

# Conference Programme

Time	Day 1 (7. Nov)	Day 2 (8. Nov)	Day 3 (9. Nov)
08:15 - 08:45	Registration	Registration	Registration
08:45 - 09:00	Welcome		
09:00 - 10:00	<b>John Hallam</b> : From Lizards to LEGO, and back again?	<b>Thierry Darmanin</b> : Tunable Conducting Polymer Nanotubes with Special Wetting Properties	<b>Massimo Sartori</b> : Neuro-Mechanical Modelling for Man-Machine Interaction
10:00 - 11:00	<b>Zhendong Dai</b> : Biomimetic on gecko locomotion: revealing the biology mechanism and developing robot for engineering	<b>Zhiguang Guo</b> : Bioinspired Separation Materials for Liquid Lubricants	<b>Lars Heepe</b> : Biological and Biomimetic Surfaces: Adhesion, Friction, and Applications
11:00 - 11:30	Coffee break		
11:30 - 12:45	<b>Oral presentations A</b>	<b>Jørgen Christian Larsen</b> : FPGA implementation of neural mechanisms for proactive smart house control	<b>Oral presentations E</b>
12:45 - 14:30	Lunch break		
14:30 - 15:30	<b>Han Zhiwu</b> : Fabrication and Performance of Bionic Strain Component	<b>Alexander Spröwitz</b> : Implementing and Testing Bioinspired Mechanisms on Robots to Understand Legged Locomotion	<b>Limei Tian</b> : Non-bactericidal coating of bionic surfaces used for anti-biofouling
15:30 - 16:30	<b>Oral presentations B</b>	<b>Oral presentations C</b>	<b>Oral presentations F</b>
16:35 - 18:30	<b>Lab tour</b>	<b>Oral presentations D</b>	—
19:30 -	<b>Welcome reception</b>	<b>Banquet</b>	—

Note that each paper presentation in the oral presentations consists of a **15-minute talk and 5-minute questions**.

# Wednesday 7th November

08:15 - 08:45 Conference Registration  
08:45 - 09:00 Opening speech  
09:00 - 10:00 Invited speaker - Prof. John Hallam  
10:00 - 11:00 Invited speaker - Prof. Zhendong Dai  
11:00 - 11:30 Coffee break

## Oral presentations A

**11:30 - 11:50**

Using joint-torque for a cost-effective bio-inspired odometer for legged robots

**Authors:** Barbara Schlögl, Dieter Schramm, and Tobias Seidl

**11:55 - 12:15**

Bionic Architecture Design and Energy-Efficient Locomotion for High-Payload Quadrupedal Robot over Rough Terrain

**Authors:** Jing Lin, Zhongyuan Wang, Caiming Sun, and Aidong Zhang

**12:20 - 12:40**

Indigenous Extension Orthosis for Severe Limb Length Discrepancy

**Authors:** Rahul Krishnan, Harish Mohan T, and Ravi Sankaran

**12:45 - 14:30** - Lunch

**14:30 - 15:30** - Invited speaker - Prof. Han Zhiwu

## Oral presentations B

**15:30 - 15:50**

Effect of hardness combination of bionic soft and hard composite surfaces on wear resistance under dry sliding condition

**Authors:** Xiuyun Pang, Peng Zhang, Haifeng Zhang, Hong Zhou, Zhengwei Gu, and Zhihui Zhang

**15:50 - 16:10**

Mechanical Design and Experimental Characterization of Soft Modular Continuum Robot for Surgical Application

**Authors:** Jorn Jansen, M. Wildan Gifari, Hamid Naghibi, Momen Abayazid, and Stefano Stramigioli

**16:10 - 16:30**

A bioinspired switchable superamphiphobic surface with deformable properties

**Authors:** Hujun Wang, Zhihui Zhang, Xiujuan Li, Zhenquan Cui, Cheng Luo, Yanlong Shao, and Luquan Ren

**16:45 - 18:30** - Lab tour

**19:30 - 21:00** - Welcome reception

## Thursday 8th November

08:15 - 09:00	Conference Registration
09:00 - 10:00	Invited speaker - Prof. Thierry Darmanin
10:00 - 11:00	Invited speaker - Prof. Zhiguang Guo
11:00 - 11:30	Coffee break
11:30 - 12:30	Invited speaker - Prof. Jørgen Christian Larsen
12:45 - 14:30	Lunch
14:30 - 15:30	Invited speaker - Dr. Alexander Spröwitz

### Oral presentations C

**15:30 - 15:50**

A one-step optic flow-based distance estimation strategy with monocular camera and IMU Measurement

**Authors:** Shixin Tan and Pakpong Chirarattananon

**15:50 - 16:10**

Study on Wear Resistance and Application of Soft-hard Coupled Nitrided Surface Based on Bionic Ideas

**Authors:** Qian Sun, Peng Zhang, and Ti Zhou

**16:10 - 16:30**

A gecko-like robot with neural CPG-based locomotion control

**Authors:** Donghao Shao, Tao Sun, Zhendong Dai, Weijia Zong, Yu Gu, and Poramate Manoonpong

### Oral presentations D

**16:30 - 16:50**

A Gecko-inspired Soft Robot

**Authors:** Lars Schiller and Arthur Seibel

**16:50 - 17:10**

Hydrogel microcrawlers steered by light

**Authors:** Ivan Rehor, Charlie Maslen, Burak Eral, and Willem Kegel

**17:10 - 17:30**

P(VDF-TrFE) based artificial hydrodynamic receptor inspired by the canal lateral line system of cavefish

**Authors:** Zhiqiang Ma, Yuanhang Xu, Deyuan Zhang, and Yonggang Jiang

**17:30 - 17:50**

Synchronous measurement of forces, real contact areas and tribo-charge between substrate and toes of freely-moving gecko

**Authors:** Buxiang Zhang, Qi Liu, Yu Gu, Yi Song, Jing Tao, and Zhendong Dai

**19:30 - 22:00** - Banquet

## Friday 9th November

08:15 - 09:00 Conference Registration  
09:00 - 10:00 Invited speaker - Prof. Massimo Sartori  
10:00 - 11:00 Invited speaker - Dr. Lars Heepe  
11:00 - 11:30 Coffee break

### Oral presentations E

**11:30- 11:50**

Self-organized quadruped locomotion and body attitude stabilization under adaptive neural control and reflexes

**Authors:** Tao Sun, Zhendong Dai, and Poramate Manoonpong

**11:55 - 12:15**

MORF - Modular Robot Framework

**Authors:** Mathias Thor, Jørgen Christian Larsen, and Poramate Manoonpong

**12:20 - 12:40**

Computational modeling of soft actuator of an MR-compatible robotic phantom that mimics the respiratory motion of the human liver

**Authors:** Nehal Mathur, Hamid Naghibi, Momen Abayazid, and Stefano Stramigioli

**12:45 - 14:30** - Lunch

**14:30 - 15:30** - Invited speaker - Prof. Limei Tian

### Oral presentations F

**15:30-15:50**

A Robotic Gripper Inspired by an Insect Tarsus

**Authors:** Jevgeni Ignasov, Jorgen Christian Larsen, Stanislav Gorb, and Poramate Manoonpong

**15:50-16:10**

New approach to actuate biomimetic soft robots with smart bending materials: implementation for an IPMC-driven jellyfish robot

**Authors:** Qi Wang, Andres Hunt, Arnout Fritz, Max Lucassen, Matthijs van Reeuwijk, Duncan van Sliedregt, Tijmen Nederkoorn, Sjoerd van der Voort, Jelle van Steekelenburg, Oyono de Armada, Hans Goosen, Hassan Hosseinnia, and Fred van Keulen

**16:10 - 16:30**

An Omnidirectional Movement Control for a Hexapod Robot

**Authors:** Yaguang Zhu, Liang Zhang, Tong Guo, and Yongsheng Wu