UNIVERSIDAD DE GRANADA

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CONFERENCIA: "Compounds-Specific Amino Acids in Ecology: a broad new toolset for understanding troph

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Summary: In the past two decades compound-specific isotope analysis of amino acids (CSI-AA) has exploded, moving from a novel analysis performed by a few labs to an increasingly mainstream technique, employed across a steadily increasing range of disciplines from ecology, archaeology, paleoceanography, geomicrobiology, and biogeochemical cycle research. Amino acid stable carbon (13CAA) and nitrogen (15NAA) measurements remain the best developed applications, with D/H ratios of AA and molecular position-specific isotopes representing the next frontier. Most work to date has focused on establishing trophic connectivity and baseline isotope values in modern and palaeoecological applications. This talk will present an overview CSI-AA techniques and potential applications, focused primarily on coupling 15NAA and 13CAA potential to establish trophic connectivity, primary production and nutrient sources at the base of food webs, and applications coupling CSI-AA with isoscape to understand animal migration or shifts in feeding zones. Finally, it will focus on new potential and emerging applications, such as exploring symbioses in extant organisms as well as microfossils.