Opening Ceremony of the UW-TU: AOS

Memorial Workshop on Next Generation Transport Aircraft: April 12-13, 2017

Memorial Symposium: 3:00-5:00 April 13, 2017

Signing Ceremony of AOS and Reception: April 14, 2017

Reception: 2:00-4:00 April 14, 2017

April 12 (Wed.)

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HUB Room-250, UW

Chair : Prof.Okabe

Memorial Workshop on Next Generation Transport Aircraft

- Numerical simulation and analysis for cost effective aircraft design
 - Title: Introduction of "Development of Numerical Simulation Methods for Cost-Effective Aircraft Design"
 Speaker: Shigeru Obayashi
 (Director, Institute of Fluid Science, Tohoku University) (25min)
 - Title: High-fidelity numerical simulation of airfoil flows at non-cruise high Reynolds number conditions
 Speaker: Soshi Kawai
 (Associate Professor, Department of Aerospace Engineering /, Co-director, Next Generation (Jisedai) Aircraft Research Center Tohoku University) (25min)
 - Title: Experimental testing and optimization of tow-steered composites Speaker: Ryosuke Matsuzaki (Junior Associate Professor, Department Mechanical Engineering, Tokyo University of Science) (25min)
 - Title: Analytical evaluation of impact damage in circular laminates Speaker: Hiroshi Suemasu (Professor, Department of Engineering and Applied Sciences, Sophia University)

Break (20 min)

Chair: Dr.Odagiri

Composite Materials

 Title: Effects of the Manufacturing Process on AFP composites Speakers: Dr. Paul Davidson (University of Washington) Nobuyuki Arai or Don Lee (Toray Composite Materials America, Inc.) (30min) - Title: Effects of Moisture Diffusion on Sandwich Composites

Speaker: Mark Tuttle (Director, AMTAS

Department of Mechanical Engineering, University of Washington) (30min)

- Title: Opportunities and Challenges for Polymer Matrix Composites in

Aerospace"

Speaker: Tia Benson Tolle

(Director, Materials and Fabrication

Boeing Commercial Airplanes, Product Development) (30min)

Break(30min)

17.00 - 19.00

Poster Session on Composite Materials for Aircraft and Aero Space Engineering

HUB Room-250, UW

Title: Determination of the Elastic Constants of CFRP Using Resonant

Ultrasound Spectroscopy Presenter: Go Yamamoto

(Associate Professor, Tohoku University)

Title: Continuum damage mechanics modeling of PMC laminates including

transverse cracks

Presenter: Sota Onodera

(Graduate student, Tohoku University)

Title: An attempt to extend skew-symmetric forms to modal discontinuous

Galerkin Schemes

Presenter: Hiroyuki Asada

(Graduate student, Tohoku University)

Title: Multiscale Modeling for Evaluation of Free-Surface Effect on Crack

Formation in Carbon Fiber-Reinforced Composites

Presenter: Yuta Kumagai

(Graduate student, Tohoku University)

Title: Multiscale Plasticity Modeling on Mechanical Anisotropy of Advanced

Materials

Presenter: Yoshiteru Aoyagi

(Associate Professor, Tohoku University)

Title: Curved fiber laminating device for processing of tow-steered composites

Presenter: Atsushi Shinoda

(Graduate student, Tokyo University of Science)

Title: Some Novel Approach for Strength Improvement of Composite T-Joints

Presenter: Shinsaku Hisada

(Graduate Student, The University of Tokyo)

April 13 (Thu.)

09.00 – 12:00 HUB Room-250, UW Chair: Prof.Obayashi	 Memorial Workshop on Composite Materials for Aircraft and Aero Space Engineering Cross - ministerial Strategic Innovation Promotion Program (SIP): Innovative Materials for Structure Program Title: Further Development of High Rate Production Innovative Aircraft CFRP and Quality Assurance Technology Speakers: Nobuo Takeda and Akira Hamamoto (TJCC, The University of Tokyo) (30min) Title: Motivation, Status and challenges - Tough and high volume production-ability CFRP development Speaker: Toshio Abe
	Speaker: Toshio Abe (Churyo Engineering Co., Ltd.) (30min) - Title: Multiscale Simulation of CFRP Considering Geometrical Imperfection Speaker: Akinori Yoshimura (JAXA) (30min) - Title: Optical Fiber Based Intelligent Process Monitoring and Modeling of CFRP Structures Speakers: Nobuo Takeda and Shu Minakuchi (TJCC, The University of Tokyo) (30min)
	- Title: Impact Damage Simulations on Composite Laminates Speakers: Anthony Waas and Solver Thorsson (William E Boeing Department of Aeronautics and Astronautics, University of Washington)(30min)
12.00 – 13:00 TBC	Lunch

15:00 – 17:15

HUB Room-250, UW

Moderator Prof. Ohuchi

TOTAL 125~135min

UW-TU:AOS Opening Memorial Symposium

(First Half-Total 54 min talk: 57+3=60 min)

• Welcome Address

- Prof. Susumu Satomi, President, Tohoku University (3 min)
- Dean of College of Engineering, Michael Bragg, University of Washington (3 min)
- Dean of College of Engineering, Hirotsugu Takizawa, Tohoku University (3 min)
- Toray Composite Materials America, Inc. Vice President, Nobuyuki Odagiri (3min)

• TU Globalization and collaboration with US

- Prof. Toshiya Ueki, Executive Vice President, Tohoku University (5 min)

• Goals and Roles of UW-TU:AOS

- Prof. Fumio Ohuchi, Interim Chair of Materials Science and Engineering, University of Washington (10 min)

• Keynote Speech:

Japan's National Project "Cross-ministerial Strategic Innovation Promotion Program" and UW-TU:AOS

- Prof. Nobuo Takeda, International Initiatives Organization, Tohoku University / Director, TJCC, the University of Tokyo and Masahiro Takemura, SIP Director, Structural materials for Innovation, Japan Science and Technology Agency (JST) (30 min)

(Second Half-Total 56 min talk: 56+9=65 min)

• <u>UW-TU:AOS's Strategic Development in Education and Research</u> Education and Information Exchange

- Prof. Kyosuke Yoshimi, Graduate School of Engineering, Tohoku University (8 min)

Research Matching in Energy Systems for Transportation

- Prof. Shigeru Obayashi, Director, Institute of Fluid Science, Tohoku University (8 min)
- Prof. Dan Schwartz, Clean Energy Institute, Director, Chemical Engineering Department, University of Washington (8min)

Research Matching in Next Generation Airplane and Space Technology

- Prof. Anthony Waas, Aerospace and Astronautics Department, University of Washington (8 min)
- Prof. Kristi Morgansen, Space Research Center, Aerospace and Astronautics Department, University of Washington (8 min)

Research Matching in Natural Hazard and Disaster Engineering

- Prof. Yamaguchi, Tohoku University, representing Int. Res. Inst. of Disaster Science (IRIDeS) (8min)
- Prof. Laura L Lowes, University of Washington, Natural Hazard Engineering (8 min)
 VIP dinner (Invitation only)

April 14(Fri.)

10.00 – 10:30	UW-TU: AOS Signing ceremony
Gerberding Hall Conference room (No Public)	 Address Prof. Ana Mari Cauce, President of UW Prof. Susumu Satomi, President of TU Mr. Masahiro Omura, Consul General of Japan in Seattle Prof. Toru Tamiya, Director of JSPS San Francisco Office
	MOU signingGift ExchangeGroup photo
	*Moderator: Vice Provost Jeffrey Riedinger , UW
	 Walk in the campus and visit AOS Lunch at the Faculty Club Transfer to the Official Residence of Consul General of Japan
14.00 - 16.00	UW-TU:AOS Reception .
Official residence of Consul General of Japan Address: 23 Highland Drive Seattle, WA 98109 (Invitation Only)	 Address Mr. Masahiro Omura, Consul General of Japan in Seattle Prof. Susumu Satomi, President of TU Prof. Greg Miller, Vice Dean of the University of Washington, College of Engineering Mr. Brian Bonlender, Director of Washington State Department of Commerce Toast Mr. Moriyuki Onishi, President and CEO of Toray Composite Materials America
	 AOS introduction Prof. Fumio Ohuchi, UW
	*Moderator: Associate Executive Vice President Masahiro Yamaguchi , TU