

Monday 25 September

Civic Hall
9:00-9:20 Opening

9:30-10:30 Plenary Lecture 1 Taku Ohara, Professor, Tohoku University, Japan Heat Conduction in Liquids, Soft Matters, and over Interfaces: A Molecular Dynamics View Chair : Hironori Satoh (Sojo University)

11:00-12:00 Plenary Lecture 2 Xing Zhang, Professor, Tsinghua University, China Multidisciplinary optimization design for electronic devices: based on in-situ measurements of multi-physical fields and integration evaluation Chair : Atsuki Komiya (Tohoku University)
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12:00-13:00 Lunch

Room A	Room B	Room C	Room D	Room E
13:00-15:00 Experimental/Computational Fluid Dynamics 1 Chair : Kazuya Tsubuni (Kyoto University)	13:00-15:00 Electronics Packaging and Thermal Management 1 Chair : Koji Nishi (Aichi Institute of Technology)	13:00-14:20 Boiling and Multi-Phase Flow 1 Chair : Junnosuke Okajima (Tohoku University)	13:00-14:40 Turbulence and Flow Instabilities 1 Chair : Misa Ishimura (Yokohama National University)	13:00-14:20 Sustainable & Renewable Energy 1 Chair : Shuichi Torii (Kumamoto University)
51 FLOWS DRIVEN BY ULTRASOUNDS IN LIQUIDS IN A WALL MASS TRANSFER ENHANCEMENT PERSPECTIVE <i>Valéry Botton, Nouhayla El Ghani, Sophie Miralles, Daniel Henry, Hamda Ben Hadid, Benoit Ter-Ovanesian and Sabrina Marcellin</i>	14 PREDICTION OF THERMAL CONTACT RESISTANCE BY CONTACT ANALYSIS MODEL REPLICATING NON-UNIFORM CONTACT SURFACE <i>Hirotohi Aoki, Kazuyoshi Fushinobu and Toshio Tomimura</i>	54 REVIEW OF THE FALLING FILM EVAPORATION ON A HORIZONTAL TUBE BUNDLE <i>Hao-Yu Lin, Muneeshwaran M, Cheng-Min Yang, Kashif Nawaz and Chi-Chuan Wang</i>	29 FLOW VISUALIZATION AND TIME SCALE EVALUATION BY PIV MEASUREMENT IN RECIPROCATING AGITATOR IN THE TURBULENCE OF A VISCOELASTIC FLUID <i>Shu Sato and Shumpei Hara</i>	77 SYNTHESIS OF LIQUID FUELS BY PLASMA IN LIQUID <i>Shintoku Nomura, Kohei Baba, Junichi Nakajima, Ryota Shiba and Ryo Shimizu</i>
96 BAYESIAN PARAMETER ESTIMATION AND EVALUATION OF THE $k-\omega$ SHEAR STRESS TRANSPORT MODEL FOR PLANE IMPINGING JETS <i>Michael Lananan, Said Abdel-Khalik and Minami Yoda</i>	125 COOLING PERFORMANCE OF SUBCOOLED FLOW BOILING WITH A DIAGONAL V-SHAPED FIN IN A NARROW CHANNEL <i>Hitoshi Yoshimura, Kazuhisa Yuki, Noriyuki Unno, Takuro Nakaoka and Mutsuki Goto</i>	124 DURABILITY OF METAL PLATING COATING IN SUBCOOLED POOL BOILING WITH WATER <i>Hyuga Imoto, Ryotaro Noma, Noriyuki Unno, Kohei Yuki, Kazuhisa Yuki, Shin-ichi Satake and Koichi Suzuki</i>	52 INFORMATION ANALYSIS OF SPATIO-TEMPORAL STRUCTURE IN RELAMINARIZING TURBULENT BOUNDARY LAYER (VELOCITY DIFFERENCE IN SPANWISE DIRECTION) <i>Masako Jige, Masashi Ichimiya and Ikko Nakamura</i>	148 WIND TUNNEL EXPERIMENTS AND LES TO REVEAL ASYMMETRY IN YAWED WIND TURBINE WAKE FLOW <i>Koichiro Shibuya and Takanori Uchida</i>
109 INVESTIGATION OF THE STRUCTURAL AND THERMOPHYSICAL PROPERTIES OF CROSSLINKED POLYMERS USING DPD SIMULATIONS AT VARIOUS LEVELS OF COARSE-GRAINING <i>Kaiwen Li and Gota Kikuyawa</i>	146 MEASUREMENT OF TRANSIENT HEAT TRANSFER ACROSS ORGANIC/SEMICONDUCTOR INTERFACE USING OPTICAL-INTERFERENCE CONTACTLESS THERMOMETRY (OICT) <i>Jiawen Yu, Ryoosuke Goto, Hiroaki Hanafusa and Seichiro Higashi</i>	151 EXPERIMENTAL STUDY ON FREEZING PHENOMENON IN GAS-LIQUID FLOW IN MICROCHANNELS <i>Kosuke Inagaki, Hironori Kamimura, Masafumi Hirota and Naoki Maruyama</i>	57 THE CHANGE IN SHOCK WAVE STRENGTH BY INTERACTION WITH TURBULENCE <i>Amane Kusuhata, Kento Tanaka, Tomoaki Watanabe, Koji Nagata and Akhiro Sasoh</i>	163 DESIGN AND STUDY OF FLOW INDUCED VIBRATION BASED ENERGY HARVESTING SYSTEM <i>Arel Alsharfar and Kyung Chun Kim</i>
116 NUMERICAL SIMULATION FOR OPTIMIZATION OF STIRRING IMPELLER SHAPE DURING IPS CELLS CULTURE <i>Yuto Mizukami, Keisuke Shima and Yasunori Okano</i>	183 MEASUREMENT ACCURACY OF THERMAL CONDUCTIVITY IN HIGH HEAT FLUX AND HIGH TEMPERATURE <i>Risako Kibushi, Hayato Ohkura, Tomoyuki Hatakeyama, Kazuhisa Yuki, Teisuro Ogushi and Katsuki Suganuma</i>	174 EFFECT OF SURFACE STRUCTURE ON EVAPORATING HEAT TRANSFER OF FALLING FILM ON INCLINED PLATE <i>Keisuke Hirai, Tsutomu Ubara, Katsumi Sugimoto and Hitoshi Asano</i>	64 MODELING OF STRATIFIED SHARE FLOW USING OF TURBULENT SHELL MODEL <i>Hayato Mizuguchi, Shoki Ohgi and Shin-ichi Inage</i>	178 FLOW CHARACTERISTICS OF NATURAL CONVECTION IN DOUBLE-TUBE HEAT EXCHANGER BY CFD SIMULATION <i>Kouki Matsuyama, Kazuhisa Yuki and Kohei Yuki</i>
127 RESEARCH AND DEVELOPMENT OF AN ANALYTICAL MODEL OF FOOD SOIL PROCESSED BY CFD <i>Kento Sasaki, Norihiko Watanabe, Shinji Kono, Madoka Kon, Yuta Tobar, Kazunori Masuda, Rei Ikeuchi and Kanae Fujimoto</i>	190 THERMAL SOLUTION FOR A DENSELY MOUNTED LEDs USING A FLAT LAMINATE VAPOR CHAMBER <i>Kei Mizuta, Shinya Toshikawa, Daiki Miyamoto and Susumu Nii</i>		78 TWO-STAGE INSTABILITY IN VISCOELASTIC ROTATING PLANE COUETTE FLOW <i>Takumi Takahashi and Takahiro Tsukahara</i>	
173 FLAPPING MOTION OF A CORRUGATED AIRFOIL WITH TWO VALLEYS ON THE UPPER SURFACE <i>Taiki Masuda, Tomohiro Higashise and Kyoji Inaoka</i>	207 EVALUATION OF REMOTE LOOP THERMOSYPHON FOR 2U SERVER APPLICATION <i>Abdolmajid Zamanifard and Chi-Chuan Wang</i>			

15:30-17:10 Experimental/Computational Fluid Dynamics 2 Chair : Minami Yoda (Georgia Institute of Technology)	15:30-17:10 Electronics Packaging and Thermal Management 2 Chair : Tomoyuki Hatakeyama (Toyama Prefectural University)	15:30-17:30 Boiling and Multi-Phase Flow 2 Chair : Masafumi Hirota (Aichi Institute of Technology)	15:30-17:10 Turbulence and Flow Instabilities 2 Chair : Takao Sato (University of Hyogo)	15:30-16:30 Sustainable & Renewable Energy 2 Chair : Kyung Chun Kim (Pusan National University)
35 INFLUENCE OF JET ANGLE ON COANDA EFFECT IN WALL MOUNTED RECTANGULAR NOZZLE JET <i>Keita Arai, Atsuhito Ueno, Tadayuki Kamimura and Kimihiko Sugiura</i>	55 INVESTIGATION REGARDING TEMPERATURE PREDICTION ACCURACY OF THE COMPACT THERMAL MODEL FOR SEMICONDUCTOR PACKAGE <i>Koji Nishi</i>	91 SUBCOOLED POOL BOILING USING A DIELECTRIC LIQUID WITH BUBBLING NITROGEN GAS <i>Masanobu Takenaka, Noriyuki Unno, Kohei Yuki, Kazuhisa Yuki, Takahito Shibata and Kimio Kohara</i>	46 INFLUENCE OF LARGE-SCALE TURBULENT MOTION ON FORMATION OF SURFACTANT FLOW-INDUCED GELS <i>Keito Morishita, Shin Hirota and Shumpei Hara</i>	44 GENERATION CHARACTERISTICS OF TBABHZ HYDRATES IN MICROCAPSULES WITH NANO-HOLES AT ATMOSPHERIC PRESSURE <i>Kanta Kato, Ruri Hidema and Hiroshi Suzuki</i>
63 EVALUATION OF TURBULENT ENERGY SPECTRUM BY COOPERATION OF LES AND SHELL MODELS <i>Shoki Ohgi, Hayato Mizuguchi and Shin-ichi Inage</i>	110 NUMERICAL ANALYSES ON THERMAL AND FLUID FLOW CHARACTERISTICS OF AN ULTRA-THIN CENTERED-WICK HEAT PIPE: EFFECTS OF HEATED/COOLED SURFACE AREAS <i>Yasushi Koito and Akira Fukushima</i>	92 EVALUATION OF MICROBUBBLE BATHING BY HEART RATE VARIABILITY ANALYSIS <i>Eiki Shibasaki, Hiroto Narita, Hiroaki Hasegawa, Takashi Kanbayashi and Sachiko Uemura</i>	129 NUMERICAL STUDY ON FLOW INSTABILITY IN PASSIVE SYSTEMS UNDER OCEAN CONDITIONS <i>Tianze Bai and Changhong Peng</i>	53 EXPLORING THE POTENTIAL OF AMMONIA AND HYDROGEN AS ALTERNATIVE FUELS FOR TRANSPORTATION <i>Mohammad Azim Rasuli and Shuichi Torii</i>
89 NUMERICAL STUDY OF MOVING BEHAVIOR OF A MICROCHIP EJECTED FROM THE UPPER WALL <i>Yuichiro Kawano, Mizue Munekata and Hiroyuki Yoshikawa</i>	155 DEVELOPMENT OF TONER MELTING PREDICTION METHOD IN ELECTROPHOTOGRAPHIC PROCESSES BY USING MACHINE LEARNING AND THERMAL NETWORK MODEL <i>Takamasa Hase, Takumi Ishikura, Shinichi Kuramoto, Koichi Kato and Kazuyoshi Fushinobu</i>	152 TWO-DIMENSIONAL MODELING OF BUBBLE INTERACTION MODEL AND HEAT FLUX PREDICTION AT MEDIUM AND LOW SUPERHEAT <i>Shuwen Yu, Tianze Bai and Changhong Peng</i>	131 FALLING LIQUID FILM SUBJECT TO A COUNTER-CURRENT TURBULENT GAS FLOW <i>Misa Ishimura, Sophie Mergui, Christian Ruyer-Qull and Georg Dietze</i>	157 DEVELOPMENT OF A DOUBLE-ACTING FREE-PISTON STIRLING HEAT-DRIVEN COOLER <i>Hang-Suin Yang and Shu-Yi Kuan</i>
158 GENERATION LIMIT OF SYNTHETIC JETS IMPINGING ON WALLS <i>Michiya Yasumiba, Koichi Nishibe, Donghyuk Kang and Kotaro Sato</i>	198 ANALYSIS OF CURRENT FLOW PATH AND TEMPERATURE DISTRIBUTION OF $Ag-NANOWIRE$ NETWORK USING THERMOREFLECTANCE IMAGING <i>Yuta Sugihara, Ryouhei Uemura, Kanji Tamai, Reiko Kuriyama and Kazuya Tatumi</i>	197 CONJUGATE HEAT TRANSFER EFFECTS ON BUBBLE GROWTH DURING FLOW BOILING IN MICROCHANNELS <i>Odumuyiwa Odumosu, Hongying Li, Tianyou Wang and Zhizhao Che</i>	138 ANGULAR MOMENTUM TRANSPORT IN TAYLOR-COUETTE TURBULENCE OF DILUTE SURFACTANT SOLUTION <i>Yasufumi Horimoto and Homare Okuyama</i>	
170 NUMERICAL SIMULATION OF CONICAL TAYLOR-COUETTE FLOW WITH RADIAL TEMPERATURE GRADIENT <i>Hayato Masuda, Hiroyuki Iyota and Naoto Ohmura</i>	208 EXPERIMENTAL INVESTIGATION OF TWO-PHASE FLAT TUBE THERMOSYPHON <i>Amawasee Rukurang, Jatuporn Kaew-On, Hao Yu Lin and Chi-Chuan Wang</i>	202 AN EXPERIMENTAL STUDY ON THE MOTION OF SINGLE LARGE BUBBLES RISING IN A VISCOELASTIC LIQUID <i>Satoshi Yokoyama and Mitsuhiro Ohta</i>	187 EFFECTS OF A CIRCULAR 90-DEGREE BENT NOZZLE SPECIFICATION ON INNER DISTRIBUTION OF TRANSIENT VORTEX AND FLOW STRUCTURE <i>Erwei Liu, Mikimasa Kawaguchi, Ryoutaro Nakayama, Masato Iwasaki, Keiya Nishida, Ryo Yamamoto, Akira Nakashima and Yoichi Ogata</i>	
		210 EXPERIMENTAL INVESTIGATION ON POOL BOILING PERFORMANCES OF EXPANDING-CHANNELED SURFACE AT SUB-ATMOSPHERIC PRESSURE ENVIRONMENT <i>Yifei Hu, Dengwei Fu, Sihui Hong and Zhijie Gao</i>		

Civic Hall

9:00-10:00 Plenary Lecture 3 Chengwang Lei, Professor, The University of Sydney, Australia
Australia Enhancing Passive Cooling by Rigid and Flexible Non-conductive Baffles
 Chair - Atsuki Komiya (Tohoku University)

Room A	Room B	Room C	Room D	Room E
10:20-12:00 Experimental/Computational Fluid Dynamics 3 Chair - Nao Niinomiya (Utsunomiya University)	10:20-12:00 Heat and Mass Transfer 1 Chair - Shinichi Kinoshita (Osaka Metropolitan University)	10:20-11:40 Boiling and Multi-Phase Flow 3 Chair - Toshio Tagawa (Tokyo Metropolitan University)	10:20-12:00 Combustion and Reacting Flows 1 Chair - Anomrat Kaewpradap (King Mongkut's University of Technology)	10:20-12:00 Micro- and Nano-Scale Transport 1 Chair - Osamu Nakabeppu (Meiji University)
15 NUMERICAL ANALYSIS OF HIGH REYNOLDS NUMBER FLOW PAST A POROUS CYLINDER <i>Eru Kurihara, Jukuya Gotoh and Hiromitsu Hamakawa</i>	43 ADAPTATION OF SILICA-FIBER/SILICA-AEROGEL COMPOSITE HEAT INSULATION FOR ZERO ENERGY BUILDING MATERIALS <i>Shimosuke Kai, Naoyuki Oya, Kimihiko Sugiyura, Yoshihiko Imae and Kenji Imae</i>	21 MONODISPersed DROPLETS FORMATION IN STEP EMULSIFICATION DEVICES <i>Yue Lu, Liangyu Wu and Chengbin Zhang</i>	25 COMBUSTION CHARACTERISTIC OF NH ₃ /H ₂ PREMIXED FLAME <i>Yukihiko Okumura, Tomohiro Tsubota, Kenta Kikuchi, Noritoshi Yagawa and Tomohiro Matsunami</i>	23 PHONON TRANSPORT ANALYSIS IN POLYCRYSTALLINE NANOSTRUCTURE THIN FILM <i>Riku Tomabechi, Ryusei Taniguchi and Takuma Hori</i>
118 EXPERIMENTS OF TRANSONIC HALF DIFFUSER FLOWS WITH SHOCK WAVES <i>Takahiro Yamshita, Masaki Okajima, Shinichiro Nakao and Yoshiaki Miyazato</i>	48 NUMERICAL SIMULATION ON EFFECTS OF AIR CURTAIN ON THERMAL INSULATION <i>Shigeru Ogawa, Haruhisa Kore and Haruto Yamashita</i>	105 FLUID DISTRIBUTIONS AND FLOW CHARACTERISTICS IN A POLYMER PULSATING HEAT PIPE: VISUALIZATION EXPERIMENTS USING HFE AS A WORKING FLUID <i>Zhengyuan Pei and Yasushi Koito</i>	26 METHANE REFORMING USING LOW-TEMPERATURE PLASMA <i>Yasuo Moriyoshi, Yuta Yagaku and Tatsuya Kuboyama</i>	27 MOLECULAR DYNAMICS ANALYSIS OF HEAT DISSIPATION PERFORMANCE OF CARBON AND BORON-NITRIDE NANOTUBE HETEROSTRUCTURES <i>Junhee Cho and Takuma Hori</i>
132 ASSESSMENT OF THE WAKE IMPACT ON FLOATING WIND TURBINES <i>Kotaro Kitamura, Takanori Uchida and Tessel Miwa</i>	69 STIRRING METHOD OF MULTI-LAYER POLYMER FOR INTERFACIAL HEAT RESISTANCE MEASUREMENT <i>Yinfeng Xia, Tatsuya Kawaguchi and Takushi Saito</i>	181 PERFORMANCE EVALUATION OF POROUS COOLING STRUCTURE FOR TOP-HEAT ORIENTED VAPOR CHAMBER <i>Sae Yanase, Junnosuke Okajima and Kunio Koseki</i>	156 EXPERIMENTAL STUDY OF COMBUSTION CHARACTERISTICS OF N-BUTANOLDIESEL BLENDS <i>Wei-Cheng Huang, Chung-Yao Hsuan, Chun-Ta Chen, Shu-hn Shyung Hou and Ta-Hui Lin</i>	28 OPTIMIZATION OF PORE ARRANGEMENT IN SILICON THIN-FILM FOR THERMOELECTRIC CONVERSION MATERIALS <i>Ryusei Taniguchi, Riku Tomabechi and Takuma Hori</i>
133 NUMERICAL SIMULATION OF SINGLE VERTICALLY CLAMPED FLEXIBLE FILAMENT IN WAVY FLOW <i>Jiantao Zhang and Takashi Nakamura</i>	70 MEASUREMENT OF THERMAL CONDUCTIVITY UNDER LOW TEMPERATURE BY HEAT FLOW SEPARATION METHOD <i>Shu Sakashita and Takahiro Ohmura</i>	195 INVESTIGATION OF PLANT GROWTH MODEL FOR THE OPTIMAL DESIGN OF ARTIFICIAL LIGHT TYPE PLANT FACTORY <i>Yukiya Suzuki, Shinichi Kinoshita, Atsumasa Yoshida and Kakeru Kagata</i>	186 A NUMERICAL STUDY ON THE CARBON OXIDATION RATE OF A SINGLE CARBON PARTICLE <i>Ping-Ben Liu, Sheng-Yen Hsu, Chien-Hsiung Tsai and Ching-I Chen</i>	112 MOLECULAR DYNAMICS STUDY ON THERMAL TRANSPORT PROPERTY OF MOF WITH FLUID MOLECULES <i>Hideaki Ito, Kunio Fujiwara and Masahiko Shibahara</i>
176 BEHAVIOR OF FLOW INSTABILITY AT LOW FLOW RATE UNDER PULSATING FLOW OF AN AUTOMOTIVE TURBOCHARGER COMPRESSOR <i>Taishi Matsumoto, Genshu Kawana and Kazuyoshi Miyagawa</i>	100 SIMULTANEOUS MEASUREMENT OF THERMAL CONDUCTIVITIES IN THE THICKNESS DIRECTION AND IN-PLANE DIRECTION OF INSULATION MATERIAL AT HIGH TEMPERATURES <i>Kento Fuji and Takahiro Ohmura</i>		191 NUMERICAL INVESTIGATION OF FLAME HOLDING AND EXTINCTION CHARACTERISTICS OF AMMONIA BURNER <i>Edwin Samuel Charles, Cui Tongtong, Hiroshi Terashima, Hisashi Nakamura and Jun Hayashi</i>	117 MOLECULAR DYNAMICS STUDY ON THE DISTRIBUTION OF LOCAL THERMAL RESISTANCE AT A NANOSTRUCTURED SOLID-LIQUID INTERFACE <i>Yun Oki, Kunio Fujiwara and Masahiko Shibahara</i>

12:00-13:00 Lunch

13:00-14:40 Experimental/Computational Fluid Dynamics 4 Chair - Norihiko Watanabe (Sojo University)	13:00-15:00 Heat and Mass Transfer 2 Chair - Juan F. Torres (Australian National University)	13:00-14:40 Boiling and Multi-Phase Flow 4 Chair - Kazuhisa Yuki (Saityo-Onoda City University)	13:00-14:40 Combustion and Reacting Flows 2 Chair - Tatsuya Kuboyama (Chiba University)	13:00-14:40 Micro- and Nano-Scale Transport 2 Chair - Akimaro Kawahara (Kumamoto University)
11 SUPPRESSION OF KARMAN VORTEX FOR PRECESS CONTROL <i>Yusho Ishikawa, Takao Sato and Itsuro Honda</i>	20 ENHANCEMENT OF CONDENSATION HEAT TRANSFER ON VERTICAL MICROGROOVES SURFACES WITH STRIPE SPACING HYBRID HYDROPHOBIC-HYDROPHILIC PATTERN <i>Shangwen Gao, Raza Gullam, Zilong Deng and Suchen Wu</i>	45 EFFECT OF THE SURFACE FORM OF THE HERRINGBONE ALUMINUM PLATE IN A PLATE HEAT EXCHANGER ON THE BOILING HEAT TRANSFER PERFORMANCE OF AMMONIA <i>Hirofumi Arima, Masanao Nishiguchi and Syouichi Suehiro</i>	50 STUDY OF NEAR-WALL FLAME STRUCTURE AND FLAME-WALL INTERACTION OF TURBULENT PREMIXED COMBUSTION IN A CONSTANT VOLUME VESSEL <i>Ye Wang, Masayasu Shimura and Mamoru Tanahashi</i>	30 INVESTIGATION OF THE EFFECT OF ADDING POLY SODIUM ACRYLATE ON THE AGGREGATION CHARACTERISTICS OF ICE SLURRY <i>Koki Ito, Mitsuki Chiyata, Soma Kizuka and Koji Matsumoto</i>
16 ON THE EVALUATION OF VORTICAL MOTION IN A NON-AXISYMMETRIC ENCLOSED COROTATING SYSTEM <i>Ibrahim Masud, Katsuki Shirai, Mizuki Sakamoto and Tomohiro Ueno</i>	38 SLIP FLOW AND CAPILLARY EVAPORATION OF WATER IN GRAPHENE NANOCHANNELS <i>Kun Cheng, Qinyi Li and Koji Takahashi</i>	98 EXPERIMENTAL STUDY ON EVAPORATION HEAT TRANSFER OF R32/R1234ze(E) MIXTURE IN A HORIZONTAL ALUMINUM CROSS-GROOVED TUBE <i>Natsumi Numata, Daisuke Jige and Norihito Inoue</i>	90 INTRINSIC INSTABILITY ANALYSIS OF PREMIXED FLAMES USING THE HYPERBOLIC TANGENT APPROXIMATION MODEL <i>Gento Hamada, Hiroaki Ito, Fujio Akagi and Shin-ichi Inage</i>	41 CALIBRATION OF A MEMS HEAT FLUX SENSOR FOR ENGINE STUDY <i>Osamu Nakabeppu, Makoto Kamata, Fumiya Suke and Toshiaki Nagahara</i>
17 DIRECTION CONTROL OF JET FLOW BY MULTIPLE SUCTION SLOTS ON A COANDA SURFACE <i>Kaito Suzuki, Minoru Nakagawa, Koichi Nishibe, Donghyuk Kang and Kotaro Sato</i>	68 STUDY ON SIMPLE THERMAL CONDUCTIVITY MEASUREMENT METHOD FOR LIQUIDS <i>Yuya Kusuyama and Takahiro Ohmura</i>	111 HEAT TRANSFER ANALYSIS AND SELF-PRESSURIZATION ESTIMATION OF A 2.5-TON LIQUID HYDROGEN STORAGE TANK <i>Ahmad Ali Awais, Daeseong Kim, Mirae Kim and Kyung Chun Kim</i>	114 NUMERICAL SIMULATION OF COMBUSTION PROCESS OF FUEL FILM UNDER HIGH PRESSURE CONDITIONS <i>Kyosuke Hamada, Fujio Akagi, Chen Chaoxu, Yaoting Li, Yannis Hardalupas and Alex Taylor</i>	95 FLUORESCENCE THERMOMETRY OF HFE 7200 IN A MICROGAP USING STRUCTURED ILLUMINATION <i>Michael Spadaro and Minami Yoda</i>
136 VISCOUS FINGERING IN POTATO-STARCH MIXTURES <i>Takashi Koshiba and Takehiro Yamamoto</i>	101 STUDY ON MEASUREMENT METHOD OF THERMAL CONDUCTIVITY OF NEEDLE-SHAPED SPECIMEN <i>Naoki Mizutani and Takahiro Ohmura</i>	134 THE EFFECT OF SEPARATION DISTANCE BETWEEN TWO DROPLETS ON THE EVAPORATION <i>Yutaka Yamada, Kazuma Isoabe and Akihiko Horibe</i>	141 ASPECTS ON NUMERICAL SIMULATION OF BURNING-OFF REMOVAL PROCESS OF DEPOSITED CARBON IN COKE OVEN <i>Kei-Chin Chang and Yi-Da Chung</i>	135 FLAME WALL INTERACTION STUDY WITH MEMS HEAT FLUX AND ION CURRENT SENSOR <i>Koyama Keiichiro, Osamu Nakabeppu and Ikuma Tanikawa</i>
153 FLOW STRUCTURE AND HEAT TRANSPORT NATURAL CONVECTION IN A CUBE USING NUMERICAL SIMULATION AND THERMOCHROMIC LIQUID CRYSTAL MICROCAPSULES <i>Kinugawa Ryusei, Yamada Kanta and Hirata Katsuya</i>	139 ENHANCEMENT OF HEAT TRANSFER IN A CHANNEL BY USING NANO-ENCAPSULED PHASE CHANGE MATERIAL <i>Keisuke Shibata, Kei Tamura and Moghtada Mobeidi</i>	137 POOL BOILING HEAT TRANSFER ENHANCEMENT IN LIQUID NITROGEN USING PARALLEL GROOVES <i>Ibuki Hori, Katsuyoshi Fukuba and Kohei Suda</i>	159 ELUCIDATION OF NO _x REDUCTION PHENOMENON OF ELLIPTICAL RADIANT TUBE <i>Tomoyuki Kawashima, Akihiro Kobayashi, Noriko Kubo and Hiroaki Watanabe</i>	140 EXPERIMENTAL INVESTIGATION OF NANODROPLET WETTING BY ATOMIC FORCE MICROSCOPY <i>Yuta Heima, Hideaki Teshima and Koji Takahashi</i>
15:30-16:50 Experimental/Computational Fluid Dynamics 5 Chair - Yoshinori Hamamoto (Kyushu University)	15:30-17:10 Heat and Mass Transfer 3 Chair - Takushi Saito (Tokyo Institute of Technology)	15:30-17:10 Boiling and Multi-Phase Flow 5 Chair - Yasushi Koito (Kumamoto University)	15:30-17:10 Combustion and Reacting Flows 3 Chair - Hironori Saitoh (Sojo University)	15:30-17:10 Micro- and Nano-Scale Transport 3 Chair - Masahiko Shibahara (Osaka University)
34 EXAMINATION OF FOOD MODELS FOR IMPROVING IMPINGEMENT FREEZER PERFORMANCE <i>Riku Akayama, Tadayuki Kamimura, Kimihiko Sugiyura and Satoru Koba</i>	32 DEVELOPMENT OF THE INCREASE OF MEMBRANE AREA PER VOLUME FOR CO ₂ SELECTIVE FACILITATED TRANSPORT MEMBRANES <i>Junsei Ueda, Kimihiko Sugiyura, Nobuaki Hanai and Osamu Okada</i>	65 SIMULATION OF BOILING ON HEAT TRANSFER SURFACE WITH GROOVES USING DIM <i>Hiroshi Komada, Koichi Tsujimoto, Toshitake Ando and Mamoru Takahashi</i>	40 FUNDAMENTAL STUDY OF LOCAL GAS TEMPERATURE MEASUREMENT IN ENGINES USING INEXPENSIVE TWO-COLOR INORGANIC FLUORESCENT TRACER <i>Chihiro Kondo and Kazuma Murakami</i>	58 A SIMULATION MODEL FOR SNOW ACCRETION ON OVERHEAD TRANSMISSION LINE CONDUCTORS: SNOVAL <i>Yuzuru Eguchi, Yuki Okazaki, Soichiro Sugimoto and Hisato Matsumiya</i>
113 EFFECT OF IMPACT ANGLE ON TWO-DIMENSIONAL IMPINGING JET <i>Suresh Sah, Shun Akutsu and Nao Niinomiya</i>	79 MIXTURE GAS SEPARATION BY COMBINATION OF ACOUSTICAL AND SORPT EFFECTS <i>Satoshi Sekimoto and Yuki Ueda</i>	66 ANALYSIS OF THE EFFECT OF DENSITY RATIO ON FLOW CHARACTERISTICS IN ATOMIZATION OF LIQUID JETS <i>Riku Okada, Koichi Tsujimoto, Toshitake Ando and Mamoru Takahashi</i>	47 COMBUSTION FLAMES OF SYNTHETIC NATURAL GAS COMBUSTION ON DOUBLE SPIRAL AXIAL BURNER <i>Chanawee Chantlang and Anomrat Kaewpradap</i>	80 SIMULATION OF TEMPERATURE DROP DUE TO EVAPORATION FOR INKJET DROPLET <i>Masami Kadonaga, Kohei Suzuki, Shuji Kanegak, Kazuyoshi Fushinobu and Junko Morikawa</i>
164 JET FLOW CONTROL USING VELOCITY DISTRIBUTION CHANGE WITH TIME AT SLOT <i>Masahiro Takano, Koichi Nishibe, Donghyuk Kang and Kotaro Sato</i>	120 A REACTIVE MOLECULAR DYNAMICS MODEL WITH FAITHFUL THERMODYNAMIC PROPERTIES FOR LIQUID AMMONIA <i>Donatas Surblys, Yusuke Nakamura, Hiroki Matsubara and Taku Ohara</i>	104 EFFECTS OF ELECTRIC DOUBLE LAYER ON NANOSCALE BOILING: MOLECULAR DYNAMICS APPROACH <i>Huang Yongsheng</i>	49 INVESTIGATION OF TEMPERATURE DISTRIBUTION BASING ON F ₀ OH TALF METHOD IN OXYGEN-HYDROGEN CROSS-JET NON-PREMIXED FLAMES <i>Sibo Huang, Kentaro Hayashi, Yuki Tochinari, Masayasu Shimura and Mamoru Tanahashi</i>	84 EVAPORATION ANALYSIS OF ADJACENT MULTI-COMPONENT DROPLETS FOR INKJET PRINTING <i>Achmad Rofi Irsyad, Kazuyoshi Fushinobu and Masami Kadonaga</i>
165 JET FLOW CONTROL USING A CIRCULAR CYLINDER WITH MULTIPLE TANGENTIAL BLOWING SLOTS <i>Kohel Okuma, Koichi Nishibe, Donghyuk Kang and Kotaro Sato</i>	149 EXPERIMENTAL EVALUATION OF PORE PATTERN ON PROTEIN HINDERED DIFFUSION IN MACRO POROUS MEMBRANES <i>Ruiyao Zhu, Juan Felipe Torres, Shuichi Moriya, Yuki Kanda and Atsuki Komiya</i>	144 EFFECT OF WIRE WITH ELECTRIC POTENTIAL ON ENHANCEMENT OF POOL BOILING HEAT TRANSFER UNDER ELECTRIC FIELD <i>Luo Chao and Tagawa Toshio</i>	102 NUMERICAL ANALYSIS ON THE EFFECT OF COMPRESSION SPEED FOR THE PREDICTION OF AUTO-IGNITION TIMING AND PROCESSES <i>Kakeru Sasaki and Kenji Yoshida</i>	93 STUDY ON RHEOLOGICAL CHANGES IN NON-NEWTONIAN FLUIDS UNDER HIGH SHEAR RATE IN MICROCHANNEL <i>Yuki Yamahata, Yishuai Li, Koki Kamino, Yukihiko Yonemoto and Akimaro Kawahara</i>
	204 MEASUREMENT OF ISOTHERMAL DIFFUSION OF SODIUM CHLORIDE IN BLOOD PLASMA SUBSTITUTES USING PHASE-SHIFTING INTERFEROMETRY <i>Junxiang Zhang, Shuai Xu, Juan Felipe Torres and Atsuki Komiya</i>	194 BOILING FLOW SIMULATIONS USING ADAPTIVE PLIC-VOF METHOD <i>Dezhi Dai and Albert Y. Tong</i>	122 ANALYSIS OF CENTROID POSITION FROM IMAGES OF FLAME SPREAD IN A NARROW SPACE <i>Koji Ikebe, Tadalumi Daitoku and Takashi Tsurada</i>	94 INVESTIGATION OF NON-NEWTONIAN FLUIDS FLOW THROUGH MICROCHANNEL WITH A SUDDEN EXPANSION <i>Yishuai Li, Yuki Yamahata, Koki Kamino, Yukihiko Yonemoto and Akimaro Kawahara</i>

Civic Hall				
9:00-10:00 Plenary Lecture 4 Alex Taylor, Professor, Imperial College London, United Kingdom The contribution of hydrogen and ammonia to the "hard to decarbonise" transport and power applications Chair : Hironori Satoh (Sojo University)				
Room A	Room B	Room C	Room D	Room E
10:20-12:00 Experimental/Computational Fluid Dynamics 6 Chair : Kenji Yoshida (Hiroshima Institute of Technology)	10:20-12:00 Heat and Mass Transfer 4 Chair : Takahiro Ohmura (NIT, Wakayama College)	10:20-11:40 Boiling and Multi-Phase Flow 6 Chair : Hong Sihui (Sun Yat-sen University)	10:20-12:00 Fuel Cells and Battery Technology Chair : Hideki Motomura (Ehime University)	10:20-12:00 Bioengineering and Bio-thermal Fluid Dynamics Chair : Naoto Kakuta (Tokyo Metropolitan University)
62 NUMERICAL INVESTIGATION ON HETEROGENEOUS CONDENSING FLOW IN A THREE-DIMENSIONAL SUPERSONIC RECTANGULAR ARC NOZZLE <i>Imran Ahmed Protic Kazi, Shigeru Matsuo and Shura Maegawa</i>	61 POD ANALYSIS OF TURBULENT CONVECTIVE HEAT TRANSFER OF PULSATING FLOW IN A CHANNEL WITH TEARDROP-SHAPED DIMPLES USING LES <i>Tsubasa Yamamoto, Akira Murata, Kento Inokuma and Kaoru Iwamoto</i>	42 ANALYSIS OF FLOW BOILING INCIPIENCE MODELS IN COMPUTATIONAL FLUID DYNAMICS <i>Daniel Lorenzini and Yogendra Joshi</i>	33 EXAMINATION OF SWMC APPLICATION METHOD BY SPRAY-COATING METHOD IN PEFC <i>Ryosuke Nakanishi and Kimihiko Sugiura</i>	73 EFFECTS OF WATER VELOCITY ON LOCOMOTION BEHAVIOR OF SPINE-CHEEKED ANEMONEFISH (PREMNAS BIACULEATUS) SWUM IN A RECTANGULAR STAMINA TUNNEL <i>Natsumi Kimura and Takashi Fukue</i>
86 RANS SIMULATIONS OF UNDEREXPANDED MICROJETS FROM SQUARE SUPERSONIC NOZZLES <i>Ryuki Nishi, Ituki Morita, Shinichiro Nakao and Yoshiaki Miyazato</i>	10 NUMERICAL STUDY FOR ENHANCEMENT OF HEAT TRANSFER RATE IN SINGLE PASS SOLAR AIR HEATER USING STEPPED ARRANGEMENT OF METAL FOAM WITH VARYING THE DISTANCES FROM ABSORBER <i>Digarjit Rawal, Gnanasekaran N and Moghlaada Mobeid</i>	56 MICRO/NANOSTRUCTURED ADDITIVELY MANUFACTURED SURFACES FOR ENHANCED POOL BOILING PERFORMANCE IN LOW SURFACE TENSION FLUIDS <i>Leymus Yong Xiang Lum, Kai Choong Leong and Jin Yao Ho</i>	72 INNOVATIVE DESIGN AND OPTIMAL WORKING PARAMETERS OF A ZINC-AIR FUEL CELL WITH FLOWING ELECTROLYTE <i>Minh-Khoa Nguyen and K. David Huang</i>	74 NUMERICAL INVESTIGATION ON HYDRODYNAMIC CHARACTERISTICS OF BALISTIFORM LOCOMOTION OF AMIMEHAGI (RUDARIUS ECODES) <i>Takehiro Fuji, Hiroaki Sumikawa, Takashi Fukue, Naoya Hirata and Masafumi Kato</i>
88 RANS SIMULATIONS OF SUPERSONIC FREE JETS FROM ROUND LAVAL NOZZLES <i>Hironu Ueno, Shinichiro Nakao and Yosiaki Miyazato</i>	142 HEAT TRANSPORT CHARACTERISTICS OF A WATER TWO-PHASE, DOUBLE-TUBE CLOSED THERMOSYPHON WITH AIR INSIDE <i>Shigemitsu Shuchi and Tatsuhiro Kubota</i>	67 NUMERICAL SIMULATION OF MICRO-LAYER FORMATION DURING NUCLEATE BOILING OF WATER <i>Koki Ota and Junnosuke Okajima</i>	123 EFFECT OF OPERATION TEMPERATURE ON MASS TRANSPORT IN THE DIRECT FORMIC ACID FUEL CELL ANODE <i>Jiahua Zhu, Takuya Tsujiguchi, Yugo Osaka and Akio Kodama</i>	99 EVALUATION OF OPTICAL PROPERTIES OF TEMPERATURE CHANGES IN BIOLOGICAL TISSUES INDUCED BY NEAR-INFRARED LASER IRRADIATION <i>Akiyoshi Obonai, Takuma Kogawa, Yuki Kanda, Tetsuya Kodama and Atsuki Komiya</i>
103 RANS SIMULATIONS OF TRANSONIC HALF DIFFUSER FLOWS <i>Masaki Okajima, Takahiro Yamashita, Shinichiro Nakao and Yoshiaki Miyazato</i>	171 FLOW STRUCTURE AND HEAT TRANSFER OF A TWO-CYLINDER ARRAY <i>Yun Ji, Kun-Xiang Chang and Li-Chieh Hsu</i>	75 EFFECTS OF MICRO-FABRICATION ON HEAT DISSIPATION PERFORMANCE OF A FLAT VAPOR CHAMBER <i>Keiichiro Taka, Takashi Fukue, Masami Kojima, Koichi Narita, Masshi Takahashi, Junko Takahashi and Takashi Uenomachi</i>	162 POWERGENERATION CHARACTERISTICS OF DIRECT FORMATE FUEL CELL USING CATION IONOMER AND MEMBRANE <i>Yining Wang, Tsujiguchi Takuya, Yugo Osaka, Akio Kodama, Hirokazu Matsuda and Ariyoshi Kaneda</i>	107 DEVELOPMENT OF A NANOWATT-BIOCALORIMETER WITH COMPENSATION HEATING METHOD <i>Yurino Shimozawa and Osamu Nakabeppu</i>
175 A STUDY OF MULTI-OBJECTIVE OPTIMIZATION FOR IMPROVED PRESSURE LOSS RECOVERY AND MIXING EFFICIENCY IN SCRAMJET DESIGN <i>Chun-Ta Chen, Tien-Li Chang and Shuhn-Shyung Hou</i>	200 ENHANCEMENT OF HEAT TRANSFER BY SINGLE AND DOUBLE TRANSDUCERS OF 25 kHz ULTRASOUND IN A SQUARE DUCT FLOW <i>Wannarat Rakpakdee, Masaaki Motozawa, Mitsuhiro Fukuta and Weerachai Chaiworapuek</i>		198 COLD START OF PROTON EXCHANGE MEMBRANE FUEL CELLS WITH METAL FOAM FLOW FIELDS <i>Wanzhe Zhang, Xingyao Tao, Qifeng Li, Kai Sun, Rui Chen, Junfeng Zhang, Tianyou Wang and Zhizhao Che</i>	199 AN IMPROVED BROWNIAN DYNAMICS SIMULATION BY A SOLUTION WITH COLLISION AND INEXTENSIBLE BOND FOR DENSE NUCLEOSOME DYNAMICS <i>Yukitaka Ishimoto and Yuki Takahashi</i>
12:00-13:00 Lunch				
13:00-14:40 Experimental/Computational Fluid Dynamics 7 Chair : Valéry Botton (INSA Lyon)	13:00-15:00 Heat and Mass Transfer 5 Chair : Akira Murata (Tokyo University of Agriculture and Technology)	13:00-14:40 Transport in Porous Media Chair : Atsuki Komiya (Tohoku University)	13:00-14:40 Heat Exchangers 1 Chair : Takashi Fukue (Kanazawa Institute of Technology)	13:00-14:40 Visualization/Imaging Techniques 1 Chair : Shumpei Hara (Doshisha University)
82 DNS STUDY ON HEAT TRANSFER PHENOMENA OF TURBULENT ROUND IMPINGING JET IN HIGH PRANDTL NUMBER FLUID <i>Hirofumi Hattori, Taira Mizukami, Tomoya Hara and Masato Tagawa</i>	12 INVESTIGATION ON GENERATED ICE CONTAINING OZONE MICROBUBBLES FROM CHLORINE-REMOVED TAP WATER <i>Soma Kizuka, Ryozaaburo Nanba, Koki Ito and Koji Matsumoto</i>	83 NUMERICAL STUDY ON SEEPAGE WATER AND FINE PARTICLES WITH RADIOACTIVE CESIUM MOVING IN A WASTE DISPOSAL SITE <i>Kazuyuki Takase and Kazuaki Kusakabe</i>	60 GAS-LIQUID DISTRIBUTIONS OF REFRIGERANT FLOW IN MULTI-PASS CHANNEL WITH HORIZONTAL HEADER AND UPWARD BRANCH TUBES <i>Shoya Ogawa, Jun-Ichi Ohno, Masafumi Hirota and Naoki Maruyama</i>	106 ANALYSIS OF GENERATION AND LOSS PROCESSES OF OH RADICALS IN PULSED DISCHARGE ON WATER SURFACE <i>Hideki Motomura, Shinfuku Nomura, Taichi Murakami, Yutaro Kuga and Shinobu Mukasa</i>
85 COLLECTION PERFORMANCE OF ATMOSPHERIC PARTICULATES BY SEVERAL MODELS OF CYCLONE SEPARATORS <i>Yuki Tanaka, Kosuke Nasu, Shomaru Fukuzato, Kazuyoshi Yamada, Mizue Munekata, Hiroyuki Yoshikawa, Kenji Ono and Yasuhiro Toda</i>	13 PERFORMANCE ANALYSIS OF AN ABSORPTION REFRIGERATION CYCLE BASED ON CAPILLARY PUMPING FORCE <i>Atsushi Tsujimori, Yui Sato and Hanuka Suzuki</i>	87 MEASUREMENT AND PREDICTION OF VOID FRACTION AND PRESSURE DROP DURING AIR DRYING PROCESS OF WET PARTICLE PACKED BED <i>Yoshinori Hamamoto, Tomoya Mizobuchi and Shuichi Umezawa</i>	143 A STUDY ON IMPROVING OF COOLING CAPACITY BY REDUCING INFRARED ABSORPTION IN WATER-AGRICULTURAL RECIRCULATING AIR CONDITIONING SYSTEM <i>Taku Oshima and Koji Toriyama</i>	119 DEVELOPMENT OF NON-CONTACT SALINITY EVALUATION USING 2w METHOD <i>Yuki Kanda and Takumi Yamazaki</i>
130 CNN FOR SCALAR-SOURCE DISTANCE ESTIMATION IN GRID-GENERATED TURBULENCE <i>Shunsuke Someya and Takahiro Tsukahara</i>	19 NUMERICAL ANALYSIS OF HEAT TRANSFER CHARACTERISTICS BETWEEN DROPLET SUSPENDED WITH MICROENCAPSULATED PHASE CHANGE MATERIAL (MPCM) AND AIR <i>Zhengyin Yuan, Akihiko Horibe, Yutaka Yamada and Kazuma Isobe</i>	115 ANALYSIS OF MODEL INK PENETRATION INTO UNIFORM POROUS MEDIA FOR INKJET PRINTING <i>Howoo Lee, Masami Kadonaga, Koichi Kato and Kazuyoshi Fushinobu</i>	150 APPLICATIONS OF NANO PARTICLE SOL FOR CAPILLARY-DRIVEN HEAT PIPE <i>Yifan Liu, Mengjie Wang, Yutaro Umehara, Tomio Okawa and Daisuke Shimizu</i>	121 VISUALIZATION OF CONCENTRATION FIELD IN PHASE-CHANGE PROCESS OF TBAB SOLUTION - IN CASE OF A CONGRUENT-MELTING CONCENTRATION - <i>Tadafumi Daitoku and Takashi Tsuruda</i>
201 NUMERICAL SIMULATIONS OF DROP BREAKUP SUBJECTED TO SIMPLE SHEAR FLOWS WITH A MOVING TOP WALL AND A STATIONARY BOTTOM WALL <i>Fan Yuhang, Mitsuhiro Ohta, Edwin Jimenez and Mark Sussman</i>	81 NUMERICAL ANALYSIS OF THE FLOW DISTRIBUTION EFFECT ON THE THERMAL PERFORMANCE OF MICRO-PIN-FIN HEAT SINKS <i>Jer-Huan Jang, Meng-Jey Youh, Han-Chiu Chiu, Syed Masihuzzaman and Ren-Horn Hsieh</i>	166 THERMO-HYDRAULIC ANALYSIS OF ULTRA-HIGH HEAT FLUX COOLING DEVICE EVAPORON <i>Koshiro Hisatomi, Kohei Yuki and Kazuhisa Yuki</i>	185 LOCAL CONDENSATION AND EVAPORATION HEAT TRANSFER COEFFICIENT MEASUREMENTS IN A PLATE HEAT EXCHANGER <i>Md Mahbubur Rahman, Athan Hasan, Djiby Bal, Keishi Kariya and Akio Miyara</i>	161 NEAR-INFRARED CONCENTRATION REGRESSION IMAGING WITH VARIABLE SELECTION AND CALIBRATION TRANSFER FOR AQUEOUS ACID-BASE REACTIONS <i>Gia Ginelle Carandang, Yuina Abe and Naoto Kakuta</i>
203 NUMERICAL SIMULATION OF SHEAR-INDUCED BUBBLE DEFORMATION AND BREAKUP IN VISCOELASTIC FLUIDS <i>Shunsuke Nakashima, Mitsuhiro Ohta, Edwin Jimenez and Mark Sussman</i>	188 EXPERIMENTAL STUDY OF IMPINGING JET COOLING CONFINED BY A WALL WITH AIR INLETS (EFFECTS OF AIR INLETS ANGLE ON HEAT TRANSFER AND PRESSURE LOSS) <i>Shinichi Saito, Komei Shuto, Yosuke Suidu and Mitsuo Iwanoto</i>	177 EVALUATION OF EVAPORATIVE HEAT TRANSFER PERFORMANCE BASED ON OBSERVATION OF THERMO-FLUID BEHAVIORS IN 3D PRINTED POROUS STRUCTURES <i>Yuta Shimada, Noriyuki Watanabe, Ai Ueno and Hosen Nagano</i>	206 THERMAL PERFORMANCE IMPROVEMENT OF CIRCULAR TUBE-AND-FIN HEAT EXCHANGER BY ELLIPSOIDAL PROTRUSIONS ON FIN SURFACES <i>Quixia Yang, Qingzhi Hou, Kewei Song and Shuyun Zhao</i>	193 WATER VAPOR IMAGING FOR EVAPORATION OBSERVATION <i>Naoto Kakuta, Kaito Iizuka and Shintaro Ozawa</i>
	189 INFLUENCE OF BINDER CONCENTRATION ON VOID FRACTION AND PRESSURE DROP OF CONSOLIDATED SPHERICAL PARTICLE BED AND ITS PREDICTION METHOD <i>Haruka Oda and Yoshinori Hamamoto</i>			
15:30-16:30 Noise and Vibration in Fluid Chair : Takahiro Tsukahara (Tokyo University of Science)	15:30-16:30 Heat and Mass Transfer 6 Chair : Shigemitsu Shuchi (Akita Prefectural University)	15:30-16:30 Manufacturing and Materials Processing Chair : Kohei Yuki (Sanyo-Onoda City University)	15:30-16:30 Heat Exchangers 2 Chair : Hosen Nagano (Nagoya University)	15:30-16:30 Visualization/Imaging Techniques 2 Chair : Shintoku Nomura (Ehime University)
39 NUMERICAL STUDY ON AERODYNAMICS SOUND REDUCTION OF A CROSS-FLOW FAN WITH HELMHOLTZ RESONATORS: EFFECT OF CAVITY SHAPE <i>Atsushi Imada, Kimiya Takeuchi, Kazuya Kusano, Masato Furukawa, Kenichi Sakoda, Tomoya Fukui and Kishio Hatakenaka</i>	97 HEAT TRANSFER CHARACTERISTICS ON THE FLAT PLATE INSTALLED IN A PULSATING DUCT FLOW: EFFECT OF INLET-FLOW CONDITION ON THE TIME-AVERAGED HEAT TRANSFER COEFFICIENT ON THE FLAT PLATE <i>Raiki Katoh and Hironori Satoh</i>	18 ICE TEMPLATE FOR MICRO-NANOSTRUCTURED ANTI-DEICING COATING <i>Shuangshuang Miao, Xiangdong Liu and Chengbin Zhang</i>	76 ESTIMATION OF FINNED HEAT SINK PERFORMANCE BY INVERSE ANALYSIS USING MBD MODEL <i>Yuto Noto and Takashi Fukue</i>	108 MICROPLASTIC PARTICLE TRANSPORT ON WATER SURFACE USING A BUBBLE PLUME <i>Yuichi Murai, Takuya Wada, Yasufumi Horimoto, Hyun Jin Park and Yuji Tasaka</i>
126 DEVELOPMENT OF AN EFFICIENT AERODYNAMIC NOISE PREDICTION MODEL AND ITS APPLICATION TO AIR CONDITIONER DESIGN <i>Kazuma Tsutsumi, Norihiko Watanabe, Kengo Matsunaga and Akihiro Kondo</i>	22 EXPERIMENTAL INVESTIGATION OF 3D PRINTED STAINLESS STEEL VAPOR CHAMBER <i>Meng Hao Chen, Edward Lin and Alfandy Tansyafri</i>	71 MICRO/NANOSTRUCTURED ADDITIVELY MANUFACTURED METAL ALLOYS FOR ENHANCED ANTI-ICING AND DE-ICING <i>Huanyu Zhao, Jin Yao Ho and Hanyang Ye</i>	179 EXPERIMENTAL PERFORMANCE COMPARISON BETWEEN THE AIR-SOURCE AND HYBRID GROUND-SOURCE SYSTEM DURING COOLING CONDITIONS <i>Brian Mstzi Cindi, Tatsuaki Ikuno, Akio Miyara and Keishi Kariya</i>	167 STEREO-PIV MEASUREMENT OF BOUNDARY-LAYER TRANSITION SUBJECTED TO FREE-STREAM TURBULENCE <i>Genki Miyashita, Taichi Nakai and Shumpei Hara</i>
168 STUDY ON THE EVALUATION INDEX OF THE TONAL NOISE COMPONENTS OF SMALL FAN <i>Takelumi Nakano and Gaku Minorikawa</i>	31 TEMPERATURE EFFECTS ON TOPOLOGICALLY-OPTIMIZED STRUCTURE OF POROUS REACTION-DIFFUSION SYSTEM <i>Mehrzad Alizadeh, Mengly Long, Pengfei Sun, Patcharawat Charoen-Amornkit, Takahiro Suzuki and Shoji Tsushima</i>	211 NUMERICAL STUDY OF MULTI-PHASE FLOWS IN ULTRASHORT PULSE LASER PROCESSING <i>Feiyu Sha, Kazuyoshi Fushinobu</i>	209 A SPRING-MASS-DAMPER MODEL BASED ON SEPARATED PHASE FLOW MODE FOR PULSATING HEAT PIPE WITH ADJUSTIVE-STRUCTURED CHANNELS <i>Sihui Hong, Jiangchuan Yu and Chaobin Dang</i>	172 NUMERICAL PERFORMANCE EVALUATION OF PIV MEASUREMENT OF SECONDARY FLOW USING MULTI-COLOR LLS <i>Masatsugu Kitada, Shigeru Murata, Yasuhiro Karino and Yohsuke Tanaka</i>