MOSBRI
Molecular-Scale Biophysics Research Infrastructure

End User Short Course

Circular Dichroism: best practice and data analysis

3rd–5th November 2021 *
Aarhus University, Denmark (AU–SRCD)

Circular dichroism (CD) spectrometers are common in many biophysical characterisation laboratories. This short course focuses on the optimum use of these instruments. CD measures the difference in absorption between left and right handed circularly polarized light of chiral samples. CD measurement in the far ultraviolet spectral range is used to study folding of peptides, proteins, oligo-nucleotides and DNA. Of particular interest is CD spectroscopy of proteins and peptides, where the secondary structure can be determined and changes followed with e.g. ligand binding, temperature, salinity etc.

During the course we will discuss protein sample optimization in terms of buffers, concentrations, solvents and ionic strengths. Best practice for CD measurement including instrumental calibration, testing, performance and spectrum quality will be reviewed, and analysis of CD spectra for secondary structure determination is demonstrated. Hands on measurement and analysis will be carried out at the CD facilities at the synchrotron radiation source ASTRID2.

Hands on experience will include: A tour of ASTRID2 and the SRCD facilities; Practical introduction to CD measurement, the first spectrum; Buffer limitations study; Measuring CD spectra of proteins in the wrong and the right way; Secondary structure calculations; A difficult sample; Cell pathlength determination

Other details: Participants will receive partial financial support to attend the course, including economy travel, lunches and 2 nights of accommodation with breakfast (accommodation will be booked by the organisers).

Visit the website to find out more and to apply to take part in the course.

https://www.mosbri.eu/training/end-user-short-courses/esc1/

*The course will only take place on these dates if restrictions have been lifted to allow such a meeting to take place and that travel within Europe can freely take place. If it becomes necessary, the course will be rescheduled to a later date.