



The 9th Tiny Integrated Laser and Laser Ignition Conference 2023

Co-located with Optics & Photonics International Congress 2023

<https://opicon.jp/conferences/tila-lic/>

April 19 (Wed.) - 21 (Fri.) 2023, Pacifico Yokohama, Yokohama, Japan

WEDNESDAY, 19 April 2023

9:00 - 10:45	Title:	LIC1 - Compact Laser Sources
	Chair:	Takunori Taira, Rikken, Hyogo, Japan
	9:00 - 9:15	LIC - Opening
	9:15 - 9:45	Erik Beckert (Invited) , Pablo Rodriguez Perez, Felix Timmermann, Grucheska Rosario-Rodriguez, Marina Benito Parejo I000181: A Space-Suitable, Miniaturized 100 mW DPSS Laser at 532 nm for JAXA's Phobos Mission
	9:45 - 10:00	Florent Cassouret, Moritz Badtke, Pascal Loiseau, Christian Kränkel, Gerard Aka C000619: Deep red, red and orange emission of 4 at.% Pr-doped hexaaluminate $Sr_{0.7}La_{0.3}Mg_{0.3}Al_{11.7}O_{19}$ (ASL)
	10:00 - 10:15	Tibor Bereczki, Gerhard Kroupa C000097: Compact, high energy, low-cost Nd:YAG laser for ignition application
10:15 - 10:45	Yung-Fu Chen (Invited) , Yueh-Chi Tu, Hsing-Chih Liang I000015: Fast Model for Optimizing Passively Q-switched Lasers	
10:45 - 11:15	COFFEE BREAK	
11:15 - 12:30	Title:	LIC2 - Laser Ignition
	Chair:	Eiichi Takahashi, Nihon University, Chiba, Japan
	11:15 - 11:45	Sreenath Gupta (Invited) , Shashikant Aithal, Ashvin Hosangadi, Tim Weathers, Jeremy Fetvedt I000025: Development of a Laser ignition of a syngas-fueled direct-fired supercritical CO ₂ combustor
	11:45 - 12:00	Ciprian Dumitrache, Gabriela Croitoru, Nicoiaie Pavel*) C000030: Laser ignition of CH ₄ -air mixtures by a four-beam passively Q-switched Nd:YAG/Cr ⁴⁺ :YAG laser operating in burst mode
12:00 - 12:30	Lukas Schröder (Invited) , Thomas Hillenbrand, Dieter Brüggemann I000016: Combustion analysis of a laser-based and an electrical ignition system for directly injected methane in a RCM	
12:30 - 13:30	LUNCH	
13:30 - 14:30	Akio Ikesue (Invited) Chair Tohru Suzuki, National Institute for Materials Science, Tsukuba, Japan	LIC3 - Tutorial I000195: Historical Turning Point of Optical Ceramics
14:30 - 15:00	COFFEE BREAK	
15:00 - 16:00	Title: Chair:	LIC4: TILA-LIC'23 PLENARY SESSION Nicholas Matlis; I000194; Laser-Driven Sources of High-Field THz Radiation and their Application for Compact, THz-Driven Accelerators Takunori Taira, Rikken, Hyogo, Japan
16:00 - 16:20	COFFEE BREAK	
16:20 - 18:50		OPIC 2023 PLENARY SESSION
END OF FIRST DAY		

THURSDAY, 20 April 2023

9:00 - 10:30	Title:	LIC5 - Laser Materials & ATLA Project - 1	
	Chair:	Nicolai Pavel, INFLPR, Magurele, Romania	
	9:00 - 9:30	Jan Hostaša (Invited), Guido Toci, Laura Esposito, Barbara Patrizi, Matteo Vannini, Angela Pirri, Francesco Picelli, Andreana Piancastelli, Valentina Biasini	I000039: 2D-structured ceramic laser gain media, laser waveguides
	9:30 - 9:45	Lihong Liu, Tohru S. Suzuki, Koji Morita	C000377: Fabrication of translucent YVO ₄ ceramic by spark-plasma-sintering (SPS) processing
	9:45 - 10:00	Kohei Aminaka, Junichi Tatami, Motoyuki Iijima, Takuma Takahashi, Masahiro Yokouchi, Tsukaho Yahagi	C000624: Development of transparent rare earth doped a-SiAlON ceramics
10:00 - 10:30	Xavier Mateos (Invited), Pavel Loiko, Weidong Chen, Magdalena Aguiló, Uwe Griebner, Carolina Romero, Javier R. Vázquez de Aldana, Francesc Díaz, Valentin Petrov	I000041: Structured Materials for Micro Lasers at 2 microns	
10:30 - 11:00	COFFEE BREAK		
11:00 - 11:45	Title	LIC6 - THz Generation	
	Chair	Nicolai Pavel, INFLPR, Magurele, Romania	
	11:00 - 11:30	Hiroaki Minamide (Invited)	I000185: High-brightness injection-seeded backward optical parametric oscillation in sub-terahertz-wave frequencies.
11:30 - 11:45	Kei Takeya, Hideki Ishizuki, Takunori Taira	C000608: Discussion on evaluation of THz spectroscopy on low absorbers	
11:45 - 13:30	LUNCH		
13:30 - 15:00	LICp - POSTER SESSION		
	Chair	Hideki Ishizuki, RIKEN SPring-8 Center, Hyogo, Japan (I am not sure a chair is needed!)	
	Lucian-Marian Gheorghe, Alin Broasca, Madalin Greculeasa, Flavius Voicu, Gabriela Croitoru, Stefania Hau, Cristina Gheorghe, Nicolai Pavel*)	C000031: Yb- and Nd-doped La _x Gd _y Sc _{4-x-y} (BO ₃) ₄ (LGSB) as new high performance near-infrared laser crystals	
	George Stanciu, Flavius Voicu, Catalina-Alice Brandus, Cristina-Elena Tihon, Stefania Hau, Cristina Gheorghe, Gabriela Croitoru, Lucian-Marian Gheorghe, Nicolai Pavel*)	C000131: RE ³⁺ :Y ₂ O ₃ transparent ceramic media obtained via a multi-step sintering method	
	Gabriela Croitoru, Iulia Anghel, Flavius Voicu, Madalin Greculeasa, Alin Broasca, Lucian-Marian Gheorghe, Nicolai Pavel*)	C000194: Waveguides Realized in RE ³⁺ :CLNGG Laser Crystals by Direct Writing with a fs-Laser Beam	
	Barbara N. M. Oliveira, Tibor Bereczki, Gerhard Kroupa	C000220: Neural Network based method for astigmatism correction of non-Gaussian beam to enable focused radiation manipulation in High Power Miniature Laser	
	Oana-Valeria Grigore, Alexandru Craciun, Nicolai Pavel*)	C000603: Thermal Analysis of a Passively Q-switched Nd:YAG/Cr ⁴⁺ :YAG Laser with Multiple-Beam Output	
15:00 - 15:30	COFFEE BREAK		
15:30 - 17:00	Title:	LIC7 - Laser Ignition & Diagnostic	
	Chair:	Jun Hayashi, Kyoto University, Japan	

	15:30 - 16:00	Gerhard Kroupa (Invited) , Tibor Bereczki, Michael Börner - Withdraw -	I000022: Fibre Distribution Tests and Recent Applications of the Miniaturized HiPoLas Ignition System
	16:00 - 16:15	Keita Hayashi, Eiichi Takahashi	C000137: The Overdrive Effect of Laser Ignition on Early Stage Flame Development
	16:15 - 16:30	Yuto Akiyama, Saurabh Agrawal, Jun Hayashi, Naoto Horibe, Hiroshi Kawanabe	C000517: Flame kernel development induced by pulse train of sub-microsecond discharges in methane/air premixed mixture
	16:30 - 17:00	Hideki Moriai (Invited)	I000044: Laser Propulsion Research - Conversion of Laser Energy into Thrust in Space
END OF THE SECOND DAY			

FRIDAY, 21 April 2023

9:00 - 10:30	Title:	LIC8 - Laser Systems & Applications	
	Chair:	Nicolai Pavel, INFLPR, Magurele, Romania	
	9:00 - 9:30	Raoul-Amadeus Lorbeer (Invited), Benjamin Ewers, Christopher Santek, Matthias Augsburg, Denise Keil, Jochen Speiser, Thomas Dekorsy	I00037: Compact Laser Pumping and Amplification Concept using a Wedged-Thin-Disk
	9:30 - 9:45	Yifan Ma, Ruao Yang, Sze Yun Set, Shinji Yamashita, Zhigang hang	C000417: Tunable Near-infrared Femtosecond Laser pulses at 1 GHz for High-speed Spectroscopy Measurements
	9:45 - 10:00	Yoshio Mizuta, Satoshi Tamaki, Koki Yokofujita, Kiyotaka Masaki, Tomoharu Kato, Yoshihiro Sakino, Takunori Taira, Tomonao Hosokai, Yuji Sano	C000403: Improvement of residual stress and fatigue properties of metallic materials by laser peening using low-energy microchip lasers
10:00 - 10:30	Mariastefania De Vido (Invited)	I000184: Energy scaling of high pulse rate diode-pumped solid state DiPOLE laser amplifiers	
10:30 - 10:45	COFFEE BREAK		
10:45 - 12:30	Title:	LIC9 - Laser Ceramics & ATLA Project - 2	
	Chair:	Yoichi Sato, Rikken, Hyogo, Japan	
	10:45 - 11:15	Takunori Taira (Invited)	I000182: Tiny Integrated Lasers towards Giant Micro-photonics
	11:15 - 11:30	Hwan Hong Lim, Takunori Taira	C000127: >80 MW peak power Nd:YAG microchip laser for ignition
	11:30 - 11:45	Vincent Yahia, Arvydas Kausas, Takunori Taira	C000086: Modular gain medium for mitigation of parasitic oscillations in high-energy solid-state laser amplifier
	11:45 - 12:00	Akihiro Tsuji, Arvydas Kausas, Vincent Yahia, Takunori Taira	C000281: Direct-Bonded Materials for High Beam Quality and Energy Gain-Aperture Amplifier System
12:00 - 12:30	Hiroaki Furuse (Invited) Koji Morita, Byung-Nam Kim, Tohru S. Suzuki	I000197: Non-cubic fluorapatite laser ceramics by controlling crystal grains	
12:30 - 14:00	LUNCH		
14:00 - 15:50	Title:	LIC10 - ATLA Project - 3	
	Chair:	Rakesh Bhandari, OptoQuest Company, Japan	
	14:00 - 14:30	Toshiki Sugimoto (Invited)	I000186: Development of nonlinear optical spectroscopy to break through the detection limit of nanoscale interfaces
	14:30 - 14:45	Hideki Ishizuki, Takunori Taira	C000192: Study on crystal quartz for QPM device
	14:45 - 15:00	Yoichi Sato, Takunori Taira	C000027: Comprehensive evaluation of YAG thermal parameters in a wide temperature range from cryogenic to high
	15:00 - 15:15	Arvydas Kausas, Takunori Taira	C000461: Automated LIDT system development for composite-structure power-laser
	15:15 - 15:45	Koji Morita (invited), Lihong Liu, Tohru S. Suzuki, Byung-Nam Kim	I000196: Fabrication of Infrared transparent ceramics through spark-plasma-sintering (SPS) method
15:45 - 15:50	Tomosaburo Yano	Closing remarks	
15:50 - 16:00	AWARD CEREMONY - CLOSING REMARKS END OF THE CONFERENCE		