

Registration form

Please register as soon as possible for this annual course as spaces are limited to a maximum of 15.

Early Bird Registration
on or before 16.09.25

After 16.09.25

Registration Fee (CPACT members)	£1050 + VAT ☐	£1450 + VAT ☐
Registration Fee (non-members)	£1490 + VAT ☐	£1875+ VAT ☐

The above fees include tea/coffee breaks, lunches and dinner on the evening of Wednesday 28th January. Extensive course notes are also included. Fees are refundable only up to eight weeks before the event. Substitution may be made at any time.

Accommodation

The following hotels are conveniently located close to Clairét Scientific (approx 15 minutes by taxi):

Mercure Northampton Hotel, Silver Street, Northampton, NN1 2TA
Hotel Ibis Northampton Centre, Sol Central, Mare Fair, NN1 1SR
Delta hotels by Marriott Northampton, Eagle Drive, Northampton, NN4 7HW

METHOD OF PAYMENT

- ☐ Pay via credit/debit card (Invoice will be sent to you with the link to pay)
- ☐ Pay via BACS (Please provide a Purchase Order number)

Title Name

Job Title

Department.....

Organisation

Address

..... Postcode

Telephone Fax

e-mail

Dietary/Special Requirements

Please return completed form to: Natalie Kerr, CPACT, c/o Pure and Applied Chemistry Department,
University of Strathclyde, Thomas Graham Building, 295 Cathedral Street, Glasgow G1 1XL
Email: admin@cpact.com Tel: +44 141 548 4836 Fax: +44 141 548 4713

Course Certificate

Course certificates will be available on request.

Location

Centrally located, Northampton has direct rail links to London Euston, Birmingham and Birmingham International Airport. The Mercure and Ibis hotels are ten minutes walk from the station. By road, access is via the M1 from the South or North and the A14 from the East.



CENTRE FOR PROCESS ANALYTICS
AND CONTROL TECHNOLOGY

PROCESS SPECTROSCOPY COURSE

Tuesday 27th - Thursday 29th
January 2026

Clairét Scientific,
Northampton

CLAIRET
SCIENTIFIC
LIMITED

Introduction

Process Analysis is an integral part of process optimisation, process control and performance monitoring. Rapid analytical measurements are increasingly required in industry to monitor progress of a reaction, know when the end-point of a process has been reached, check reaction kinetics, detect impurities or control blending, granulation, etc. All these activities and many more require timely qualitative and quantitative information. This can often be provided through at-line, on-line, in-line or non-invasive application of molecular spectroscopy techniques.

This annual course provides an introduction to molecular spectroscopy through a series of presentations and practical exercises/demonstrations on process spectroscopy techniques, including NIR, MIR, UV-visible, Raman spectrometries. Developments in complementary process analysis procedures based on light induced fluorescence spectroscopy, NMR spectroscopy and acoustic measurements will also be described. Emphasis will be given to the practical application of spectroscopy to process analysis.

Who should attend?

This annual course is designed for end-users who wish to expand their knowledge of spectroscopic techniques for Process Analysis. Since the course assumes no prior knowledge it is also suitable for new members of PAT implementation teams or end-users who would like to explore why and how to apply spectroscopy on-line and understand the various techniques which are available.

Demonstrations

The following topics will be covered during the course:

- NIR at-line and in-line analysis
- MIR in-line analysis
- Raman in-line and non-invasive analysis
- UV-visible in-line analysis
- Non-invasive reflectance NIR spectroscopy
- Multivariate calibration model building

Additional one-to-one or company specific training, project discussions or sample measurements are available immediately after the course by arrangement with Clairret Scientific.

Course Leaders

Dr John Andrews, Clairret Scientific
Dr Paul Dallin, Clairret Scientific
Prof David Littlejohn, University of Strathclyde
Prof Alison Nordon, University of Strathclyde
Dr Andrew Parrott, University of Strathclyde

Provisional Programme

DAY 1 - Tuesday 27 January 2026

Morning session

Welcome

Introduction to process analysis and sampling issues
Introduction to molecular absorption spectroscopy and process measurement modes

Lunch

Afternoon session

Applications of UV-visible spectroscopy in process analysis
Introduction to Light Induced Fluorescence

Break

Terahertz

Practical demonstrations with instruments: UV-visible spectroscopy, intrinsically safe operation of instruments and miniature NIR sensors

DAY 2 - Wednesday 28 January 2026

Morning session

Introduction to Raman spectroscopy

Applications of Raman spectroscopy in process analysis

Break

Applications of MIR and NIR spectroscopy in process analysis
Process NMR spectroscopy
Acoustics

Lunch and group discussion

Afternoon session

Practical demonstrations with instruments: MIR spectroscopy, NIR spectroscopy, Raman spectroscopy

Course dinner

DAY 3 - Thursday 29 January 2026

Morning session

Strategies for selection of process analysis techniques
Design of experiments
Data pre-processing procedures

Break

Regression analysis procedures for multivariate calibration
Group exercise on process analysis problems

Lunch

Afternoon session

Practical demonstrations: Design of experiments, Multivariate calibration model building for NIR spectroscopy and Advanced Raman spectroscopy

Round up of course and final questions