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***Plasmonics: Design, Materials,
Fabrication, Characterization,
and Applications XVIII***

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Editors

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Introduction

This proceedings volume contains the papers presented at the conference on Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVIII, part of the SPIE Optics + Photonics Digital Forum held 24 August - 4 September 2020. The conference aimed to bring together specialists from diverse research areas and to provide a forum for the exchange of information on the latest progress of the plasmonics.

This year the conference included 18 oral sessions and a poster session covering various aspects of the latest development in plasmonics. The invited and contributed papers are classified into 10 topics listed as follows:

1. Plasmonic Materials and Nanostructures
2. Plasmonic Applications
3. Plasmonic/Nanophotonic device
4. Quantum Plasmonics
5. Emitting Device
6. Active Device
7. Plasmonic Sensing
8. Fundamental of Plasmonics
9. Metasurface
10. Plasmonic Laser.

The scientific program was composed of four keynote talks, 32 invited talks, 28 oral contributed presentations, and 42 poster presentations. This year the program committee suggested four keynote speakers reporting the emerging trends in plasmonics. The first talk was given by Prof. Teri Odom with the title "High-symmetry points in plasmonic lattices." Prof. Vladimir Shalaev presented the second one with the title "Plasmonic nanostructures from crystalline silver for ultrafast quantum photonics." The third keynote talk entitled "Electrically driven plasmonics" was delivered by Prof. Bert Hecht. For the fourth keynote talk, we invited Prof. Ortwin Hess to share his latest research, "Quantum plasmonic immunoassay sensing via nanoplasmonic room-temperature strong coupling." Furthermore, 39% of the invited speakers were female this year which maintained an admirable gender balance.

We are grateful to the program committee members and the SPIE staff who have worked with us in planning and organizing this Digital Forum. We greatly appreciate their tremendous efforts and continuous support. We also thank all the authors for their excellent contributions to the conference. We sincerely look forward to SPIE Optics + Photonics 2021.

**Din Ping Tsai
Takuo Tanaka**

