



## NECEM WEBINAR: "Oxysulfides: structural chemistry and designing new energy materials"

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Designing new materials for energy applications is a current challenge and the possibility of using the anion sublattice to tune a material's band gap to match the solar spectrum is promising.

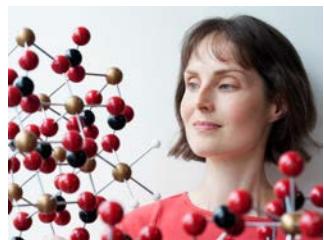
Oxychalcogenides, materials containing oxide anions as well as a second larger sulfide or selenide anion, show promise in terms of stability and band gap.<sup>1</sup> However, much research into new oxysulfides has focused on the structural chemistry of oxides.<sup>2,3</sup> This talk explores the structural chemistry of oxychalcogenides.<sup>4,5</sup> To date, this research has focused on designing new magnetic and electronic materials<sup>6,7</sup> but this talk will illustrate new avenues to design and prepare oxysulfides for photocatalytic and photovoltaic applications.

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## Biography



- Undergraduate degree in Natural Sciences and then PhD at University of Birmingham, PhD carried out with Professor Colin Greaves.
- Postdoctoral positions with Prof. Tony West at University of Sheffield and with Prof. John S. O. Evans at Durham University.
- Appointed lecturer in chemistry in 2013 at University of Kent to help establish the new chemistry programmes and was promoted to senior lecturer in 2015.
- Moved to Durham in January 2021 to work in the Centre for Materials Physics as Assistant Professor and looking forward to developing collaborations within NECEM.
- Expertise in design and synthesis of inorganic materials such as oxides, oxide-fluorides, oxychalcogenides, and in their structural characterisation and physical properties.