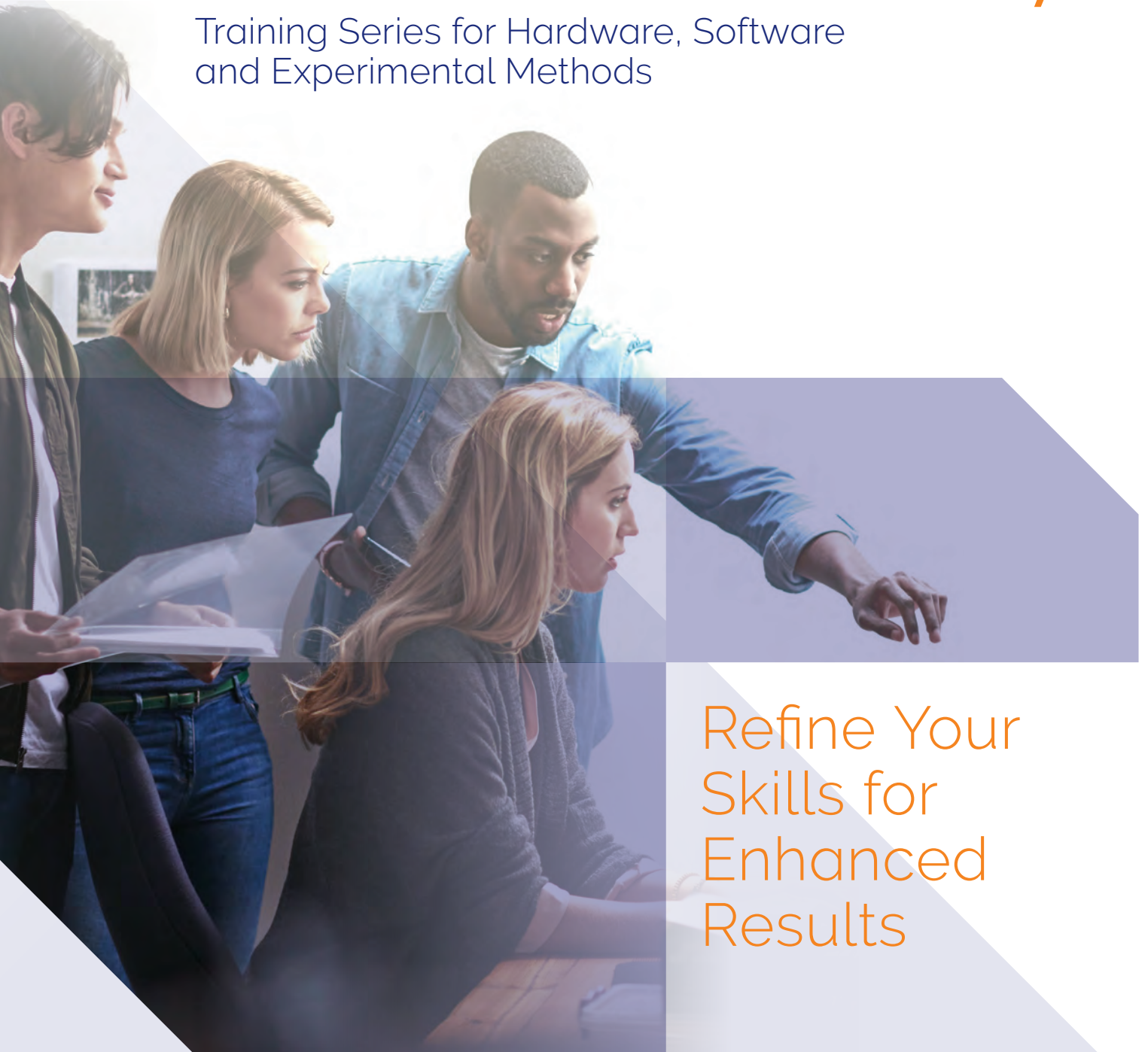


# WITec Academy

Training Series for Hardware, Software  
and Experimental Methods



Refine Your  
Skills for  
Enhanced  
Results

# WITec Academy

WITec Academy is a training program for all instrument and software operations as well as potential applications of the WITec product line. With a course structure that includes basic and advanced elements, it not only addresses novices, but also more experienced users of WITec microscope systems. Through seminars and extensive hands-on training sessions, WITec Academy provides a forum for comprehensive instruction in a variety of confocal Raman imaging and scanning probe microscopy techniques.

COURSE NO. COURSE

## 01 Entry-level instrument and software training for confocal Raman imaging

The entry-level instrument and software training is ideally suited for users new to the alpha300 confocal Raman microscopes who require an introduction to the operational principles of the system. A detailed description of the various components will form the basis for a hands-on session using WITec test samples. An introduction to the WITec software concept will play an important role during the training as thorough software knowledge is essential for successful Raman image generation.

### **BLOCK I** Components and software environment

The first block of the entry-level training will introduce the attendees to all relevant parts of the system and software. This will include a working demonstration of the system, showing the basic alignment and steps necessary to acquire Raman spectra as well as the principles of white-light microscopy.

### **BLOCK II** Introduction to measurement modes and operational principles

In this session, the measurement modes of the system will be introduced. These include acquisition of single spectra, line scans, time series and confocal Raman images in planar and depth scans. The spatial and spectral correlation between the various data objects and the white-light images will be illustrated. Additionally, some basic software evaluation features will be taught.

### **BLOCK III** Hands-on session

Participants will learn to operate the system by themselves under the guidance of WITec scientists. This will include complete alignment of the system as well as trouble-shooting issues. Following this, the participants will perform various measurement tasks on samples supplied by WITec.

## 02 Confocal Raman spectroscopy data and image processing with WITec Project

Our software training course will cover all aspects of spectral data evaluation and image processing with the WITec Project software. The participants will learn in detail how to process the acquired raw data in order to obtain the most presentable images and graphs for successful publication. Topics relevant to each participant's specific focus will be outlined in an "Advanced Individual Data Analysis Tutorial", in which individual measurements will be processed under the guidance of the instructors. Each attendee will work during the course at an individual computer workstation configured with the latest version of the WITec Project software. As the course will mainly cover expert-level features, the participants should have at least a basic knowledge of the WITec Project software environment.

### **BLOCK I** Basics

The first part of the course will provide a brief introduction to the general concept and user interface of the WITec Project data evaluation and image processing software. Basic features of the various "Tool and Action Windows" will be described and demonstrated sequentially, leading to a fundamental understanding of the software's data and image processing principles.

### **BLOCK II** Advanced data and image processing modes

The various analytical features and filter options will be explained in detail during this session. The participants will learn how to apply the different filters and "Drop Actions" to a given data set. This will result in a more thorough understanding of the filter and processing algorithms that produce different graph and image files.

### **BLOCK III** Advanced individual data analysis tutorial

To apply the knowledge of the first two sessions, participants are encouraged to bring their own .wip data sets for a more comprehensive individual analysis under the guidance of the course instructors.

COURSE NO. COURSE

## 03 Advanced instrument operation training for confocal Raman imaging

This one-day training course is intended for experienced users of alpha300 confocal Raman microscopes as it covers expert-level features of the instruments. During individual hands-on sessions, the participants will have the opportunity to discuss and evaluate the requirements for successful Raman measurements on their own samples. Therefore, participants are encouraged to bring a sample for analysis under the guidance of the instructor. Finally, the course will include a "Tips & Tricks" session for the various measurement techniques. Participants should have a working knowledge of the operation of the system as well as the software.

### **BLOCK I** Short review of basic instrument features and operational principles

This first block will review the details of the entry-level training. In particular, the basic alignment and operation of the system along with the standard features of the software will be discussed.

### **BLOCK II** Advanced measurement features

Advanced modes such as polarization-dependent measurement modes, camera options, autofocus and automated measurement tasks will be demonstrated in this session. Switching between different wavelengths will be described and a short course on objective selection will be included.

### **BLOCK III** Individual sample analysis, tips and tricks

For this session, participants are encouraged to bring their own samples along for measurement and analysis. The participants will then measure and evaluate the samples by themselves under the guidance of WITec scientists and have the opportunity to ask questions. This session will conclude with general tips and tricks for microscope handling and data acquisition.

## 04 Advanced instrument operation and software training for AFM and SNOM

This course will include a review of basic instrument features and operational principles for the alpha300 AFM and SNOM microscopes. It will then cover a variety of expert-level software and instrumentation operation topics in AFM and SNOM imaging. During an individual sample analysis session, the participants will learn how to apply advanced operational procedures to their own samples for superior results. Participants should have at least a basic knowledge of the operation of the system as well as the software. They will have the opportunity to ask questions and discuss their applications with WITec scientists.

AFM/SNOM training courses are scheduled upon request. We invite interested customers to contact [events@WITec.de](mailto:events@WITec.de) individually.

# WITec Academy

## Your benefits

Small group sizes guarantee individual attention and thorough instruction. Each course is designed as a full day of training and demonstrations are performed using the latest hardware and software releases. The course fee includes lunch, drinks, training materials and a certificate of attendance.

## WITec Academy formats

Courses are held at WITec headquarters in Ulm, Germany, or in the form of virtual workshops. For online courses, participants will require access to a WITec Raman microscope during the entire training period (except for the Software training course: "Confocal Raman spectroscopy data and image processing with WITec Project"). All courses are presented in English.

## Customized training

For institutions that require on-site individual or group training, WITec can arrange customized training sessions for specific instruments and applications. Please contact us for detailed information.



**WE TAKE CARE** – WITec uses environmentally friendly printed materials. While this policy is only a small contribution to a healthy environment, we at WITec believe that focusing on details can effect positive change in the world.



Reserve your place at WITec Academy.

For dates of upcoming courses, fees and registration, please visit:  
<https://raman.oxinst.com/academy>

## Confocal Raman Imaging Symposium

This annual three-day conference about Raman technology and applications is a great opportunity for members of the international Raman microscopy community to catch up with each other and discuss the newest developments in the field. It is held in Ulm, Germany, each year at the end of September. Renowned scientists from academia and industry present their research in oral presentations and posters that cover various fields of application. The last day features extensive instrument demonstrations and plenty of time for in-depth discussions with both conference participants and WITec scientists. For more information, please visit: [www.raman-symposium.com](http://www.raman-symposium.com)

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