

The course

Cold Molecules: Methods and Applications

by PD Dr. Stephen D. Hogan

This course will be given in block form from May 8 - 13, 2015. The lectures will take place on Fri. May 8 from 15.00 – 18.00 in **HIT K52**, and on Mon. May 11, Tues. May 12 and Wed. May 13 from 9.00 - 12.00 in **HIT K51**. Those interested in attending the course should contact the lecturer at s.hogan@ucl.ac.uk.

Focus: This course will cover the properties and interactions that are of importance in gas-phase molecular samples at temperatures below 1 K, together with methods for preparing, manipulating and probing these samples. Particular topics treated in each of the lectures will include (1) narrow-bandwidth tuneable laser sources, (2) nonlinear optics, (3) multistage deceleration of polar ground state molecules and radicals, and (4) cold Rydberg atoms and molecules. The course will be taught in English, and targeted at masters and doctoral students.

Keywords: Cold molecules, lasers, nonlinear optics, multistage Stark deceleration, multistage Zeeman deceleration, Rydberg-Stark deceleration.

Credit points: The course has 1 ECTS-credit point.