

EOS Topical Meeting on Diffractive Optics 2017 Preliminary Conference Program

Invited talks 30 min, contributed talks 20 min

Monday, September 4

14.00 – 18.45 Registration desk open in restaurant Kerubi (Siltakatu 1).

19.00 – 20.30 Get-together party & evening reception on the courtesy of the Town of Joensuu (City hall, Rantakatu 20). Welcome words by a city representative and a plenary talk by prof. L. N. Hazra (Kolkata, India) starting from 19.05. Do not miss this special program!

Tuesday, September 5

9.00 – 9.10 Opening

9.10 – 10.40 Session 1

1. **Invited paper:** L. Li (China), *Some recent progress in grating theory.*
2. H. Ichikawa (Japan), *How do we live with effective media?* (107)
3. P. Piksarv, A. Valdmann, H. Valtna-Lukner, and P. Saari (Estonia), *Super- and subluminal propagation of structured light pulses.* (106)
4. M. Nyman, V. Kivijärvi, A. Shevchenko, and M. Kaivola (Finland), *Optical emission in spatially dispersive metamaterials.* (113)

10.40 – 11.00 Coffee break

11.00 – 12.30 Session 2

5. **Invited paper:** V. Torres-Company (Sweden), *High-repetition-rate frequency combs.*
6. F. Wyrowski and Ch. Hellmann (Germany), *Physical-optics modeling of waveguide devices for virtual and mixed reality.*
7. H. A. Müller and J. Jahns (Germany), *Influence of illumination on Bessel beam propagation.* (117)

8. B. J. Hoenders (The Netherlands), *The optimal sampling point distribution for bandlimited functions with arbitrary band shape.* (105)

12.30 – 14.00 Lunch

14.00 – 15.20 Session 3

9. J. Le Meur, B. Fracasso, and K. Heggarty (France), *Overcoming practical limitations of even order missing gratings and diffractive optical elements to improve diffraction pattern fidelity and contrast in machine vision applications.* (109)

10. M. Vanek, J. Vanis, J. Mrazek, I. Barton, and P. Honzatko (Czech Republic), *Laser mirrors based on the fibre facet gratings.* (135)

11. P. Li, F. Wang, F. Li, and G. Kang (China), *Modes manipulation within subwavelength metallic gratings.* (102)

12. A. Junker and K.-H. Brenner (Germany), *High mode count rigorous simulation of diffractive optical elements by an iterative solution approach.* (131)

15.20 – 15.40 Coffee break

15.40 – 17.00 Session 4

13. S. Konijnenberg, W. Coene, and P. Urbach (The Netherlands), *A model-independent noise-robust extension of ptychography.* (156)

14. R. Hornby, C. W. Jones, and D. O'Connor (UK), *Direction cosine space approach to period and alignment measurement for high speed optical metrology of gratings.* (132)

15. B. Bai and O. You (China), *Metasurfaces for tunable directional excitation and wavefront shaping of surface plasmon polaritons.* (120)

16. S. Paul and M. Ray (India), *Fano resonance in nonlinear subwavelength plasmonic structure for multispectral optical switching and bandwidth tuning.* (119)

17.00 – 20.00 Poster session with snacks

Wednesday, September 6

9.00 – 10.10 Session 5

17. **Invited paper:** E.-B. Kley and U. D. Zeitner (Germany), *High-end e-beam-lithography for advanced optical applications.*

18. C. Pruss, C.-M. Mateo, O. Schwanke, T. Dietrich, M. Rumpel, M. Abdou Ahmed, T. Graf, and W. Osten (Germany), *High power polarization shaping utilizing sub- λ -grating structures.* (136)

20. M. A. Golub and M. Parchomovsky (Israel), *Computer-generated Fourier holograms of colored 3D objects.* (151)

10.10 – 10.30 Coffee break

10.30 – 12.00 Session 6

21. **Invited paper:** R. Brunner (Germany), *Spectroscopic concepts and gratings for lab and field applications.*

22. N. A. F. Zambale, G. H. Doblado, and N. Hermosa (Philippines), *Generating OAM beams with incomplete amplitude CGH.* (141)

23. K. Prater, J. Dukwen, T. Scharf, H. P. Herzig, S. Plöger, and A. Hermerschmidt (Switzerland & Germany), *Limits of precision glass molding for diffractive optical elements.* (144)

24. Y. Bourgin, R. Kleindienst, F. Nagel, J.-P. Bergmann, and S. Sinzinger (Germany), *Generation of optimized intensity profile by diffractive elements for high power laser welding applications.* (133)

12.00 – 13.15 Lunch

Conference Excursion

13.15 – 16.00 Bus to Savonlinna via Punkaharju ridge district

16.00 – 18.00 Tour of Olavinlinna Castle

18.00 – 20.00 Conference Dinner

20.00 – 22.00 Bus transport back to Joensuu

Thursday, September 7

9.00 – 10.30 Session 7

25. **Invited paper:** L. X.-C. Yuan (China), *Harnessing surface plasmon polaritons with structured surfaces and structured light.*

26. C.-J. Cheng, L.-C. Lin, and Y.-C. Lin (Taiwan), *Ultrafast imaging in time-resolved digital holographic microscopy.* (115)

27. E. R. Muslimov, S. Vives, E. Hugot, J.-C. Bouret, and M. Ferrari (France & Russia), *Optical design of UV echelle spectrograph for a next generation space mission.* (127)

28. G.-N. Nguyen and R. Sigrist (Germany & France), *Laser holographic projection for full-color augmented reality head-up displays.* (110)

10.30 – 10.50 Coffee break

10.50 – 12.20 Session 8

29. **Invited paper:** Z. Wang, S. Zhang, Ch. Hellmann, and F. Wyrowski (Germany), *Fast physical optics by semi-analytical and geometric Fourier transform.*

30. S. F. Helfert and J. Jahns (Germany), *Structured illumination of hollow waveguide arrays using the Talbot self-imaging.* (116)

31. N. Ebizuka, T. Okamoto, M. Takeda, T. Hosobata, Y. Yutaka, M. Sasaki, I. Tanaka, T. Hattori, S. Ozaki, and W. Aoki (Japan & USA), *Novel gratings of high dispersion and high efficiency.* (142)

32. T. Dietrich, S. Piehler, M. Rumpel, P. Villeval, D. Lupinski, M. Abdou Ahmed, and T. Graf (Germany & France), *Highly-efficient grating waveguide mirror enabling kW-class intra-cavity frequency-doubled thin-disk laser.* (148)

12.20 – 13.40 Lunch

13.40 – 15.00 Session 9

33. M. Karlsson, E. Vargas Catálan, P. Piron, E. Huby, B. Carlomagno, A. Jolivet, O. Absil, P. Baudoz, I. Vartiainen, M. Kuittinen, and D. Mawet (Sweden, Belgium, France, Finland & USA), *Diamond coronagraphs for direct detection of extrasolar planets.* (152)

34. H. González, L. Martínez-León, F. Soldevila, P. Clemente, M. Araiza-Esquivel, E. Tajahuerce, and J. Lancis (Spain & Mexico), *Wavefront compensation in high-speed single-pixel digital holography*. (153)

35. M. Bichotte, A. Shcherbakov, J. Ibrahim, T. Kampfe, and Y. Jurlin (France & Russia), *Modeling and fabrication of complex 2D gratings by interference lithography*. (125)

36. J.-H. Hagemann, C. Falldorf, G. Ehret, and R. B. Bergmann (Germany), *Spatial light modulator used as a diffractive element in shearing interferometry for form characterization of optics*. (126)

15.00 – 15.15 Closure of the meeting

16.00 – 20.00 LightTrans Workshop

Poster presentations

1. V. Kivijärvi, A. Shevchenko, M. Nyman, and M. Kaivola (Finland), *Optical nanomaterials with designed spatial dispersion*. (114)
2. J. Jahns, S. Supp, and T. Seiler (Germany), *Multiple optical vortex beams*. (138)
3. S. Supp and J. Jahns (Germany), *Axial superposition of Bessel beams with discretized axicons*. (118)
4. E. N. Scarlat, M. Mihailescu, I. A. Paun, A. Ion, M. Popa, and M. Pelteacu (Romania), *Unequal phase levels in diffractive optical elements*. (122)
5. J.-B. Lamour, B. Fracasso, K. Heggarty, and E. Daniel (France), *Beam shaping DOE for controlled laser tracking in indoor free-space optical communications*. (134)
6. A. D. Verhoeven, J. Turunen, and F. Wyrowski (Finland & Germany), *Iterative design of diffractive elements made of lossy materials*. (154)
7. S. Bej, J. Tervo, Y. P. Svirko, and J. Turunen (Finland), *Exploiting optical Kerr effect in subwavelength gratings*. (143)
8. A. Halder, M. Koivurova, H. Partanen, and J. Turunen (Finland), *Coherence of bulk generated supercontinuum*. (103)
9. C. Ding, M. Koivurova, A. D. Verhoeven, J. Turunen, T. Setälä, and A. T. Friberg (Finland & China), *Time dependent spectral phase modulation for pulse train coherence control*. (123)

10. A. Hannonen, A. T. Friberg, and T. Setälä (Finland), *Classical ghost-imaging spectral interferometer*. (139)
11. L. E. Ionel and M. Mihailescu (Romania), *Alternative method for multiple laser beam generation using a 2D spatial light modulator*. (129)
12. H. Partanen and J. Turunen (Finland), *Spectrally resolving digital micromirror based coherence measurement system*. (104)
13. M. Mihailescu, E. I. Scarlat, I. A. Paun, A. Craciun, A. Ion, M. Popa, M. Pelteacu, and G. Bostan (Romania), *Hyperfine structure on cylindrical Fresnel lenses for separated wavelength control steering*. (121)
14. K. Saastamoinen, L.-P. Leppänen, I. Vartiainen, A. T. Friberg, and T. Setälä (Finland), *Measuring the spatial coherence of optical beams with nanoparticles*. (124)
15. T. Dietrich, L. Mueller, M. Rumpel, M. Moeller, L. Gallais, C. Hoenninger, M. Delaigue, M. Abdou Ahmed, and T. Graf (Germany & France), *Large-area pulse compression gratings with high efficiency and high damage threshold*. (150)
16. J. Ibrahim, C. Veillas, I. Verrier, F. Lefèvre, S. Cioulachtjian, M. Al Masri, O. Parriaux, and Y. Jourlin (France), *Sub-micron metallic grating for condensation detection*. (111)
17. L.-C. Lin and C.-J. Cheng (Taiwan), *Dynamic tracking of the focus position in digital holographic microscopy for long-term living cell observation*. (108)
18. L.-P. Leppänen, K. Saastamoinen, A. T. Friberg, and T. Setälä (Finland), *Degree of coherence of unpolarized light beams measured with Michelson's interferometer*. (112)
19. V.-C. Palea, L. Preda, and M. Mihăilescu (Romania), *Static and dynamic elements in paraxial approximation propagation regime*. (130)
20. S. Paul, T. Saastamoinen, S. Honkanen, M. Roussey, and M. Kuittinen (Finland), *Multi-wavelength filter in TiO₂ coated SOI platform*. (140)
21. A. B. M. K. Alam, I. Vartiainen, and M. Kuittinen (Finland), *Design and fabrication of a dielectric metasurface based 9 x 9 beam splitter operating at visible wavelength*. (145)
22. M. Silvennoinen and P. Vahimaa (Finland), *Femtosecond structured steel mold making for roll-to-roll self-cleaning applications*. (146)
23. B. G. Assefa, T. Saastamoinen, M. Kuittinen, J. Turunen, and J. Saarinen (Finland), *Progress in 3D printing of freeform lenses for beam shaping*. (147)

24. S. Daniel, A. Matikainen, T. Nuutinen, P. Vahimaa, and J. Turunen (Finland), *Control over aggregates of silver particles for Raman signal.* (149)
25. R. Ali, M. R. Saleem, S. Honkanen, and J. Turunen (Finland), *Spectroscopic ellipsometric characterization of thin ALD-TiO₂-Al₂O₃ bi-layer films.* (155)
26. Y. Shao, X. Lu, S. Konijnenberg, C. Zhao, and P. Urbach (The Netherlands), *Direct measurement of complex-valued mutual coherence function and partially coherent diffractive imaging.* (157)