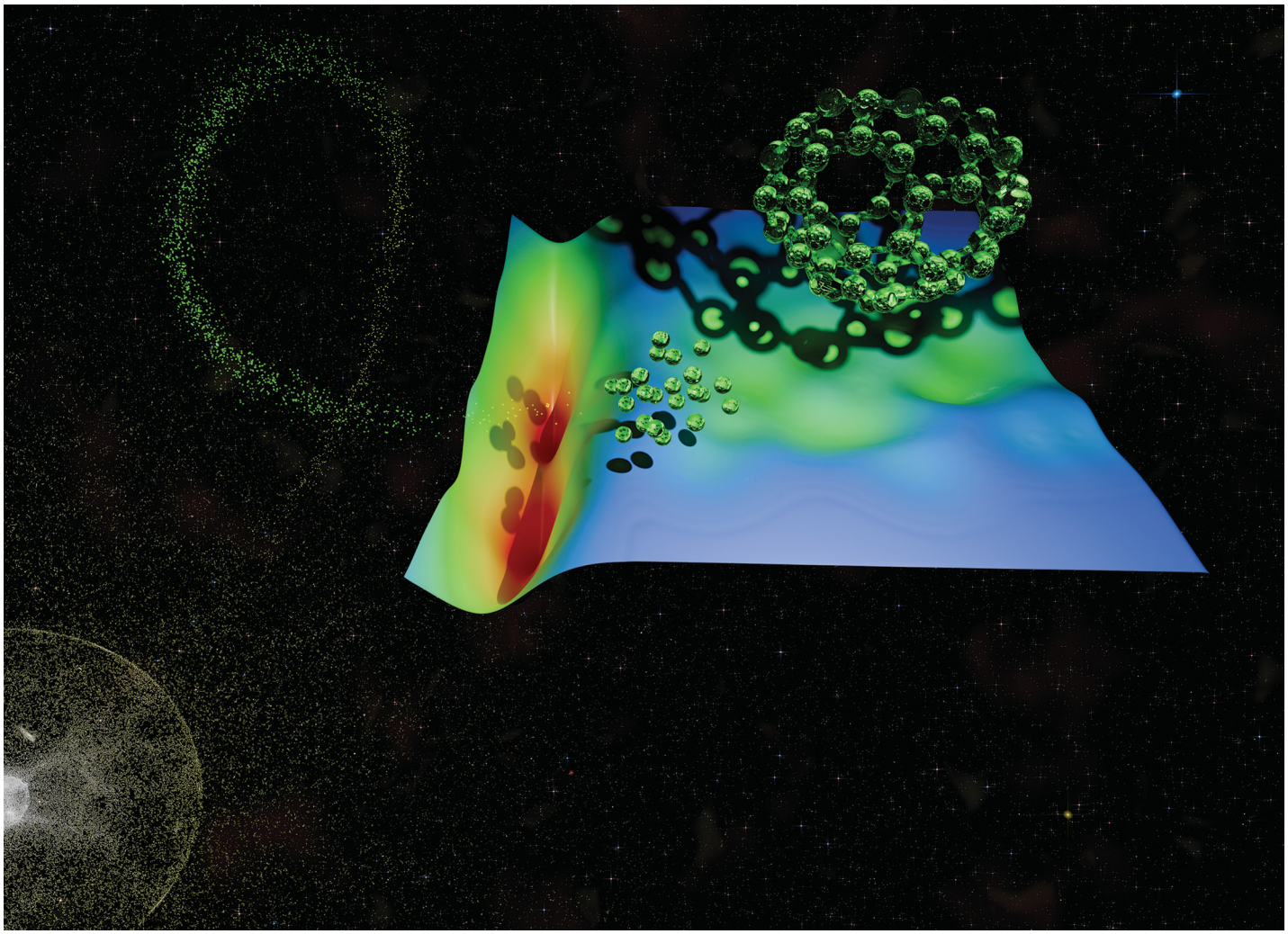

**Showcasing research from the Multifunctional Materials Laboratory of Prof. Teodor Ivanov Milenov at the Bulgarian Academy of Sciences, Sofia, Bulgaria.**

Theoretical study on the mechanisms of formation of primal carbon clusters and nanoparticles in space

The spontaneous stabilization of non-covalent aggregates of carbon atoms into primal clusters has been modeled in the environment of space. The significance of atom count, average density and interatomic orientation in the initial aggregate has been found. The resulting molecules have been structurally characterized. A complete mechanism of the formation of closed-cage carbon nanoparticles from initial atomic aggregates has been modeled. The IR spectra of such imperfect nanoparticles appear similar to that of fullerene $C_{70}$.

## As featured in:


See Stefan K. Kolev *et al.*, *Phys. Chem. Chem. Phys.*, 2025, **27**, 1819.

ROYAL SOCIETY OF CHEMISTRY

rsc.li/pccp

Registered charity number: 207890

PCCP Owner Societies