

Interferometry XIX

Tuesday - Thursday 21 - 23 August 2018

Conference Sessions At A Glance

[SHOW](#) | [HIDE](#)

1: Speckle
2: Shape and Thickness Measurement
3: Vibration Analysis
4: Vikram Award Lecture I
5: Shape Measurement And Deflectometry: Joint Session with Conferences 10742 and 10749
 Optomechanical/Instrument Technical Group Event
 Lens Design Technical Event
6: Bio-related Techniques
7: On the Fringe
8: Vikram Award Lecture II
9: Characterization
10: Techniques I
 Posters-Wednesday
11: Low Coherence
12: Techniques II
 Fringe Art Awards Voting and Presentation

Important Dates

[SHOW](#) | [HIDE](#)

Abstract Due:
7 February 2018

Author Notification:
16 April 2018

Manuscript Due Date:
27 June 2018

Conference Committee

[SHOW](#) | [HIDE](#)

Conference Chairs

[Katherine Creath](#), Optineering (United States), The Univ. of Arizona (United States)
[Jan Burke](#), Fraunhofer-Institut für Optronik, Systemtechnik und Bildauswertung (Germany)
[Michael B. North Morris](#), 4D Technology Corp. (United States)
[Angela D. Davies](#), The Univ. of North Carolina at Charlotte (United States)

Program Committee

[Astrid Aksnes](#), Norwegian Univ. of Science and Technology (Norway)
[Armando Albertazzi Gonçalves](#), Univ. Federal de Santa Catarina (Brazil)
[Gastón A. Ayubi](#), Univ. de la República (Uruguay)
[Brent C. Bergner](#), Mahr-ESDI (United States), Process Measurement Resources (United States)
[Manuel Campos-García](#), Univ. Nacional Autónoma de México (Mexico)
[Peter J. de Groot](#), Zygo Corporation (United States)
[Nicholas Devaney](#), National Univ. of Ireland, Galway (Ireland)
[Konstantinos Falaggis](#), The Univ. of North Carolina at Charlotte (United States)
[Pietro Ferraro](#), Istituto di Scienze applicata e Sistemi Intelligenti (Italy)
[Cosme Furlong](#), Worcester Polytechnic Institute (United States)
[Marc P. Georges](#), Ctr. Spatial de Liège (Belgium)
[Goldie L. Goldstein](#), Nikon Research Corp. of America (United States)
[Ulf Griesmann](#), National Institute of Standards and Technology (United States)
[Tobias Haist](#), Institut für Technische Optik (Germany)
[Sen Han](#), Univ. of Shanghai for Science and Technology (China)

Program Committee continued...

[Qian Kemao](#), Nanyang Technological Univ. (Singapore)
[Dae Wook Kim](#), College of Optical Sciences, The Univ. of Arizona (United States)
[Beiwen Li](#), Iowa State Univ. of Science and Technology (United States)
[Chao-Wen Liang](#), National Central Univ. (Taiwan)
[Klaus Mante](#), Max-Planck-Institut für die Physik des Lichts (Germany)
[Amalia Martínez-García](#), Ctr. de Investigaciones en Óptica, A.C. (Mexico)
[Kate Medicus](#), Optimax Systems, Inc. (United States)
[Jiří Novák](#), Czech Technical Univ. in Prague (Czech Republic)
[Artur G. Olszak](#), Apre Instruments, LLC (United States)
[Yukitoshi Otani](#), Utsunomiya Univ. (Japan)
[Robert E. Parks](#), Optical Perspectives Group, LLC (United States)
[Stéphane Perrin](#), ICube (France), Univ. de Strasbourg (France)
[Rosario Porras-Aguilar](#), The Univ. of North Carolina at Charlotte (United States)
[Joanna Schmit](#), 4D Technology Corp. (United States)
[Michael Schulz](#), Physikalisch-Technische Bundesanstalt (Germany)
[Adam R. Styk](#), Warsaw Univ. of Technology (Poland)
[James D. Trolinger](#), MetroLaser, Inc. (United States)
[Song Zhang](#), Purdue Univ. (United States)

TUESDAY 21 AUGUST[Show All Abstracts](#)

Session 1: Speckle

Tuesday 21 August 2018
 9:00 AM - 10:00 AM
 Location: Conv. Ctr. Room 24C


Session Chair: [Michael B. North Morris](#), 4D Technology Corp. (United States)

Three-dimensional shape measurement beyond the diffraction limit of lens using speckle interferometry

Paper 10749-1

Time: 9:00 AM - 9:20 AM


Author(s): Yasuhiko Arai, Kansai Univ. (Japan)

[Add To My Schedule](#) **Speckle contrast calculation based on pixels correlation: spatial analysis**

Paper 10749-2

Time: 9:20 AM - 9:40 AM

Author(s): Beatriz Coyotl-Ocelotl, Julio César Juárez Ramírez, Rubén Ramos-García, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); Roger Chiu, Univ. de Guadalajara (Mexico); Teresita Spezzia-Mazzocco, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico), Consejo Nacional de Ciencia y Tecnología (Mexico); Julio C. Ramirez-San-Juan, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

[Add To My Schedule](#) **Contrast temporal analysis using correlation between frames**

Paper 10749-4

Time: 9:40 AM - 10:00 AM

Author(s): Julio César Juárez Ramírez, Beatriz Coyotl-Ocelotl, Rubén Ramos-García, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); Roger Chiu, Univ. de Guadalajara (Mexico); Teresita Spezzia-Mazzocco, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico), Consejo Nacional de Ciencia y Tecnología (Mexico); Julio C. Ramirez-San-Juan, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

[Add To My Schedule](#) 

Coffee Break 10:00 AM - 10:30 AM

**Session 2:
Shape and Thickness Measurement**

Tuesday 21 August 2018

10:30 AM - 12:10 PM

Location: Conv. Ctr. Room 24C

Session Chair: [Angela D. Davies](#), The Univ. of North Carolina at Charlotte (United States)

The dimensional measurement of micro objects using the linear scanning confocal surface shape measurement system

Paper 10749-5

Time: 10:30 AM - 10:50 AM

Author(s): Tatsuya Hinago, Mitsuhiro Ishihara, Takaoka Toko Co., Ltd. (Japan); Yukihiro Otani, Utsunomiya Univ. (Japan)

[Add To My Schedule](#) **Features of surface contouring by digital holographic interferometry with tilt of the object illumination**

Paper 10749-6

Time: 10:50 AM - 11:10 AM

Author(s): Nikolay V. Petrov, Vladislav A. Skobnikov, Igor A. Shevkunov, ITMO Univ. (Russian Federation); Andrei V. Belashov, Ioffe Institute (Russian Federation); Alexander V. Fedin, Ustinov Baltic State Technical University Voenmekh (Russian Federation)

[Add To My Schedule](#) **One part-per-million wafer thickness measurement repeatability using fast frequency space Moire effect tool**

Paper 10749-7

Time: 11:10 AM - 11:30 AM

Author(s): Wei-Chun Hung, Raphael Morency, Frontier Semiconductor (United States); Wojtek J. Walecki, Frontier Semiconductor, Inc. (United States)

[Add To My Schedule](#) **Influence of measured surface materials on the accuracy of 3D measurement using fringe projection**

Paper 10749-8

Time: 11:30 AM - 11:50 AM


Author(s): Joseph Shen, Eagle Wings Academy (United States)

[Add To My Schedule](#) **Single-shot RGB polarising interferometer**

Paper 10749-54

Time: 11:50 AM - 12:10 PM

Author(s): Hussam Muhamedsalih, Saif Al-Bashir, Feng Gao, Xiangqian Jiang, Univ. of Huddersfield (United Kingdom)

[Add To My Schedule](#) 

Lunch/Exhibition Break 12:10 PM - 1:30 PM

**Session 3:
Vibration Analysis**

Tuesday 21 August 2018

1:30 PM - 2:30 PM

Location: Conv. Ctr. Room 24C

Session Chair: [Konstantinos Falaggis](#), The Univ. of North Carolina at Charlotte (United States)

Laser-Doppler vibrometry with variable GHz heterodyne carrier via frequency-offset lock

Paper 10749-10

Time: 1:30 PM - 1:50 PM

Author(s): Robert Kowarsch, Christian Rembe, Technische Univ. Clausthal (Germany)


[Add To My Schedule](#) 

Vibration amplitude determination through besselogram modulation analysis

Paper 10749-11

Time: 1:50 PM - 2:10 PM

Author(s): Adam R. Styk, Warsaw Univ. of Technology (Poland)


[Add To My Schedule](#) 

A non-destructive evaluation system for additive manufacturing based on acoustic signature analysis with laser Doppler vibrometry

Paper 10749-12

Time: 2:10 PM - 2:30 PM

Author(s): James D. Trolinger, MetroLaser, Inc. (United States); Amit Lal, OMS Corp. (United States); Andrei Dioumaev, MetroLaser, Inc. (United States); Dave Dimas, Univ. of California, Irvine (United States)

[Add To My Schedule](#) 

Session 4: Vikram Award Lecture I

Tuesday 21 August 2018

2:30 PM - 3:10 PM

Location: Conv. Ctr. Room 24C


Session Chair: [James Davis Trolinger](#), MetroLaser, Inc. (United States)

From the speckle interferometer to digital holography (*Invited Paper*)

Paper 10749-13

Time: 2:30 PM - 3:10 PM

Author(s): Karl A. Stetson, Karl Stetson Associates, LLC (United States)

[Add To My Schedule](#) 

Coffee Break 3:10 PM - 3:40 PM

Session 5: Shape Measurement And Deflectometry: Joint Session with Conferences 10742 and 10749

Tuesday 21 August 2018

3:40 PM - 5:30 PM

Location: Conv. Ctr. Room 25A


Session Chairs: [Ray Williamson](#), Ray Williamson Consulting (United States) ; [Katherine Creath](#), Optineering (United States), The Univ. of Arizona (United States)

High-resolution 3D shape deformation, displacement and strain measurement for robotic flapping wings (*Invited Paper*)

Paper 10749-14

Time: 3:40 PM - 4:10 PM

Author(s): Beiwen Li, Iowa State Univ. of Science and Technology (United States)


[Add To My Schedule](#) 

Grey-level coding for structured-light illumination systems

Paper 10749-15

Time: 4:10 PM - 4:30 PM

Author(s): Konstantinos Falaggis, Rosario Porras-Aguilar, The Univ. of North Carolina at Charlotte (United States)


[Add To My Schedule](#) 

Model-free optical surface reconstruction from deflectometry data

Paper 10742-36

Time: 4:30 PM - 4:50 PM

Author(s): Logan R. Graves, Heejoo Choi, College of Optical Sciences, The Univ. of Arizona (United States); Wenchuan Zhao, Institute of Optics and Electronics (China); Chang Jin Oh, College of Optical Sciences, The Univ. of Arizona (United States); Peng Su, ASML US, Inc. (United States); Tianquan Su, KLT-Tencor Corp. (United States); Dae Wook Kim, College of Optical Sciences, The Univ. of Arizona (United States)


[Add To My Schedule](#) 

Characterization of the interpolation bias in the analysis of deflectometry measurement data

Paper 10749-16

Time: 4:50 PM - 5:10 PM


Author(s): Ali Pouya Fard, Angela Davies, The Univ. of North Carolina at Charlotte (United States)

[Add To My Schedule](#) **Characterization of an aspherical surface with null screens using exact ray tracing**

Paper 10742-37

Time: 5:10 PM - 5:30 PM

Author(s): Diana Nallely Castán-Ricaño, Fermín Salomón Granados-Agustín, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); Maximino Avendaño Alejo, Univ. Nacional Autónoma de México (Mexico); María Elizabeth Percino-Zacarías, Alejandro Comejo-Rodríguez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

[Add To My Schedule](#) 

Optomechanical/Instrument Technical Group Event

Tuesday 21 August 2018

8:00 PM - 10:00 PM

Location: Marriott Marquis, Palomar

This is the annual meeting of the premier group of optomechanical engineers that design and analyze the world's optical instruments and systems. The featured speaker will be Kent Weed, Director of Engineering of II-VI Optical Systems. His subject will be the design and testing of a high-performance secondary mirror focus mechanism which is intended for the CAESAR Space Mission which is part of NASA's New Frontiers programs. Following Kent, the floor will be open for other agenda items and a workshop session. Anyone who wishes to put an item on the agenda should contact Al Hatheway at ah@aeihinc.com.

Lens Design Technical Event

Tuesday 21 August 2018

8:00 PM - 10:00 PM

Location: Marriott Marquis, Marina Ballroom F

Session Chair: **Rich Pfisterer**, Photon Engineering, LLC (USA)**"Let's Give 'Em Something to Talk About!"**

Lens designers! Join us for our annual gathering to meet and discuss... lens design! Let's talk about what we're designing, how we're going about doing it (what materials, software, techniques, etc.), and which problems we're encountering. We'll also explore current technical and commercial trends in the marketplace. This year's invited speaker will be Joseph M. Howard of NASA's James Webb Space Telescope Project, whose talk is entitled, "Current and Future NASA Space Telescopes."

Cosponsored by:*Light refreshments sponsored by:***The Optical Solutions Group at**

WEDNESDAY 22 AUGUST[Show All Abstracts](#)

Session 6: Bio-related Techniques

Wednesday 22 August 2018

8:30 AM - 10:20 AM


Location: Conv. Ctr. Room 24C

Session Chair: [Rosario Porras-Aguilar](#), The Univ. of North Carolina at Charlotte (United States)**Moiré effect-based interference microscopy for biospecimen characterization** (*Invited Paper*)

Paper 10749-17

Time: 8:30 AM - 9:00 AM

Author(s): Maciej Trusiak, Warsaw Univ. of Technology (Poland); Vicente Micó, José Ángel Picazo-Bueno, Univ. de València (Spain); Maria Cywińska, Piotr Zdańkowski, Krzysztof Patorski, Warsaw Univ. of Technology (Poland)


[Add To My Schedule](#) 

Multi-spectral digital holography with high-speed wavelength switching and high-speed camera

Paper 10749-18



Time: 9:00 AM - 9:20 AM

Author(s): Yu-Hsuan Huang, Yoshio Hayasaki, Utsunomiya Univ. (Japan)

[Add To My Schedule](#) **Multi-beam spatially multiplexed interference microscopy for phase objects examination**

Paper 10749-19


Time: 9:20 AM - 9:40 AM

Author(s): Piotr Zdrankowski, Warsaw Univ. of Technology (Poland); Vicente Micó, José Ángel Picazo-Bueno, Univ. de València (Spain); Krzysztof Patorski, Maciej Trusiak, Warsaw Univ. of Technology (Poland) [Add To My Schedule](#) **A new morphological cell parameter based on optical phase for the evaluation of cell populations**

Paper 10749-20

Time: 9:40 AM - 10:00 AM


Author(s): Jesus Gonzalez-Lapea, Pontificia Univ. Católica del Ecuador (Ecuador); Ana H. Márquez, Departamento de Biología Celular, Universidad Simón Bolívar (Venezuela); José R. Darias, Laboratorio de Óptica y Fluidos, Universidad Simón Bolívar (Venezuela); Karem Noris-Suárez, Departamento de Biología Celular, Universidad Simón Bolívar (Venezuela)

[Add To My Schedule](#) **Unlabeled flow cellular deformation measurement based on digital holographic microscopy**

Paper 10749-21

Time: 10:00 AM - 10:20 AM

Author(s): Wen Xiao, Qixiang Wang, Feng Pan, Runyu Cao, Xiaosu Yi, Beihang Univ. (China)

[Add To My Schedule](#) 

Coffee Break 10:20 AM - 10:50 AM

**Session 7:
On the Fringe**

Wednesday 22 August 2018

10:50 AM - 12:00 PM

Location: Conv. Ctr. Room 24C


Session Chair: [Adam R. Styk](#), Warsaw Univ. of Technology (Poland)

Dual sensing-light-sheet OCT for microfluidic PTV (Invited Paper)

Paper 10749-22

Time: 10:50 AM - 11:20 AM

Author(s): Jonathan M. Hallam, Evangelos Rigas, Helen D. Ford, Thomas Charrett, Ralph P. Tatam, Cranfield Univ. (United Kingdom)

[Add To My Schedule](#) **Amplitude checker grating-based multichannel lateral shear interferometry for extended aberration sensing**

Paper 10749-23

Time: 11:20 AM - 11:40 AM


Author(s): Lukasz Sluzewski, Warsaw Univ. of Technology (Poland); Krzysztof Patorski, Warsaw Univ of Technology (Poland); Maciej Trusiak, Warsaw Univ. of Technology (Poland)

[Add To My Schedule](#) **Multi-path interferometer structures with cleaved silica microspheres**

Paper 10749-24

Time: 11:40 AM - 12:00 PM

Author(s): André D. Gomes, INESC TEC (Portugal); Beatriz Silveira, INESC TEC (Portugal), Leibniz-Institut für Photonische Technologien e.V. (Germany); Fatemeh Karami, Mohammad I. Zibaii, Hamid Latifi, Shahid Beheshti Univ. (Iran, Islamic Republic of); Jan Dellith, Martin Becker, Manfred Rothhardt, Hartmut Bartelt, Leibniz-Institut für Photonische Technologien e.V. (Germany); Orlando Frazão, INESC TEC (Portugal)

[Add To My Schedule](#) 

Lunch/Exhibition Break 12:00 PM - 1:30 PM

**Session 8:
Vikram Award Lecture II**

Wednesday 22 August 2018

1:30 PM - 2:10 PM

Location: Conv. Ctr. Room 24C


Session Chair: [Katherine Creath](#), Optinering (United States), The Univ. of Arizona (United States)

A wonderful life of holography, interferometry, and optical testing (Invited Paper)

Paper 10749-25

Time: 1:30 PM - 2:10 PM

Author(s): James C. Wyant, College of Optical Sciences, The Univ. of Arizona (United States)

[Add To My Schedule](#) 

Session 9: Characterization

Wednesday 22 August 2018

2:10 PM - 3:40 PM

Location: Conv. Ctr. Room 24C


Session Chair: [Dae Wook Kim](#), College of Optical Sciences, The Univ. of Arizona (United States)

Surface-height measurement noise in interference microscopy (Invited Paper)

Paper 10749-26

Time: 2:10 PM - 2:40 PM

Author(s): Peter J. de Groot, Jack DiSciaccia, Zygo Corporation (United States)


[Add To My Schedule](#) 

Characterization and operation optimization of large aperture optical interferometers using binary pseudorandom array test standards

Paper 10749-27

Time: 2:40 PM - 3:00 PM

Author(s): Valeriy V. Yashchuk, Lawrence Berkeley National Lab. (United States); Sergey Babin, Abeam Technologies, Inc. (United States); Stefano Cabrini, Lawrence Berkeley National Lab. (United States); Ulf Griesmann, National Institute of Standards and Technology (United States); Ian Lacey, Lawrence Berkeley National Lab. (United States); Keiko Munechika, Carlos Pina-Hernandez, Abeam Technologies, Inc. (United States); Quandou Wang, ASPAC Technologies, LLC (United States)


[Add To My Schedule](#) 

Specification and measurement of uncertainty in phase shifting Fizeau interferometry

Paper 10749-28

Time: 3:00 PM - 3:20 PM

Author(s): Brent C. Bergner, Mahr Federal Inc. (United States)


[Add To My Schedule](#) 

Model based error separation of power spectral density artefacts in wavefront measurement

Paper 10749-29

Time: 3:20 PM - 3:40 PM

Author(s): Alexander Haberl, Technische Hochschule Deggendorf (Germany); Antonia Harsch, Institut für Technische Optik (Germany); Gerald Fütterer, Johannes Liebl, Technische Hochschule Deggendorf (Germany); Christof Pruss, Institut für Technische Optik (Germany); Rolf Rascher, Technische Hochschule Deggendorf (Germany); Wolfgang Osten, Institut für Technische Optik (Germany)

[Add To My Schedule](#) 

Coffee Break 3:40 PM - 4:10 PM

Session 10: Techniques I

Wednesday 22 August 2018

4:10 PM - 5:40 PM

Location: Conv. Ctr. Room 24C


Session Chair: [Peter J. de Groot](#), Zygo Corporation (United States)

Towards instantaneous spectrally controlled interferometry (Invited Paper)

Paper 10749-30

Time: 4:10 PM - 4:40 PM

Author(s): Chase Salsbury, Artur Olszak, Äpre Instruments, LLC (United States)


[Add To My Schedule](#) 

Arbitrary phase shifting in diffraction common path interferometry

Paper 10749-31

Time: 4:40 PM - 5:00 PM

Author(s): Fatemeh Hadavandmirzaee, Desmond Williams, Thomas Suleski, Rosario Porras-Aguilar, The Univ. of North Carolina at Charlotte (United States)


[Add To My Schedule](#) 

Minimizing the Abbe-offset in interferometric radius metrology

Paper 10749-32

Time: 5:00 PM - 5:20 PM

Author(s): Axel Wiegmann, Markus Lotz, Torsten Mai, Mahr GmbH (Germany); Ulrike Fuchs, asphericon GmbH (Germany)


[Add To My Schedule](#) 

Dynamic interferometric measurements employing a pixelated polarization sensor and FFT spatial-temporal filtering techniques

Paper 10749-33

Time: 5:20 PM - 5:40 PM

Author(s): David I. Serrano-García, Univ. de Guadalajara (Mexico); Yukitoshi Otani, Utsunomiya Univ. (Japan)

[Add To My Schedule](#) **Session PWed:
Posters-Wednesday**

Wednesday 22 August 2018

5:30 PM - 7:30 PM

Location: Conv. Ctr. Room 20C

Conference attendees are invited to view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines at <http://spie.org/OPPosterGuidelines>.

Object scanning scheme in wide-field low-coherence interferometry

Paper 10749-37

Time: 5:30 PM - 7:30 PM


Author(s): Shin Usuki, Kenjiro T. Miura, Shizuoka Univ. (Japan)

[Add To My Schedule](#) **Research on marine plankton imaging based on digital holographic technology**

Paper 10749-45

Time: 5:30 PM - 7:30 PM


Author(s): Chao Liu, Yingtian Hu, Ming Tang, Zheng Shi, Xiaoping Wang, Zhejiang Univ. (China)

[Add To My Schedule](#) **Analysis of the local defects of a concave spherical surface using three measurement techniques**

Paper 10749-46

Time: 5:30 PM - 7:30 PM


Author(s): Benito Canales-Pacheco, Univ. Tecnológica de la Sierra Hidalguense (Mexico); Noel Ivan Toto Arellano, Univ. Tecnológica de Tulancingo (Mexico); León Felipe Austria González, Raymundo Sergio Noriega Loredo, Univ. Tecnológica de la Sierra Hidalguense (Mexico); Alejandro Comejo Rodríguez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

[Add To My Schedule](#) **Stokes and Jones matrix polarimetry based on geometric phase measurements**

Paper 10749-47

Time: 5:30 PM - 7:30 PM


Author(s): Israel Melendez-Montoya, Diana Gonzalez, Alejandra de Luna, Dorilian Lopez-Mago, Tecnológico de Monterrey (Mexico)

[Add To My Schedule](#) **Methods of increasing accuracy of Laser Dynamic Goniometric systems**

Paper 10749-48

Time: 5:30 PM - 7:30 PM


Author(s): Nkpoikanke A. Eno, Petr A. Pavlov, Yuri Filatov, Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation)

[Add To My Schedule](#) **Interferometric measurements of phase objects by using a simultaneous polarizing phase shifting Mach-Zehnder interferometer**

Paper 10749-49

Time: 5:30 PM - 7:30 PM


Author(s): Luis García-Lechuga, Univ. Tecnológica de Tulancingo (Mexico); Benito Canales-Pacheco, Univ. Tecnológica de la Sierra Hidalguense (Mexico); German Resendiz-Lopez, Univ. Tecnológica de Tulancingo (Mexico); Jose Manuel Sausedo Solorio, Universidad Autonoma del Estado de Hidalgo (Mexico); Angel Monzalvo-Hernandez, Juan M. Islas-Islas, Univ. Tecnológica de Tulancingo (Mexico); Areli Montes-Pérez, Benemérita Univ. Autónoma de Puebla (Mexico); David I. Serrano-García, Univ. de Guadalajara (Mexico); Jose Gabriel Ortega Mendoza, Universidad Politecnica de Tulancingo (Mexico); Marco A. Escobar-Acevedo, Universidad de La Salle, Bajío (Mexico); Noel Ivan Toto-Arellano, Univ. Tecnológica de Tulancingo (Mexico)

[Add To My Schedule](#) **High-accuracy three-dimensional tomographic observation of cell clusters**

Paper 10749-50

Time: 5:30 PM - 7:30 PM


Author(s): Ying Li, Feng Pan, Xichao Ma, Wen Xiao, Xiaosu Yi, Beihang Univ. (China)

[Add To My Schedule](#) **Improvement of topography measurement using denoising approach in Fourier digital holographic microscopy**

Paper 10749-53

Time: 5:30 PM - 7:30 PM

Author(s): Marta Mikula, Warsaw Univ of Technology (Poland); Tomasz Kozacki, Michał Józwick, Julianna Winnik, Piotr Zdankowski, Warsaw Univ. of Technology (Poland)

[Add To My Schedule](#) 

THURSDAY 23 AUGUST

[Show All Abstracts](#)

Session 11: Low Coherence

Thursday 23 August 2018

8:30 AM - 10:20 AM

Location: Conv. Ctr. Room 24C


Session Chair: [Joanna Schmit](#), 4D Technology Corp. (United States) 

Sampling the coherence function: a novel method for shape measurement

Paper 10749-34

Time: 8:30 AM - 9:00 AM

Author(s): Aleksandar Simic, Andreas Hyra, Claas Falldorf, Bremer Institut für angewandte Strahltechnik GmbH (Germany); Ralf B. Bergmann, Bremer Institut für angewandte Strahltechnik GmbH (Germany), Univ. Bremen (Germany)


[Add To My Schedule](#) 

Synchronized real-space and frequency-domain low-coherence interferometry for wafer thickness and metrology applications

Paper 10749-35

Time: 9:00 AM - 9:20 AM

Author(s): Raphael Morency, Wei-Chun Hung, Frontier Semiconductor (United States); Wojtek J. Walecki, Frontier Semiconductor, Inc. (United States)


[Add To My Schedule](#) 

Short coherence dynamic Fizeau interferometer with internal path matching for radius of curvature measurement

Paper 10749-36

Time: 9:20 AM - 9:40 AM

Author(s): Michael B. North Morris, Eric Frey, 4D Technology Corp. (United States)


[Add To My Schedule](#) 

Inspection of hidden MEMS by an infrared low-coherence interferometric microscope

Paper 10749-38

Time: 9:40 AM - 10:00 AM

Author(s): Johann Krauter, Wolfgang Osten, Institut für Technische Optik (Germany)


[Add To My Schedule](#) 

Low-coherence interferometry in laser processing: a new sensor approach heading for industrial applications

Paper 10749-52

Time: 10:00 AM - 10:20 AM

Author(s): Markus Kogel-Hollacher, Stephan André, Tobias Beck, Precitec Optronik GmbH (Germany)

[Add To My Schedule](#) 

Coffee Break 10:20 AM - 10:50 AM

Session 12: Techniques II

Thursday 23 August 2018

10:50 AM - 12:10 PM

Location: Conv. Ctr. Room 24C


Session Chair: [Brent C. Bergner](#), Mahr-ESDI (United States), Process Measurement Resources (United States)

Multi-wavelength phase unwrapping: a versatile tool for extending the measurement range, breaking the Nyquist limit, and encrypting optical communications

Paper 10749-39

Time: 10:50 AM - 11:10 AM

Author(s): Konstantinos Falaggis, Ana Hiza Ramirez Andrade, The Univ. of North Carolina at Charlotte (United States); David P. Towers, Catherine E. Towers, The Univ. of Warwick (United Kingdom); Rosario Porras-Aguilar, The Univ. of North Carolina at Charlotte (United States)


[Add To My Schedule](#) 

Robust phase-shifting algorithms designed for high-dynamic range in fringe-projection profilometry

Paper 10749-40

Time: 11:10 AM - 11:30 AM

Author(s): Moises Padilla, Manuel Servin, Centro de Investigaciones en Óptica, A.C. (Mexico); Guillermo Garnica, Centro de Investigaciones en Óptica (Mexico)


[Add To My Schedule](#) 

Synthetic aperture phase-shifting interferometry for high numerical-aperture spherical surface measurement

Paper 10749-41

Time: 11:30 AM - 11:50 AM

Author(s): Toshiaki Kumagai, Yasunari Nagaike, Olympus Corp. (Japan); Kenichi Hibino, National Institute of Advanced Industrial Science and Technology (Japan)


[Add To My Schedule](#) 

Further improvements of digital interferometer

Paper 10749-42

Time: 11:50 AM - 12:10 PM

Author(s): Sen Han, Univ. of Shanghai for Science and Technology (China); Jincheng Zhuang, Suzhou H&L Instruments LLC (China), Suzhou Univ. of Science and Technology (China), Suzhou W&N Instruments LLC (China); Linghua Zhang, Suzhou Univ. of Science and Technology (China); Hao Sun, Changchun Univ. of Science and Technology (China); Ming Jiang, Suzhou Univ. of Science and Technology (China); Quanzhao Wang, Xueyuan Li, Suzhou H&L Instruments LLC (China), Suzhou W&N Instruments LLC (China); Bo Zhang, Univ. of Shanghai for Science and Technology (China), Suzhou H&L Instruments LLC (China), Suzhou W&N Instruments LLC (China)

[Add To My Schedule](#) 



Fringe Art Awards Voting and Presentation

Thursday 23 August 2018

12:10 PM - 12:30 PM

Location: Conv. Ctr. Room 24C

Please join us for voting on your favorite Fringe Art followed by the award presentation. The winner will receive an award certificate and a silly optical prize.
