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in kemijsko tehnologijo

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*VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI*

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z naslovom:

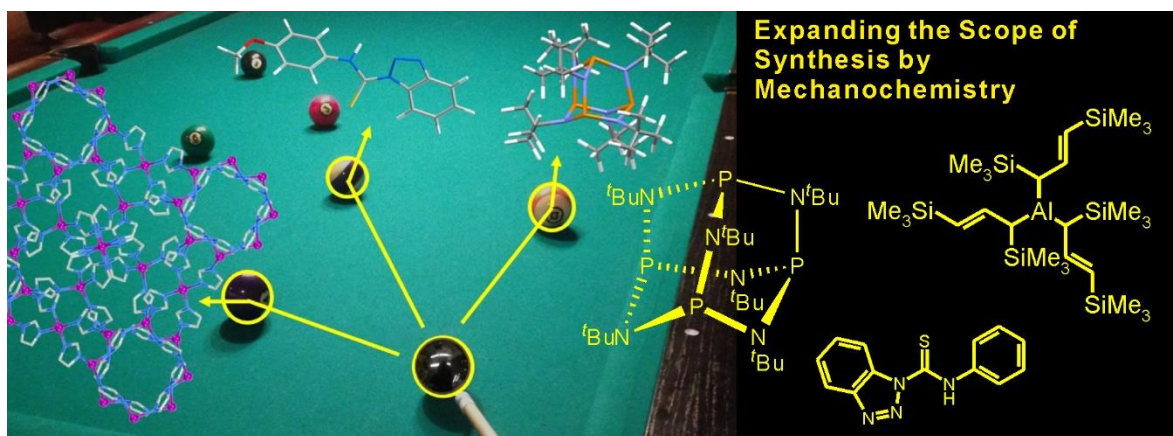
**Mechanochemistry: chemical and
materials synthesis without bulk solvents**

v sredo, 31. januarja 2018 ob 15:00 uri
v predavalnici 1 v 1. nadstropju Fakultete
za kemijo in kemijsko tehnologijo, Večna pot 113

Vljudno vabljeni!

Povzetek:

The growing concerns of waste management and efficient use of natural resources and energy have inspired a quest for simpler, cleaner and scalable routes for the manufacture of chemicals and materials.^[1] This has placed solvent-free reactivity, in the form of spontaneous (e.g. accelerated aging)^[2] or mechanically-induced (i.e. mechanochemistry)^[3] transformations of solids, at the centre of interest for a range of research groups and industries, from pharmaceuticals and food industries, to instrument manufacturers and natural resource businesses. Although such reactivity has been known and described in influential texts of the ancient world,^[4] its synthetic potential became fully appreciated by chemists only recently, leading to new, detailed explorations of reaction scope and mechanisms *via* cutting-edge techniques, such as synchrotron X-ray powder diffraction in real-time.^[5]



This lecture will illustrate the new opportunities that mechanochemistry and solid-state reactivity offer in a wide range of systems, including pharmaceuticals, nanoparticle systems and microporous materials. Particular attention will be given to demonstrating that, besides enabling environmentally-friendly solvent-free strategies of chemical and materials synthesis, mechanochemistry now permits the synthesis of molecules and materials that have previously been difficult or impossible to access, as well as the discovery of new reactivity.^[6]

References

[1] Julien, Mottillo, Friščić *Green Chem.* **2017**, *19*, 2729-2747; [2] Mottillo, Friščić *Molecules* **2017**, *22*, 144; [3] Do, Friščić *ACS Centr. Sci.* **2017**, *3*, 13; [4] Theophrastus "On Stones", translation by E. R. Caley & J. F. C. Richards, Graduate School Monographs, Ohio State University, Columbus, USA (1956); [5] Julien *et al.* *J. Am. Chem. Soc.* **2016**, *138*, 2929; [6] Do, Friščić *Synlett* **2017**, *28*, 2066-2092.