

Furukawa Group Seminar

Date

November 4th, 2022
10:30–11:30

Venue

Kyoto University, KUIAS
iCeMS Main Building
2F Seminar Room
(#A207)

Registration



<https://forms.gle/ct1p7ZeYwuEoV26R6>

Required from Google form

Contact

KUIAS iCeMS
Furukawa Group
furukawa-g@icems.kyoto-u.ac.jp

Truchet-tile structure of a topologically aperiodic metal–organic framework

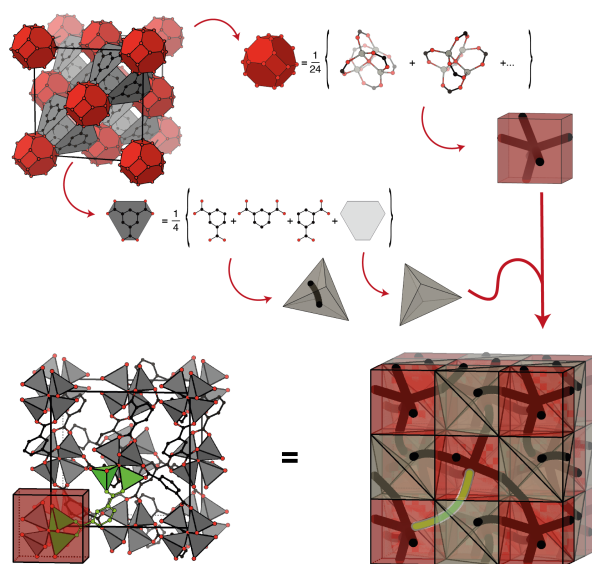


Ms. Emily Meekel

DPhil candidate
Department of Chemistry
University of Oxford

Abstract

Periodic tilings can store information if individual tiles are decorated to lower their symmetry. Truchet tilings—the broad family of space-filling arrangements of such tiles—offer an efficient mechanism of visual data storage related to that used in barcodes and QR codes. In my talk, I will show that the crystalline metal–organic framework $[OZn_4][1,3\text{-benzenedicarboxylate}]_3$, or TRUMOF-1, is an atomic-scale realisation of a complex three-dimensional Truchet tiling. We suggest that its unusual structure emerges because of geometric frustration in the chemical building units from which it is assembled.



 FURUKAWA LAB

