

### **Optics, Photonics and Lasers:**

Proceedings of the 3<sup>rd</sup> International Conference on Optics, Photonics and Lasers (OPAL' 2020)

21-22 October 2020

Tenerife (Canary Islands), Spain

**Edited by Sergey Y. Yurish** 



Sergey Y. Yurish, *Editor* Optics, Photonics and Lasers OPAL' 2020 Conference Proceedings

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## $3^d$ International Conference on Optics, Photonics and Lasers (OPAL' 2020) 21-22 October 2020, Tenerife, Spain

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#### Foreword

On behalf of the OPAL' 2020 Organizing Committee, I introduce with pleasure these proceedings devoted to contributions from the 3<sup>rd</sup> International Conference on Optics, Photonics and Lasers (OPAL' 2020). The conference is organized by the International Frequency Sensor Association (IFSA) in technical cooperation with our media partners: Institute of Physics (IOP), UK and MDPI Photonics journal (ISSN 2304-6732), Switzerland.

In keeping with tradition begun in 2018 in Barcelona, Spain and in 2019 in Amsterdam, The Netherlands the Conference attracts researchers and practitioners in the related fields, from around the world including 4 keynote speakers from Germany and India.

The conference program provides an opportunity for researchers interested in optics, photonics and lasers to discuss their latest results and exchange ideas on the new trends and challenges. The main objective of the Conference is to encourage discussion on a broad range of optic related topics and to stimulate new collaborations among the participants.

The conference proceedings contains all papers of regular and keynote presentations. We hope that these proceedings will give readers an excellent overview of important and diversity topics discussed at the conference. Based on the proceeding's contributions, selected and extended papers will be submitted by the authors to the special issue of 'Sensors & Transducers' journal (ISSN: 2306-8515, e-ISSN 1726-5479) or Photonics journal (ISSN 2304-6732). The limited number of articles, published in 'Sensors & Transducers' journal will be invited to be extended for 'Advances in Optics: Reviews', Vol. 5, Book Series, which will be published in 2021.

We thank all authors for submitting their latest work, thus contributing to the excellent technical contents of the Conference. Especially, we would like to thank the individuals and organizations that worked together diligently to make this Conference a success, and to the members of the International Program Committee for the thorough and careful review of the papers. It is important to point out that the great majority of the efforts in organizing the technical program of the Conference came from volunteers.

Prof., Dr. Sergey Y. Yurish OPAL' 2020 Chairman

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