

Prof Ken McKendrick



Dynamics and kinetics of elementary collision processes. Energy transfer and collisional depolarisation in gas-phase collisions, particularly of small free radicals such as OH and NO of relevance to combustion and atmospheric chemistry. Dynamics of reactive and inelastic scattering at the gas-liquid interface, and related model surfaces including self-assembled monolayers (SAMs) particularly of relevance to heterogeneous chemistry on atmospheric aerosol particles. Development of gas-liquid scattering as an analytical tool to study the composition and structure of chemically interesting surfaces, e.g. room-temperature ionic liquids. Exploitation of existing (e.g. laser-induced fluorescence) and development of novel laser methods (e.g. polarisation spectroscopy, frequency-modulated absorption spectroscopy) to study these processes. Further application of these and related techniques to practical problems of trace gas detection and remote sensing.

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Work Groups

Biophotonics

Integrated Photonics

Solar Cell Devices

Solid State laser Engineering

Photonic Sensors