Digitalization is a very popular modern term which is used in many areas of our everyday life including politics, economics, education and, of course, science and research. But what does it really mean? How does it work? What do we need for proper digitalization? What are the pros and cons of digitalization? How digitalization could help us more efficiently manage data and processes, implement proper solutions for quality management and standardization under ISO DIN, HACCP etc.? What is electronic signature and how it could be used? What is the place of blockchain technologies in digital solutions especially in scientific and research environments? What kind of information systems are in use in academic environments? What are the phases if IT solutions implementation and what is important at each stage? What is audit trail and how it is so important in highly regulated environments?

The workshop is designed in two parts – theoretical and practical. The aim of theoretical part is to give the participants answers to general questions regarding digitalization. Moreover, participants will be introduced into different types of systems for information and data management and electronic documentation – Laboratory Information Management System (LIMS), Electronic Laboratory Notebook (ELN), Laboratory Execution System (LES), Current Research Information System (CRIS). What is common in all these systems and what are main differences and potential areas of application of these systems. How these systems could help in everyday lab and institute routines like ordering, storage and consumption tracking of materials and resources; project management; experiments planning; instruments and equipment booking; planning and documentation of animal experiments; analysis of all lab expenses, budgeting etc. Proper implementation of these systems leads not only to more efficient use of lab and institute resources and money, but also to efficient time management and trouble-shooting, resulting at the end in achievement of main goal of any scientific and research project – cost and time efficient production of high-quality raw data, results and publications.
The second practical part gives participants opportunity to have hands-on experience in usage of some scientific IT-solutions. Participants are welcome to send trainer in advance their questions regarding what to their mind are the most challenging scientific and research routines they would like to optimize. The trainer will try to answer these questions during practical part, if possible, including practical demonstration and examples.