

Vietnam-NTHU Workshop on Photonics

Organizer:

Photonics Research Center, National Tsing Hua University, Taiwan

Steering Committee:

Vu Dinh Lam, Graduate University of Science and Technology, Vietnam

Fang Gang Tseng, National Tsing Hua University, Taiwan

Ta Jen Yen, National Tsing Hua University, Taiwan

Organization Committee:

Ming Chang Lee, National Tsing Hua University, Taiwan

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Office of Research and Development, National Tsing Hua University, Taiwan

Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Vietnam

University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, Vietnam

Co-organizer:

Institute of Photonics Technologies, National Tsing Hua University, Taiwan

Institute of Electronics Engineering, National Tsing Hua University, Taiwan

Department of Engineering and System Science, National Tsing Hua University, Taiwan

Department of Materials Science and Engineering, National Tsing Hua University, Taiwan

Department of Electrical Engineering, National Tsing Hua University, Taiwan

Time:

9:00-17:30, 21 November

9:00-15:30, 22 November

Venue:

R. 208, Building Lee Tsen Ming, No. 101 Sec.2, Rd. Kuang Fu, Dist. East, Hsinchu City, Taiwan

11/22 (Fri.)			
9:10-9:15	Prof. Ta-Ren Yen Vice President, Office of Global Affairs, Professor of Department of Material Science and Engineering, NTHU	Opening IV	Prof. Ngo Quang Minh
9:15-9:45	Prof. Ta-Ren Yen Vice President of Office Global Affairs, Professor of Department of Material Science and Engineering, NTHU	Empowering Bilayer MoS₂ by Engineered Plasmonic Nanostructures for Optoelectronic Applications	
9:45-10:15	Dr. Nguyen Thi Hien Faculty of Physics and Technology, Thai Nguyen University of Science	Optimization for broadband negative refractive index metamaterials	
10:15-10:30	Tea break		
10:30-11:00	Dr. Bui Son Tung Institute of Materials Science, VAST	Near-field coupling of resonators in metamaterial for electromagnetically-induced transparency and electromagnetic-wave absorption	Prof. Le Duc Tuyen
11:00-11:30	Dr. Bui Xuan Khuyen Institute of Materials Science, VAST	Ultrathin and flexible composite metamaterial for broadband perfect absorption in the LTE band	
11:30-12:00	Prof. Chang Hua Liu Department of Electrical Engineering, Institute of Photonics Technologies, NTHU	Optoelectronics and nanophotonics based on van der Waals materials	
12:00-13:15	Luncheon		
13:15-13:45	Prof. Hao Wu Lin Faculty of Department of Material Science and Engineering, NTHU	Perovskite Photovoltaics and Quantum Dots	Prof. Chang Hua Liu
13:45-14:15	Prof. Ming Wei Lin Department of Engineering and System Science, NTHU	Development of laser wakefield electron acceleration driven by high-repetition rate ultrafast lasers	
14:15-14:45	Prof. Le Duc Tuyen Department of Physics, Hanoi University of	Colloidal Photonic Crystals: Fabrication, Properties and Applications	
14:45-15:10	Closing Remarks and Group Photo		Prof. Ming Chang Lee
15:30	Tour to TSRI (Taiwan Semiconductor Research Institute)		

Le Dac Tuyen

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Education

- 2007-2012 : PhD in Physics, National Chung Cheng University, Taiwan
- 2003-2005 : Master in Materials Science, Hanoi University of Science and Technology, Vietnam
- 1996-2000 : Bachelor in Physics, Vietnam National University, Vietnam

Experiences

- 2018-present: Senior Lecturer in Physics, Hanoi University of Mining and Geology
- 10/2016: Visiting Lecturer, AGH University of Science and Technology, Poland
- 2015- present: Adjunct Researcher, Institute for Materials Science - VAST
- 2001 - 2018 : Lecturer in Physics, Hanoi University of Mining and Geology

Research Interests

- Photonic crystals and applications
- Metamaterials

Selected Publications

1. L. D. Tuyen, et al., Optics Express 20, 15418 (2012)
2. L. D. Tuyen, et al., Optics Express 20, 29266 (2012)
3. C. C. Chiang, L. D. Tuyen, et al., Phot. Nano. Fund. Appl. 19, 48 (2016)
4. D. Q. Vu, D. H. Le, H. T. Dinh, T. G. Trinh, L. Yue, D. T. Le, et al., Physica B 532, 90(2018)
5. L. D. Hai, V. D. Qui, N. H. Tung, T. V. Huynh, N. D. Dung, N. T. Binh, L. D. Tuyen, et al., Optics Express 26, 33253 (2018)

Colloidal Photonic Crystals: Fabrication, Properties and Applications

Various techniques have been demonstrated for fabricating photonic crystal. However, self-assembly methods are widely used due to their inexpensiveness. In addition, self-assembly mechanics is a most convenient approach and explores an important role in the fabrication of biological, chemical, optical, and magnetic structures. This talk presents manipulation of emission and propagation properties of light based on self-assembled opal and inverse opal structures. A brief introduction of photonic crystals and photonic band gap are showed. The preparation of opal and inverse opal photonic crystals are described in detail of experiments. The effects of 3D photonic crystals on spontaneous emission, surface-enhanced Raman scattering, and optical sensor have been studied for the feasibility of applications. Guideline transportation to airport