

Bridging the divide between ultrafast spectroscopy and photothermal materials

Professor Vas Stavros, University of Birmingham

Abstract: When a molecule absorbs ultraviolet radiation (UVR), several processes can occur. Non-radiative decay is one of these and is responsible for driving the underlying photoprotection mechanisms within a myriad of molecular systems. Deciphering these non-radiative decay mechanisms unlocks knowledge that can assist in developing new photothermal materials. In this talk, I will outline our journey of applying molecular level, non-radiative decay insight, towards developing biomimetic UVR filters for skincare application and molecular heaters to boost plant growth during cold snaps.