

## Nanophotonic Materials XV

Wednesday - Thursday 22 - 23 August 2018

### Conference Sessions At A Glance

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Nanoscience + Engineering Plenary Session

**1:** New Material Properties for Applications**2:** Metal Oxides Properties

Posters-Wednesday

**3:** Nano-Particles Properties**4:** Nanoscale Structures**5:** Thin Films and 2D Materials**6:** Hybrid Materials

### Important Dates

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Abstract Due:

7 February 2018

Author Notification:

16 April 2018

Manuscript Due Date:

25 July 2018

### Conference Committee

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#### Conference Chairs

[Stefano Cabrini](#), Lawrence Berkeley National Lab. (United States)[Gilles Léronde](#), Univ. de Technologie Troyes (France)[Adam M. Schwartzberg](#), Lawrence Berkeley National Lab. (United States)[Taleb Mokari](#), Ben-Gurion Univ. of the Negev (Israel)

#### Program Committee

[David L. Andrews](#), Univ. of East Anglia (United Kingdom)[Angus J. Bain](#), Univ. College London (United Kingdom)[Mireille H. Blanchard-Desce](#), Univ. de Rennes 1 (France)[Robert W. Boyd](#), Univ. of Rochester (United States)

Program Committee continued...

[Zeno Gaburro](#), Univ. degli Studi di Trento (Italy)[Aaron W. Harper](#), The Univ. of Southern California (United States)[Ghassan E. Jabbour](#), Arizona State Univ. (United States)[François Kajzar](#), Univ. Politehnica of Bucharest (Romania)[Dmitri I. Kovalev](#), Univ. of Bath (United Kingdom)[Paras N. Prasad](#), Univ. at Buffalo (United States)

Dmitri Talapin, The Univ. of Chicago (United States)

[Younan Xia](#), Georgia Institute of Technology (United States)

#### MONDAY 20 AUGUST

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### Session Plen: Nanoscience + Engineering Plenary Session

Monday 20 August 2018

8:30 AM - 12:00 PM

Location: Conv. Ctr. Ballroom 20A


Session Chairs: **Halina Rubinsztein-Dunlop**, The Univ. of Queensland (Australia) and **Mark L. Brongersma**, Geballe Lab. for Advanced Materials (GLAM), Stanford Univ. (USA)

#### Plasmonic nanostructures for molecular sensing and actuation (Conference Presentation) (Plenary Presentation)

Paper 10722-500

Time: 8:30 AM - 9:15 AM

Author(s): Mikael Käll, Chalmers Univ. of Technology (Sweden)

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#### Rapidly time-variant metadevices for linear frequency conversion (Conference Presentation) (Plenary Presentation)

Paper 10719-500

Time: 9:15 AM - 10:00 AM

Author(s): Bumki Min, KAIST (Korea, Republic of)

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#### Coffee Break 10:00 AM - 10:30 AM

#### Structured light on the nanoscale (Conference Presentation) (Plenary Presentation)

Paper 10730-500

Time: 10:30 AM - 11:15 AM

Author(s): Natalia M. Litchinitser, Univ. at Buffalo (United States)

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**Wave control with "time materials" (Conference Presentation) (Plenary Presentation)**

Paper 10719-501

Time: 11:15 AM - 12:00 PM

Author(s): Mathias Fink, Institut Langevin Ondes et Images (France)

[Add To My Schedule](#) **WEDNESDAY 22 AUGUST**[Show All Abstracts](#)**Session 1:  
New Material Properties for Applications**

Wednesday 22 August 2018

1:30 PM - 3:20 PM

Location: Conv. Ctr. Room 29B

Session Chair: [Taleb Mokari](#), Ben-Gurion Univ. of the Negev (Israel)**Caustic light-based fabrication of advanced photonic structures (Conference Presentation) (Invited Paper)**

Paper 10720-1

Time: 1:30 PM - 2:00 PM


Author(s): Alessandro Zannotti, Carsten Mamsch, Matthias Rüschenbaum, Comelia Denz, Westfälische Wilhelms-Univ. Münster (Germany)

[Add To My Schedule](#) **Optimal annealing of cubic NaYF<sub>4</sub>:Er nanomaterials for biomedical sensing applications**

Paper 10720-2

Time: 2:00 PM - 2:20 PM

Author(s): Nidhi Dua, Soumen Saha, Indian Institute of Technology Delhi (India); Meenal Mehra, Momentive Performance Materials Inc. (India); Madhusudan Singh, Indian Institute of Technology Delhi (India)

[Add To My Schedule](#) **Parametric study of wavelength demultiplexers designed via objective-first algorithm**

Paper 10720-3

Time: 2:20 PM - 2:40 PM

Author(s): Yusuf Abdulaziz Yilmaz, Ahmet Mesut Alpkılıç, Aydan Yeltik, Mediha Tutgun, Döne Yılmaz, Hamza Kurt, TOBB ETÜ (Turkey)

[Add To My Schedule](#) **Porous silicon-based UV microcavities (Conference Presentation)**

Paper 10720-4

Time: 2:40 PM - 3:00 PM

Author(s): María del Rayo Jiménez Vivanco, Benemérita Univ. Autónoma de Puebla (Mexico), Ciudad Univ. (Mexico); Godofredo García Salgado, Jesús Carrillo López, Benemérita Univ. Autónoma de Puebla (Mexico); Vivechana Aganwal, Univ. Autónoma del Estado de Morelos (Mexico); Gabriela Nieto Caballero, Tomás Francisco Díaz Becerril, Enrique Rosendo Andrés, Antonio Coyopol Solís, Reina Galeazzi Isasmendi, Roman Romano Trujillo, Crisóforo Morales Ruíz, José Alberto Luna López, Benemérita Univ. Autónoma de Puebla (Mexico); Rafael Doti, Jocelyn Faubert, Jesús Eduardo Lugo Arce, Univ. de Montréal (Canada)

[Add To My Schedule](#) **Towards angle-free laser illumination: a white random laser****(Canceled)**

Paper 10720-5

Time: 3:00 PM - 3:20 PM

Author(s):

**Coffee Break 3:20 PM - 3:40 PM****Session 2:  
Metal Oxides Properties**

Wednesday 22 August 2018

3:40 PM - 5:30 PM

Location: Conv. Ctr. Room 29B

Session Chair: [Lorenzo Maserati](#), Lawrence Berkeley National Lab. (United States)**Giant green emission enhancement of ZnO through desulfurization process (Conference Presentation) (Invited Paper)**

Paper 10720-6

Time: 3:40 PM - 4:10 PM


Author(s): Junze Zhou, Komla Nomenyo, Univ. de Technologie Troyes (France); Adam Schwartzberg, Lawrence Berkeley National Lab. (United States); Gilles Léronde, Univ. de Technologie Troyes (France)

[Add To My Schedule](#) **Ultrafast dynamics of the ultraviolet and visible photoluminescence in the aluminum-doped zinc oxide metamaterial**

Paper 10720-7

Time: 4:10 PM - 4:30 PM


Author(s): Bethany Campbell , Priscilla Kelly, Lyuba Kuznetsova, San Diego State Univ. (United States)

[Add To My Schedule](#) **Nb2O5 as waveguide material for visible light photonic integrated circuits (Conference Presentation)**

Paper 10720-8

Time: 4:30 PM - 4:50 PM

Author(s): Suseendran Jayachandran, Silvia Lenci, Kristof Lodewijks, Tangla David Kongnyuy, Kenny Leysens, Vasile Paraschiv, IMEC (Belgium)

[Add To My Schedule](#) **Photocurrent persistence reduction in ZnO nanowire photodetectors (Conference Presentation)**

Paper 10720-9

Time: 4:50 PM - 5:10 PM

Author(s): Jean-Philippe Girard, Sergei Kostcheev, Univ. de Technologie Troyes (France); Bogdan Bercu, Univ. de Reims Champagne-Ardenne (France); Tim Puchtler, Robert Taylor, Univ. of Oxford (United Kingdom); Louis Giraudet, Univ. de Reims Champagne-Ardenne (France); Christophe Couteau, Univ. de Technologie Troyes (France)

[Add To My Schedule](#) **Structural colors based on randomly distributed, polydisperse, submicron TiO2 particles**

Paper 10720-10

Time: 5:10 PM - 5:30 PM

Author(s): Jerome K. Hyun, Al-Mahmud Alam, Kyungnae Baek, Jieun Son, Yi-Rong Pei, Dong Ha Kim, Jin-Ho Choy, Ewha Womans Univ. (Korea, Republic of)

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## Session PWed: Posters-Wednesday

Wednesday 22 August 2018

5:30 PM - 7:30 PM

Location: Conv. Ctr. Room 20C


Conference attendees are invited to attend the poster session on Wednesday evening. Come 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/x30293.xml>.

**Anomalous light absorption by a monolayer graphene-water complex**

Paper 10720-28

Time: 5:30 PM - 7:30 PM


Author(s): Oleg Angelsky, Viktor Brus, Viktor Ivashko, Andriy Maksymyak, Petro Maksymyak, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine)

[Add To My Schedule](#) **Photo-stimulated triboelectric generation**

Paper 10720-29

Time: 5:30 PM - 7:30 PM


Author(s): Jeong Min Baik, Ulsan National Institute of Science and Technology (Korea, Republic of)

[Add To My Schedule](#) **Enhancement of Purcell factor in all-dielectric dimer**

Paper 10720-30

Time: 5:30 PM - 7:30 PM

Author(s): Reena Dalal, Yogita Kalra, Ajeet Kumar, Delhi Technological Univ. (India)

[Add To My Schedule](#) **Luminescence and lasing of ZnO microtetrapods****(Canceled)**

Paper 10720-31

Time: 5:30 PM - 7:30 PM


Author(s):

**Synthesis of perovskite nanocrystals coated with various amine based surfactants**

Paper 10720-33

Time: 5:30 PM - 7:30 PM


Author(s): Janusz Szeremeta, Wroclaw Univ. of Science and Technology (Poland)

[Add To My Schedule](#) **Combined Effect of plasmonic interaction of nano-particles**

Paper 10720-34

Time: 5:30 PM - 7:30 PM

Author(s): Naresh C. Das, US Army Research Lab (United States)

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THURSDAY 23 AUGUST

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## Session 3: Nano-Particles Properties

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Thursday 23 August 2018  
8:10 AM - 10:00 AM  
Location: Conv. Ctr. Room 29B

Session Chair: [Tito L. Busani](#), The Univ. of New Mexico (United States)

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### Optical properties of white CdSe:Zn quantum dots

Paper 10720-11  
Time: 8:10 AM - 8:30 AM  
Author(s): Chun-Ru Huang, Shu Ru Chung, National Formosa Univ. (Taiwan)

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### Plasmonic core-multi-shell nanowire phosphors for light emitting diodes (Conference Presentation)

Paper 10720-13  
Time: 8:50 AM - 9:10 AM  
Author(s): Amartya Dutta, Boston Univ. (United States); Sarath Ramadurgam, Purdue Univ. (United States); Chen Yang, Boston Univ. (United States)

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### A model of thermionic emission equation for both metals and nano materials

**(Canceled)**  
Paper 10720-14  
Time: 9:10 AM - 9:30 AM  
Author(s):

### Degenerately doped zinc oxide nanocrystals as plasmonic and chemoresistive gas sensors (Invited Paper)

**(Canceled)**  
Paper 10720-15  
Time: 9:30 AM - 10:00 AM  
Author(s):

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Coffee Break 10:00 AM - 10:30 AM

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## Session 4: Nanoscale Structures

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Thursday 23 August 2018  
10:30 AM - 12:00 PM  
Location: Conv. Ctr. Room 29B

Session Chair: [Gilles L  rondel](#), Univ. de Technologie Troyes (France)

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### III-N nanowire atomic force cantilevers for ultra-vertical-wall scanning-probe, scanning-tunneling, and near-field microscopy (Conference Presentation) (Invited Paper)

Paper 10720-16  
Time: 10:30 AM - 11:00 AM  
Author(s): Tito L. Busani, Steven R. J. Brueck, Daniel F. Feezell, The Univ. of New Mexico (United States)


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### Plasmon-polariton modes in layered media coatings on mirrors

**(Canceled)**  
Paper 10720-17  
Time: 11:00 AM - 11:20 AM  
Author(s):


### Optical second harmonic generation from silicon with embedded silver nanostructures

Paper 10720-18  
Time: 11:20 AM - 11:40 AM  
Author(s): Gourav Bhowmik, Univ. at Albany (United States), SUNY College of Nanoscale Science and Engineering (United States); Yong Q. An, Alain C. Diebold, Mengbing Huang, SUNY Polytechnic Institute (United States)

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### Directed assembly of bimetallic nanoarchitectures by interfacial photocatalysis with plasmonic hot electrons

Paper 10720-19  
Time: 11:40 AM - 12:00 PM  
Author(s): Gregory T. Forcherio, David R. Baker, Jonathan Boltersdorf, Joshua P. McClure, Asher C. Leff, Cynthia A. Lundgren, U.S. Army Research Lab. (United States)

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

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## Session 5: Thin Films and 2D Materials

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Thursday 23 August 2018

1:30 PM - 3:00 PM

Location: Conv. Ctr. Room 29B

Session Chair: [Gilles L  rondel](#), Univ. de Technologie Troyes (France)


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**Unveiling defect-related Raman mode of monolayer WS<sub>2</sub> by resonance tip-enhanced Raman scattering (Conference Presentation) (Invited Paper)**

Paper 10720-20

Time: 1:30 PM - 2:00 PM

Author(s): Mun Seok Jeong, Chanwoo Lee, Sungkyunkwan Univ. (Korea, Republic of); Seung Mi Lee, Korea Research Institute of Standards and Science (Korea, Republic of)


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**Characterization of plasma enhanced atomic layer deposited titanium nitride (Conference Presentation)**

Paper 10720-21

Time: 2:00 PM - 2:20 PM

Author(s): Ray Secondo, Dhurv Fomra, Natalia Izyumskaya, Vitaly Avrutin,   mit   zg  r, Nathaniel Kinsey, Virginia Commonwealth Univ. (United States)


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**Enhanced photoelectrochemical water splitting by plasmonic Au nanostructures/reduced graphene oxide**

Paper 10720-22

Time: 2:20 PM - 2:40 PM

Author(s): Hsin-Chia Ho, National Taiwan Univ. (Taiwan); Kai Chen, Tadaaki Nagao, National Institute for Materials Science (Japan); Chun-Hway Hsueh, National Taiwan Univ. (Taiwan)


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**A DFT study on the structures, energy, and optical properties of copper (titanium or zirconium) doped graphenes (Conference Presentation)**

Paper 10720-23

Time: 2:40 PM - 3:00 PM

Author(s): Qing-Gong Song, Dan-Dan Zhen, Wei-Feng Gu, Li-Jie Wang, Yan-Xia Zhu, Yan-Rui Guo, Hong-Peng Liu, Civil Aviation Univ. of China (China)

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**Coffee Break 3:00 PM - 3:30 PM**

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## Session 6: Hybrid Materials

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Thursday 23 August 2018

3:30 PM - 5:20 PM

Location: Conv. Ctr. Room 29B

Session Chair: [Taleb Mokari](#), Ben-Gurion Univ. of the Negev (Israel)


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**2D excitonic properties of silver selenide-based metal-organic chalcogenides assemblies (MOCHAs) (Invited Paper)**

Paper 10720-24

Time: 3:30 PM - 4:00 PM

Author(s): Lorenzo Maserati, Christoph Kastl, Lawrence Berkeley National Lab. (United States); Lissa F.L. Eyre, Univ. of Cambridge (United Kingdom); Jeff B. Neaton, Lawrence Berkeley National Lab. (United States), Univ. of California Berkeley (United States), Kavli Energy Nanosciences Institute at Berkeley (United States); Adam M. Schwartzberg, Lawrence Berkeley National Lab. (United States)


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**Multi-spectral color pixels based on resonant scattering reduction**

Paper 10720-25

Time: 4:00 PM - 4:20 PM

Author(s): June Sang Lee, Ji Yeon Park, Ewha Womans Univ. (Korea, Republic of); Yong Hwan Kim, KOS, Inc. (Korea, Republic of); Seokwoo Jeon, KAIST (Korea, Republic of); Dong Ha Kim, Jerome K. Hyun, Ewha Womans Univ. (Korea, Republic of)


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**A new technique for producing low-loss BSO waveguides (Conference Presentation)**

Paper 10720-35

Time: 5:00 PM - 5:20 PM

Author(s): Florent Behague, Florent Bassignot, Ludovic Gauthier-Manuel, Venancio Calero Vila, Fadi Baida, Maria-Pilar Bernal-Artajona, Nadege Courjal, Institut Franche-Comte Electronique Mecanique Thermique et Optique (France)

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