



JISSE-18

18th Japan International SAMPE Symposium & Exhibition

SYMPOSIUM & EXHIBITION

TFT Building

Nov. 29 - Dec. 1, 2023



TOKYO, JAPAN

Welcome to JISSE-18

We are delighted to be organizing JISSE-18 and we trust you will have an outstanding experience at the symposium and during your stay in Tokyo and Japan. JISSE-18 continues the 34 year history of the Japan International SAMPE Symposium & Exhibition, which began in 1989. JISSE-18 will attract the leading researchers and practitioners, to exchange and share ideas on the latest developments and advancement in a wide range of advanced materials and structures. The theme of JISSE-18 is 'New Era of Composites, Further Exploration and Beyond' with the overall objective of exploring the latest research on composites and their future applications in aerospace, automotive, construction, and other industries. Plenary and keynote lectures from the leaders in a variety field of composites R&D are planned, along with oral and poster presentations with the authors coming from all corners of the world.

Once again, we are pleased to welcome you to Tokyo and JISSE-18.

Dr. Yuichiro Aoki

Chair of the Symposium Committee

Senior researcher

Japan Aerospace Exploration Agency

Committee member

Dr. Shinsaku Hisada, Japan Aerospace Exploration Agency

Dr. Mio Sato, Japan Aerospace Exploration Agency

Dr. Satoshi Hishimoto, Altair Engineering Inc.

Dr. Sota Oshima, Tokyo Metropolitan University

Dr. Akinori Yoshimura, Nagoya University

Dr. Shu Minakuchi, The University of Tokyo

Dr. Ryo Higuchi, The University of Tokyo

Dr. Tomohiro Yokozeki, The University of Tokyo

Dr. Keisuke Iizuka, Aoyama Gakuin University

Dr. Noriyasu Yamada, Japan Aerospace Exploration Agency

Mr. Yoshiaki SOMEYA, SAMPE Japan

TFT Building East 9F, 3-6-11, Ariake, Koto-ku, Tokyo 135-0063, Japan

The map illustrates the extensive Tokyo subway network, highlighting major lines and stations. Key features include:

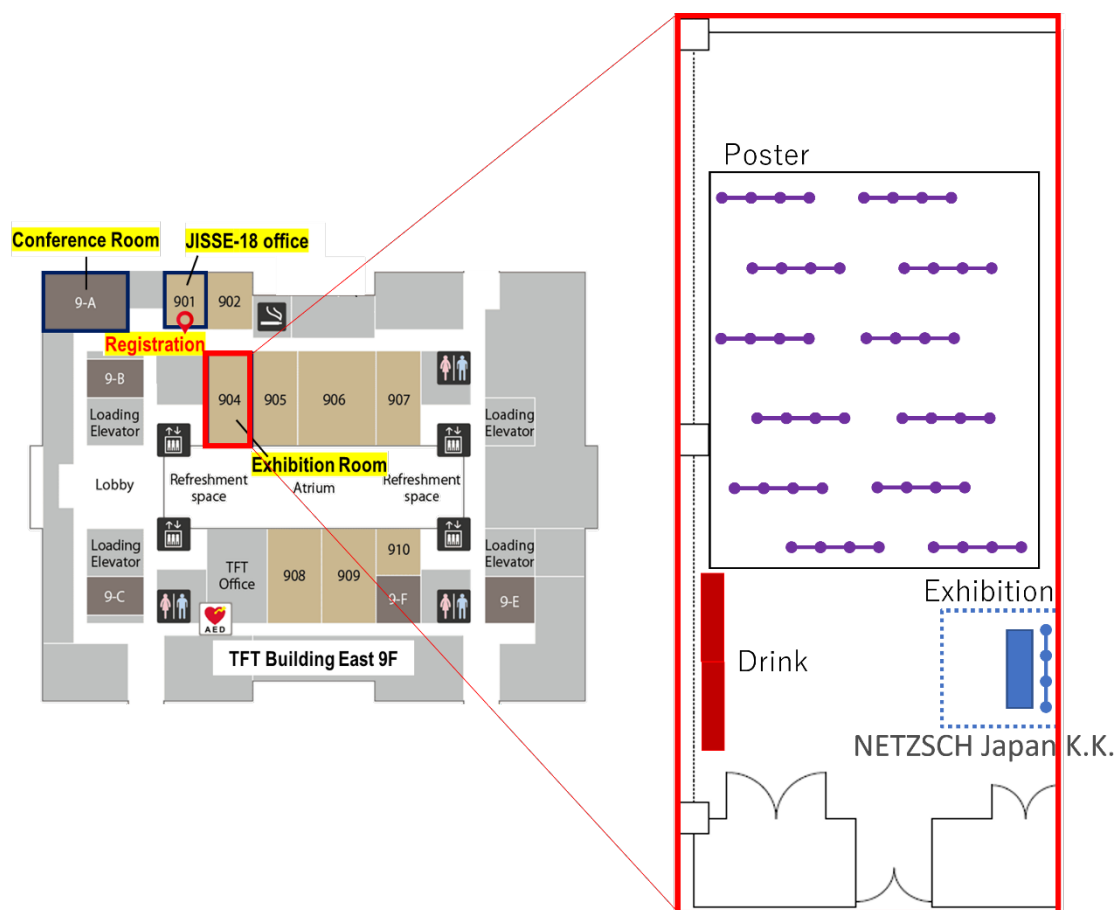
- Major Lines:** JR Saikyo Line, JR Keihin-Tohoku Line, Skyliner, JR Yamanote Line, JR Sobu Line, JR Chuo Line, Ginza Line, JR Keio Line, JR Musashino Line, JR Rinkai Line, and others.
- Stations:** Haneda Airport, Narita Airport, Shinjuku, Ikebukuro, Shibuya, Tokyo, Akihabara, Ueno, Nishi-Funabashi, Chiba, and various stations in the Kanto region.
- Legend:** TIME 24, TIME24 Bldg., TFT, Tokyo Fashion Town Bldg., Ariake Park, and Ariake Park Bldg.

This detailed area map shows the Ariake region and its surroundings in Tokyo. The map highlights the Rinkai Line (blue) and Yurikamome Line (red). Key locations include the Tokyo International Cruise Terminal, Tokyo Bay Tunnel, and various parks and sports facilities. Major roads like Shuto Expressway No. 357 and Shuto Expressway No. 10 are also shown. The map includes labels for various buildings, parks, and transportation hubs, providing a comprehensive overview of the area.

Symposium Exhibition

Venue: TFT Building East 9F (Room 904)

Exhibit Hours: 10:30 – 17:50 on November 29, 9:00 – 17:30 on November 30, 9:00 – 10:20 on December 1.



Presentations not to miss!

Plenary lectures



Mr. Sylvain Cerdan

Technology roadmap owner for composites and polymers materials & processes

Airbus

Lecture title: Next generation of Composites at Airbus: key enablers for Sustainable Aviation

(November 29, 9:30 - 10:20)



Prof. Jun Takahashi

Professor

Department of Systems Innovation

The University of Tokyo

Lecture title: Development of CFRP for a low-carbon society, circularity and beyond

(November 29, 10:40 - 11:30)



Dr. Akihiko Kitano

Executive Fellow

Toray Industries, Inc.

Lecture title: Carbon fiber reinforced plastics for a sustainable society

(November 29, 13:50 - 14:40)



Dr. Sarah Cox

President

SAMPE North America

Lecture title: Catalyzing change through collaboration: SAMPE's role in forging sustainable composites

(November 29, 17:00 - 17:50)

Presentations not to miss!

Plenary lectures



Mr. Michael Anderson

Technology Strategist

Boeing Research & Technology

Lecture title: Aerospace Composites – The Future of Flight

(November 30, 9:30 – 10:20)



Dr. Takaomi Inada

Engineering Department, Civil Aero-Engine Division

IHI Corporation

Lecture title: Potential of composites to innovate civil aero engines and related structures

(November 30, 10:40 – 11:30)



Mr. Yuta Urushiyama

Expert Engineer

Innovative Research Excellence

Honda R&D Co., Ltd.

Lecture title: Strength design and damage mechanics of CFRP in automotive structures

(November 30, 13:20 – 14:10)



Dr. Ichiro Kitano

Head of Composites Innovation Center

TEIJIN LIMITED.

Lecture title: Advanced composites technologies for mass production of next GEN mobilities

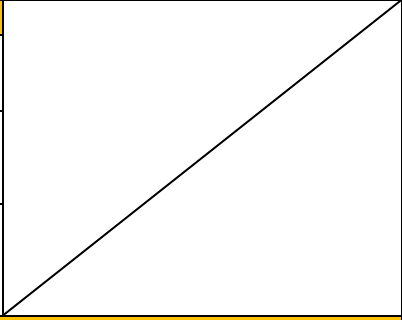
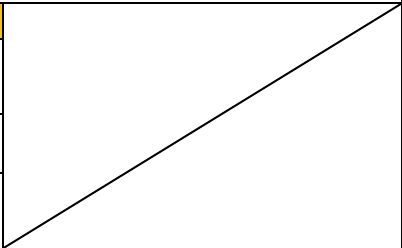
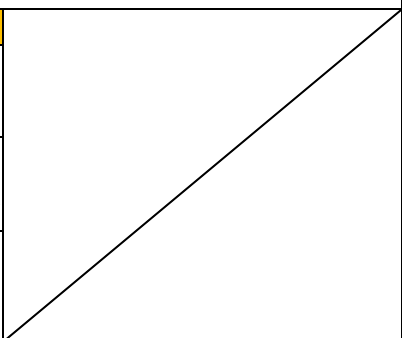
(November 30, 16:40 – 17:30)

JISSE-18 Program

JISSE-18 Conference : TFT Building (Room 9-A)
 JISSE-18 Exhibition : TFT Building (Room 904)
 SAMPE Japan Exhibition 2023 : Tokyo Big Site, West Exhibition Hall

Nov. 29, 2023			
Venue	TFT Building		Tokyo Big Site
Room	Conference Room (9-A)	JISSE-18 Exhibition Room (904)	West Exhibition Hall
9:00 -	Registration		
9:25 - 9:30	Opening address Tsuyoshi Ozaki (SAMPE Global)		
	Plenary Lecture (PL01) @Conference Room Chair: Yuichiro Aoki		
9:30 - 10:20	(PL01) Next generation of Composites at Airbus: key enablers for Sustainable Aviation Sylvain Cerdan (Airbus)		10:00 - 17:00 SAMPE Japan Exhibition 2023
10:20 - 10:40	Coffee Break @ JISSE-18 Exhibition Room		
	Plenary Lecture (PL02) @Conference Room Chair: Shinsaku Hisada		
10:40 - 11:30	(PL02) Development of CFRP for a low-carbon society, circularity and beyond Jun Takahashi (The University of Tokyo)		
11:30 - 12:20	Lunch		
	Polymer Matrix Composites 1 Chair: Masahito Ueda	Student Session 1	
12:20 - 12:40	(1A01) PHYSICAL PROPERTIES OF PALM OIL-MODIFIED CELLULOSE-FILLED POLYPROPYLENE Feng Tang, Dae Su Kim	12:00-13:00 Student Presentation (S01-S12) 13:00-13:10 Company Introduction 1 13:10-13:20 Company Introduction 2 13:20-13:50 Student Poster session (S01-S12)	
12:40 - 13:00	(1A02) DEVELOPMENT OF THERMOPLASTIC COMPOSITES BY WET COMPRESSION MOLDING PROCESS WITH IN-SITU POLYMERIZABLE ACRYLIC RESIN AND RECYCLED CARBON FIBER MATS Katsuhiko Nunotani, Fumi Ariura, Kiyoshi Uzawa		
13:00 - 13:20	(1A03) PHYSICS GUIDED TRANSFER LEARNING FOR PROPERTY PREDICTION IN COMPOSITE ADDITIVE MANUFACTURING Akshay J Thomas, Mateusz Jaszczuk, Eduardo Barocio, Ilias Bilonis, R. Byron Pipes		
13:20 - 13:50	Coffee Break @ JISSE-18 Exhibition Room		
	Plenary Lecture (PL03) @Conference Room Chair: Akinori Yoshimura		
13:50 - 14:40	(PL03) Carbon fiber reinforced plastics for a sustainable society Akihiko Kitano (Toray Industries, Inc.)		
14:40 - 14:50	Coffee Break @ JISSE-18 Exhibition Room		
	Polymer Matrix Composites 2 Chair: Sho Miyashita	Student Session 2	
14:50 - 15:10	(1A04) IMPACT RESISTANCE OF CFRP PLATE WITH ELASTOMER FOR LOW-VELOCITY IMPACT Kohei Yoshida, Kazuhiro Miura, Masato Yamashita, Daishi Sumi	14:50-15:55 Student Presentation (S13-S25) 15:55-16:05 Company Introduction 3 16:05-16:15 Company Introduction 4 16:15-16:25 Company Introduction 5 16:25-17:00 Student Poster Session (S13-S25)	
15:10 - 15:30	(1A05) TRIGGER MECHANISM OF AXIAL COMPRESSIVE FAILURE OF A UNIDIRECTIONAL CARBON FIBER REINFORCED PLASTIC Masahito Ueda, Yuki Suzuki		
15:30 - 15:50	(1A06) INVESTIGATING APPLICATIONS OF TRANSPARENT COMPOSITES THAT BALANCE OPTICAL AND MECHANICAL PROPERTIES Tianlei Zhou, Ayumi Takaoka, Kotaki Masaya		
15:50 - 16:10	(1A07) EVALUATION OF ELASTO-VISCOPLASTIC PROPERTIES OF UNIDIRECTIONAL CFRP CONSIDERING STRESS TRIAXIALITY Takemaro Iguchi, Keita Goto, Masahiro Arai, Akinori Yoshimura		
16:10 - 16:30	(1A08) DAMAGE BEHAVIOR OF TOUGHENED CFRP SUBJECTED TO LOW VELOCITY IMPACT Daiki Suzuki, Keita Goto, Masahiro Arai, Akinori Yoshimura		
16:30 - 17:00	Coffee Break @ JISSE-18 Exhibition Room		
	Plenary Lecture (PL04) @Conference Room Chair: Shu Minakuchi		
17:00 - 17:50	(PL04) Catalyzing change through collaboration: SAMPE's role in forging sustainable composites Sarah Cox (SAMPE North America)		
18:30 - 20:30	Welcome reception at "Grand Blanc" Washington Hotel Tokyo Bay Ariake		

Nov. 30, 2023

Venue	TFT Building		Tokyo Big Site	
Room	Conference Room (9-A)	JISSE-18 Exhibition Room (904)	West Exhibition Hall	
9:00 -	Registration			
	Plenary Lecture (PL05) @Conference Room Chair: Tomohiro Yokozeki			
9:30 - 10:20	(PL05) Aerospace Composites – The Future of Flight Michael Anderson (Boeing)			
10:20 - 10:40	Coffee Break @ JISSE-18 Exhibition Room			
	Plenary Lecture (PL06) @Conference Room Chair: Sota Oshima			
10:40 - 11:30	(PL06) Potential of composites to innovate civil aero engines and related structures Takaomi Inada (IHI Corporation)			
11:30 - 12:20	Lunch			
	Numerical Modeling and Structural Design Chair: Takao Okada			
12:20 - 12:40	(2A01) OPTIMIZATION DESIGN OF LAMINATED SHELL STRUCTURES FOR BUCKLING STRENGTH BY EVOLUTIONARY ALGORITHM Masato Somemiya, Norio Hirayama			
12:40 - 13:00	(2A02) NUMERICAL ANALYSIS OF FATIGUE ACCUMULATION IN COMPOSITE LAMINATES USING A CZM-BASED EXTENDED FINITE ELEMENT METHOD Rong-Can Hong, Ryo Higuchi, Tomohiro Yokozeki			
13:00 - 13:20	(2A03) NUMERICAL SIMULATION ON MATRIX CRACKING BEHAVIORS IN COMPOSITE LAINATES FOR CRYOGENIC TANKS Ryoma Aoki, Ryo Higuchi, Tomohiro Yokozeki, Hisashi Kumazawa, Hiroaki Amakawa, Kosuke Kawakami, Mitsuo Matsunaga, Toshiya Saito, Toru Kamita			
	Plenary Lecture (PL07) @Conference Room Chair: Mio Sato			
13:20 - 14:10	(PL07) Strength design and damage mechanics of CFRP in automotive structures Yuta Urushiyama (Honda R&D Co., Ltd.)			
14:10 - 14:20	Coffee Break @ JISSE-18 Exhibition Room			
	Composite Manufacturing Chair: Keisuke Iizuka			
14:20 - 14:40	(2A04) RESIN FLOW SIMULATION CONSIDERING RACE TRACKING IN RESIN TRANSFER MOLDING Takeshi Fujita, Kosuke Ikeda			
14:40 - 15:00	(2A05) RESEARCH ON 3D MODEL COMPLETION BY GENERATIVE AI Makoto Inomoto, Yusuke Shiba			
15:00 - 15:20	(2A06) HIGH-CYCLE LOW-PRESSURE RTM WITH PREFORMABLE THERMOPLASTIC TOW PREPREG Hirofumi Nishida, Kiyoshi Uzawa			
15:20 - 15:30	Coffee Break @ JISSE-18 Exhibition Room			
	Aerospace Applications Chair: Ryoma Aoki			
15:30 - 15:50	(2A07) ENHANCED REPLICATION TECHNIQUE FOR FABRICATING ULTRA-LIGHT CFRP MIRRORS FOR SPACE TELESCOPES Shin Utsunomiya, Tsuyoshi Ozaki, Masakatsu Ide, Yutaka Yamagata, Hiroshi Saito, Kazuro Kageyama			
15:50 - 16:10	(2A08) INFLUENCE OF PREPREG GAP/OVERLAP ON THE MECHANICAL PROPERTIES OF THIN-PLY CFRP Sho Miyashita, Yuichiro Aoki, Sunao Sugimoto, Toshiya Nakamura			
16:10 - 16:30	(2A09) NUMERICAL AND EXPERIMENTAL EVALUATION OF MECHANICAL BEHAVIOR OF HYBRID JOINT UNDER THERMAL AND EXTERNAL LOADS H. Kumazawa, T. Okada, T. Takeda, S. Miyashita, T. Toyosawa, T. Kasahara, K. Yamada, K. Nagao, Y. Aoki, H. Shoji			
16:30 - 16:40	Coffee Break @ JISSE-18 Exhibition Room			
	Plenary Lecture (PL08) @Conference Room Chair: Ryo Higuchi			
16:40 - 17:30	(PL08) Advanced composites technologies for mass production of next GEN mobilities Ichiro Kitano (TEIJIN LIMITED.)			
18:30 - 20:30	Banquet at "Iris" Washington Hotel Tokyo Bay Ariake			

Dec. 1, 2023				
Venue	TFT Building		Tokyo Big Site	
Room	Conference Room (9-A)	JISSE-18 Exhibition Room (904)	West Exhibition Hall	
9:00 -	Registration		10:00 - 17:00 SAMPE Japan Exhibition 2023	
	Experimental Characterization Chair: Yi Wan			
9:30 - 9:50	(3A01) RESEARCH ON WEGHT REDUCTION OF FISHING ROD Katsuhiro Oikawa			
9:50 - 10:10	(3A02) ESTIMATION OF FIBER ORIENTATION DISTRIBUTION IN CARBON FIBER REINFORCED POLYAMIDE 6 BY X-RAY DIFFRACTON IMAGES Atsuhiko Yamanaka, Mariko Terada, Ryota Yamabe, Makoto Ichiki			
10:10 - 10:30	(3A03) MICROSCOPIC DAMAGE PROGRESSION AND GAS LEAKAGE BEHAVIOR OF THIN-PLY CFRP LAMINATES UNDER BIAXIAL TENSILE LOADING Daigo Sato, Kazuyoshi Fujishiro, Hisashi Kumazawa, Hitoshi Hamori, Toshio Ogasawara			
10:30 - 10:50	Coffee Break @ JISSE-18 Exhibition Room			
	Mechanics and Processing of Discontinuous Fiber Composites Chair: Noriyasu Yamada			
10:50 - 11:10	(3A04) EFFECT OF TAPE SHAPE ON MECHANICAL PROPERTY STOCHASTICITY OF CFRTF-SMC Yi Wan, Xiaodong Xu, Jun Takahashi			
11:10 - 11:30	(3A05) MATERIAL FLOW AND FIBER STRUCTURE EVALUATION OF CTT RIBBED PRESS MOLDINGS WITH DIFFERENT FIBER ORIENTATIONS Takehiro Shirai, Shinya Hayashi, Kiyoshi Uzawa			
11:30 - 11:50	(3A06) SIMULATION OF MATERIAL FLOW AND FIBER STRUCTURE WITHIN CTT RIBBED PRESS MOLDINGS WITH DIFFERENT FIBER ORIENTATIONS Shinya Hayashi, Takehiro Shirai, Kiyoshi Uzawa			
			12:40-16:45 IHI/SAMPE Japan Student Bridge Contest @ SAMPE Japan special stage (West hall 2)	

Student Session		
Students have 5min presentations in the JISSE-18 Exhibition Room (904) on November 29. The student poster session will also be held in the same room on the same day.		
Student session 1		
12:00 - 13:00	S01	MONITORING HYDROTHERMAL AGING OF CFRTP BY NON-DESTRUCTIVE VIBRATIONAL METHOD Weizhao Huang, Yi Wan, Jun Takahashi
	S02	BLADE AND STRUCTURE DESIGN OPTIMIZATION OF VERTICAL AXIS WIND TURBINE USING SURROGATE MODEL COMBINED WITH GA APPROACH Peng Xue, Yi Wan, Takumi Morishima, Hiromichi Akimoto, Jun Takahashi
	S03	THE FATIGUE BEHAVIOR OF BOLTED CARBON FIBER REINFORCED THERMOPLASTIC SHEET MOLDING COMPOUNDS WITH DIFFERENT TAPE GEOMETRIES X. Tong, Y. Wan, J. Takahashi
	S04	INFLUENCE OF TAPE SHAPE ON THE INTERNAL GEOMETRY OF CFRTP-SMC R. XU, Y. Wan, J. Takahashi
	S05	STUDY ON STRUCTURE STABILITY OF CFRTP UNDER AXIAL COMPRESSION Q. Wang, Y. Wan, J. Takahashi
	S06	MANUFACTURING AND TENSILE MODULUS CHARACTERIZATION OF NONWOVEN CARBON FIBER REINFORCED THERMOPLASTICS CONSIDERING STOCHASTIC MICROSTRUCTURES Qian Gao, Yi Wan, Haruna Maruko, Jun Takahashi
	S07	CYCLIC HYDROTHERMAL AGING TEST OF CFRTP UNDER SEVERE MARINE ENVIRONMENT Fan Zhang, H. Wei, Y. Wan, J. Takahashi
	S08	EXPERIMENTAL INVESTIGATION OF MECHANICAL PROPERTIES AND INTERNAL STRUCTURE OF CFRTP-SMC: INFLUENCE OF TAPE LENGTH AND THICKNESS IN FLOW COMPRESSION MOLDING Zihao Zhao, Yi Wan, Jun Takahashi
	S09	SEGMENTATION OF CFRTP CARBON FIBERS IN 3D CT IMAGES USING NNU-NET Cheng Jin, Yi Wan, Jun Takahashi
	S10	EXPERIMENTAL VALIDATION OF TENSILE PROPERTIES OF CFRTP-SMC WITH PARALLELOGRAM TAPES P. Lu, R. Xu, Y. Wan, J. Takahashi
	S11	DUAL-SCALE MODEL FOR STIFFNESS AND STRENGTH PREDICTION OF CFRTP-SMC BASED ON PERIDYNAMIC THEORY Zhiyu Wang, Yi Wan, Jun Takahashi
	S12	CROSS-SECTIONAL STRUCTURE OPTIMIZATION OF FLOATING AXIS WIND TURBINE BLADES BY CFRP Tomotaka Suzuki, Peng Xue, Hiromichi Akimoto, Yi Wan, Jun Takahashi
13:00 - 13:10	Company Introduction 1 Teijin limited (in Japanese)	
13:10 - 13:20	Company Introduction 2 Forward Engineering Japan Co., Ltd. (in Japanese)	
13:20 - 13:50	Student Poster Session (S01-S12)	
Student session 2		
14:50 - 15:55	S13	MONTE CARLO SIMULATION STUDY ON THE EFFECT OF MIXING TAPES WITH DIFFERENT SHAPES ON THE STRENGTH OF CFRTP-SMC Shingo Miyamoto, Rouchen Xu, Yi Wan, Jun Takahashi
	S14	PREDICTION OF EFFECTS OF FIBER LENGTH AND FIBER DIAMETER DISPERSION ON THE STRENGTH AND MODULUS OF CARBON FIBER PAPER REINFORCED THERMOPLASTICS Ayumu Uno, Qian Gao, Yi Wan, Jun Takahashi
	S15	MOLDING AND MECHANICAL PROPERTIES OF CFRTP PIPE WITH NANO DISPERSED CNT/CF FIBER Riki Oishi, Nakai Asami, Maki Onizuka, Takuzi Komukai
	S16	IMPACT OF FOLDABLE JOINT STRUCTURES ON THE WEIGHT OF FLOATING AXIS WIND TURBINES Kota Yokomizo, Peng Xue, Yi Wan, Jun Takahashi
	S17	DYNAMIC LOAD IDENTIFICATION OF AL-ALLOY AND CFRP PANELS SUBJECTED TO SIMULATED LIGHTNING STRIKE Kazuki Tsuchida, Kenji Asakawa, Yoshiyasu Hirano, Toshio Ogasawara
	S18	WATER ABSORPTION PROPERTIES OF S-CF/PA6 LAMINATES FORMED BY FDM-TYPE 3D PRINTER Kosuke Hida, Kaichi Ohshiro, Ruu Nukamoto, Kohji Suzuki
	S19	FRACTURE BEHAVIOR OF CFRP LAMINATES ON FHC Yutaro Watanabe, Kentaro Sakai, Yutaka Iwahori, Eiichi Hara, Hisaya Katoh, Atsushi Kondo
	S20	RELATIONSHIP BETWEEN JOINT SHAPE AND BOND STRENGTH OF CFRP LAMINATES Monami Shiba, Yutaka Iwahori
	S21	RESIDUAL COMPRESSION STRENGTH OF CFRP LAMINATES AFTER EDGE IMPACT CAUSED BY VARIOUS ENERGIES Yusuke Joko, Yutaka Iwahori
	S22	RELATIONSHIP BETWEEN COOLING RATE IN THERMOPLASTIC CFRP MOLDING AND 90-DEGREE TENSILE STRENGTH AND STUDY OF TEST METHODS Yuto Ishizuka, Yutaka Iwahori
	S23	EFFECTS OF SURFACE CONDITION ON TENSILE BOND STRENGTH Kenta Yamagishi, Yutaka Iwahori
	S24	TIME-DEPENDENT WARP OF CFRP ASYMMERIC LAMINATES WITH POLYPROPYLENE AS MATRIX N. Matsushita, M. Nakada, Y. Miyano, T. Isaki, K. Uzawa
	S25	THE APPLICATION OF RECYCLING CFRP SANDWICH TO THE BLADE OF A VERTICAL FLOATING OFFSHORE WIND POWER GENERATION Takumi Morishima, Yi Wan, Peng Xue, Jun Takahashi, Hiromichi Akimoto
15:55 - 16:05	Company Introduction 3 SHIKIBO LTD. (in Japanese)	
16:05 - 16:15	Company Introduction 4 Techlab Co.,Ltd. (in Japanese)	
16:15 - 16:25	Company Introduction 5 IHI Corporation (in Japanese)	
16:25 - 17:00	Student Poster Session (S13-S25)	