ICHSIP-31 Technical Program

Monday, November 7

8:00 *Registration*

Room A

8:45 ***Opening***

9:15-9:35 *Conference Photo*

9:35-9;50 *Break, Poster Posting*

9:50-11:20 **Poster Short Presentations I (3 min./poster)**

Chair:Sabrina Nagel (LLNL, USA) and Hajime Nakamura (National Defense Academy of Japan)

1P-01	Kohsei Takehara, T. Goji Etoh	Kindai University	Direct evaluation method of vorticity combined with PTV
1P-02	K. Tsuji, W. Jantoss, K. Guttmann, S. C. Mueller	Shimadzu Europa GmbH	Droplet Impinging on Surface of Chemical Reactive Systems
1P-03	Gal Goldstein, Yael Katsir , and Abraham Marmur	Technion	Breaking wave buble spectra investigation using high speed camera
1P-04	M. Hirota, H. Torikai, T. Sasaki, H. Okimoto, Y. Matsuoka and T. Saito	Muroran Institute of Technology	Visualization of Flame Extinction Process by the Effect of Liquid Droplet Impinging on Heated Plate
1P-05	Harald Kleine, G. McNamara, J. Rayner	University of New South Wales	The Use Of High-Speed Imaging In Education
1P-06	Hideyuki Tanno	JAXA Kakuda	Impact testing of crushable structure for future reentry capsules
1P-07	A. Matsuda, K. Suzuki, K. Okada, T. Kito and H. Owaki	Meijo University	Temperature Deduction Method from Visualization of Shock Wave Propagating through DC Discharged Field
1P-08	K. Hatanaka, J. R. Gross, M. Hirota, T. Saito	Muroran Institute of Technology	Visualization of Supersonic Flow Field with Background Oriented Schlieren Method
1P-09	Yoshihiro Kubota, Osamu Mochizuki	Toyo University	Water splash formed by a polygonal shape body entering into water
1P-10	Li Jingzhen, Sun Fengshan, Liu Ningwen, Gong Xiangdong, Hui Bin, Wu Qingyang , Cai Yi, Lu Xiaowei	Shenzhen University	A Novel Simultaneous Streak and Framing Camera with Fine Spatial Resolution
1P-11	Hideharu Mikami, Jeffrey Harmon, Hirofumi Kobayashi, Yasuyuki Ozeki, and Keisuke Goda	The University of Tokyo	High-Throughput Fluorescence Imaging Flow Cytometry Enabled by Multi-Line Frequency-Division-Multiplexed Confocal Microscopy
1P-12	Kazuhiro Shimonomura, Q.A.Nguyen, T.Y.Le, Y.Kamakura, T.G.Etoh	Ritsumeikan University	Simulation analysis of temporal resolution in BSI MCG image sensor
1P-13	Yasuhide Takano, Hoang Dung Nguyen, Kohsei Takehara, Vu Truong Son Dao and Takeharu Etoh	Kindai University	Visualization of an Artificial Flash of Lightning Generated by a Spark Discharge Using an Ultra-high-speed Video Camera

1P-14	Jun Zhang, Shaorong Chen, Jinshou Tian, Tao Wang, Lu Xu, Lingliang Liang, Hui Jia, Kai He, Xiujian Li, Guilong Gao, Yuman Fang	Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences	Propagation of ultrashort light pulse through a AlGaAs/GaAs multiple-prism waveguide deflecting scanner for all optical solid state streak camera
1P-15	Hui Jia, Jun Zhang, Shaorong Chen, Lu Xu, Xiujian Li, Xishun Liu, Qinglin Zhai, Dawei Lu, Jinshou Tian, Tao Wang	National University of Defense Technology	The observation of laser induced breakdown in the bulk fused silica using all-optical ultra-fast framing camera
1P-16	Shaorong Chen, Jun Zhang, Hui Jia, Qinglin Zhai, Xishun Liu, Dawei Lu, Tao Wang, Jinshou Tian, Yuman Fang, Kai He	National University of Defense Technology	Theoretical research on dynamic range and sensitivity of all optical solid-state ultrafast imaging sensor
1P-17	Kai He, Tao Wang, Jinshou Tian, Shaohui Li, Jun Zhang, Shaorong Chen, Hui Jia, Xiujian Li, Lingliang Liang, Xin Yan, Guilong Gao	Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences	Ultrafast all-optical solid-state imaging technique with picosecond resolution
1P-18	A. Q. Nguyen, V.T.S Dao, K. Shimonomura, Y. Kamakura, T. G. Etoh	Ritsumeikan University	Crosstalk in Multi-Collection-Gate Image Sensors and its Improvement
1P-19	N.S.Vorobiev, P.B.Gornostaev, V.L.Dorokhov, V. N.Korchuganov, V.I.Lozovoi, O.I.Meshkov, Ma Xiaochao, D.A.Nikiforov, A.V.Smirnov, E.V.Shashkov, M.Ya.Schelev, I.Stirin , A.G.Valentinov	Prokhorov General Physics Institute of Russian Academy of Sciences	Picosecond Streak-Cameras for Bunch Diagnostics in Accelerators
1P-20	Itsuki Takamoto, Daiki Yamanaka, Yusuke Tsuda and Yasuhiro Awatsuji	Kyoto Inst. of Technology	Motion pictures recording of Stokes parameters of a propagating ultrashort light pulse
1P-21	Daiki Yamanaka, Yusuke Tsuda, Itsuki Takamoto, Peng Xia, Yasuhiro Awatsuji, Kenzo Nishio	Kyoto Inst. of Technology	Evaluation of the reconstructed images recorded with a single pulse and repetitive pulses in digital light-in-fight recording by holography
1P-22	T. Kaku, T. Tahara, and Y. Arai	Kansai University	Simultaneous high-speed three-dimensional motion-picture recording of multiple visible and invisible wavelengths by digital holography
1P-23	Yusuke Tsuda, Yasuhiro Awatsuji, Kenzo Nishio	Kyoto Inst. of Technology	Simultaneous recording of multiple and magnified motion pictures of polarized light propagation by using light-in-flight recording by holography
1P-24	Takashi Kakue, Yutaka Endo, Tomoyoshi Shimobaba, Tomoyoshi Ito	Chiba University	High-speed imaging of shooting BB pellet by single-shot phase-shifting digital holography
1P-25	Mayuko Koga	University of Hyogo	Numerical Model of X-ray Framing Camera
1P-26	Wang Yong	Ningbo Dahongying University	The Design of Forest Fire Warning and Emergency Treatment System
1P-27	Tian Si	Ningbo Dahongying University	Research of Calculation Method for Forest Fire Area Based on infrared image

1P-28	Zhang Weipeng Wu Xiaoyun		Ningbo Dahongying University	Research on Image Enhancement and Segmentation of chest X-rays
1P-29	Wei Shi, Huaimeng Gui, Hong Liu, Ming Xu, Hangjuan Jia, Lei Hou		Xi'an University of Technology	Fast rising edge bilateral symmetry output using GaAs Photoconductive switch
1P-30	Xikui Ren, Chenlin Du, Li Yu, Zhao Junqing and Shuangchen Ruan		Shenzhen University	Silicon wafer directly using as an output coupler in Tm:YAP laser
1P-31	Wenfu Zhang, Weiqiang Wang, Leiran Wang, Guoxi Wang, and Wei Zhao		State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mech	High repetition rate Mode-Locked Laser and frequency comb by micro-ring resonator

11:20-12:00 **Poster View I (Room A&B)**

12:00-13:00 *Lunch (Izumi)*

13:00-14:10 **High-speed Imaging for Broadcasting and Video Production I**
Chair: Hiroshi Ohtake (NHK) and Ryohei Funatsu (NHK)

13:00	1A-P01	Ryohei Funatsu, Kazuya Kitamura, Toshio Yasue, Tomohiro Nakamura, and Hiroshi Shimamoto	NHK	8K Ultra-high-definition Television Camera Technologies (Invited)
13:30	1A-P02	T. Yamasaki, K. Kitamura, T. Yasue, R. Funatsu, T. Kajiyama, K. Ogura, K. Kikuchi, E. Miyashita, H. Shimamoto	NHK	Slow motion 240-fps shooting experiment using a full-featured camera and recorder
13:50	1A-P03	Tatsunobu Kanemura	Astrodesign Inc.	8K HDR World—Ultimate reality imaging technology and production—

14:10-14:30 *Coffee Break*

14:30-15:20 **High-speed Imaging for Broadcasting and Video Production II**
Chair: Hiroshi Ohtake (NHK) and Ryohei Funatsu (NHK)

14:30	1A-P04	Yoji Hashimoto, Masakatsu Gotoh	nac Image Technology Inc.	Ultra slow motion camera "Hi-Motion II" for Broadcasting
14:50	1A-P05	Hiroshi Ootake	NHK	Overview of the high-speed Imaging in broadcast applications (Invited)

15:20-15:30 *Break*

15:30-17:00 **Sports and Flying/Swimming Animals, Insects and Microbes I**
Chair: Shin-ichiro Ito (Kogakuin University) and Ryohei Funatsu (NHK)

15:30	1A-P06	Shin-ichiro Ito	Kogakuin University	Applications of high-speed imaging to sport dynamics (Invited)
16:00	1A-P07	Kazuo Arakawa	Kyushu University	High-speed image analysis of a golf ball during oblique impact
16:20	1A-P08	Takeshi Asai, Sungchan Hong	Tsukuba University	Tring to Understand Knuckling Effect Ball in Soccer
16:40	1A-P09	T. Miyazaki, T. Matsumoto, R. Ando, H. Sugiura	University of Electro-communications	Attitude of an Archery Arrow in Free Flight - Its Influence on the Laminar-turbulent Transition -

Room B

13:00-14:20 **Holographic High-speed Imaging I**

Chair: Yohsuke Tanaka (Kyoto Inst. of Technology) and Peng Xia (AIST)

13:00	1B-P01	Yasuhiro Awatsuji	Kyoto Inst. of Technology	High-speed and ultrafast 3D imaging by holography (Invited)
13:30	1B-P02	O. Matoba, Y. Awatsuji	Kobe University	Optical voice recorder based on digital holography using a high-speed camera (Invited)
14:00	1B-P03	S. Suzuki, K. Sakaue, Y. Numata	Toyohashi University of Technology	Discussion on Holography Techniques Applied in Dynamic Fracture Research

14:20-14:40 *Coffee Break*

14:40-16:00 **Holographic High-speed Imaging II**

Chair: Osamu Matoba (Kobe Univeristy) and Yasuhiro Awatsuji (Kyoto Inst. of Technology)

14:40	1B-P04	Peng Xia, Yasuhiro Awatsuji, Osamu Matoba	AIST	One million fps phase measurement by digital holography (Invited)
15:10	1B-P05	M. Yoshii, B. J. Jackin, K. Kiyohara, T. Onuma, Y. Awatsuji, M. Kiyohara, T. Yatagai	Kiyohara Optics Inc.	Development of the ultra fast interferometer using a sub-millisecond high-speed pixelated polarizer-mask camera (Invited)
15:40	1B-P06	Shunsuke Tani	Kyoto Inst. of Technology	Calibration along the depth direction in tomographic digital holography

16:10-17:10 **Holographic High-speed Imaging III**

Chair: Peng Xia (AIST) and Yasuhiro Awatsuji (Kyoto Inst. of Technology)

16:10	1B-P07	H. Yamaoka, Y. Tanaka, S. Tani, S. Murata	Kyoto Inst. of Technology	Phase Distribution Measurement of Transparent Film Using Digital Holography with Phase Retrieval Method
16:30	1B-P08	Y. Tanaka, S. Tani, S. Murata	Kyoto Inst. of Technology	Camera layout for phase retrieval method with two cameras in digital holography
16:50	1B-P09	Guanghua Chen	Institute of Fluid Physics, China Academy of Engineering Physics	Ultra-high-speed Multiframe Imaging with All-optical Information Shutters

Room C

13:00-14:20 **Bubbles and Drops I**

Chair: Shu Takagi (The University of Tokyo) and Guillaume Lajoinie (University of Twente)

13:00	1C-P01	Michel Versluis	University of Twente	High-speed imaging in fluids: ultrafast and ultrashort high-speed imaging techniques (Invited)
13:30	1C-P02	Sigurdur Thoroddsen	King Abdullah University of Science and Technology	Probing the nanoscale with high-speed interferometry of an impacting drop (Invited)
14:00	1C-P03	T. Sanada, E. Yamaguchi	Shizuoka University	Impingement of a drop train against a closed end hole

14:20-14:40 *Coffee Break*

14:40-15:50 **Bubbles and Drops II**

Chair: Michel Versluis (University of Twente) and Ichiro Ueno (Tokyo University of Science)

14:40	1C-P04	Shu Takagi	The University of Tokyo	High-speed measurement of bubble generation process in microchannel (Invited)
15:10	1C-P05	Shingo ISHIHARA, Homare TSUKIYAMA, Yoshiyuki TAGAWA, Masaharu KAMEDA	Tokyo University of Agriculture and Technology	Rupture sites of a liquid film between the bubble and the solid surface
15:30	1C-P06	Taisei Horiba	Osaka Prefecture University	Observation of the Growth of Cavitation Bubble Clouds by the Backscattering of Focused Ultrasound from a Laser-Induced Bubble

16:00-17:20 **Bubbles and Drops III**

Chair: Sigurdur Thoroddsen (King Abdullah University of Science and Technology) and Hiroyuki Katahira (Osaka Prefecture University)

16:00	1C-P07	M. Shirota, M. A. J. van Limbeek, C. Sun, A. Prosperetti, D. Lohse	Hirosaki University	High-speed FTIR imaging of a vapor layer under a drop impacting on hot surfaces
16:20	1C-P08	Guillaume Lajoinie, Ine De Cock, Heleen Dewitte, Ying Luan, Tom Van Rooij, Erik Gelderblom, Mirjam Visscher, Klazina Kooiman, Benjamin Dollet, Ine Lentacker, Michel Versluis	University of Twente	Multiscale high-speed imaging to study complex behavior of ultrasound contrast agents
16:40	1C-P09	Kazuna Horiuchi, Yusuke Koiwa, Ichiro Ueno	Tokyo University of Science	Condensation of vapor bubble in subcooled pool
17:00	1C-P10	Hujie Pan, Min Xu, David L. S. Hung, Qinglin Xu, Shengqi Wu	Shanghai Jiao Tong University	Investigation of Spray Characteristics Using High Speed Tomographic PIV Technology under Non-Flash Boiling and Flash Boiling Conditions

Room D

13:00-14:20 **High-speed X-ray, Infrared, Microwave, and Neutron imaging I**

Chair: Hiroyuki Iwamoto (JASRI, SPring8) and Lizhi Sheng (Xi'an Institute of Optics and Precision Mechanics of CAS)

13:00	1D-P01	Eiichi Sato, Y. Oda, T. Ishii, O. Hagiwara, H. Matsukiyo, T. Enomoto, M. Watanabe, S. Kusachi	Iwate Medical University	High-speed dual-energy X-ray photon counting using a micro-photomultiplier tube and a LYSO crystal
13:20	1D-P02	O. Hagiwara, E. Sato, Y. Oda, H. Matsukiyo, T. Enomot, M. Watanabe, S. Kusachi	Toho University	High-speed triple-energy X-ray photon counting using a small photomultiplier tube and an LSO crystal
13:40	1D-P03	Takashi Sato and Koetsu Sato	TORECK Co., Ltd.	High-frame-rate cadmium-telluride-array detector for X-ray photon-counting imaging
14:00	1D-P04	Zhehui Wang, Cris W. Barnes, Michael F. Stevens	Los Alamos National Laboratory	Ultrafast imaging technology for high-energy XFEL photons: a material and data challenge on the mesoscale

14:20-14:40 *Coffee Break*

14:40-15:20 **High-speed X-ray, Infrared, Microwave, and Neutron imaging II**

Chair: Eiichi Sato (Iwate Medical University) and Zhehui Wang (Los Alamos National Laboratory)

14:40	1D-P05	Alessio Morace	Osaka University	Temporally-resolved proton radiography of rapidly-varying electric and magnetic fields in laser-driven capacitor-coil targets

15:00	1D-P06	Lizhi Sheng, Baosheng Zhao, Pengfei Qiang, Duo Liu	Xi'an Institute of Optics and Precision Mechanics of CAS	Research of Nested X-ray Concentrator for Future X-ray Timing Astronomy

15:30-17:20 **High-velocity and Hypervelocity Impact in Aerospace Engineering and Science**

Chair: Yukiko Kitazawa (ISAS/JAXA) and Yasuhiro Akahoshi (Kyushu Inst. of Technology)

15:30	1D-P07	Matthias Wickert	Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut, EMI	High-speed Imaging of Impact Processes (Invited)
16:00	1D-P08	N. Kawai, Y. Kuroda, S. Hasegawa, E. Sato	Kumamoto Universoty	High-speed Imaging of Hypervelocity Impact into Polycarbonate
16:20	1D-P09	M. Nishida, K. Ishida, F. Kodama, K. Hayashi, Y. Akahoshi, K. Hokamoto, T. Mayama, M. Yamasaki, Y. Kawamura	Nagoya Inst. of technology	Ejection Area from LPSO-type Magnesium Alloy Under Hypervelocity Impact
16:40	1D-P10	Daisuke Yokoo, Masashi Tanaka, Masaya Ikeda, Takao Koura and Yasuhiro Akahoshi	Kyushu Inst. of Technology	Improvement of the accuracy of the debris cloud photography at hyper velocity impact using a flash X-ray
17:00	1D-P11	Takayuki Hirai, Masumi Higashide, Hirohisa Kurosaki, Shirou Kawakita, Yuki Mando, Shota Yamaguchi, and Koji Tanaka	JAXA	Electrical failure on satellite's power harnesses caused by hypervelocity impacts