
# Micro- and Nano-Scale Chemical Analysis using Raman Spectroscopy [SP-15] NEU

**Goal**
This Raman course will provide fundamental knowledge about the linear, non-linear, and near-field Raman spectroscopy methods. Specifically, the following techniques will be covered: confocal Raman spectroscopy, resonance Raman spectroscopy, stimulated Raman spectroscopy, and tip-enhanced Raman spectroscopy. The focus of this course will be on the fundamental principles of these major Raman spectroscopy techniques and their applications in non-destructive and label-free chemical analysis at the micro- and nano-scales.

**Target Group**
Laboratory technicians, chemists, laboratory and group leaders, PhD students in chemical, biological and material sciences
No special prior knowledge of Raman spectroscopy is necessary.

**Contents**
The following topics will be covered:
– Principle of Raman spectroscopy
- Raman spectroscopy techniques: Principles and instrumentation
Linear Raman: Spontaneous Raman spectroscopy and Resonance Raman spectroscopy
Non-linear Raman: Stimulated Raman spectroscopy
Near-field Raman: Tip-enhanced Raman spectroscopy
- Practical applications and examples from academic research and industry
- Laboratory demonstration of micro- and nano-scale Raman measurements
- Analysis and interpretation of hyperspectral Raman data

**Implementation / method of working**
Morning session: Interactive classroom lectures covering principles, instrumentation, and applications of Raman spectroscopy techniques. Lecture notes will be provided.
Afternoon session: Laboratory demonstration of micro and nano-scale Raman measurements, Raman data analysis exercises

## Event Properties

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| **Event Date** | 25.10.2024 09:00 - 25.10.2024 17:00 |
| Capacity | 15 |

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| Registered | 5 |
| Available place | 10 |
| Individual Price | |
| Kurssprache | English |
| Location | |