

AOIM2013

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STIAS Conference Centre

Book of abstracts

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Imaging the expression of Channelrhodopsin-2 as a directly light-gated cation-selective membrane channel in HEK 293 cells

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Session IX: Space / 3

-Strehl ratio, divergence, M2 factor –What is good for describing the propagation of a diffracted laser beam?

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Session VI: Vision / 4

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Session VI: Vision / 6

The use of Zernike and Q-Polynomials combined for the Representation of Intraocular-Lens Topologies

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Session VI: Vision / 7

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Session IX: Space / 8

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Session III: Wavefront Sensing Techniques / 9

Modal decomposition for wavefront reconstruction

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Session VII : Imaging and Microscopy / 13

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Session III: Wavefront Sensing Techniques / 17

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Session IV: Adaptive Control / 19

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Session II : Imaging and Microscopy / 22

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Seesion I : AO in Lasers / 24

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Session IV: Adaptive Control / 25

Characterization and application of a deformable mirror for pulse shaping in the Mid-Infrared

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Session II : Imaging and Microscopy / 26

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Session IV: Adaptive Control / 27

Ultrafast time compensated monochromator with deformable diffraction gratings

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Session IV: Adaptive Control / 28

High resolution wavefront control using a photocontrolled deformable mirror in closed loop

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Session VIII : Spatial Light Modulators / 29

All-digital holographic tool for real-time mode excitation and ~analysis in optical waveguides

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Utilizing speckle decorrelation for tomographic wavefront sensing (with one wavefront sensor)

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Session IX: Space / 31

Manufacturing and Testing of Unimorph Deformable Mirrors for Space Telescopes

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Optical Design and Optimization of Adaptive Automobile Headlight with Liquid Optical Element and Freeform

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Compensation of the two-stage phase-shifting algorithms with respect to detuning and harmonics

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Session VII : Imaging and Microscopy / 35

Correction for distortions in holographic nanointerferometers

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Session V: AO Techniques / 36

Adaptive Lenses for Displays & Vision

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Session V: AO Techniques / 37

Results on the high power testing of screen-printed deformable mirrors

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Session VII : Imaging and Microscopy / 38

Advances in adaptive optics nonlinear microscopy for applications in medical and life sciences

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Session X: Propagation and Turbulance / 39

Adaptive Optics for Horizontal Propagation Applications

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Session VI: Vision / 41

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Session VIII : Spatial Light Modulators / 42

Phase generation in white light with a 6-Pi Liquid Crystal on Silicon (LCoS) device

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Session V: AO Techniques / 44

Design optimization of an actuator pattern for a unimorph deformable mirror

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Session V: AO Techniques / 45

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Wide field wavefront sensing on extended scenes and possible applications

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Session IV: Adaptive Control / 48

Real-time high speed adaptive optical system for imaging and laser beam control

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Session V: AO Techniques / 50

Recent Advances in MEMS Deformable Mirror Technology

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Session II : Imaging and Microscopy / 51

Superpenetration Multiphoton Microscopy Enabled Through MEMS DM Technology

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Session VIII : Spatial Light Modulators / 52

A novel technique to generate and temporally shape multiple pulsed laser beams using 2D-SLMs

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Session II : Imaging and Microscopy / 59

ADAPTIVE OPTICS FROM MICROSCOPY TO NANOSCOPY

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Free space prop without Free Space

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Free Space prop without the free space

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Session VIII : Spatial Light Modulators / 63

Shaping ultrafast pulsed beams in space and time with programmable spatial light modulators

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Session I : AO in Lasers / 64

Achieving the highest intensity from the Orion Laser Facility

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Session X: Propagation and Turbulance / 65

Quantum Communications along Optical Links with Strong Turbulence

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Session VI: Vision / 66

Functional Imaging of Single Cells in the Living Eye

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Welcome Remarks

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Basics of AOs and adaptive control

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Basics of deformable mirrors

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Basics of wavefront sensing

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Basics of liquid crystals and their use in AOs:

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AOs in Vision

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Biomedical imaging with AOs

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AOs and microscopy

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Turn key AO systems

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AOs in ultrafast and ultrahigh power lasers

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AOs in high precision materials

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Wavefront correction in large-scale glass laser LFEX

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Real-time dynamic control of laser modes

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Quantum communication with OAM entangled photons

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Producing Kaleidoscope Modes using the Digital Laser

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