DATA EXPERTS TRAINING PROGRAMME - AUTUMN 2024

Week 1 (23–26 September 2024)

Day 1 (23 Sep): OPEN SCIENCE IN GENERAL

- Fundamentals of open science. - Open science policies. - Open access to scientific publications.	**LECTURER:** Miro Pušnik (CTK)

Day 2 (24 Sep): FORMAL BASIS FOR THE ROLE OF DATA EXPERTS

The role of data experts - Introduction to working with research data. - Characteristics of the profession and activities of data experts. - Defining the role, tasks, and competences of data experts. - A set of tasks for research data management. - Education and skills required for data experts. - Domain-specific aspects of data experts' work. - Formal position of data experts within research organisations. **Data experts in practice** **Developing support services for data experts** **Workshop: Building business models for data experts in different types of institutions**	**LECTURERS:** Dunja Legat (UKM), Bernarda Korez (UKM), Antti Rousi (Aalto University, Finland)

Day 3 (25 Sep): EDUCATION AND INTEGRITY

Planning and delivering education and training for users - Training needs, preparation of training courses, working with researchers. **Ethics and integrity in science** - Reproducibility, data manipulation, quality control. **Untrustworthy publishing practices**	**LECTURERS:** Iryna Kuchma (EIFL, Lithuania), Urša Opara Krašovec (FE UL), Miro Pušnik (CTK)

Day 4 (26 Sep): LEGAL ASPECTS OF OPEN SCIENCE

- Copyright, licences. - Software licensing. - Protection of personal data.	**LECTURERS:** Maja Bogataj Jančič (IPI), Matija Šuklje, Nina Komočar Urbanija (UL)

Week 2 (14–17 October 2024)

Day 5 (14 Oct): RESEARCH DATA LIFE CYCLE 1

Definition and life cycle of research data, FAIR principles. **Design and generation of research data** • Review of existing data and assessment of potential reuse. • Choice of methods, instruments, data to be obtained, measurement parameters ... • Metadata, provenance, raw data, data processing ... **Processing and preparing research data for publication** • Statistical methods and quality assessment. • Encryption, anonymisation, data protection, ethics. • Data organisation, formats ...	**LECTURERS:** Ana Slavec (FAMNIT UP), Irena Vipavc Brvar (ADP, FDV UL), Peter Čerče (ZRS Koper)

Day 6 (15 Oct): RESEARCH DATA LIFE CYCLE 2

Publishing research data • Types of repositories, trustworthy repositories. • Data licences, restrictions on open publishing. • Data journals and data papers. **Publication of other research results** • Software, algorithms, glossaries/thesauri/ontologies. • Licences for software and other research outputs. **Reuse of research data (as a life cycle summary)** **Practical examples of working with research data**	**LECTURERS:** Ana Slavec (FAMNIT UP), Miro Pušnik (CTK), Brane Leskošek (ELIXIR-SI, IBMI, MF UL); workshop: CTK, ZRC SAZU, MF UL

Day 7 (16 Oct): SPECIFIC DATA MANAGEMENT TOPICS FOR INDIVIDUAL ACADEMIC DISCIPLINES (three concurrent sessions)

Natural sciences and engineering • Data formats, metadata, vocabularies, ontologies, taxonomies ... • Provenance and selected topics in natural sciences and engineering. **Social sciences and humanities** • Provenance, metadata, vocabularies, taxonomies ... • Legal and ethical aspects, data publication ... **Medicine and health sciences** • Data formats, metadata, vocabularies and ontologies. • Traceability, archiving, legal and ethical aspects and licensing.	**LECTURERS:** Uroš Kunaver (CTK), Tanja Dreo (NIB), Ana Vučurović (NIB), Matija Krivic (GeoZS), Andrej Pančur (INZ), Irena Vipavc Brvar (ADP, FDV UL**)**, Sonja Bezjak (ADP, FDV UL), Brane Leskošek (ELIXIR-SI, IBMI, MF UL), Nadja Žlender (ELIXIR-SI, IBMI, MF UL) Some lecturers will be announced at a later date.

Day 8 (17 Oct): INFRASTRUCTURE

• National open science infrastructure and regulatory framework. • National Open Science Portal. • Repositories. • Open access scientific publishing platforms and open access scientific journals. • Other digital services and resources needed or generated during research in accordance with the principles of open science. • The European Open Science Cloud (EOSC) and similar platforms and data spaces.	**LECTURERS:** Peter Čerče (ZRS Koper), Milan Ojsteršek (FERI UM), Janez Brezovnik (FERI UM), Irena Vipavc Brvar (ADP, FDV UL), Brane Leskošek (ELIXIR-SI, IBMI, MF UL), Andrej Pančur (INZ), Jonatan Vinkler (UP), Marko Drobnjak (ARNES)

Week 3 (18–21 Nov 2024)

Day 9 (18 Nov): RESEARCH DATA MANAGEMENT PLANS

• Funder requirements. • Drafting of internal acts. • Content of research data management plans. • Tools for preparing research data management plans. • Filling out a model research data management plan and review. • Calculating the costs of appropriate research data management. • Preparation of reports for funders and evaluation of research data management plans.	**LECTURERS:** Miro Pušnik (CTK), Peter Čerče (ZRS Koper), Brane Leskošek (ELIXIR-SI, IBMI, MF UL), Urša Opara Krašovec (FE UL)

Day 10 (19 Nov): DATA ANALYSIS AND MANAGEMENT TOOLS 1

Tools for preparing surveys • Working with databases. **Tools for working with data** • SPSS, Phyton and R, GIS tools, Text Encoding Initiative ... • Selected tools for natural sciences and engineering.	**LECTURERS:** Jerneja Grašič (UKM), Dunja Legat (UKM), Irena Vipavc Brvar (ADP, FDV UL), Maja Zagorščak (NIB), Andrej Pančur (INZ)

Day 11 (20 Nov): DATA ANALYSIS AND MANAGEMENT TOOLS 2

Tools for organising data • Electronic laboratory notebooks. • Tools for managing project data. • Tools for managing workflows.	**CONTRACTORS:** Jana Erjavec (Biosistemika), Marko Petek (NIB), Marko Vidak (ELIXIR-SI, IBMI, MF UL),

Tools for preparing for publication • Versioning, Git, GitHub and GitLab. • Tools for converting data formats and an overview of other tools.	Brane Leskošek (ELIXIR-SI, IBMI, MF UL), Maja Zagorščak (NIB), Katja Meden (INZ), Uroš Kunaver (CTK), Miha Peče (ZRC SAZU)
Day 12 (21 Nov): PRACTICAL WORKSHOPS IN GROUPS/ACADEMIC DISCIPLINES	
Developing a research data management plan Data lifecycle review, research design, repository trustworthiness level assessment, repository selection, metadata selection, data description, updating data management plan during the project, processing and preparation for publication. The workshop will be delivered in three separate sessions for each of the academic disciplines: • social sciences and humanities, • natural sciences and engineering, • biomedical sciences.	**LECTURERS:** ZRC SAZU, ADP, CTK, MF UL, NIB

The training programme reflects the situation as of 26 June 2024 and is subject to change until the training courses are held.