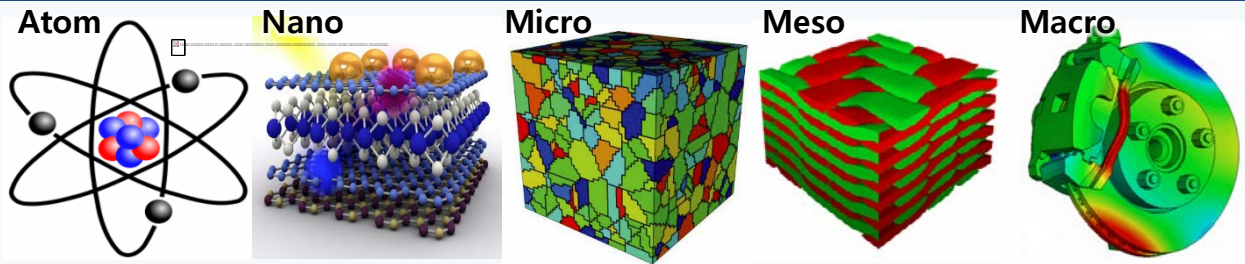


# The 6<sup>th</sup> Korea Multi-Scale Mechanics 2019 Symposium

## (KMSM2019 Symposium)



I am delighted to invite you to the 6th Korea Multi-Scale Mechanics 2019 Symposium which will be held on July 4-5, 2019 at Dongguk University, Korea. Two short-courses on the optimal design, and the medical images and deep learning are organized on July 4 as well as various symposium programs on July 5 including plenary talks, invited sessions and student poster session. In particular, international scholars are invited to present the recent advances in multi-scale mechanics in this year. I hope this symposium would provide you a great platform to discuss and share the ideas and developments in multi-scale mechanics.

KMSM President  
Prof. Maenghyo Cho  
Seoul National University

### ■ Date and Venue

- Date : July 4 (Thr.) ~ 5 (Fri.), 2019
- Venue : New Engineering Building, Dongguk University

### ■ Registration

#### ✓ Preregistration

: All participants need to preregister at KMSM homepage (<http://kmsm.or.kr>) by June 27 (Thr.), 2019.

#### ✓ Abstract Submission

: Abstracts need to be submitted at KMSM homepage (<http://kmsm.or.kr>) by June 26 (Wed.), 2019.

#### ✓ Registration Fee

	Student	Regular
Short courses	100,000 ₩	200,000 ₩
Symposium	170,000 ₩	350,000 ₩

### ■ Important Dates

- ✓ June 26: Abstract submission deadline
- ✓ June 27: Preregistration due

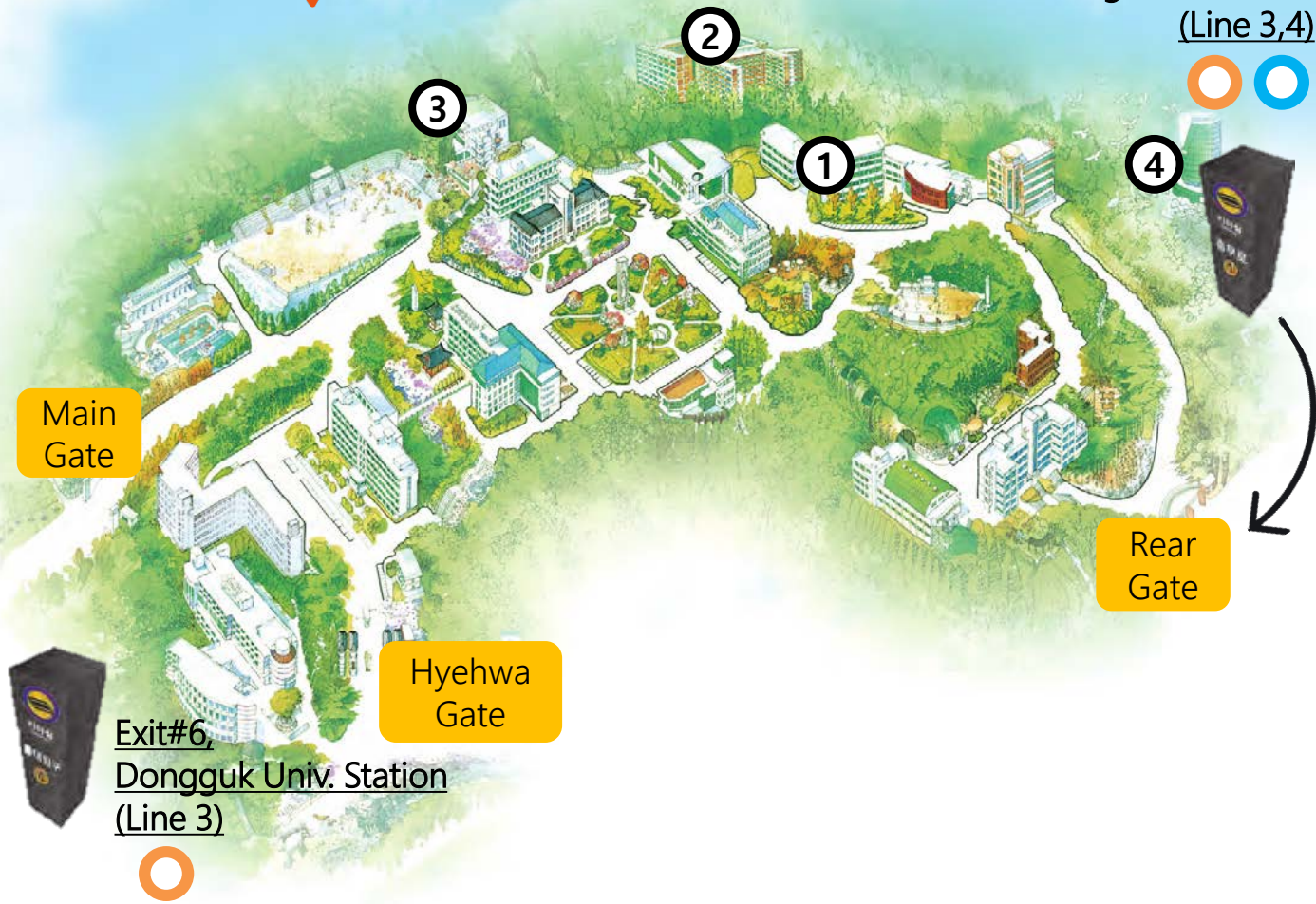
### ■ Organizing Committee

✓ Chairman	: Heung Soo Kim (Dongguk University)	<a href="mailto:heungsoo@dgu.edu">heungsoo@dgu.edu</a>	☎ 02-2260-8577
✓ Co-Chairman	: Seungjun Lee (Dongguk University)	<a href="mailto:sjunlee@dgu.edu">sjunlee@dgu.edu</a>	☎ 02-2260-8579
✓ Co-Chairman	: Jun Won Kang (Hongik University)	<a href="mailto:jwkang@hongik.ac.kr">jwkang@hongik.ac.kr</a>	☎ 02-320-1601
✓ Co-Chairman	: Do-Nyun Kim (Seoul National University)	<a href="mailto:dnkim@snu.ac.kr">dnkim@snu.ac.kr</a>	☎ 02-880-1647
✓ Co-Chairman	: Seunghwa Yang (Chung-Ang University)	<a href="mailto:fafala@cau.ac.kr">fafala@cau.ac.kr</a>	☎ 02-820-5266
✓ Co-Chairman	: Janghyuk Moon (Chung-Ang University)	<a href="mailto:jhmoon84@cau.ac.kr">jhmoon84@cau.ac.kr</a>	☎ 02-820-5413

### ■ Program

Date	Time	Program
July 4 (Thr.)	13:00 ~ 17:20	<b>Short Courses</b> - Design Optimization - Deep Learning and Its Application in Medical Imaging
	09:00 ~ 10:20	<b>Invited Session for Young Investigators</b>
July 5 (Fri.)	10:40 ~ 11:00	<b>Opening Remarks</b>
	11:00 ~ 12:00	<b>Plenary Session</b>
	12:00 ~ 13:20	<b>Lunch</b>
	13:20 ~ 16:00	<b>Invited Sessions</b>
	16:00 ~ 17:30	<b>Student Poster Session</b>
	17:30 ~ 17:40	<b>Closing Remarks</b>
	18:00 ~ 20:30	<b>Banquet</b>

Date	Time	Program	Speaker
July 4 (Thr.)	12:00~13:00	Registration	
	13:00~15:00	<b>Short Course &lt;1&gt;</b> <ul style="list-style-type: none"> <li>Design optimization</li> </ul>	E. Prof. Dong-Hoon Choi (Hanyang Univ., CEO of PIDOTECH Inc.)
	15:00~15:20	Coffee Break	
	15:20~17:20	<b>Short Course &lt;2&gt;</b> <ul style="list-style-type: none"> <li>Deep learning and its application in medical imaging</li> </ul>	Prof. Eunjung Lee (Yonsei Univ.)
July 5 (Fri.)	09:00~10:20	<b>Invited Session for Young Investigators (Chairperson: Prof. Seunghwa Ryu)</b> <ul style="list-style-type: none"> <li>A multiscale model of photo-responsive polymer and its application in soft robotics</li> <li>Evaluation of material properties of multifunctional concrete using micro-CT imaging and virtual specimens</li> <li>A study on the finite element model updating method for digital twin</li> <li>Multiscale model to predict fracture toughness and fatigue crack propagation of polymer nanocomposites</li> </ul>	Prof. Joonmyung Choi (Hanyang Univ. - Erica) Prof. Sang-Yeop Chung (Sejong Univ.) Prof. Seongmin Chang (Kumoh Nat'l Inst. of Tech.) Prof. Hyunseong Shin (Yeungnam Univ.)
	10:20~10:40	Coffee Break	
	10:40~11:00	Opening Remarks	
	11:00~12:00	<b>Plenary Session (Chairperson: Prof. Maenghyo Cho)</b> <ul style="list-style-type: none"> <li>Multiscale modeling using microcontinuum field theory; Nonlocal elastic properties of homogenized framework structures with micromorphic and micropolar beams</li> <li>FETI and POD-ROM for multi-scale and multi-physics computation</li> </ul>	Prof. Yoji Shibutani (Osaka Univ.) Prof. Sang Joon Shin (Seoul Nat'l Univ.)
	12:00~13:20	Lunch	
	13:20~14:40	<b>Invited Session I (Chairperson: Prof. Tong-Seok Han)</b> <ul style="list-style-type: none"> <li>Multi-scale study of the mechanical and thermal properties of hydrogels</li> <li>Origin of long-period stacking order structure in Mg alloys</li> <li>Atomistic study on the J-integral behavior of a moving dislocation</li> <li>Ab-initio based multiscale modeling of formation kinetics of nano-precipitates in Al-Cu alloys</li> </ul>	Prof. Zishun Liu (Xi'an Jiatong Univ.) Prof. Daisuke Matsunaka (Shinshu Univ.) Prof. Sung Youb Kim (UNIST) Prof. Hajime Kimizuka (Osaka Univ.)
	14:40~15:00	Coffee Break	
	15:00~16:00	<b>Invited Session II (Chairperson: Prof. Byeongchan Lee)</b> <ul style="list-style-type: none"> <li>3D printing simulation to measure powder packing density of high entropy alloy using discrete element method</li> <li>Development of charge-transfer type interatomic potential for SiC reactions</li> <li>Mechanics of higher gradient continua in the application of microstructured materials</li> </ul>	Prof. Junyoung Park (Kumoh Nat'l Inst. of Tech.) Prof. So Takamoto (Univ. of Tokyo) Prof. Chun Il Kim (Univ. of Alberta)
	16:00~17:30	Student Poster Session	
	17:30~17:40	Closing Remarks	
	18:00~20:30	Banquet	



**① Short Courses**

Schedule: July 4<sup>th</sup> (Thr.) 13:00-17:20  
Location: 1<sup>st</sup> floor auditorium(E127), Wonheung Hall

**② Symposium**

Schedule: July 5<sup>th</sup> (Fri.) 9:00-17:40  
Location: 4th floor auditorium(4142), New Engineering Building

**③ Lunch**

Schedule: July 5<sup>th</sup> (Fri.) 12:00-13:20  
Location: Sanglokwon(Cafeteria)

**④ Banquet**

Schedule: July 5<sup>th</sup> (Fri.) 18:00-20:30  
Location: Suen-190, Maekyung Media Center 12<sup>th</sup> floor

