

MATH-IMS Joint Pure Mathematics Colloquium Series The Chinese University of Hong Kong

This Colloquium Series in Pure Mathematics is organized by the Department of Mathematics and the Institute of Mathematical Sciences (IMS) at The Chinese University of Hong Kong. The series focuses on all areas of pure mathematics together with theoretical developments and applications.

Date: November 25, 2021 (Thursday)

Time: **4:00-5:00PM** (Hong Kong Time)

Zoom Link: <https://cuhk.zoom.us/j/98846779826>

The group of area-preserving homeomorphisms of the 2-sphere: first secrets revealed

*Speaker: Professor Vincent Humilière
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Abstract: I will report on recent results on the algebraic structure of this group which has remained very mysterious for a long time, in contrary to other similar but well-understood groups. I will discuss commutators, normal subgroups, homomorphisms, quasi-morphisms. In particular, I will present some ideas from joint work with Dan Cristofaro-Gardiner, Cheuk-Yu Mak, Sobhan Seyfaddini and Ivan Smith which involves studying the symplectic topology of symmetric products of spheres.

Bio: Prof. Vincent Humilière received his PhD degree from Ecole Polytechnique 2008. After that he spent was a year at LMU Munich as a postdoc. Since 2009 he has been an assistant professor at Sorbonne Université. He obtained Habilitation in 2017. He was a Monge professor at Ecole polytechnique from 2019 to 2021, and was recently appointed a Junior member of Institut Universitaire de France.