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## Editorial

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### Hock Jin Quah, Muhd Azi Che Seliman, Sha Shiong Ng and Way Foong Lim

Institute of Nano Optoelectronics Research and Technology (INOR),  
Universiti Sains Malaysia,  
11800 Penang, Malaysia  
Email: hock\_jin@usm.my  
Email: muhdazi@usm.my  
Email: shashiong@usm.my  
Email: way\_foong@usm.my

**Biographical notes:** Hock Jin Quah received his BEng (Hons) in Materials Engineering from School of Materials and Mineral Resources Engineering (SMMRE), USM in 2008. He graduated with PhD (2014) and MSc (2010) in Electronics Materials from SMMRE, USM under the sponsorship of “The USM Vice Chancellor’s Award 2011” and “USM Fellowship”, respectively. He was previously a post-doctoral fellow in Institute of Nano Optoelectronics Research and Technology (INOR), USM and Institute of Advanced Technology (ITMA), Universiti Putra Malaysia. Currently, he is working as a Senior Lecturer at INOR, USM since year 2018. His contribution in the field of research and development is reflected through 67 refereed international top-tier publications with h-Index of 18 and 1 patent granted under MyIPO. He has also received several recognitions from the university under “Sanggar Sanjung” awards for year 2008, 2010–2016, and 2018–2019 as well as the “Best Thesis Award for Category of CRI: Engineering and Technology” for the year 2014. He is presently a review editor for *Frontiers in Materials: Colloidal Materials and Interfaces*, editorial board member for *Microelectronics International*, *Current Chinese Science*, *Materials New Horizons*, as well as lead guest editor for Special Issue of *Miroelectronics International*.

Muhd Azi Che Seliman received his Bachelor, Master and PhD degrees from the Department of Mechanical and Intellectual Systems Engineering, University of Toyama, Japan. During his studies, he was the recipient of Malaysia’s Jabatan Perkhidmatan Awam Scholarship, Yayasan Pelajaran Mara Scholarship, Japan’s Rotary Yoneyama Memorial Foundation Scholarship, Asahi International Education Foundation Scholarship and JGC-S Foundation Scholarship. He has a strong research background in thermophysics with expertise in heat transfer mechanisms in thermal insulation materials. Formerly served as a Visiting Researcher, he is currently a Research Fellow at the Institute of Nano Optoelectronics Research and Technology (INOR), Universiti Sains Malaysia (USM). His research interest is MOCVD epitaxy growth, fabrication and characterisation of III-nitride semiconductor materials.

Sha Shiong Ng received his PhD degree from Universiti Sains Malaysia (USM), Malaysia. At present, he is an Associate Professor at Institute of Nano Optoelectronics Research and Technology, USM. His specialisation is the growth and characterisations of wide band gap semiconductor materials. He has published more than 170 papers and his h-index is 19. Besides, he has one patent granted, two patents filed, and published two monographs.

Currently, he is a senior member of OSA, and members of MRS and SPIE. Since 2008, he served as reviewer for many reputable journals.

Way Foong Lim obtained her BEng (1st Hons) in Materials Engineering and Doctor of Philosophy (PhD) in Electronic Materials from School of Materials and Mineral Resources Engineering, Universiti Sains Malaysia (USM). She started her career as a post-doctoral fellow at USM (2015–2017) and later worked as a R&D Manager in light emitting diode manufacturing plant for a year. Her current research area focuses on materials engineering of high dielectric constant rare earth/transition metal oxide materials for passivation of metal-oxide-semiconductor (MOS) device, alteration of III-nitrides and organic/inorganic structures as well as engineering of rare earth materials in phosphor synthesis for deployment in optoelectronics and electronics applications. She has published more than 60 publications in international refereed top-tier journals with h-index of 16, 2 patents granted, and one patent filed. Her contribution and enthusiasm towards Science and Materials Engineering have brought her to the recognition of the 2019 Loreal-UNESCO for Women in Science Award. She was also featured in The Peak magazine as one of the six exceptional women in the field of Science, Technology, Engineering and Maths (STEM), Female honour roll in the 2020 Prestige Malaysia 40 under 40, and the honoree on the Asian Scientist 100 list (2020 edition).

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*5th Meeting of Malaysia Nitrides Research Group (MNRG 2020)* was held virtually for the first time from 1–2 December, 2020 to ensure continuous research progress in spite of COVID 19 pandemic encountered throughout the world. This virtual event was primarily organised by Institute of Nano Optoelectronics Research and Technology (INOR), Universiti Sains Malaysia with publicity and sponsorship support from Collaborative Research in Engineering Science & Technology (CREST). The two days event included Keynote, Plenary, and Invited speeches as well as pre-recorded oral presentations involving prominent speakers from universities and industries. The theme selected for this special issue was “Functional Nitrides and Oxides: Growth, Properties and Applications”, which focused on the growth of functional nitrides and oxides as well as physical, chemical, and electrical properties of these materials for various applications not limiting to renewable energy and energy efficient devices. This special issue contains 28 manuscripts that were selected and peer-reviewed before the acceptance of these manuscripts.

We would like to extend our gratitude to all authors and reviewers for their support and contribution in making this special issue a reality. Last but not least, we would like to acknowledge Prof. Dr. Lionel Vayssieres, Editor-in-Chief of the *International Journal of Nanotechnology*, for providing his valuable recommendation and guidance towards the completion of this special issue.