

International Symposium Series on Mechanical Systems Innovation

Takeda Conference Hall, The University of Tokyo

The 2nd International Symposium on Innovative Aerial/Space Flyer Systems

「宙」を極める。

革新的飛行システムの実現に向けて

December 2, 2005

9:00-9:20 **Opening Address:**

Nobuhide Kasagi

(Program Leader, The University of Tokyo, Japan)
Keiji Kawachi (Head of the Department of Aeronautics and Astronautics, The University of Tokyo, Japan)

Plenary Oral Session 1: MAV & UAV 1

9:20-9:55 Activities in IARP (Innovative Aerial Robot Project) at the University of Tokyo

Part 1. Rotorcraft, *Kazuro Kageyama (The University of Tokyo, Japan)*

Part 2. Airplane, *Shinji Suzuki (The University of Tokyo, Japan)*

9:55-10:30 Autonomous Navigation in Unknown Environments using Model-predictive Approach For Unmanned Aerial Vehicles,
David Shim (University of California, Berkeley, U.S.A.)

10:30-10:50 **Coffee Break**

10:50-11:25 Korean R&D Activities on UAV Systems,
Min-Jea Tahk (Korea Advanced Institute of Science and Technology (KAIST), Korea)

11:25-12:00 SWAN: An Autonomous Unmanned Aerial Vehicle Project Development,
Fei-Bin Hsiao (National Cheng Kung University, Taiwan)

12:00-13:20 **Lunch Break**

Plenary Oral Session 2: MAV & UAV 2

13:20-13:45 Unsteady Aerodynamics of Insect Flight,
Keiji Kawachi (The University of Tokyo, Japan)

13:45-14:20 Design and Flight Test of Cyclocopter with Four Cycloidal Blade Systems,
Seung-Jo Kim (Seoul National University, Korea)

14:20-14:55 The REMANTA Project on MAV with Flapping Wings,
Olivier Dessornes (Office National d'Études et de Recherches Aéropatiales (ONERA), France)

14:55-15:15 **Coffee Break**

Plenary Oral Session 3: Space Energy 1

15:15-15:50 Nano-Satellite Activities in University of Tokyo -Current Staus, Future Vision and Applications to Space Energy Research-,
Shinichi Nakasuka (The University of Tokyo, Japan)

15:50-16:25 Micro Gas Turbine for Micro Drones - Mechanical Behaviour and Technological Difficulties,
Thierry Courvoisier (Office National d'Études et de Recherches Aéropatiales (ONERA), France)

16:25-17:00 The Ultra-micro Wave Rotor Research at Michigan State University,
Norbert Mueller (Michigan State University, U.S.A.)

17:00-18:30 **Lab. Tour to Department of Aeronautics & Astronautics**

18:30-20:00 **Reception at Forest Hongo Hotel**

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Plenary Oral Session 4: Space Energy 2

9:00-9:35 Wave Disk Jet Micro-Engine Idea,
Janusz Piechna (Warsaw University of Technology, Poland)

9:35-10:10 Asia-Pacific Activities and Numerical Simulation on Scramjet Combustor,
In-Seuck Jeung (Seoul National University, Korea)

10:10-10:30 **Coffee Break**

General Oral Session:

Related Fundamental Research: 1 (Space Energy)

10:30-10:45 Energy Beaming for Aerospace Applications,
Kimiya Komurasaki (The University of Tokyo, Japan)

10:45-11:00 Two-phase flows in Space Transportation Systems,
Takehiro Himeno (The University of Tokyo, Japan)

11:00-11:15 Viewing the Earth from Space,
Akira Iwasaki (The University of Tokyo, Japan)

General Oral Session: Related Fundamental Research: 2 (MAV & UAV)

11:15-11:30 Development of Quadrotor MAV,
Hideaki Murayama (The University of Tokyo, Japan)

11:30-11:45 Mars Airplane for Geographical Exploration -Conceptual Design Results from Student Design Projects-,
Kenichi Rinoie (The University of Tokyo, Japan)

11:45-12:00 Large-Eddy Simulation of Low Reynolds Number Transonic Flows,
Susumu Teramoto (The University of Tokyo, Japan)

12:00-12:15 Multidisciplinary Conceptual Design Optimization for Experimental Aircraft,
Takeshi Tsuchiya (The University of Tokyo, Japan)

12:15-13:15 **Lunch Break**

General Oral Session: Related Fundamental Research: 3 (MAV & UAV)

13:15-13:35 Guidance and Control System Design and Evaluation for a Small UAV,
Rui Hirokawa (Mitsubishi Electric Corporation, Japan)

13:35-13:55 Toward Application of UAV in Aerial Observation at Forest Area,
Norio Yuba (Hiroshima Prefectural Forestry Research Center, Japan)

13:55-14:15 **Coffee Break**

Short Oral and Poster Presentation:

Presentation by young faculty members and the graduate students

14:15-15:30 Short Oral Presentation (Two minutes per person)

15:30-17:00 Poster Session (Coffee and Refreshment)

17:00-17:10 **Closing**



主催：東京大学21世紀COEプログラム「機械システム・イノベーション」

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