

**Subject: Joint webinar Division de Chimie du Solide – SCF /
Division of Solid State and Materials Chemistry – EuChemS
Time: Thursday 14th December. 2023 01:30 PM Paris-time**

Link Zoom Meeting

<https://univ-nantes-fr.zoom.us/j/87330450331?pwd=cmRmR09mUFpIT1J0RlhZdHRXUCtjQT09>

ID de réunion: 873 3045 0331

Code secret: 454665



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Truchet-tile architectures in materials chemistry

Truchet tilings are periodic arrangements of tiles decorated to lower their symmetry [1]. A generalised version of barcodes and QR codes, they combine elements of order and disorder in a way that allows efficient information storage [2]. This talk will explore the way in which the complex structures of some solid-state compounds - including a heavily disordered metal-organic framework [3] – can be understood in the context of Truchet tilings, and the prospect for exploiting Truchet's approach as a central principle in the design of disordered materials with unconventional electronic and vibrational properties [4].

[1] Truchet, Mém. Acad. R. Sci. (Paris), 363 (1704).

[2] Smith & Boucher, Leonardo 20, 373 (1987).

[3] Meekel, Schmidt, Cameron, Dharma, Windsor, Duyker, Minelli, Pope, Orzio Lepore, Slater, Kepert & Goodwin, Science 379, 357 (2023).

[4] Roth & Goodwin, Nature Commun. 14, 4328 (2023).