

演題：**Supramolecular Origami:
Transforming Paper into
Twisted Structures**

講師：**Prof. Mark J. MacLachlan**
Department of Chemistry,
University of British Columbia,
Canada



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共催：日本化学会北海道支部

要旨：

Mesoporous materials with 2-50 nm diameter pores are being investigated for many potential applications including drug delivery, environmental remediation, gas storage, and catalysis. Liquid crystal templating offers a convenient method to control the pore size and organization in these materials, such as in MCM-41 and SBA-15. In 2010, we reported a new type of mesoporous material that has a chiral nematic organization of channels. Using cellulose nanocrystals as a template, mesoporous glasses with chiral nematic order can be prepared. By tuning the synthetic conditions and their compositions, we have obtained a family of new materials with interesting porosity and photonic properties. In this presentation, I will describe our efforts to produce new materials that mimic the structures of iridescent beetle shells.

References; M.J. MacLachlan, et al., *Nature* **2010**, 468, 422; *Angew. Chem. Int. Ed.* **2011**, 50, 10991; *Angew. Chem. Int. Ed.* **2013**, 52, 8912; *Angew. Chem. Int. Ed.* **2013**, 52, 8921.

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連絡先：大学院理学研究院 化学部門 佐田和己（内線：3473）