



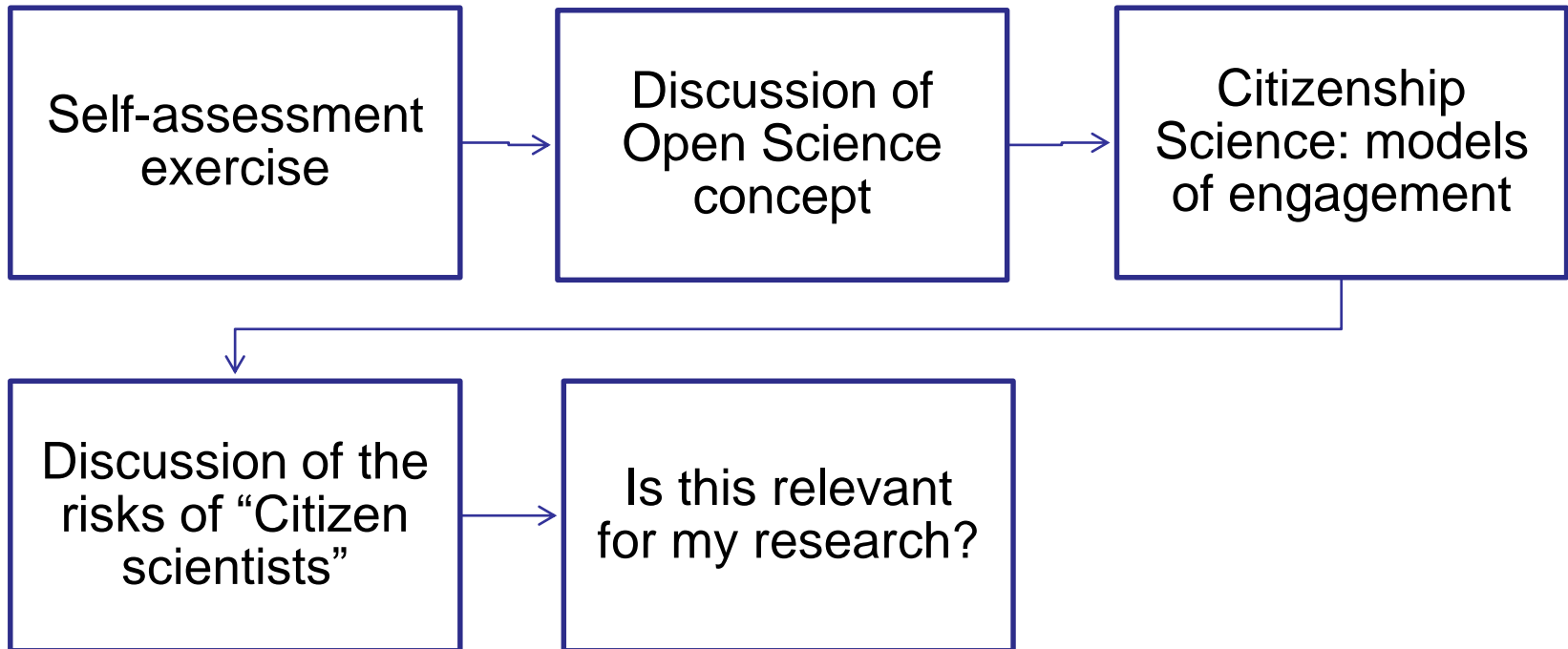
## Students' Mobility Capacity Building in Higher Education in Ukraine and Serbia / MILETUS



# DIMENSIONS OF OPEN SCIENCE : FROM OPEN DATA TO SOCIAL SCIENCE



# PLAN OF THE WORKSHOP



- What practices are related to Open Science concept and Open Science policy?
- Make a full list...

# DO WE KNOW WHAT IS “OPEN SCIENCE”?



## **Providing researchers with the skills and competencies they need to practise Open Science**

Open Science Skills Working Group Report

Majority of researchers are unaware of the concept of Open Science.

Most known: Open Publishing, growing awareness of Open Access Data Management.

3 out of 4 indicate they did not participate in open access or open course.

Coverage – 1277, 50% - PhD students

Working Group on Education and Skills under Open Science EC 2017 “Providing researchers with the skills and competencies they need to practice Open Science” - p.4

[https://ec.europa.eu/research/openscience/pdf/os\\_skills\\_wgreport\\_final.pdf](https://ec.europa.eu/research/openscience/pdf/os_skills_wgreport_final.pdf)

- Open Science represents a **new approach to the scientific process** based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools ([European Commission, 2016b:33](#)).
- The OECD defines Open Science as: “*to make the primary outputs of publicly funded research results – publications and the research data – publicly accessible in digital format with no or minimal restriction*” ([OECD, 2015:7](#))

# LINKING OPEN SCIENCE TO OTHER POLICIES



Open  
Science

Citizen  
Science

Science with  
a Mission

Open  
Innovation

Public  
Engagement



# DO YOU PARTICIPATE IN OPEN SCIENCE?



Open Data

Open  
Access

Open Peer  
Review

Open  
Notebooks

Open  
Source

Scientific  
social  
networks

Citizen  
Science

Open  
educational  
resources



# DO WE HAVE ENOUGH SKILLS TO IMPLEMENT OPEN SCIENCE? CATEGORIES



Open Access publishing

Research Data, Data Production, Management, dissemination

Legal and Ethical Concerns

Open Notebooks

Communication outside academia

Citizen Science

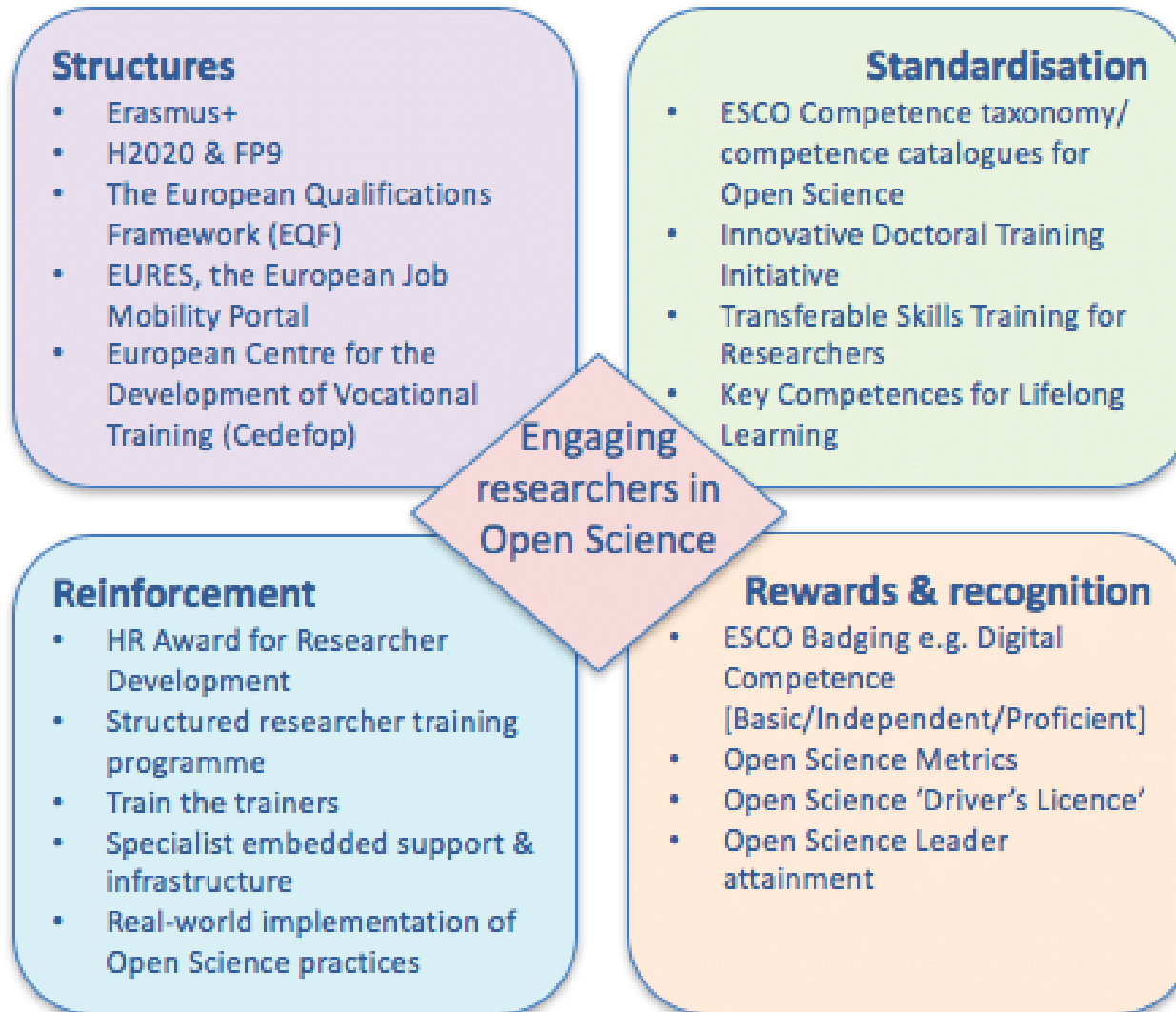
Open educational resources

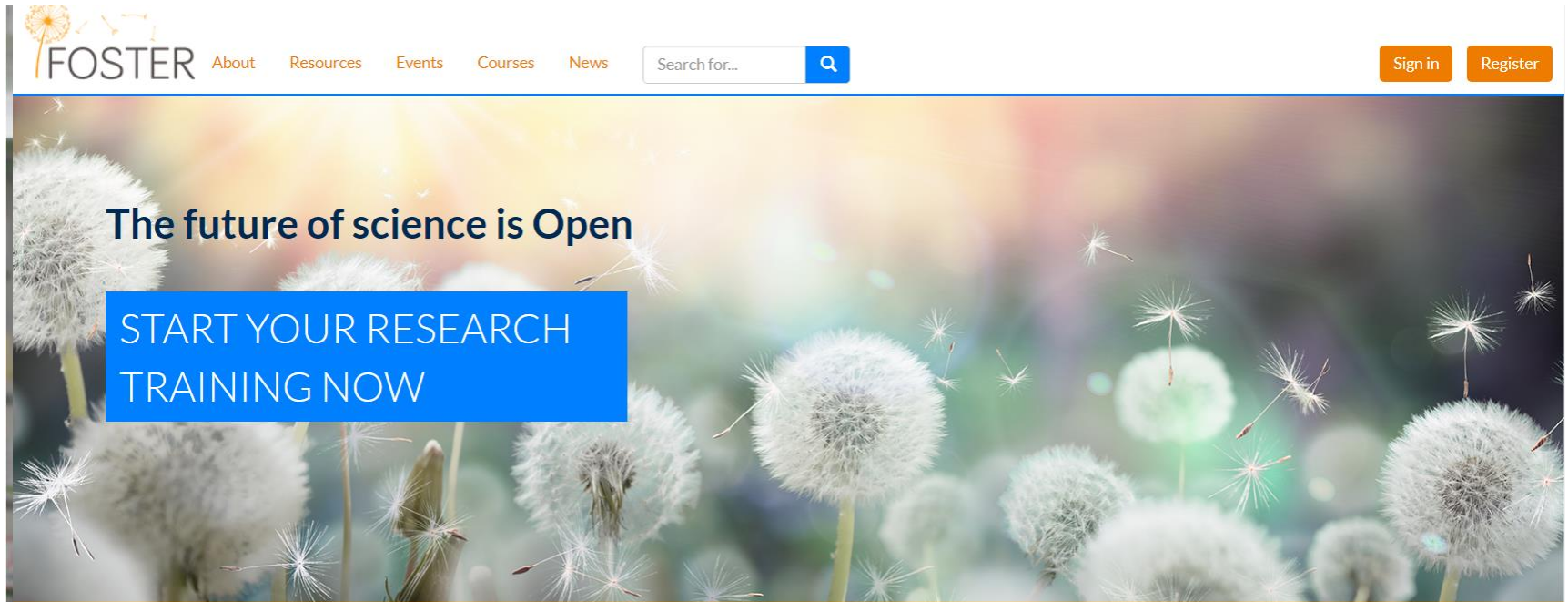
EU Open Science Monitor  
Steering Group on Human Resources and Mobility (SGHRM) Working Group  
EC 2017 “Providing researchers with the skills and competencies they need to practice Open Science” - p.4  
[https://ec.europa.eu/research/openscience/pdf/os\\_skills\\_wgreport\\_final.pdf](https://ec.europa.eu/research/openscience/pdf/os_skills_wgreport_final.pdf)



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of the European Union







The screenshot shows the FOSTER website homepage. At the top left is the FOSTER logo with a dandelion icon. To its right are navigation links: About, Resources, Events, Courses, and News. A search bar with the placeholder text "Search for..." and a magnifying glass icon is positioned to the right of the navigation links. Further right are two orange buttons labeled "Sign in" and "Register". The main content area features a large background image of dandelions with a blue text box in the center containing the text "START YOUR RESEARCH TRAINING NOW". Above this text box, the headline "The future of science is Open" is displayed.

- <https://www.fosteropenscience.eu/>

# LINKING OPEN SCIENCE TO OTHER POLICIES



Open  
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a Mission

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Innovation

Public  
Engagement



## Open Culture

- Social (co-creation)

## Digital Infrastructure

- Innovative research

# MODELS OF CITIZEN ENGAGEMENT IN SCIENCE



Pooling of  
Resources

Data  
Collection

Participatory  
Experiments

Grassroots  
Activities

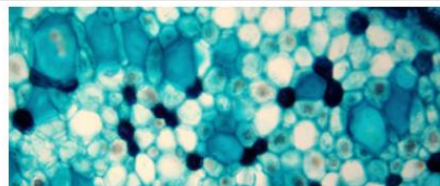
Collective  
Intelligence

Analysis  
Task

Games

[http://www.socientize.eu/sites/default/files/white-paper\\_0.pdf](http://www.socientize.eu/sites/default/files/white-paper_0.pdf)





### Cell Spotting

Analyses of real cells under treatment in the Cancer's drug delivery research



### Mind Paths

What is the perceived relation between words?



### SavingEnergy@Home

An alternative collection of thermal data.



### Sun4All experiment

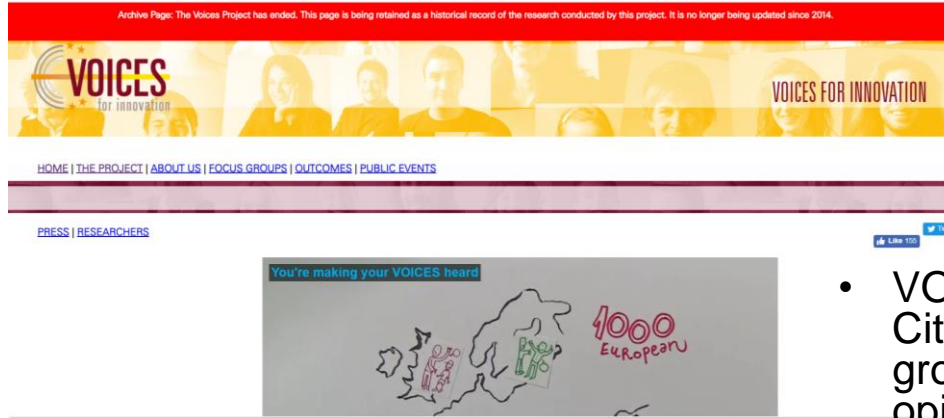


### Urban Bees



### Collective Music Experiment

# VOICES PROJECT



- VOICES (Views, Opinions and Ideas of Citizens in Europe on Science) is a groundbreaking consultation, using the opinions of 1000 people from across 27 EU countries to shape the future of European research.

<http://www.voicesforinnovation.eu/>

- To this end, VOICES devised a specialised yet flexible methodology, using 100 three-hour focus groups in order to engage citizens and gather their opinions and ideas about research and innovation in 2013. The consultations were run by science centres and museums, as the natural interface between science and society, and coordinated by Ecsite, the European Network of Science Centres and Museums.

## Citizen Science Resources



PyBossa



Furnivall



Ourgrid

OurGrid



EpiCollect



BOINC



Project Noah



All our ideas



Epiwork



CartoDB

Bring the voices of  
citizens and  
stakeholders into  
research.



# What is “Public Engagement” (PE) in Responsible Research and Innovation?



- it contributes to building a more scientifically literate society able to actively participate in and support democratic processes, and science and technology developments,
- it injects differing perspectives and creativity in research design and results, and
- it contributes to fostering more societally relevant and desirable research and innovation outcomes to help us tackle [societal challenges](#).

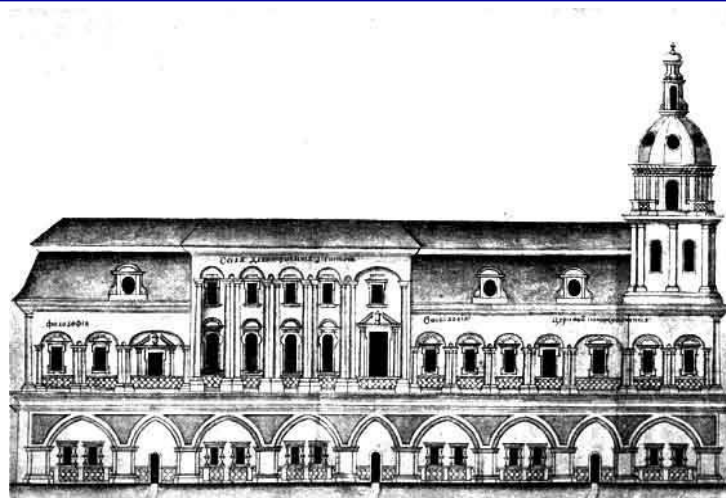
## IMPLEMENTATION

- the establishment of iterative and inclusive participatory multi-actor dialogues between researchers, policy makers, industry and civil society organisations, NGOs, and citizens;
- to foster mutual understanding and co-create research and innovation outcomes and policy agendas effective in tackling societal challenges, and
- fostering wider acceptability of results.



# ARE WE READY?





Prepared by  
**Liudmyla Kryvoruchka**  
PhD, Director of Yuchymenko Family Doctoral School  
National University of Kyiv-Mohyla Academy  
[kryvoruchkald@ukma.edu.ua](mailto:kryvoruchkald@ukma.edu.ua)

# Thank you for your attention!



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