. The First Workshop on Recent Progress of the Scaled Boundary Finite Element Method (SBFEM2017) has started and been successfully held in Hohai University, Nanjing on Nov. 5-7, 2017.

The Second Workshop on Recent Progress of the Scaled Boundary Finite Element Method (SBFEM2018) is organized by Faculty of Infrastructure Engineering, Dalian University of Technology. The research topics in the abstracts submitted by different groups in the world include the wide applications of SBFEM to wave propagation, fracture mechanics, soil-structure interaction, shell structure, heat transfer, etc.

On behalf of the organizing committee of the SBFEM2018, We would like to thank all participants to this workshop in Dalian University of Technology. We would also like to express my hearty gratitude for the great effort by the member of the local organizing committee. It is hoped that active discussions and exchanges of ideas and information may follow the presentations; pertinent areas for the future cooperation may be identified; and friendship among the members of the participating institutions may grows further.

Conference Chair

Prof. Gao Lin

Dalian University of Technology, Dalian, China

Prof. Chongmin Song

University of New South Wales, Sydney, Australia

Organization

Conference Chairmen

- Prof. Gao Lin (Chairman), *Dalian University of Technology, China*
- Prof. Chongmin Song (Co-chairman), *University of New South Wales, Australia*

Scientific Committee

- Prof. Chongmin Song, *University of New South Wales, Australia.*
- Prof. Gao Lin, *Dalian University of Technology, China.*
- Prof. Haitian Yang, *Dalian University of Technology, China.*
- Prof. Degao Zou, *Dalian University of Technology, China.*
- Prof. Carolin Birk, *Universität Duisburg-Essen, Germany.*
- Prof. Chengbin Du, *Hohai University, China.*
- Prof. Zhenjun Yang, *Zhejiang University, China.*
- Prof. Shenshen Chen, *East China Jiaotong University, China.*
- Dr. Ean Tat Ooi, *Federation University, Australia.*

Organizing Committee

- Dr. Jianbo Li, *Dalian University of Technology, China.*
- Dr. Zhiqiang Hu, *Dalian University of Technology, China.*
- Dr. Jun Liu, *Dalian University of Technology, China.*
- Dr. Hong Zhong, *China Institute of Water Resources and Hydropower Research, China.*
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- Dr. Shouyan Jiang, *Hohai University, China.*
- Dr. Denghong Chen, *China Three Gorges University, China.*
- Dr. Yiqian He, *Dalian University of Technology, China.*
- Dr. Junyu Liu, *Shenyang University of Technology, China.*
- Dr. Zihua Zhang, *Ningbo University, China.*
- Dr. Yichao Gao, *Huaqiao University, China.*
- Dr. Peng Zhang, *Hohai University, China.*
- Dr. Zejun Han, *South China University of Technology, China.*
- Dr. Lin Pang, *China Railway Eryuan Engineering Group Co. LTD, China.*

Conference Secretariat

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The Second Workshop on Recent Progress of the Scaled Boundary Finite Element Method (SBFEM2018)

Faculty of Infrastructure Engineering, Dalian University of Technology, Dalian, China, Nov.3~5, 2018

Conference Program

Date: November 3, 2018 (Saturday)		
Location: 1st floor, Dalian University of Technology International Conference Center(国际会议中心 1 楼大厅)		
08:30-21:30	Registration	
18:00-20:00	Welcome Dinner Location: (No.2 Banquet Hall, 2nd floor, International Conference Center (国际会议中心 2 楼宴会二厅))	
Date: November 4, 2018 (Sunday)		
Location: No.2 Lecture Hall, 2nd floor, Dalian University of Technology (DLUT) International Conference Center(国际会议中心 2 楼 2 号报告厅)		
8:30-8:45	Opening Ceremony	
8:45-9:00	Group Photo Location: Front gate of the DLUT International Conference Center(国际会议中心正门)	
9:00-9:30	Chair: Prof. Chengbin Du	Analysis of Spherical Shells based on Scaled Boundary Finite Element Method Speaker: Prof. Gao Lin (Dalian University of Technology, China)
9:30-10:00		Treatment of Nonmatching Meshes Using the Scaled Boundary Finite Element Method Speaker: Prof. Chongmin Song (University of New South Wales, Australia)
10:00-10:30		Numerical Modelling of Thermally - induced Crack Propagation Using the Scaled Boundary Finite Element Method Speaker: Prof. Carolin Birk (University of Duisburg-Essen, Germany)
10:30-10:45	Coffee Break	
10:45-11:15	Chair: Prof. Gao Lin	Crack Propagation Modelling of Hydraulic Fracture in the Concrete Dam Using SBFEM Speaker: Prof. Chengbin Du (Hohai University, China)
11:15-11:45		Image-based Mesoscale Fracture Analysis of Concrete: A Scaled Boundary Finite Element Approach Speaker: Dr. E. T. Ooi (Federation University, Australia)
11:45-12:15		SBFEM-based Modelling of Plastic Stress Wave Propagation under Transient Dynamic Loadings

		Speaker: Prof. Zhenjun Yang (Zhejiang University, China)
12:20-13:20	Lunch Location: No.2 Banquet Hall, 2nd floor, DLUT International Conference Center(国际会议中心 2 楼宴会二厅)	
14:00-14:30	Chairs Prof. Chongmin Song	Efficient application of SBFEM-based concepts to the solution of elastodynamic problems at high frequencies Speaker: Dr. Hauke Gravenkamp (University of Duisburg-Essen, Germany)
14:30-14:50		Application of the Adaptive Quadtree Scaled Boundary Finite Element Method for Heat Transfer Problems with Phase Change Dr. Yiqian He (Dalian University of Technology, China)
14:50-15:10		Mesoscale Damage Modelling of Concrete by Using Image-based Scaled Boundary Finite Element Method Speaker: Dr. Zihua Zhang (Ningbo University, China)
15:10-15:30		A scaled boundary finite element method for static and dynamic analyses of conical shells Speaker: Dr. Jianghuai Li (Nanjing University of Aeronautics and Astronautics,, China)
15:30-15:50	Coffee Break	
15:50-16:10	Chairs Prof. Carolin Birk	Hydraulic Fracture at the Dam-foundation Interface Using the Scaled Boundary Finite Element Method Coupled With the Cohesive Crack Model Speaker: Dr. Hong Zhong (Dalian University of Technology, China & Chinese Institute of Water Resources and Hydropower Research, China)
16:10-16:30		Applications of the SFBE Model with Line and Surface Scaling Center for the Stiffness of the Infinite Foundation Speaker: Dr. Zhiqiang Hu (Dalian University of Technology, China)
16:30-16:50		Evaluation of Stress Intensity Factors for Multiple Crack Problems Under Crack Surface Traction with SBFEM Speaker: Dr. Junyu Liu (Shenyang University of Technology, China)
16:50-17:10		Development of an SBFEM-based UEL in ABAQUS for General Stress Analysis

	Speaker: Dr. Feng Yao (Zhejiang University, China)
17:10-18:00	Discussion
18:00-20:00	Dinner Location: No.2 Banquet Hall, 2nd floor, DLUT International Conference Center(国际会议中心 2 楼宴会二厅)
Date: November 5, 2018 (Monday)	
Short course: Fundamental and MATLAB Implementation of the Scaled Boundary Finite Element Method	
Lecturer: Prof. Chongmin Song (University of New South Wales, Australia)	
Location: Multifunction Hall(Room 529), 5th floor, No.3 Comprehensive Experiment Building, Faculty of Infrastructure Engineering (建设工程学部综合试验 3 号楼 5 楼多功能厅(529 房间))	
9:00-12:00	(1) Basic formulations of the scaled boundary finite element method in two dimensions: scaled boundary coordinates and transformation, derivation of the scaled boundary finite element equation by virtual work principle, and element coefficient matrices (2) Solution of the scaled boundary finite element equation by eigenvalue decomposition: element stiffness, strain and stress field, and mass matrix.
12:00-14:00	Lunch Location: No.2 Banquet Hall, 2nd floor, DLUT International Conference Center (国际会议中心 2 楼宴会二厅)
14:00-17:00	(3) Platypus – a MATLAB program for 2D linear static and dynamic analysis using the scaled boundary finite element method (4) Automatic polygon mesh generation. (5) Modelling considerations in the scaled boundary finite element method.
18:00-20:00	Dinner Location: No.2 Banquet Hall, 2nd floor, DLUT International Conference Center (国际会议中心 2 楼宴会二厅)

Notice:

In the short course, the computer program Platypus accompanying the book mentioned above can be downloaded from the following links provided by Prof. Chongmin Song (University of New South Wales):

https://app.sugarsync.com/iris/wf/D3010052_06904472_1407189

<https://www.dropbox.com/sh/0nrc7tb9rjhfy3/AABHNwY5oo6SuLI2N4bnNh19a?dl=0>

A computer program for 2D linear static/dynamic analysis with examples for computing the stress intensity factors can be downloaded from:

https://www.researchgate.net/publication/322924708_Sample_code_of_the_scaled_boundary_finite_element_method_for_evaluation_of_stress_intensity_factors_in_2D_MATLAB

General Information

Registration & Receipt

The conference fee is 800RMB (for teacher) and 400RMB (for student) for each participant. Payment can be paid in cash on-site at the conference and receipt is provided at the registration desk. The fee will cover a copy of conference proceedings, banquet, dinner, lunches, and refreshment.

Transportation

Venue of the Conference: DLUT International Convention Center (Same with the venue of accommodation)

The Location of the Dalian University of Technology (DLUT) in Dalian, China:



The SBFEM2018 conference will be held in the INTERNATIONAL CONVENTION CENTER near the south gate of the DLUT:



The Short course will be hold in the 5 floor Multifunction Room, Comprehensive Experiment Building 4, Faculty of Infrastructure Engineering, DLUT (About 10 minutes' walk from DLUT International Convention Center)



From Dalian International Airport to DUT International

Convention Center

Recommended Line 1: taxis queue outside the Arrival Halls of the terminal; taxi fare is about RMB 40.

Recommended Line 2: Metro Line 2→subway station of Jiaotong University(Exit C)→Bus No. 10
(bus station of Jiaotong University) →Maritime University

From Dalian Railway Station to DUT International

Convention Center

Recommended Line 1:taxis queue outside the Railway Station; taxi fare is about RMB 40.

Recommended Line 2: Bus No. 23 (bus station of Friendship Square) →East gate of Dalian
University of Technology

From Dalian North Railway Station to DUT International

Convention Center

Recommended Line 1:taxis queue outside the North Railway Station; taxi fare is about RMB 60.

Recommended Line 2: Metro Line 1→subway station of Fuguo street (Exit D) →Bus No. 901
(bus station of Peace Plaza) →North gate of Dalian University of Technology

The detail information of Local Organizing Committee

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