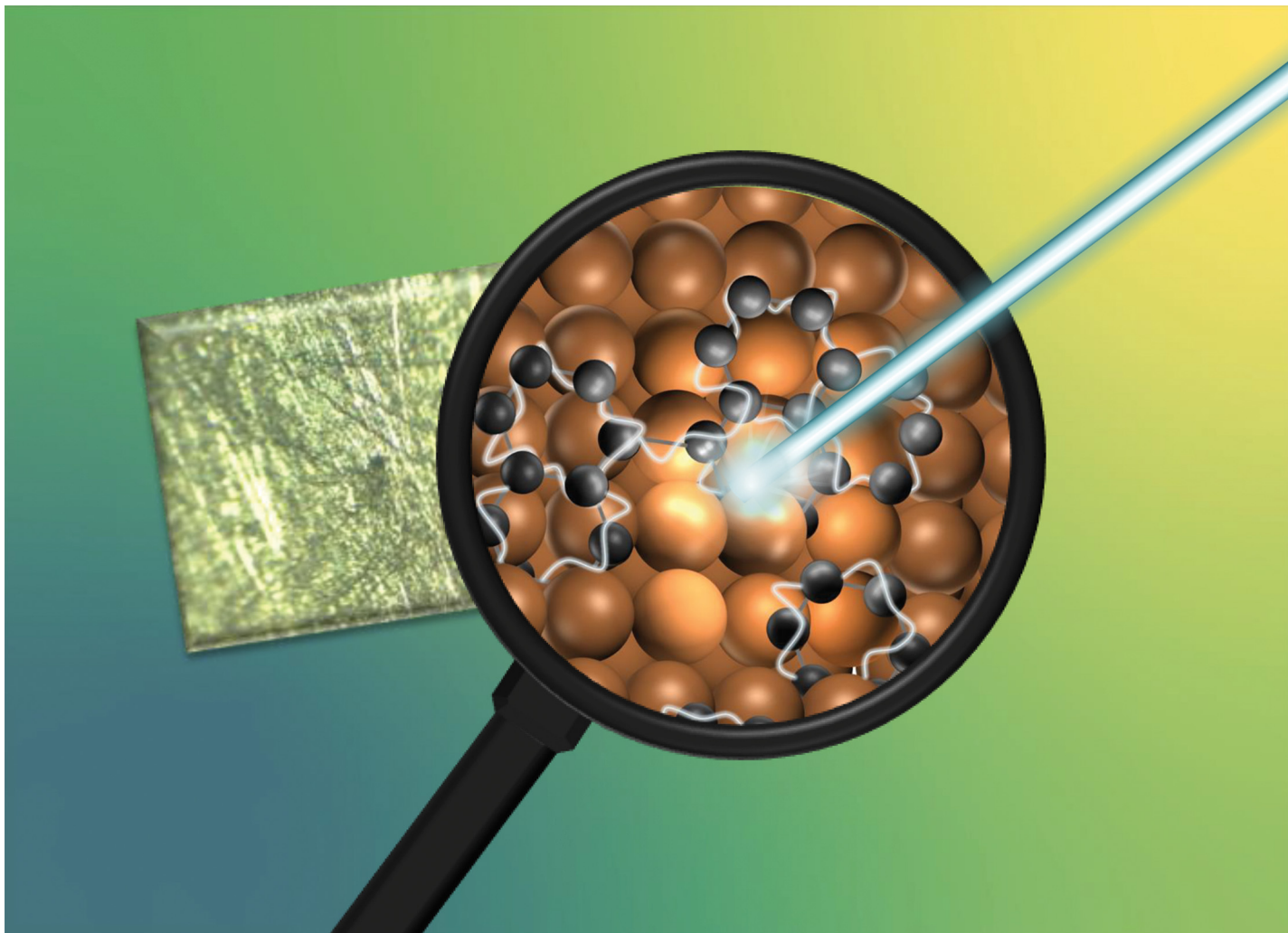




Showcasing research from Professor Emily A. Sprague-Klein's laboratory, Department of Chemistry, Brown University, Providence, Rhode Island USA.

Investigating the mechanism of copper-carbon interactions in ultraconductor materials *via in situ* thermal X-ray and Raman spectroscopy

We investigate novel materials characterized by enhanced thermal conductivity, utilizing advanced thermal X-ray and Raman imaging techniques to elucidate changes in their electronic structure. A notable emergent class of these materials, termed ultraconductors or covetics, is defined by carbon-infused metal structures that exhibit significantly superior electrical and thermal properties relative to their pure metal counterparts. The findings underscore the considerable potential of these materials for a wide range of applications in advanced energy storage technologies.

Cover artwork designed by Elizabeth Donahue.

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See E. Sprague-Klein *et al.*,
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