

令和元年度第 4 回 VBL セミナー

4th VBL Seminar, 2019

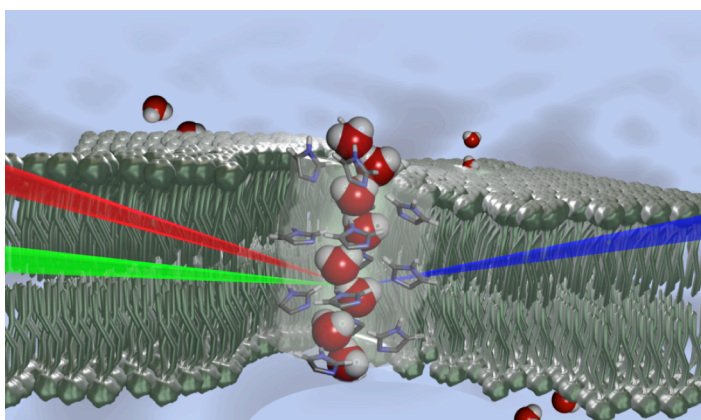
日時：令和元年 10 月 4 日（金） 16 時 00 分～17 時 30 分

場所：工学研究科 1 号館 10 階 1101 講義室

講師：Mihail-Dumitru Barboiu 教授（Institut Européen des Membranes de Montpellier, CNRS, フランス）（VBL 客員教授）

題目：Artificial Water Channels

要旨：This lecture discusses the incipient development of the first artificial water channels systems. We include only systems that integrate synthetic elements in their water selective translocation unit. Therefore, we exclude peptide channels because their sequences derive from the proteins in natural channels. We review many of the natural systems involved in water and related proton transport processes. We describe how these systems can fit within our primary goal of maintaining natural function within bio-assisted artificial systems. In the last part, we present several inspiring breakthroughs from the last decade in the field of biomimetic artificial water channels. All these examples demonstrate how the novel interactive water-channels can parallel biomolecular systems. At the same time these simpler artificial water channels offer a means of understanding water structures useful to understanding many biological scenarios. Moreover they can be used for the preparation of highly selective membranes for desalination.



References

(1) M. Barboiu and A. Gilles, *Acc. Chem. Res.* 2013, **46**, 2814–2823. (2) M. Barboiu, *Angew. Chem. Int. Ed.* 2012, **51**, 11674–11676. (3) Y. Le Duc, et al., *Angew. Chem. Int. Ed.* 2011, **50**, 11366–11372. (4) E. Licsandru, et al., *J. Am. Chem. Soc.* 2016, **138**, 5403–5409. (5) M. Barboiu, *Chem. Commun.* 2016, **52**, 5657–5665. (6) I. Kocsis, et al., *Science Adv.* 2018, **4**, eaao5603.

問い合わせ先：

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