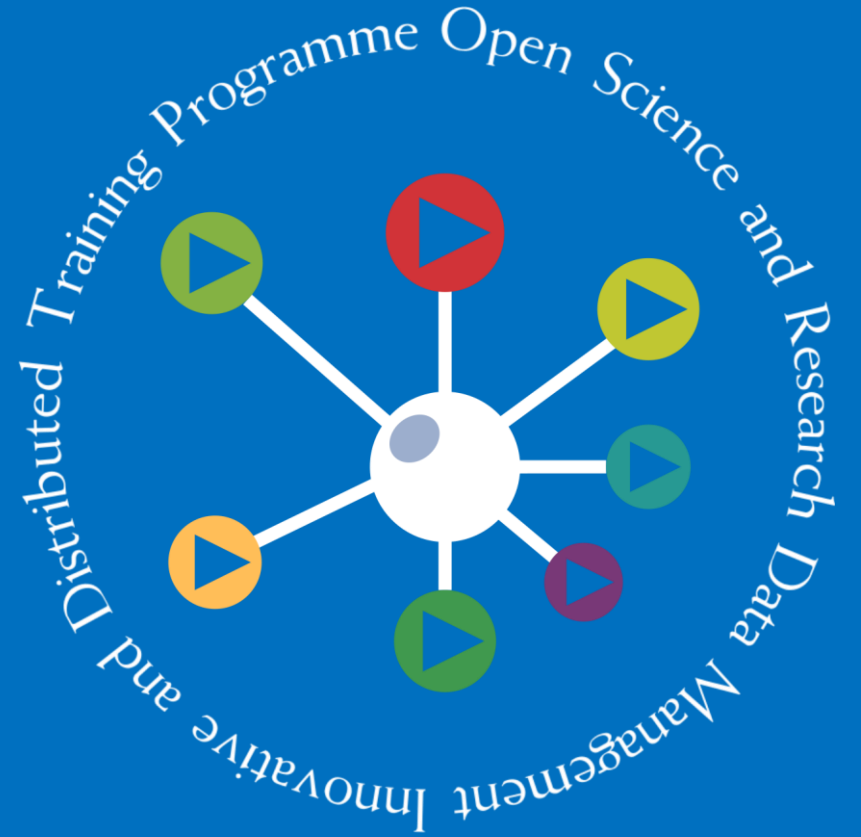


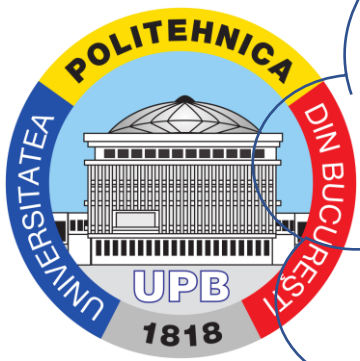
**Transnational Project Meeting
- TPM & Further -**

**14 September 2022
Rome**

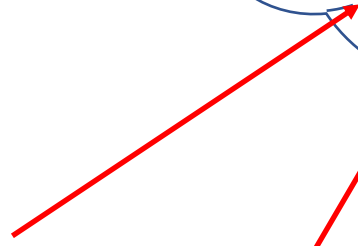


Can we have at least this?

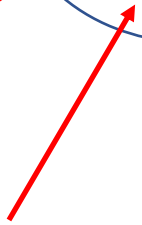
Easy to have
Can work for a comon curricula
like the one for Reproducibility
Science
Not working when already
existing materials need to be
moved somewhere else (IPR /
GDPR?)



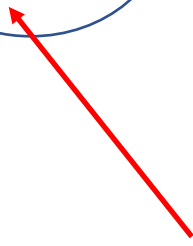
National
College of
Ireland



TECHNISCHE
UNIVERSITÄT
WIEN



SAPIENZA
UNIVERSITÀ DI ROMA



What would have been nice to have...

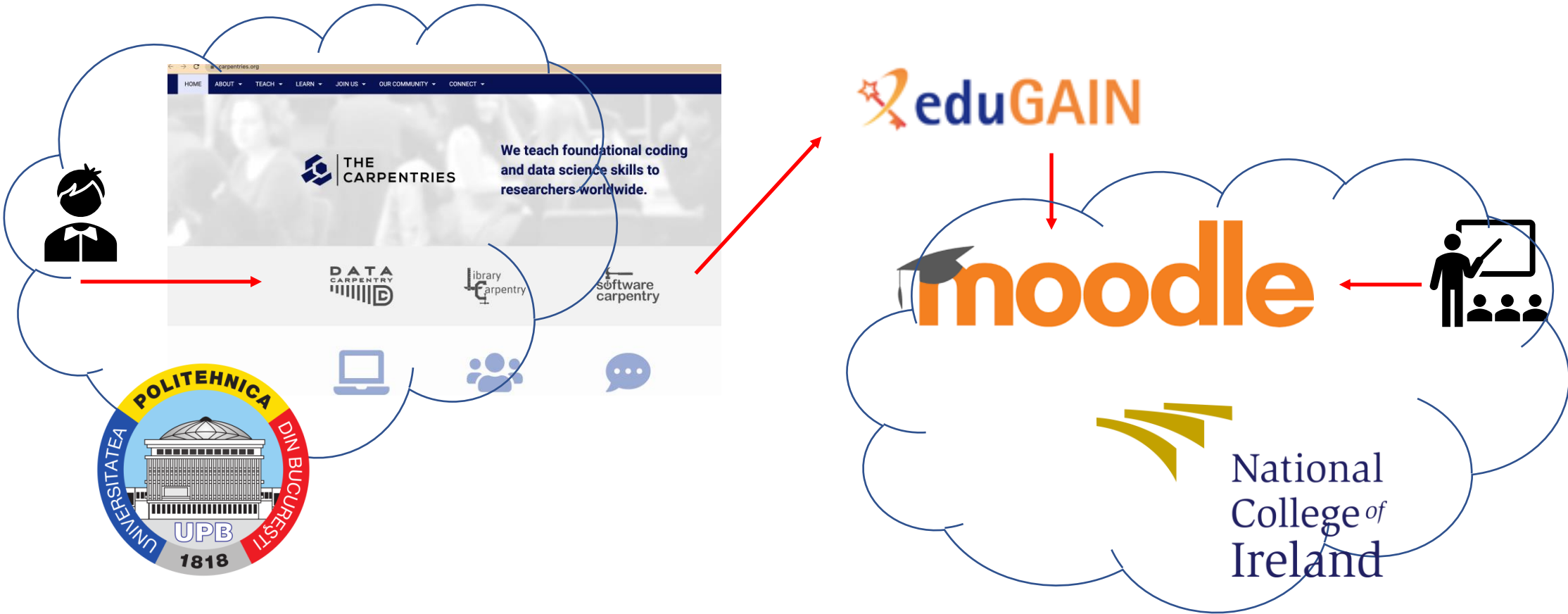
It solves IPR and security aspects....



Student admitted at NCI, can now follow the class at UPB



And a catalogue of classes / modules





ELLISA Catalogue of Classes
- joint OS curricula -

- 1. Introductory to OS
- 2. IPR and Ethics
- 3. Open Data / RDM
- 4. Research Methodologies
- 5. OS Engineering
- 6. Advanced OS Topics

What is Open Science
Open Access and the Funders' strategy
Research Data Management e FAIR
Data
How to write a Data Management Plan
How to use the institutional Repository
IRIS
Information webinars on Open Science
dedicated to post-doc fellows and
researchers.



Human Rights and Global Politics



Research Software & Data Formats in the Humanities & Social Sciences:
https://www.studon.fau.de/studon/goto.php?target=lm_2993840
Data Management Plans & RDMO:
https://www.studon.fau.de/studon/goto.php?target=lm_2993053 Search & reuse research data:
https://www.studon.fau.de/studon/goto.php?target=lm_2994018



Open Science by ITU Library
relevant to the PhD. Seminars.



Big Data
OS Engineering


We could link our actions even further...

Institutional repositories



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The world's leading open source data management system

 [ckan](#)

CKAN is an open-source DMS (data management system) for powering data hubs and data portals. CKAN makes it easy to publish, share and use data. It powers hundreds of data portals worldwide.

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Powering open data at:



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Open source research data repository software



Researchers

Enjoy full control over your data. Receive *web visibility*, *academic credit*, and *increased citation counts*. A personal Dataverse collection is easy to set up, allows you to display your data on your personal website, can be branded uniquely as your research program, makes your data more discoverable to the research community, and satisfies data management plans. [Want to set up your personal Dataverse collection?](#)

What about Invenio?

Log out

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TU WIEN

Type and press enter to search.

Welcome to TU Data Repository

TU Data Repository is an institutional service of TU Wien to enable storing, sharing and publishing of digital objects, in particular research data. It facilitates the funders' requirements for open access to research data and the FAIR principles by making research output findable, accessible, interoperable and re-usable. This service is developed by the **TU Wien Center for Research Data Management** and hosted by **TU.it**.

Please note that this service is still under development and has limited functionality. We will add more functionality as development progresses.

Deposit Search FAQ Contact

Recent Uploads

ORCAS-I

Kusa, Wojciech ; Alexander, Daria ; de Vries, Arjen P.

2022-04-22 (1.0.0) Dataset Open

ORCAS-I is an annotated version of ORCAS dataset (Craswell et al., 2020) annotated with user intents using weak supervision. It allows you to train your algorithm on various types of user intents. Those intents are initially taken from Broder's (2002) classification: informational, navigational...

Computer and information sciences Information retrieval Index tagging Weak supervision

Upload data

Uploaded on April 22, 2022

FAIR for Sensitive Data

Mayer, Rudolf ; Sarcovic, Tanga ; Ekoputra, Fajar J. ; Wattersdorfer, Laura ; Eisehart, Andreas ; Miksa, Tomasz ; Sanders, Gerald

2022-03-29 (1.0) Presentation Open

Materials (presentations and video) of the online webinar FAIR for Sensitive Data, organized by the FAIR Office Austria on March 23, 2022. The goal of the webinar was to inform researchers on technical and legal aspects and hands-on practices when working with sensitive data. The workshop...

FAIR Medical and health sciences Accessibility Content

Uploaded on March 29, 2022

RT-Percept Sun Temple

Cardoso, Joao Afonso

2022-03-24 Dataset Open

Pre-rendered dataset used in Training and Predicting Visual Error for Real-Time Applications for the Sun Temple scene. Generated using the RT-Percept renderer and the RT-Percept scenes.

Uploaded on March 25, 2022

RT-Percept Sibenik Cathedral

Cardoso, Joao Afonso

2022-03-24 Dataset Open

Pre-rendered dataset used in Training and Predicting Visual Error for Real-Time Applications for the Sibenik Cathedral scene. Generated using the RT-Percept renderer and the RT-Percept scenes.

Uploaded on March 25, 2022

RT-Percept Lumberyard Bistro

Cardoso, Joao Afonso

2022-03-24 Dataset Open

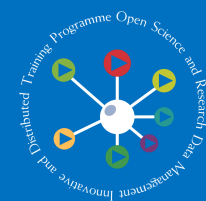
Pre-rendered dataset used in Training and Predicting Visual Error for Real-Time Applications for the Lumberyard Bistro scenes. Generated using the RT-Percept renderer and the RT-Percept scenes.

Uploaded on March 25, 2022

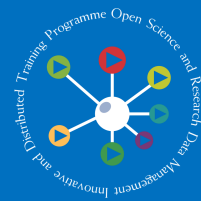
More

powered by INVENIO RDM enabled by FAIR DATA AUSTRIA

POLICIES TERMS OF USE DATA PROTECTION DECLARATION CONTACT



For the Labs – reproducible Science

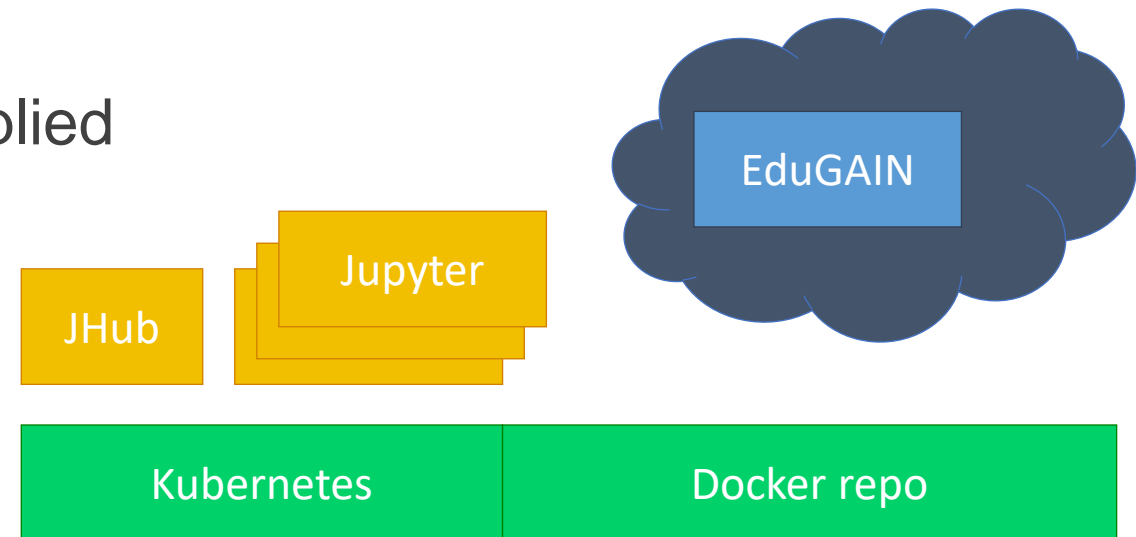


- ✿ Jupyter Notebooks and JupyterHub give users access to computational environments and resources without the hassle of installation and maintenance tasks.
 - ✿ Jupyter Notebooks are web-based interactive computational environments that are pre-provisioned with course material.
 - ✿ JupyterHub gives users access to computational environments and resources without burdening the users with installation and maintenance tasks.
- ✿ Students connect — each to their own copy of the environment — and develop content as directed, often writing short segments of code.

```
jupyter PS1_demo Last Checkpoint: 03/22/2019 (autosaved)
File Edit View Insert Cell Kernel Help
+ < > Run C > Markdown < >
PS1 star/galaxy and distance analysis
First import matplotlib and numpy
In [1]: import mysql.connector
        %matplotlib inline
        import matplotlib.pyplot as plt
        import numpy as np
Connect to database.
Then run the query on
sgscore1 (star/galaxy parameter for nearest PS1 source, and
distpsnr1 (distance of nearest PS1 source)
Query excludes the value sgscore1=0.5, meaning NaN
And we use the standard criterion for "good" candidates.
Limit to 100000 results for demo so that it runs in reasonable time.
In [7]: from ztf import settings
        msl = mysql.connector.connect(\
            user =settings.DB_USER, \
            password=settings.DB_PASS, \
            host =settings.DB_HOST, \
            database='ztf')
        cursor = msl.cursor(buffered=True, dictionary=True)
        query = 'SELECT sgscore1,distpsnr1 from candidates where '
        query += 'sgscore1 > 0.0 and sgscore1 <> 0.5 '
        query += 'and rb >= 0.65 and nbad = 0 and fwhm <= 5 and elong <= 1.2 and abs(magdiff)
        cursor.execute(query)
        n = cursor.rowcount
        print ('found %d candidates' % n)
found 100000 candidates
```


Jupyter Notebooks in the Classroom

- ❁ Strong potential as a teaching tool for both specific course content and programming languages
 - ❁ Flexibility for instructors and students
 - ❁ Accessible coding environment
- ❁ Highly relevant for investigations in applied academic research



And the process continues...

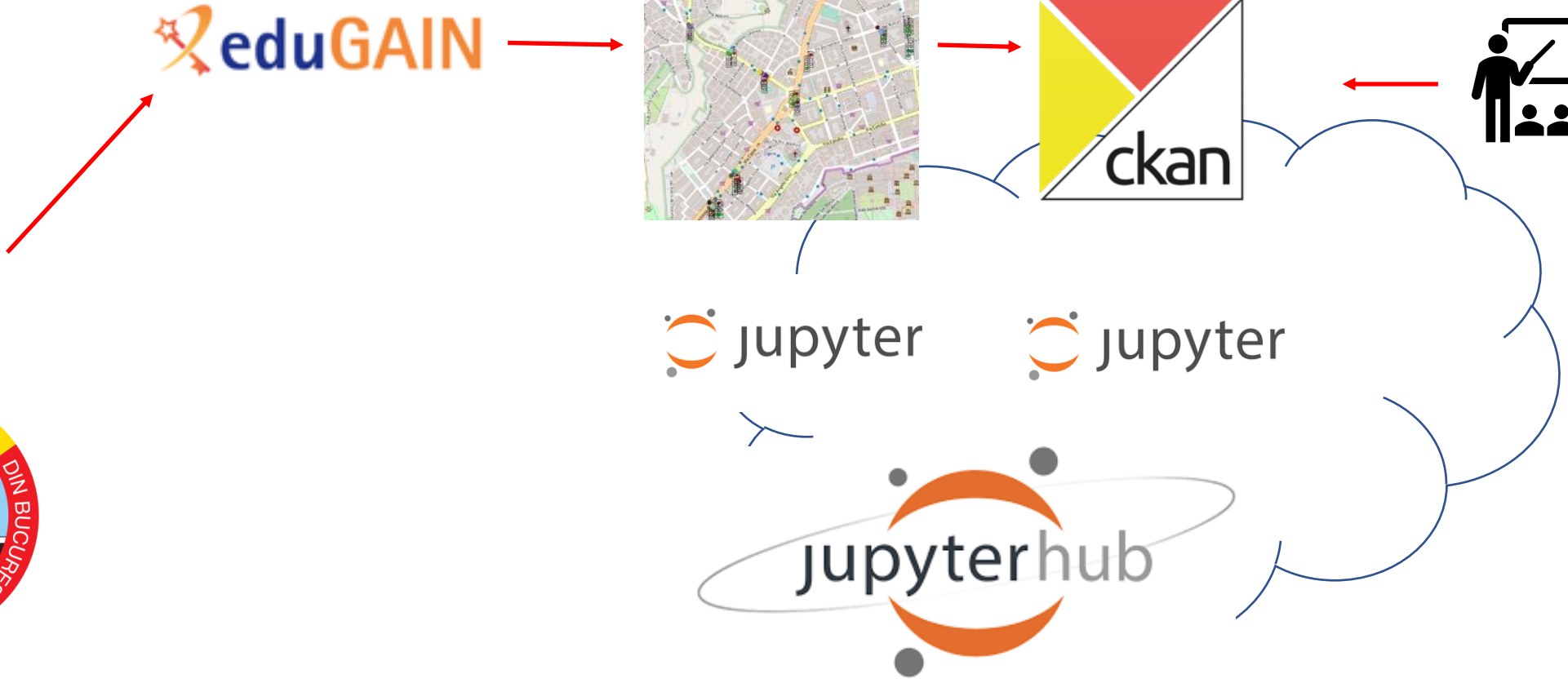


eduGAIN



jupyter

jupyter



March events @UPB

We started with week-school



<p>Centro Saperi & Co</p> <p>UPB/Dana-Violeta-GHEORGHE: Open Concepts and Principles, Open Access to Published Research Results</p> <p>UPB/Cătălin-NEGRU: Open Research Data and Materials (Part I)</p>	<p>Centro Saperi & Co</p> <p>TUWIEN/Martin-Weise: Repositories for Research Data and Trusted Research Environments</p>	<p>Centro Saperi & Co</p> <p>NCI/John-BOHAN: Data Governance and Data Management</p>	<p>Centro Saperi & Co</p> <p>ICI/Ciprian-DOBRE: Research project: Reproducible science using Jupyter Notebooks (intro on tools)</p>	<p>Centro Saperi & Co</p> <p>La Sapienza/Giulia-ANTINUCCI: Introduction to the topic</p> <p>Andrea-RICCIO: Open Innovation for HEIs - How universities can implement and benefit from OI</p>
<p>Coffee Break</p> <p>UPB/Cătălin-NEGRU: Open Research Software and Open (Part II)</p> <p>UPB/Radu-CIOBANU: Reproducible Research and Data Analysis, Open Licensing and File</p>	<p>Coffee Break</p> <p>TUWIEN/Samah-Jaber: FAIR Data Management</p>	<p>Coffee Break</p> <p>NCI/Vanessa-AYALA-RIVERA: Privacy and Data Protection</p>	<p>Coffee Break</p> <p>UPB/Radu-CIOBANU and Silviu-PANTELIMON: Reproducible science using Jupyter Hub and Binder</p>	<p>Coffee Break</p> <p>La Sapienza/Paola-CIACCIA: The exploitation of research results: from patent filing to academic entrepreneurial culture</p> <p>La Sapienza/Cristina-Di-GIOVANCARLO: POCs: an academic model of IPR Investment</p>
<p>Lunch Break</p> <p>ICI/Ciprian-DOBRE: Collaborative Platforms</p>	<p>Lunch Break</p> <p>TUWIEN/Maximilian-MOSER & Sotirios-TSEPELAKIS: InvenioRDM</p>	<p>Lunch Break</p> <p>NCI/John-BOHAN: Ethical Issues Pertaining to Data</p>	<p>Lunch Break</p> <p>ICI/Ciprian-DOBRE: Research project: Reproducible science using Jupyter Notebooks (statistical/data analytics)</p>	<p>Coffee Break</p> <p>Andrea-RICCIO: Case study: The RRIstart project - a novel model for responsible startups and impact</p>
<p>Coffee Break</p> <p>UPB: Practice and exercise</p>	<p>Coffee Break</p> <p>TUWIEN/Maximilian-MOSER & Sotirios-TSEPELAKIS: Software Licenses</p> <p>TUWIEN/Tomasz-Miksa (online): Data Management Plans (DMPs)</p>	<p>Coffee Break</p> <p>NCI/Michael-BRADFORD: Fairness, Accountability, and Transparency of Algorithmic Systems</p>	<p>Coffee Break</p> <p>All partners and participants: Practice and exercise on tools for Reproducible science</p>	<p>Coffee Break</p> <p>Andrea-RICCIO: Tools for Open Innovation - Canvas, Theory of Change, PEST model, crowdfunding</p>

Proposal for the organisation of March events



27-31 March

- Monday: TrainRDM PhD Training (UPB) / Meeting Invenio (workshop with TU Wien)
- Tuesday: TrainRDM PhD Training (TU Wien) / SMARDY meeting
- Wednesday: TrainRDM PhD Training (Sapienza Italy) / TrainRDM TPM
- Thursday: TrainRDM PhD Training (NCI) / EELISA InnoCore WP3 workshop
- Friday: EELISA Open Science Forum / TrainRDM Multiplier Event (coupled events)

TrainRDM Training Week for PhD



	Monday 27.03.2023	Tuesday, 28.03.2023	Wednesday, 29.03.2023	Thursday, 30.03.2023
Venue	UPB, Spl. Independentei 313, PRECIS Building, PR606	UPB, Spl. Independentei 313, PRECIS Building, PR606	UPB, Spl. Independentei 313, PRECIS Building, PR606	UPB, Spl. Independentei 313, PRECIS Building, PR606
09:00 – 10:30	UPB/Dana Violeta GHEORGHE: Open Concepts and Principles, Open Access to Published Research Results UPB/Cătălin NEGRU: Open Research Data and Materials (Part I)	TU WIEN/Samah JABER: The FAIR Principles	La Sapienza/ Giulia ANTINUCCI: Introduction to the topic Andrea RICCIO: Open Innovation for HEIs - How universities can implement and benefit from OI	NCI/John BOHAN: Data Governance and Data Management
10:30 – 11:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:00 – 12:30	UPB/Cătălin NEGRU: Open Research Software and Open (Part II) UPB/Radu CIOBANU: Reproducible Research and Data Analysis, Open Licensing and File	TU WIEN/Christiane STORK: Introduction into Data Management Planning (Part I) TU WIEN/Elise HARDER: The Role of Persistent Identifiers in the Research Context	La Sapienza / Paola CIACCIA: The exploitation of research results: from patent filing to academic entrepreneurial culture La Sapienza / Cristina Di GIOVANCARLO: POCs: an academic model of IPR Investment	NCI/Vanessa AYALA-RIVERA: Privacy and Data Protection NCI/Presenter tbd: Ethical Issues Pertaining to Data
12:30 – 13:30	Lunch Break	Lunch Break	Lunch Break	Lunch Break
13:30 – 14:30	ICI&UPB/Ciprian DOBRE: Collaborative Platforms	TU WIEN/Christiane STORK: Introduction into Data Management Planning (Part II including practical exercise)	Andrea RICCIO: Tools for Open Innovation - Canvas, Theory of Change, PEST model, crowdfunding	NCI/Michael BRADFORD: Fairness, Accountability, and Transparency of Algorithmic Systems
14:30 – 15:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break
15:00 – 17:00	UPB: Practice and exercise	ICI/Ciprian DOBRE: Research project: Reproducible science using Jupyter Notebooks (intro on tools)	UPB/Radu CIOBANU and Silviu PANTELIMON: Reproducible science using Jupyter Hub and Binder	ICI/Ciprian DOBRE: Research project: Reproducible science using Jupyter Notebooks (statistical/data analytics)

Master @NCI

Going forward... First steps... Cluster Master programmes



Table 3.1: Matrix of Competencies per Partner

Competency	UPB	TUW	NCI	DTSL	SAPIENZA	ICI
Data Management Plan		✓				✓
Research Ethics		✓	✓		✓	
Data Stewardship		✓				✓
Data Protection		✓	✓			
IPR		✓				
FAIR	✓	✓	✓	✓	✓	
Data Visualisation		✓				
Data Analytics	✓		✓			
Federated Content Management Systems	✓		✓			
GDPR	✓		✓			
Open Innovation				✓	✓	
Open Science	✓					✓
Open Source				✓		✓

Figure 4.1: 90-credit MSc in Research Data Management: Proposed Structure

Ex., for Data Compliance & Ethics



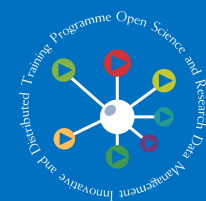
Topic	Lecture Topic	Lecture Detail
1	Data Governance and Data Management I	Data governance and data management; Data management principles; Data lifecycle; Data quality; Data provenance; Data integrity and security
2	Data Governance and Data Management II	Data governance frameworks; Data governance within the DAMA Wheel; Policies, principles, rules, procedures, and standards; Data governance operating models and tools
3	Data Governance and Data Management III	Roles and responsibilities; Maturity levels; Ladley's 8-phase implementation process for data governance; Data risk identification and management
4	Privacy and Data Protection I	Brief history of human rights; Privacy and confidentiality; Sources of rights: Universal declaration of human rights, European Convention on Human Rights, EU Charter of Fundamental Rights; Types of EU legislation
5	Privacy and Data Protection II	National law; General Data Protection Regulation Scope; Personal data; Legitimate bases for data processing; Data protection principles; Data subject rights; Privacy by design and by default
6	Privacy and Data Protection III	Data protection impact assessment; Issues of consent; Supervision and enforcement; Data protection in practice including international transfers, surveillance, cloud computing, and auditing
7	Ethical Issues Pertaining to Data I	Personal, professional, societal, and legal morality; Branches of normative ethics (deontology, utilitarianism, virtue theory, social justice, etc.); IT Ethics including spam, censorship and free speech, anonymity, cyberbullying, copyright, etc.
8	Ethical Issues Pertaining to Data II	Frameworks for ethical design and decision making (e.g., Ethical Impact Assessment, The data ethics canvas); Ethics in Research: considerations Before, During, and After; Codes of ethics and professional conduct (e.g., ACM)
9	Ethical Issues Pertaining to Data III	Ethic concerns in health technology, Pervasive monitoring and tracking; Image, video and sound capture; Perpetuity of data storage
10	Fairness, Accountability, and Transparency of Algorithmic Systems I	The meaning of fairness with respect to algorithmic systems; Unconscious Bias and techniques to address/reduce it; Perceptions of algorithmic bias and unfairness; Interventions to mitigate biases in systems, or discourage biased behaviour from users; Fairness-aware machine learning and data mining; Methods, tools, and standards for ensuring that algorithms comply with fairness policies (e.g., IEEE P7003 TM).
11	Fairness, Accountability, and Transparency of Algorithmic Systems II	The meaning of accountability with respect to algorithmic systems; Processes and strategies for developing accountable systems; Principles and frameworks for accountable algorithms.
12	Fairness, Accountability, and Transparency of Algorithmic Systems III	The meaning of transparency with respect to algorithmic systems; Trade-offs between privacy and transparency; Tools and methodologies for conducting algorithm audits (e.g., Algorithmic Impact Assessments).

For Open Science



ID	Course Title	Topic
Course I (5 ECTS)	Open Science	Open Concepts and Principles
		Open Access to Published Research Results
		Open Science Policies
Course II (5 ECTS)	Open Data	Open Research Data and Materials
		Open Research Software and Open Source
		Open Licensing and File Formats
Course III (5 ECTS)	OS Engineering	Reproducible Research and Data Analysis
		Collaborative Platforms
		Open Advocacy
Course IV (5 ECTS)	OS Advanced topics	Open Peer Review Metrics and Evaluation
		Citizen Science
		Open Educational Resources

For RDM



ID	Course Title	Topic
Course I (5 ECTS)	FAIR Data Management	Introduction into RDM
		Introduction into FAIR
		Data management plans (DMP)
Course II (4 ECTS)	Processing Data	Documentation
		File formats
		Metadata
		Data standardisation and ontologies
Course III (4 ECTS)	Making Data Available	Persistent identifiers (PIDs)
		Licences, copyright and intellectual property rights (IPR) issues
		Repositories
Course IV (2 ECTS)	RDM Advanced Topics	Dealing with confidential, personal, sensitive & private data
		FAIR software/citable code

For Data Compliance & Ethics



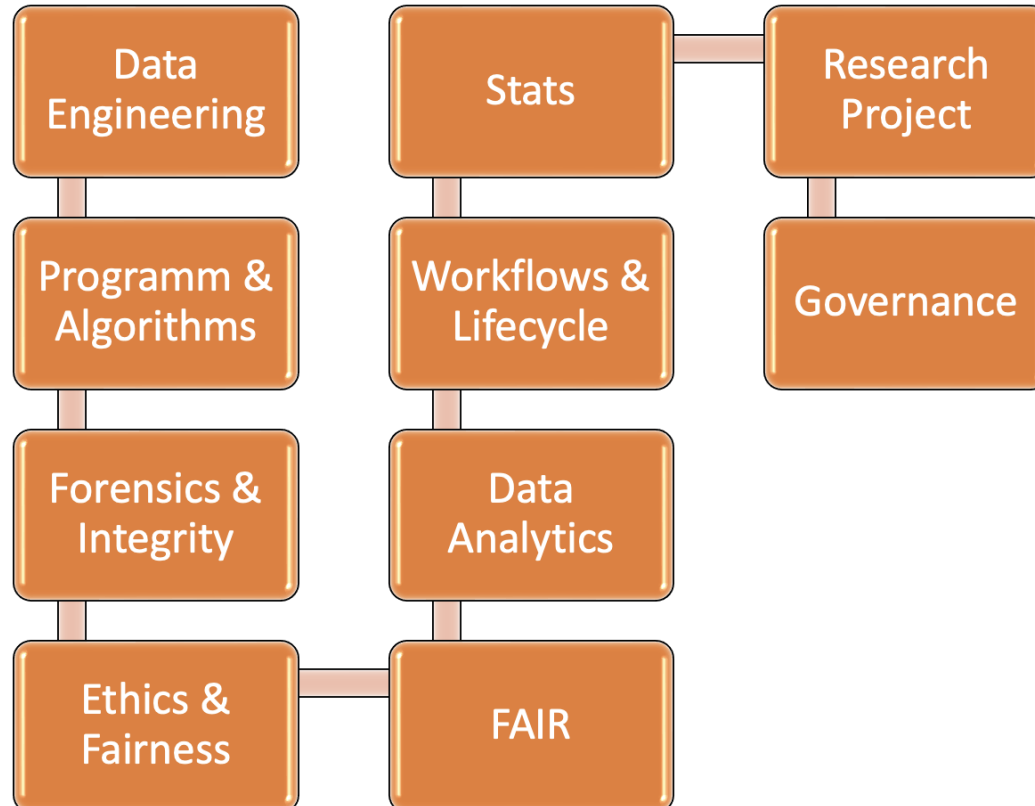
Topic	Lecture Topic	Lecture Detail
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12	Fairness, Accountability, and Transparency of Algorithmic Systems III	The meaning of transparency with respect to algorithmic systems; Trade-offs between privacy and transparency; Tools and methodologies for conducting algorithm audits (e.g., Algorithmic Impact Assessments).

For Repr. Workflows & Data Methodologies



ID	Course Title	Topic
Course I (5 ECTS)	Research Data Methodologies	Planning and Designing an OS Research Study
		Open Data Collection, Assessment Methods, and Measurement Strategies
		OS Research Designs and Approaches
Course II (5 ECTS)	Data Collection	Finding the right Open Data
		Sampling Design
		Instruments to share Data in Research Methodologies
Course III (5 ECTS)	Data Analysis	Measurement and Scaling Techniques
		Preparation, Analysis and Processing of Data
		Data Interpretation and Hypothesis Testing
Course IV (5 ECTS)	Data Validation	Multivariate Analysis Techniques based on Data Provenance
		Ethical Considerations in OS Research
		OA Disseminating Research Results and Distilling Principles of Research Design and Methodology

MSc Open Data Management



THANK YOU!



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