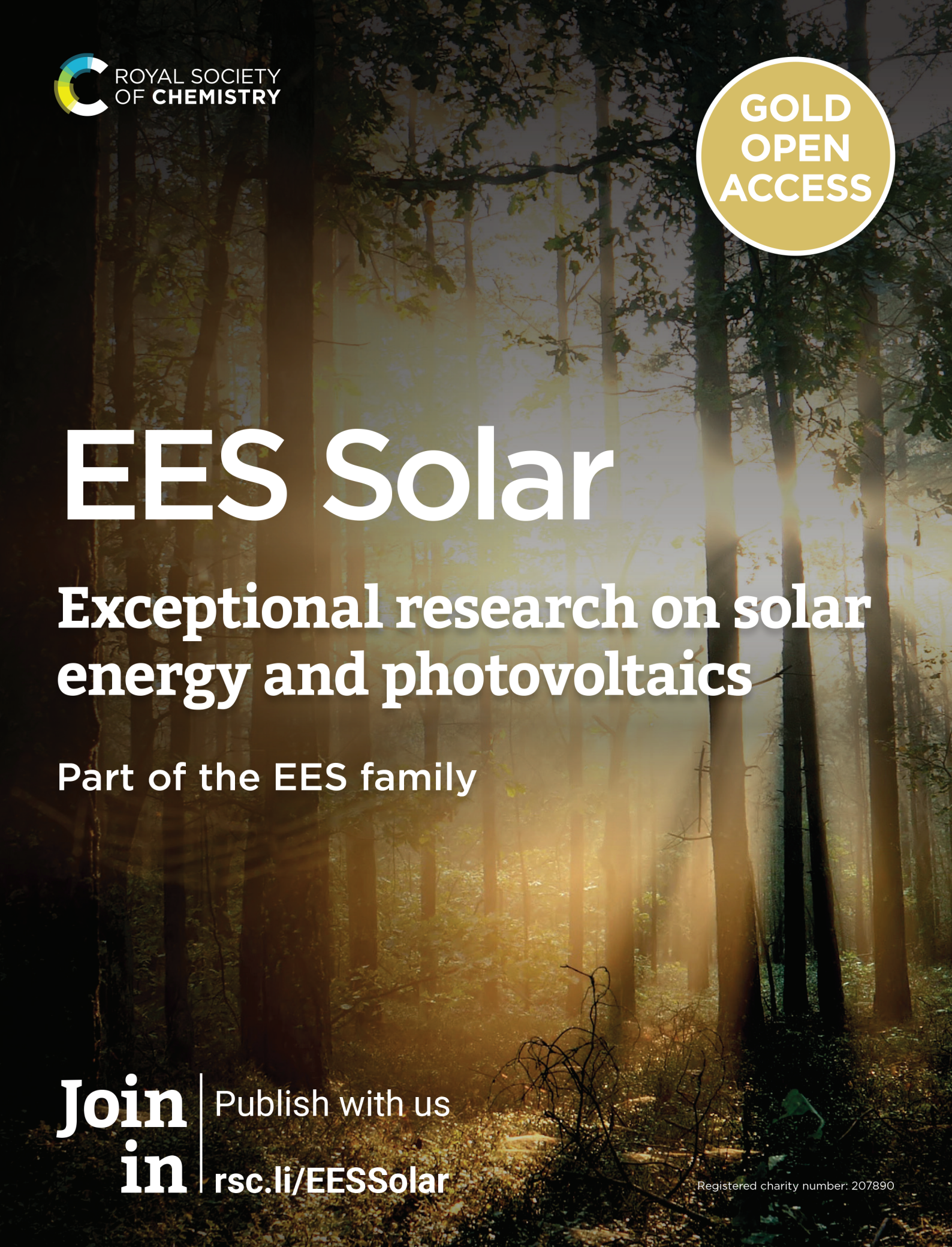
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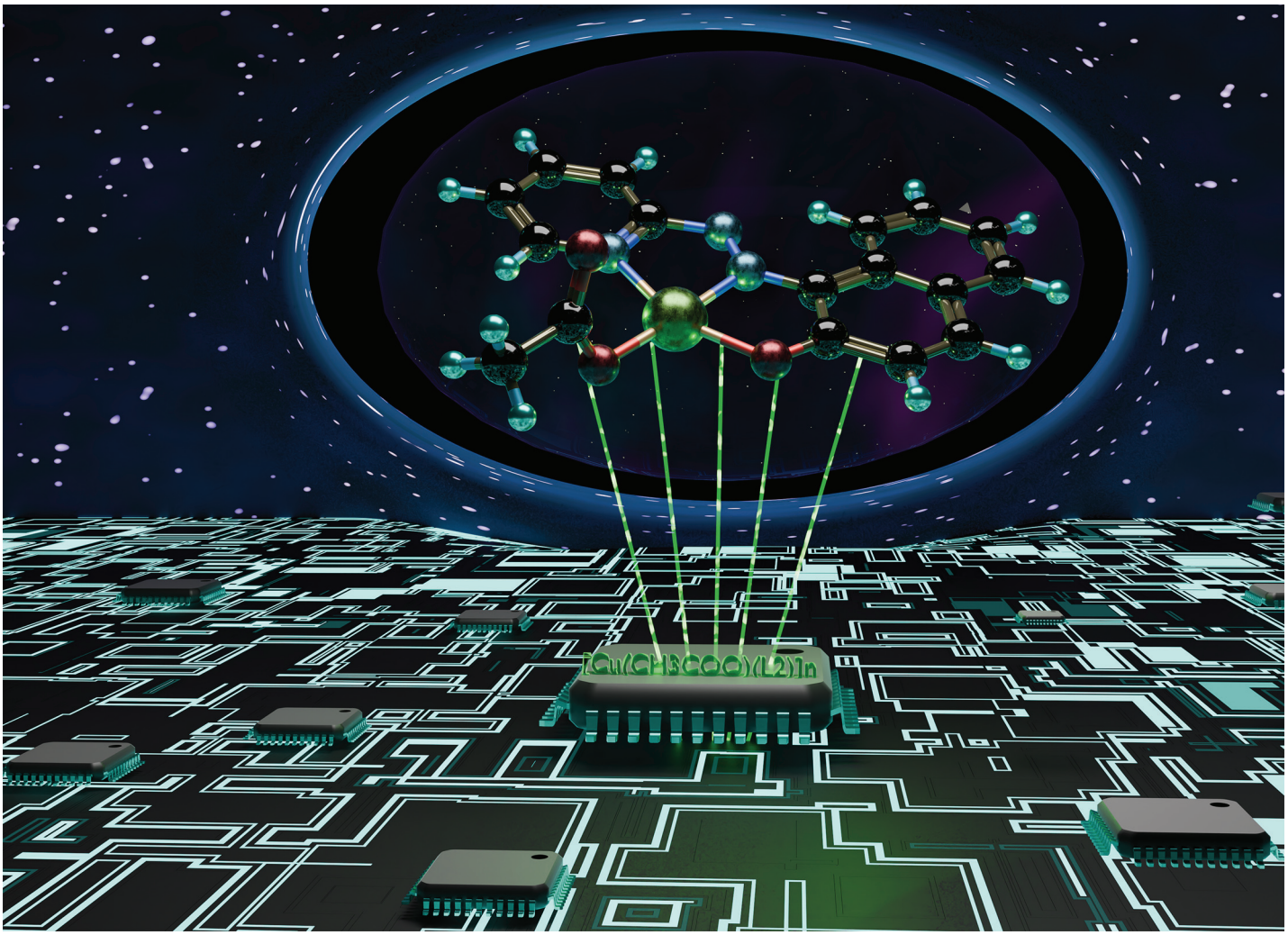

Showcasing collaborative research from Professor Amit Saha Roy's laboratory, Department of Chemistry, New Alipore College, (affiliated to University of Calcutta), Kolkata-700053, West Bengal, India, and Professor Júlia Mayans's laboratory, Departament de Química Inorgànica i Orgànica, Secció de Química Inorgànica, Universitat de Barcelona, Marti i Franques 1-11, Barcelona-08028, Spain and Institut de Nanociència i Nanotecnologia (IN2UB), Universitat de Barcelona, Barcelona-08028, Spain.

Field-induced slow magnetic relaxation, molecular docking and antibacterial studies of quasi-isotropic copper(II) (S = ½) systems stabilised by tetradentate (ONNO) and tridentate (NNO)-donor ligands

A series of structurally defined quasi-isotropic coordination complexes of Cu(II) (S = ½) have been presented, revealing finely tuned coordination and supramolecular interactions. The geometric arrangement around the copper center plays a decisive role in modulating magnetic anisotropy and promoting field-induced slow relaxation dynamics, underscoring its relevance in single molecule magnet (SMM) behavior. Despite its magnetic functionality, molecular docking investigations against biologically significant targets, complemented by antibacterial assays, demonstrate its promising bioactivity. This work emphasizes the multifunctional character, bridging molecular magnetism and bio-relevant study within a single molecular platform.

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See Amit Saha Roy, Júlia Mayans *et al.*, *Dalton Trans.*, 2026, **55**, 4062.

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