

International Symposium on Physics and Applications of Laser Dynamics 2012

2012國際雷射動態物理與應用研討會

Symposium Program

Date

November 7~9, 2012

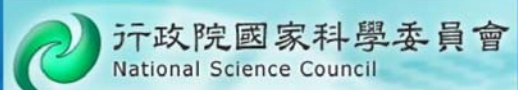
Venue

National Cheng Kung University
Multi-Purpose Building (Cheng Kung Campus)
Room 48424
國立成功大學成功校區 綜合大樓4樓48424室

Hosted by



Sponsored by



Greetings from Organizing Committee Chairs

Welcome to Tainan, Taiwan!!

On behalf of the symposium committee, we sincerely welcome all of you to Tainan, Taiwan and to the International Symposium on Physics and Applications of Laser Dynamics 2012 (IS-PALD 2012). This is the 2nd IS-PALD symposium following the 1st one successfully held in 2011. The symposium attempts to provide an opportunity to learn advances in physics and applications of laser dynamics, covering both ultrafast and nonlinear laser dynamics, through invited talks by renowned scholars and through contributed presentations by active researchers. Meanwhile, the symposium intends to create an environment for extensive discussion and potential collaboration with researchers worldwide. Thanks to the great contributions and submissions from all speakers and authors, the program of IS-PALD 2012 covers various aspects of laser dynamics, ranging from physics to applications of ultra-short and high-energy laser pulses, from processing to characterization of ultra-short and high-energy laser pulses, from physics to applications of laser instability and laser chaos, from generation to control of laser instability and laser chaos, among others.

We would like to thank all the symposium committee members for their efforts in organizing IS-PALD 2012. We would also like to thank all speakers and authors for their great contributions to and for their support for IS-PALD 2012.

We hope you will enjoy IS-PALD 2012 and Tainan, Taiwan.



Sheng-Kwang Hwang
IS-PALD 2012 Co-Chair
Department of Photonics
National Cheng Kung University
Tainan, Taiwan



Ming-Dar Wei
IS-PALD 2012 Co-Chair
Department of Photonics
National Cheng Kung University
Tainan, Taiwan

Program

November 7, 2012 (Wednesday)		
08:00 08:50	Symposium Registration	
08:50 09:00	Symposium Opening Remark	
09:00 10:00	Ultrafast Laser Dynamics (I) Chair: Wen-Feng Hsieh	Andrew M. Weiner (Plenary Talk) Ultrafast & Broadband Photonic Signal Processing: From Combs to Microdevices to Control of RF Propagation
10:00 10:40		Yin-Chieh Lai (Invited Talk) New Laser Dynamics of Modelocked Fiber Lasers
10:40 11:00	Coffee Break	
11:00 11:40	Ultrafast Laser Dynamics (II) Chair: Chao-Kuei Lee	Gong-Ru lin (Invited Talk) Nanoscale Graphite and Charcoal Passively Mode-Locked Er-doped Fiber Laser
11:40 12:20		Sheng-Lung Huang (Invited Talk) Development of a High Repetition Rate 4-Stage Fiber MOPA for EUV Generation
12:20 12:40		Wan-Tien Chao Spectral Compression of an All-Normal Dispersion Fiber Laser
12:40 14:00	Lunch	
14:00 14:40	Nonlinear laser Dynamics (I) Chair: Ming-Dar Wei	Dingyuan Tang (Invited Talk) Chaotic Dynamics of a Graphene Mode Locked Vector Soliton Fiber Laser
14:40 15:20		Fan-Yi Lin (Invited Talk) Dual-Frequency Laser Doppler Velocimeter for Speckle Noise Reduction and Coherence Enhancement

15:20 15:40		Kun-Guei Hong Dynamic Behavior in the Passive Q-Switched Nd:YVO4 Laser with Pump Modulation
15:40 16:00	Coffee Break	
16:00 16:40	Ultrafast Laser Dynamics (III) Chair: Yin-Chieh Lai	See Leang Chin (Invited Talk) Intense Femtosecond Laser Filamentation Science in Air
16:40 17:00		Takayoshi Kobayashi Cleaning and Measurement of Femtosecond Pulse by Using Self-Diffraction Process in Bulk Medium
17:00 17:40		Seng Hong (Invited Talk) AOARD Overview & Research Collaboration Opportunity
18:00 20:00	Welcome Reception	

November 8, 2012 (Thursday)		
08:30 09:00	Symposium Registration	
09:00 09:40	Nonlinear laser Dynamics (II) Chair: How-Foo Chen	Sze-Chun Chan (Invited Talk) Laser Dynamics for Microwave Photonics: From Narrowband to Broadband
09:40 10:20		Frederic Grillot (Invited Talk) Modeling the Injection-Locking Behavior of Quantum Cascade Lasers
10:20 11:00	Coffee Break	

11:00 11:40	Ultrafast Laser Dynamics (IV) Chair: Hsiang-Chen Chui	Kuan-Wei Su (Invited Talk) Self-Mode-Locking of Diode-Pumped Lasers
11:40 12:00		Chih-Chang Hong Femtosecond Pulse Compressing and Cleaning by Self-Diffraction Process
12:00 12:20		Ting-Wei Chen Optimal Pulse Characteristics and Pulse Stabilization in a Hybrid Q-switched Nd:LuVO ₄ Laser on a Role of Modulation Frequency
12:20 14:00	Lunch	
14:00 14:40	Ultrafast Laser Dynamics (V) Chair: Ming-Che Chan	Yen-Hung Chen (Invited Talk) Laser Pulse Generation and Wavelength Conversion in Single Nonlinear-Optical Crystal
14:40 15:20		Shi-Wei Chu (Invited Talk) Saturation of Plasmonic Scattering from an Isolated Metal Nanoparticle
15:20 15:40		Yu-Kai Sheng Room-Temperature Excitonic Optical Nonlinearities of p-Type ZnO Thin Film
15:40 16:00	Coffee Break	
16:00 16:40	Nonlinear laser Dynamics (III) Chair: Frederic Grillot	Angel Valle (Invited Talk) High-Frequency Microwave Signal Generation Using Multi-Transverse Mode VCSELs Subject to Two-Frequency Optical Injection
16:40 17:00		Yu-Han Hung Conversion from Optical Double-Sideband Modulation Signals to Optical Single-Sideband Modulation Signals Using Nonlinear Dynamics of Semiconductor Lasers
17:00 17:20		Ken-Chia Chang Chaos Suppression in a Nd:YVO ₄ Laser by Reshaping Pump Modulation with Dual Waveforms

November 9, 2012 (Friday)		
08:30 09:00	Symposium Registration	
09:00 10:00	Ultrafast Laser Dynamics (VI) Chair: Tzong-Yow Tsai	Xiaoyi Bao (Plenary Talk) The Impact of the Nonlinear Effect in Long Distance Distributed Brillouin Scattering Sensors
10:00 10:40		Shean-Jen Chen (Invited Talk) Spatiotemporal Focusing-Based Widefield Multiphoton Microscopy for Fast optical Sectioning of Thick Tissues
10:40 11:00	Coffee Break	
11:00 11:40	Nonlinear laser Dynamics (IV) Chair: Sze-Chun Chan	Cristina Masoller (Invited Talk) Rogue Waves in Optically Injected Semiconductor Lasers: Origin, Predictability and Suppression
11:40 12:20		Ray-Kuang Lee (Invited Talk) Thresholdless Crescent Waves
12:20 12:40		Angel Valle Excitability in Vertical-Cavity Surface-Emitting Lasers subject to Orthogonal Optical Injection
12:40 12:50	Concluding Remark	

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Organizing Committee

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General Information

Objective and Scope

The Symposium provides an opportunity to learn advances in physics and applications of laser dynamics through invited talks by renowned scholars and through contributed presentations by active researchers. Meanwhile, the Symposium creates an environment for extensive discussion and potential collaboration with researchers worldwide.

Two areas of laser dynamics are covered in the Symposium:

Ultrafast Laser Dynamics, the topics of which include but are not limited to

- (1) Physics and engineering of ultra-short and/or high-energy pulsed lasers
- (2) Generation, shaping, and processing of ultra-short and/or high-energy laser pulses
- (3) Detection and characterization of ultra-short and/or high-energy laser pulses
- (4) Applications of ultra-short and/or high-energy laser pulses

Nonlinear Laser Dynamics, the topics of which include but are not limited to

- (1) Physics and engineering of nonlinear laser dynamics, including stability, bistability, periodic and aperiodic dynamics, and chaos
- (2) Generation, measurement, shaping, and processing of diverse waveforms based on nonlinear laser dynamics
- (3) Characterization, control, and synchronization of nonlinear laser dynamics
- (4) Applications of nonlinear laser dynamics and their waveforms

Dates

November 7 to November 9, 2012

Location

Department of Photonics
National Cheng Kung University
Room 48424, 4th Floor, Multi-Purpose Building
1 University Road, Tainan, Taiwan

Symposium Contacts

Symposium Website: <http://conf.ncku.edu.tw/ispald>

Chair: Sheng-Kwang Hwang

skhwang@mail.ncku.edu.tw

+886-6-2757575 ext. 63922

Chair: Ming-Dar Wei

mdwei@mail.ncku.edu.tw

+886-6-2757575 ext. 63921

Secretariat: Ms. Emily Hung

em34150@email.ncku.edu.tw

+886-2-2757575 ext. 63900