Program of ISABMEC 2014

From	To	Nov.13 Thursday	Nov. 14 Friday	Nov. 15 Saturday	Nov. 16 Sunday
9:00	9:15		Opening address		
9:15	9:30		(Micro-Swimming Keynote) **Takuji Ishikawa** Biological flow studies at the cellular scale	(Flying Keynote) **Stacey Combes** Bumblebee flight stability in turbulent and unsteady, structured flows	(Biomimetics Keynote) **Haecheon Choi** Biomimetic flow control for aerodynamic performance enhancement
9:30	9:45				
9:45	10:00				
10:00	10:15		**A. Kage** - Falling dynamics of immobilized Chlamydomonas reinhardtii	**K. Senda** - A study on the flight control of a flapping butterfly considering time delay	**I. Yamamoto** - Robotic fish technology and its new evolution
10:15	10:30		**Y. Nonaka** - Inhomogeneous distribution of cells in a microalgae suspension with aeration	**R. Dudley** - Into rude air: hummingbird flight control under challenging circumstances	**P.L. Kuo** - Near-body pressure estimation of a robot fish by its swimming kinematics
10:30	10:45		**A. Ito** - An improvement of the motion controllability of paramecium by the media exchange type long electrode distance pool	**S. Sudo** - On the motility and locomotive organs of beach flea	**S. Kobayashi** - Bio-inspired aquatic propulsion mechanism using variable stiffness fin with torsional elastic rectangular plates and crescent wing
10:45	11:00		Coffee break	Coffee break	Coffee break
11:00	11:15		**T. Goto** - One-dimensional discrete model of biased random walk of bacterial chemo-taxis	(Flying Keynote) **Koji Isogai** Applications of flapping wing aerodynamics to animal locomotion and micro aerial vehicles	**K. Urai** - Development of a ray-inspired robot as a next generation bio-inspired autonomous underwater vehicle
11:15	11:30		**T. Nakai** - Analysis of the velocity correlation in the collective motion of bacteria		**K.Mochida** - Development of undulating fin propulsion system of a squid-like biomimetic underwater robot by using scotch-yoke mechanism
11:30	11:45		**T. Nishizaka** - Analysis of three-dimensional motion of motor proteins and supermolecular assembly		**M. Leftwich** - Sea lion swimming kinematics and geometry for robotic flipper design
11:45			Lunch	Lunch	Lunch
	13:00				
13:00	13:15		(Micro-Swimming Keynote) **Sarah Olson** Effect of fluid resistance on symmetric and asymmetric flagellar waveforms	**YH. Fei** - Aerodynamics analysis in a forward-flying of butterfly (kallima inachus) with varying body motion	**R. Sakai** - DPIV approach for swimming frog robot driven by living muscle
13:15	13:30			**R. Noda** - Wing flexibility effects on aerodynamic performance of a revolving insect wing	**M. Kataoka** - Development of flexible ciliary actuators and their application to mobile robots
13:30	13:45			**Y. Inada** - Flutter prevention effect of a bird-inspired reflection wing	**N. Kato** - Band of biology-inspired flexible pipes for decreasing damage of oil and gas storage tanks caused by large-scale tsunami
13:45	14:00		**T. Hyakutake** - Effect of viscosity on motion characteristics of bovine sperm	Coffee break	**T. Nishimura** - Effects of the differences in right and left asymmetric flapping amplitudes on postural control of MAV
14:00	14:15		**J. Manabe** - Swimming behavior of a model microorganism at a fluid-air interface	**M. Fuchiwaki** - Artificial muscles based on conducting polymer, polypyrrole, move in air and water	**M. Kamii** - Experimental analysis on dynamic characteristics of an ornithopter
14:15	14:30		**T. Yamaguchi** - Self-propelled particle model for memorizing the size of a circular vessel	**T. Kazama** - On the applicability of the decentralized control mechanism of snake locomotion to sea snake locomotion	Coffee break
14:30	14:45		Coffee break	**K. Hoffman** - Understanding locomotor rhythm in the lamprey central pattern generator	Closing ceremony (Student award)
14:45	15:00		(Macro-Swimming Keynote) **Charlotte K. Hemelrijk** The increased efficiency of fish swimming in a school, a new computational model	**C.L. Hamlet** - Functional implications for muscle nonlinearities and feedback in swimming lamprey	
15:00	15:15	Registration		**K. Bando** - Mechanical characterization of alginate-poly(L)lysine-alginate (APA) microcapsules	
15:15	15:30			Coffee break	* Each oral presenter has - 10 minutes for speech - 4 minutes for discussion - 1 minute for transition * Each keynote speaker has - 35 to 40 minutes for speech - 5 to 10 minutes for discussion
15:30	15:45		**K. Terayama** - Analysis of a long-time evolution and fluctuations in the average torus shape of fish school	Poster Session	
15:45	16:00		**T. Takagi** - Fish schooling saves kinetic swimming energy		
16:00	16:15		Coffee break		
16:15	16:30		**G. Iosilevskii** - Hydrodynamic efficiency of a flexible low-aspect-ratio caudal fin		
16:30	16:45		**T. Engels** - A numerical study of vortex-induced drag of elastic swimmer models		
16:45	17:00		**M. Nakashima** - Simulation Analysis of an Octopus-Inspired Propulsion Mechanism		
17:00	17:15		**H. Tanaka** - Hydrodynamics and energetics in rapid acceleration of a dolphin, Lagenorhynchus obliquidens		
17:15	17:30				
17:30	17:45	Welcome reception			Symposium Banquet (Sunset dinner cruise)
17:45	18:00				
18:00	18:15				
18:15	18:30				
18:30	18:45				
18:45	19:00				
19:00	19:15				
19:15	19:30				
19:30	19:45				
19:45	20:00				

List of posters

G. Sugita - Coordinated activity of ciliary beats and muscle contractions is required for the gliding motion in Planarians

S. Kamimura - Length variations of tubulin molecules within native axonemal microtubules

T. Abe - Swimming behavior of bacteria and bioconvection

A. Asaumi - Mechanical strength of flagellar motors of Salmonella MS ring mutant

T. Sumida - Experimental study of flow field in a larvae rearing tank for marine fish

T. Nakayasu - Analysis of movements of medaka fish and construction of 3D animation

H. Morikawa - Estimation of thrust of dolphin by using relationship between deformation of tail flukes and hydrodynamic force

R. Shimano - Vibration reduction for water strider robot using leg springs

J. Iwabe - Biologically inspired water strider robot with microstructured hydrophobic legs

K. Kobayashi - Study on insect-inspired wall-climbing robot: adhesion using viscous liquid

H. Nonaka - Development of eel-like robot using neck mechanism with 2-degree of freedom

A. Koyama - Collective motion control of unmanned air vehicles considering thrust control for formation shape adjustment

Biomechanics in Swimming

Bioimechanics in Flying

Biological Systems and Bio Materials

Biomimetic robots