Title: **Tunable femtosecond DUV light source for studies of photochemical reactions**

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Abstract:

Understanding photochemistry triggered by deep ultraviolet (DUV) light is a key question in astrobiology as it helps resolving the mechanisms of photoprotection, and thus, potentially offers insight into the long-standing question of the existence of extraterrestrial life. Time-resolved photoelectron spectroscopy can capture the dynamics of photochemical reactions under controlled laboratory environments. Within this PhD project a source of DUV radiation will be developed at the ELI Beamlines scientific station for Atomic, Molecular and Optical (AMO) science; MAC and implemented into the study of molecules relevant to astrochemistry and astrobiology.