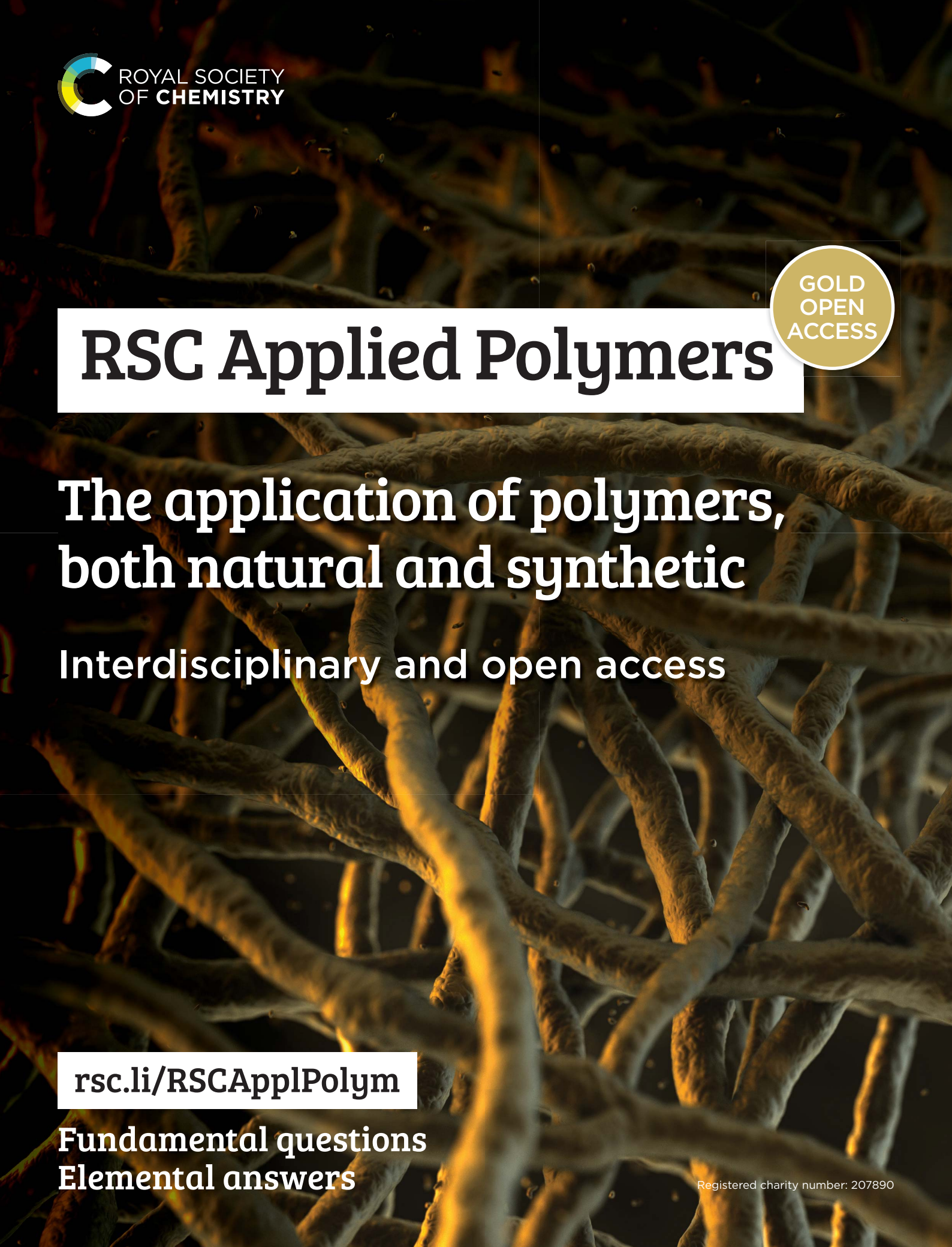
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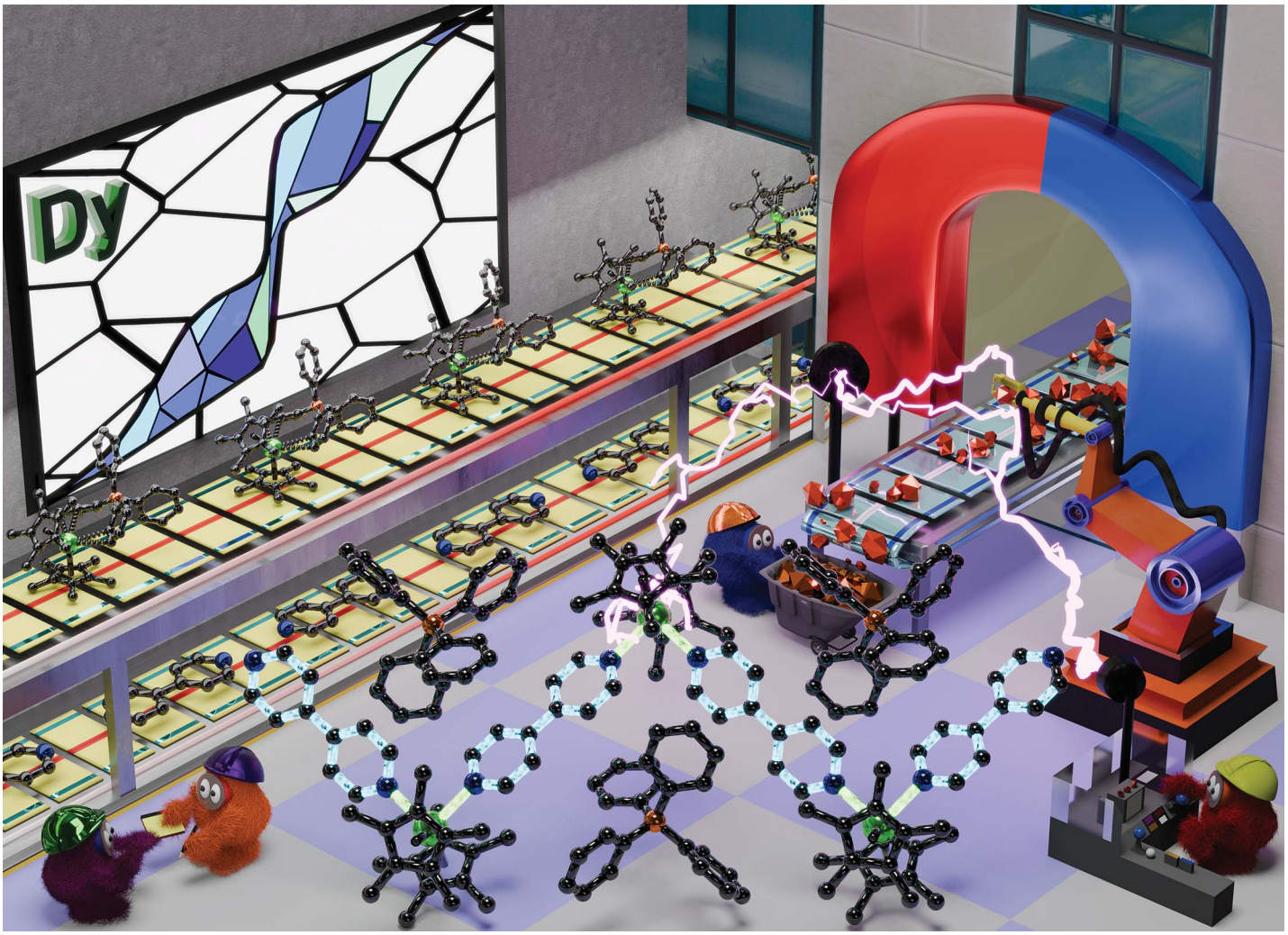

Showcasing research from Professor Demir's laboratory, Department of Chemistry, Michigan State University, United States.

Magnetic hysteresis in 1D organometallic lanthanide chain compounds containing 4,4′-bipyridine

This study presents the construction of multinuclear compounds containing highly anisotropic lanthanide building blocks with relevance for the development of advanced magnetic materials. Specifically, the slow reaction of $Cp^*_2Ln(BPh_4)$ with 4,4′-bipyridine afforded $\{[Cp^*_2Ln(bpy)][BPh_4]\}_n$ (Ln = Gd, Tb, Dy), constituting the first crystallographically characterised 1D organometallic network of lanthanide metallocenium units connected to one another through organic bridges. The dysprosium congener exhibits open magnetic hysteresis loops up to 8 K, where the observed slow magnetic relaxation originates from single-ion effects, as deduced from EPR spectroscopy, SQUID magnetometry and ab *initio* calculations.

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As featured in:

See Selvan Demir *et al.*, *Chem. Sci.*, 2025, **16**, 18616.

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