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Optics and Photonics for Information Processing X

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Mohammad Matin, University of Denver (United States)

Introduction

This year in San Diego, California, we held the tenth conference on Optics and Photonics for Information Processing. After 10 years it is a good time to stop and take a look back at all the work that has been accomplished in this conference. Many good researchers have passed through the sessions each year explaining their latest results with passion and with a positive vision about the role Optics and Photonics plays in diverse areas of Information Processing. Hot topics have probably changed and technological achievements in computing, electronics, and communication have also changed the way we work and interact with other researchers and the way our results impact society. Something we can say is that Information Processing together with Optics and Photonics have become even more intertwined in daily life, an example of which can be seen in mobile devices with excellent flat displays and microcameras and with image processing software doing many unnoticed tasks within. This is just one example where we find that topics addressed by this conference are still highly relevant, as it is applicable for Optics and Photonics in many other fields.

This year we have had a very wide range of interesting papers covering areas such as biophotonics and sensing, holography and systems, optical imaging and processing, and algorithms and optical information processing. One such remarkable presentation is the invited talk given by Mr. Richard R. Leach Jr., discussing the latest advances in image processing applied to the optimal functioning of the National Ignition Facility. On the second day of the conference we had the invited Signal, Image, and Data Processing track-wide plenary talk by Professor Maryellen L. Giger of University of Chicago. She presented a lively hour long discussion on the most advanced research on imaging techniques applied to breast cancer and how sophisticated imaging methods can be applied to process the large amount of data and images (e.g. big data) to get a faster and better diagnosis. As in previous years this conference also provides a training ground for graduate students. We had a number of Masters and PhD student presentations. One of the chairs presented a paper on the pedagogy of research and led a lively discussion with the audience to share their experience. This was a successful conference with 53 oral and poster presentations in 8 sessions from China, Mexico, USA, Ukraine, Russian Federation, South Korea, Taiwan, Uruguay, Spain, Iceland, Ireland, Thailand, France, Colombia, and Poland.

We want to thank all who helped make this an exciting conference; especially the authors, audience, and SPIE staff who kept us on track all the way from the

Call for Papers to publishing the papers in the SPIE Proceedings. We look forward to seeing you at this conference next year and hope that you will help us make the eleventh edition an appealing place for discussion of the latest advances in the field as the previous ten editions have been.

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