LECTURE 01

Open Science values and principles

Training Course 1:
Open Science is the new norm

Module 01:
Fundamentals of Open Science

LECTURE 02

FAIR Principles and their role in Open Science

Training Course 1:
Open Science is the new norm

Module 01:
Fundamentals of Open Science

LECTURE 01

Societal and Economic impact of Citizen Science from Galileo to post-truth populism

Training Course 1:
Open Science is the new norm

Module 02:
Open Science and Society

LECTURE 02

Societal Impact of Open Science - Real-life examples

Training Course 1:
Open Science is the new norm

Module 02:
Open Science and Society

LECTURE 01

Open Science: Benefits for scientific progress

Training Course 1:
Open Science is the new norm

Module 03:
Open Science is Essential for Advancing Research and Innovation

LECTURE 02

Open Science in Practice (optional)

Training Course 1:
Open Science is the new norm

Module 03:
Open Science is Essential for Advancing Research and Innovation

LECTURE 01

Closed Science: A Historical Perspective and Negative Consequences

Training Course 1:
Open Science is the new norm

Module 04:
Open Science vs. Closed Science

LECTURE 02

Challenges and Ethical Dilemmas in Closed Science

Training Course 1:
Open Science is the new norm

Module 04:
Open Science vs. Closed Science

LECTURE 03

The Economic Impact of Closed Science vs Open Science

Training Course 1:
Open Science is the new norm

Module 04:
Open Science vs. Closed Science

LECTURE 04

Building a Culture of Openness

Training Course 1:
Open Science is the new norm

Module 04:
Open Science vs. Closed Science

LECTURE 01

Fostering Research Integrity and Reproducibility

Training Course 1:
Open Science is the new norm

Module 05:
Accountability and Transparency in Open Science

LECTURE 01

Overview of the legal regulatory framework on Personal Data, Non-Personal Data and Intellectual Property

Training Course 2:
ELSI and Data Governance

Module 06:
Legal and Ethical Frameworks and Considerations in Open Science

LECTURE 02

Landscaping Ethical Issues in Open Science

Training Course 2:
ELSI and Data Governance

Module 06:
Legal and Ethical Frameworks and Considerations in Open Science

LECTURE 01

Open Science and Non-personal Data

Training Course 2:
ELSI and Data Governance

Module 07:
Open Science under the EU Data Regulatory Framework

LECTURE 02

Personal Data in Open Science

Training Course 2:
ELSI and Data Governance

Module 07:
Open Science under the EU Data Regulatory Framework

ADDITIONAL READING

Guidelines for Writing a Privacy Policy in Research Projects

Training Course 2:
ELSI and Data Governance

Module 07:
Open Science under the EU Data Regulatory Framework

LECTURE 01

Planning the FAIRification of data

Training Course 2:
ELSI and Data Governance

Module 08:
Data Governance and Legislative Strategies for FAIR Research

LECTURE 02

Identifying practical “how to” tools to go FAIR

Training Course 2:
ELSI and Data Governance

Module 08:
Data Governance and Legislative Strategies for FAIR Research

LECTURE 01

Policy, Evidence and Evidence-Informed Decision Making

Training Course 3:
Introduction to Evidence-informed Decision-making

Module 09:
Open Science and Evidence-informed Decision Making

LECTURE 02

Stakeholders involved in Evidence-Informed Decision Making

Training Course 3:
Introduction to Evidence-informed Decision-making

Module 09:
Open Science and Evidence-informed Decision Making

ADDITIONAL READING

Guidelines and Best Practices for Honest Brokers

Training Course 3:
Introduction to Evidence-informed Decision-making

Module 09:
Open Science and Evidence-informed Decision Making

LECTURE 01

Open Science Outputs in Decision-Making

Training Course 2:
ELSI and Data Governance

Module 10:
Evidence-informed decision making – outputs and tools

LECTURE 02

Data Science Algorithms in Practice

Training Course 2:
ELSI and Data Governance

Module 10:
Evidence-informed decision making – outputs and tools

LECTURE 03

Interpreting Statistics for Insights

Training Course 2:
ELSI and Data Governance

Module 10:
Evidence-informed decision making – outputs and tools

LECTURE 01

Open Science Stakeholders

Training Course 4:
Open Science Stakeholders
and Collaboration Strategies

Module 11:
Open Science and its Stakeholders

LECTURE 01

Creating a Collaborative Culture

Training Course 4:
Open Science Stakeholders
and Collaboration Strategies

Module 12:
Collaboration Strategies for Stakeholders

LECTURE 02

Collaboration Impact

Training Course 4:
Open Science Stakeholders
and Collaboration Strategies

Module 12:
Collaboration Strategies for Stakeholders

LECTURE 03

Case studies of successful collaboration on Open Science

Training Course 4:
Open Science Stakeholders
and Collaboration Strategies

Module 12:
Collaboration Strategies for Stakeholders

LECTURE 04

Role of open science in fostering collaboration among researchers, practitioners, and the public

Training Course 4:
Open Science Stakeholders
and Collaboration Strategies

Module 12:
Collaboration Strategies for Stakeholders

LECTURE 05

Communicating Uncertainty

Training Course 4:
Open Science Stakeholders
and Collaboration Strategies

Module 12:
Collaboration Strategies for Stakeholders

LECTURE 06

Data Visualisation and Storytelling

Training Course 4:
Open Science Stakeholders and Collaboration Strategies

Module 12:
Collaboration Strategies for Stakeholders

LECTURE 01

The role of funding in promoting Open Science practices

Training Course 5:
Empowering the Future of Research with Open Science

Module 13:
Investing in Open Science

LECTURE 01

Understanding Capacity Building in Open Science

Training Course 5:
Empowering the Future of Research with Open Science

Module 14:
Capacity Building and Training Programs in Open Science

LECTURE 02

Institutional Support for Capacity Building – Challenges and Best Practices

Training Course 5:
Empowering the Future of Research with Open Science

Module 14:
Capacity Building and Training Programs in Open Science

LECTURE 01

Introduction to AI

Training Course 5:
Empowering the Future of Research with Open Science

Module 15:
Open Science and Artificial Intelligence

LECTURE 02

AI and Open Science

Training Course 5:
Empowering the Future of Research with Open Science

Module 15:
Open Science and Artificial Intelligence

LECTURE 03

AI in evidence-informed decision making

Training Course 5:
Empowering the Future of Research with Open Science

Module 15:
Open Science and Artificial Intelligence

LECTURE 01

Introduction to Open Science Policies

Training Course 6:
Open science policies support open science practices

Module 16:
Open Science Policies

LECTURE 01

Open Science Policies support Open Science Practices: Stakeholders

Training Course 6:
Open science policies support open science practices

Module 17:
Open Science Policies support Open Science Practices

LECTURE 02

Open Science policies support Open Science Practices: Impact

Training Course 6:
Open science policies support open science practices

Module 17:
Open Science Policies support Open Science Practices

LECTURE 03

Challenges of Implementing and Barriers to adopting Open Science

Training Course 6:
Open science policies support open science practices

Module 17:
Open Science Policies support Open Science Practices

LECTURE 04

Cultural Changes required for Open Science Adoption

Training Course 6:
Open science policies support open science practices

Module 17:
Open Science Policies support Open Science Practices

LECTURE 05

Responsible Research Assessment Movement

Training Course 6:
Open science policies
support open science practices

Module 17:
Open Science Policies
support Open Science Practices

LECTURE 06

Open Science Infrastructures

Training Course 6:
Open science policies
support open science practices

Module 17:
Open Science Policies
support Open Science Practices

LECTURE 01

Open Science Workflows

Training Course 7:
Implementing Open Science Policies

Module 18:
Implementing Open Science Policies

LECTURE 01

Designing Open Science policies in practice

Training Course 7:
Implementing Open Science Policies

Module 19:
From developing to evaluating
Open Science policies

LECTURE 01

Adapt policies based on new evidence and changing circumstances

Training Course 7:
Implementing Open Science Policies

Module 20:
Open Science Policies Adaptation

ACTIVITY

Exploring the Impact of Open Science

Main Goal: Communicate the real-world benefits of Open Science.

Short Description: Participants select and analyze examples from the course, then craft a narrative to convey their impact to a target audience.

ACTIVITY

Case Study on Ethical Dilemmas in Closed Science

Main Goal: Analyze ethical challenges in closed science.

Short Description: Participants examine real-world cases where lack of transparency led to ethical concerns and discuss possible solutions.

ACTIVITY

I, AI - Ethical Debates and Policy Decisions for the EU In the light of the Development of Conscious AI

Main Goal: Debate policy solutions for emerging AI challenges.

Short Description: Participants engage in a futuristic scenario to assess the implications of conscious AI, discuss regulation, and propose strategies at the EU level.

ACTIVITY

Exploring the Role of Honest Brokers in Real-Life Decision Making

Main Goal: Examine the challenges faced by honest brokers in science-policy interactions.

Short Description: Participants study a real-world case on knowledge brokerage in environmental decision-making, reflect on key challenges, and reflect on how Open Science could improve the process.

ACTIVITY

Reflecting on Key Challenges of Honest Brokers

Main Goal: Explore the challenges faced by Honest Brokers in science-policy mediation and identify strategies to address them.

Short Description: Participants discuss in groups challenges like time constraints, consensus-building, and trust, then reflect on challenges and strategies.

ACTIVITY

Open Data Science Tutorial

Main Goal: Learn basic data analysis techniques to understand and predict outcomes in real-world scenarios.

Short Description: Participants work with a sample dataset to explore trends, find connections between data, and make predictions using simple statistical methods.

ACTIVITY

Organise a “Coffee with Open Science” Session

Main Goal: Develop skills in stakeholder identification and policy discussion facilitation in Open Science.

Short Description: Participants organize a “Coffee with Open Science” session in groups, by selecting a relevant topic, identifying key stakeholders, and justifying their participation in policy discussions.

ACTIVITY

Guidelines for communication with policy makers

Main Goal: Practice crafting effective messages for policymakers.

Short Description: Participants select a policymaking scenario, develop a key message for the target group, and apply communication strategies to engage policymakers effectively.

ACTIVITY

Focus on… Verbal communication of uncertainty in practice

Main Goal: Develop skills to communicate research uncertainty effectively to different audiences.

Short Description: Participants take on different stakeholder roles to practice verbal communication strategies for conveying research uncertainty.

ACTIVITY

Advocating for Open Science

Main Goal: Strengthen advocacy and communication skills by crafting arguments to promote Open Science to funders.

Short Description: Participants learn to identify funder priorities and craft compelling arguments for Open Science, with a live role-play session where groups pitch to different types of funders.

ACTIVITY

Sharing Best Practices and Challenges in Open Science Capacity Building

Main Goal: Reflect on Open Science capacity-building initiatives and identifying transferable strategies and challenges.

Short Description: Participants will share examples of Open Science capacity-building initiatives from their own contexts, analyze outcomes, and identify strategies for improvement and scaling up initiatives.

ACTIVITY

Analysing an Open Science Policy

Main Goal: Develop the ability to critically analyse Open Science policies, and assess their strengths and weaknesses.

Short Description: Participants select and analyse an Open Science policy, comparing it against a reference document on key Open Science elements.

ACTIVITY

Case studies of Open Science policy development and implementation

Main Goal: Analyze real-world Open Science policy case studies to identify stakeholders, key topics, and implementation challenges.

Short Description: Participants select and reflect on a case study of Open Science policy, then engage in group discussions to analyze stakeholders, topics, and implementation challenges.

ACTIVITY

Barriers to Open Research

Main Goal: Identify and propose solutions to barriers hindering Open Science practices.

Short Description: Participants explore barriers to Open Science in areas like competitive advantage, publication, and data reuse, proposing solutions.

ACTIVITY

Designing an Open Science Workflow

Main Goal: Design Open Science workflows to explore the integration of Open Science practices in varying research scenarios.

Short Description: Participants design three research workflows (ideal, difficult, and easy) incorporating Open Science practices across seven research steps, followed by a reflection on their choices and implementation feasibility.

ACTIVITY

Evaluating Key Performance Indicators (KPIs) in Open Science

Main Goal: Critically evaluate Key Performance Indicators (KPIs) to understand their practical relevance and impact in Open Science.

Short Description: Participants review examples of KPIs in Open Science, reflect on the most significant and feasible ones, and discuss how to measure their effectiveness in real-world contexts.