

Webinar #21

Prof. Nagao Kobayashi

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**Title: Synthesis, Applications, and Practical Use
of Functional Metallophthalocyanines**

Registration link: <https://tinyurl.com/54zypfnh>

*Zoom details will be shared with the registered participants

Short biography

Prof. Kobayashi holds two Ph.D. degrees from Tohoku University, Sendai, Japan. The first, earned in 1978, is in Science and was in the area of peroxidase and catalase. The second, obtained in 1986, is in Pharmacy and involved iron and cobalt porphyrins and phthalocyanines, a subject he is passionate about even today. In between his two Ph.Ds, he spent a few months at The Ohio State University as a Visiting Scientist. He joined his alma mater, Tohoku University as a faculty in 1984 and became Professor in 1995. He was Visiting Professor at ESPCI, Paris, where Madam Curie discovered radium. He retired from Tohoku University in 2015 and has been research Professor at Shinshu University since then. Prof. Kobayashi's research interests include electro-reduction of oxygen, design and synthesis of low-symmetry giant aromatic molecules, spectroscopic properties of chromophores and application of giant macrocyclic compounds for photodynamic therapy. In 2006, the Chemical Society of Japan honored Prof. Kobayashi with its Award for Creative Work in the chemistry of giant aromatic molecules. He was commended by the Ministry of Education, Culture and Sports in 2012 for his contribution to science and technology.

On the other hand, he has been filling a lot of scientific roles, such as Secretary and Japan's representative at International Society of Porphyrins and Phthalocyanines since 2000, Advisory board for Journal of Porphyrins and Phthalocyanines, Co-chairmen at the Geogean Bay International Conference on Inorganic Biochemistry since 2007, Representative of Japan to the Euroasia Conference on Chemical Science, 2008-2014, and Reviewer of 58 Scientific Journals. A much sought-after speaker, Prof. Kobayashi has delivered over 290 invited talks in national and international conferences and in Japanese and foreign universities. He has published about 500 papers in top-class journals and authored over 80 critical reviews and book chapters. The Chemical Society of Japan (CSJ) conferred a title of CSJ Fellow for his achievement and contribution in the field of Chemistry in 2022.

Abstract

Iron and cobalt phthalocyanines (Pcs) containing four or eight carboxyl groups on the periphery have been synthesized and their property such as deodorant and anti-virus activity materials were elucidated, together with wrinkle-removing characteristics. These functions are all ascribable to the oxidative decomposition of organic molecules by activated oxygen in air by these Pcs. Accordingly, environmentally harmful halogenated phenols were also decomposed effectively by using these Pcs as catalysts. Photodynamic therapy using aluminum, zinc, silicon, and magnesium Pcs as photosensitizers were introduced, showing photos of the progress of remedy.

Panelist



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Convener:
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Organizers:
Dr. V.J.Surya & Dr.S. Yuvaraj
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