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Preface

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25th World Forum on Advanced Materials (POLYCHAR-25)

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The 25th World Forum on Advanced Materials (POLYCHAR-25) (derived from **POLY**mer **CHAR**acterization), under the auspices of the Scientific Committee of World Forum on Advance Materials and International Union of Pure and Applied Chemistry (IUPAC), was hosted by the Institut Kimia Malaysia at the Putra World Trade Centre, Kuala Lumpur, Malaysia on October 9th–13th, 2017. A total of 2 plenary and 99 invited lectures, 55 oral and 48 poster contributions, and 225 participants from 31 countries were recorded. With the significance of the 25th anniversary of the series, it was an occasion for more than usual celebration, coinciding also with the 50th anniversary of both the Institute Kimia Malaysia and the IUPAC Polymer Division. The conference dinner was attended by the Malaysian Minister of Science, Technology and Innovation, Datuk Wilfred Madius Tangau. At the closing ceremony Dr. Kevin Menard (Veritas Testing and Consulting), one of the founders of POLYCHAR, talked about how far the series has come from its beginning as an opportunity for graduate students at the University of North Texas to practice giving presentations about their projects to the present as a well established series of international conferences.

The philosophy of POLYCHAR is to take place at different parts of the world each year to give students and young scientists an opportunity to present their scientific work to a larger international audience, to meet prominent scientists, and to attend tutorials held by international well-known scientists. Previous POLYCHAR meetings had been held in Denton, Texas (where POLYCHAR had been founded in the year 1992), Guimaraes, Portugal (2004), Singapore (2005), Nara, Japan (2006), Buzios, Brazil (2007), Lucknow, India (2008), Rouen, France (2009), Siegen, Germany (2010), Kathmandu, Nepal (2011), Dubrovnik, Croatia (2012), Gwangju, South Korea (2013), Stellenbosch, South Africa (2014), Lincoln, Nebraska, USA (2015) and Poznan, Poland (2016).

Conference presentations of POLYCHAR-25 ranged broadly over topics in polymer and composite chemistry, physics, engineering and computer simulation. Two plenary lectures were presented by Zairossani Mohd Nor [Deputy Director General, (Research and Innovation) of the Malaysian Rubber Board, Malaysia] on Positioning R&D towards Innovative and Sustainable Rubber Industry and Volker Abetz (University of Hamburg, Germany) on POLYmer Membrane CHARacterisation by Scattering, Microscopy, and Thermal Methods.

The Short Course, a POLYCHAR tradition, was supported by IUPAC and held on the first day of the meeting. Seven prestigious researchers delivered graduate-level tutorial presentations on the following topics:

Article note: A collection of invited papers based on presentations at the 25th POLYCHAR-25 World Forum on Advanced Materials, Kuala Lumpur, Malaysia, 9–13 October 2017.

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- Characterization of polymer electrolytes by dielectric response using electrochemical impedance spectroscopy (**Chin Han Chan**, Universiti Teknologi MARA, Malaysia)
- Thermal analysis used to analyze the glass transition phenomenon (**Jean-Marc Saiter**, University of Rouen, France)
- Viscoelastic properties of polymers (**Michael Hess**, University of North Texas, USA)
- A simple approach to the mathematical treatment of diffraction and scattering of X-ray and visible light (**Masaru Matsuo**, Nara Women's University, Japan)
- Determination of thermodynamic properties by scattering techniques (**Volker Abetz**, University of Hamburg, Germany)
- Micromechanics of polymers by electron microscopy (**Sven Henning**, Fraunhofer Institute for Microstructure of Materials and Systems, Germany)
- Characterisation of crosslinks in vulcanised rubbers: From simple to advanced techniques (presented by Kok Lang Mok of the Malaysian Rubber Board for **Aik Hwee Eng** of the Institute Kimia Malaysia).

The Short Course speakers were available for all participants for further discussions throughout the Forum and the short course notes can be accessed on the IUPAC website (<https://iupac.org/project/2016-033-1-400>).

In line with the POLYCHAR tradition, a number of prizes were awarded at the conclusion of the event. The prestigious **Paul J. Flory Research Prize 2017** went to **Volker Abetz** of Institute of Polymer Research of the Helmholtz-Zentrum Geesthacht and University of Hamburg, Germany, for his exemplary research to block copolymers. The **International POLYCHAR Materials Research Prize 2017** was awarded to **Kevin Menard**, one of the founders of the POLYCHAR series for his life's work in the science of polymer materials.

This issue of Pure and Applied Chemistry (PAC) comprises selected full articles presented at the POLYCHAR-25 conference as well as the short course. Thanks are expressed to all the attendees and participants, the editors of PAC, sponsors and conference collaborating partners, local organizing and scientific committees for their contribution to the success of this conference. We can all look forward to the next POLYCHAR.