MANAGING RESEARCH TOOLS

1. Manage research data

Produce and analyse research data originating from qualitative and quantitative research methods. Store and maintain the data in research databases. Support the re-use of research data and be familiar with data management principles, including FAIR (Findable, Accessible, Interoperable, and Reusable) principles. Make data as open as possible, and as closed as necessary.

FOUNDATIONAL	INTERMEDIATE	ADVANCED	EXPERT
• Identifies sources of information, and assesses if data is trustworthy, valid, reliable and pertinent. • Knows how to store and organise data in an accessible way digitally. • Uses, transforms, and analyses non-sensitive research data transparently and in accordance with legal and privacy requirements.	• Organises data sets to be findable, accessible, interoperable, and reusable (FAIR), and to be easily stored and retrieved in a structured environment. • Trains and empowers other team members to work with data in a structured, transparent, and accessible way.	• Applies data analysis tools, understands legal and ethical issues linked to the use of data, and integrates data management plans. • Transforms, organises, and analyses data in a research context, and applies metrics to evaluate the success of data initiatives. • Promotes FAIR principles within own academic community.	• Creates relevant data sets from different sources, and develops effective methods making data more comprehensible for research. • Proposes new processes and practices in managing data, information and digital content in a structured digital environment. • Is known as influential advocate of FAIR principles.

2. Promote citizen science

Engagecitizensinscientificandresearch activities and promote their contribution in terms of knowledge, time or resources invested.

• Understands that citizens are knowledge-holders with the ability to contribute to the research process in some areas of research. • Knows the pros and cons of engaging or not engaging with citizens in research endeavours.	• Is inclusive and transparent in the research process and understands how best to engage with citizens in each specific context.	• Engages all categories of citizens in the research process and integrates them at specific stages of the research cycle.	• Is recognised for engaging with citizens in an inclusive, transparent and effective manner. • Develops novel, reliable, and trustworthy protocols in own research area to include citizens in the research process.

3. Manage intellectual property rights

Dealwiththeprivatelegalrightsthatprotecttheproducts of the intellect from unlawful infringement.

• Understands basic concepts of data ownership rules as they apply to own research. • Knows what copyright, IPR, and licensing are, and seeks advice from more experienced researchers.	• Is familiar with the protection of research outputs, open and wider access, and the different licenses related to own research activity. • Advises peers and less experienced researchers and is the reference person about intellectual property.	• Values the relevance of closed and open access of research outputs to researchers and the wider society. • Engages with the local technology transfer office to facilitate the commercialisation of intellectual property where appropriate.	• Leads the development of new procedures for IP protection within the HE sector and professional associations/ bodies. • Successfully protects and commercializes own research outputs.

MANAGING RESEARCH TOOLS

4. Operate open-source software

Operate Open-Sourcesoftware,beyondlicensed software, knowing the main Open-Source models, licensing schemes, and the coding practices commonly adopted in the production of Open-Source software.

FOUNDATIONAL	INTERMEDIATE	ADVANCED	EXPERT
• Understands the value of open-source software. • Is aware of pros and cons of operating open-source software • Writes open-source codes under supervision.	• Understands and makes use of relevant open-source licenses. • Knows and uses the most relevant open-source repositories in own research area. • Writes open-source codes using common open-source coding practices.	• Trains students and staff in developing open-source software. • Promotes the use of open-source software in own academic community • Participates as a developer in open-source projects.	• Shapes national and international open-source policies. • Leads open-source projects of large scope.