



International Society for Tracer
and Radiation Applications

Volume 05

n e w s l e t t e r

Issue
01/2022

Regional Training Course on Certification in Residence Time Distribution and Column Scanning Techniques

The International Society of Tracers and Radiation Applications (ISTRA) in cooperation with the International Atomic Energy Agency (IAEA) and the National Institute for Nuclear Science and Technology (INSTN) hosted a successful training course in Saclay France from 27 June to 8 July 2022.

Nine participants attended the training course on Certification in Residence Time Distribution and Column Scanning Techniques. The training initially consisted of theoretical teaching of radiation physics and radiation protection basics and then moved on to radioactive tracer and gamma scanning methodologies and technologies. The trainees had the chance to analyze real-life applications in industry and perform basic exercises on the RTD software that was provided. The variety of uses of the forementioned applications in industry was emphasized, as well as the economic benefit for the users and the clients. Additionally, the importance of applying and promoting these techniques to the trainees' home-countries was highly noted

As soon as the basic theoretical training was completed, the hands-on experimental practice took place. The column scanning technique was displayed in laboratory conditions using an x-ray generator and a column with various internal configurations that simulates real-life situations. The trainees made various measurements and analyzed the obtained results in order to get a better understanding of the technique, the signal response and how it is translated into the various internal configurations of the column.



Figure 1. Different configurations of the column for the column scanning experiments.



Figure 2. Injection of Radiotracer for Flow Rate Measurement Experiment



International Society for Tracer
and Radiation Applications

Volume 05

newsletter

Issue
01/2022

Additionally, the flow rate and the residence time distribution of a laboratory arrangement was investigated in various conditions by the use of radiotracer Tc-99m. All of the trainees were educated in the safe use and application of the radiotracer, and had the chance to inject it in the pipes of the laboratory arrangement.

The training course was concluded by the successful examination and Level-2 certification of all nine participants.

Overall, the regional two-week training course was very useful and effective. Important knowledge and skills on Residence Time Distribution and Column Scanning Techniques were acquired by the participants that are now motivated and qualified to start promoting and applying these techniques for industries in their home countries, adding powerful tools to the NDT methods already applied in industry.

Thanks to all the trainers and participants for the effective communication and discussion.



Figure 3. Group photo at the end of the first week of the course



International Society for Tracer
and Radiation Applications

Volume 05

newsletter

Issue
01/2022



Figure 4. Group photo of the second week of the course

text: Iason K. Mitsios, M.Eng., PhD Student at National Technical University of Athens, training course participant
photos: various photographers, training course participants