Sustaining Responsible Research and Innovation in the Western Balkans

WBC-RRI.NET final conference, 9 February 2024, Macdedonian Academy of Sciences and Arts, Skopje

Synergy in Action: WBC-RRI.NET Working Groups

WG2: Public Engagement and Science Education

WBC-RRI.NET

Desiree Pecarz, ZSI, WG2 co-chair

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101006279

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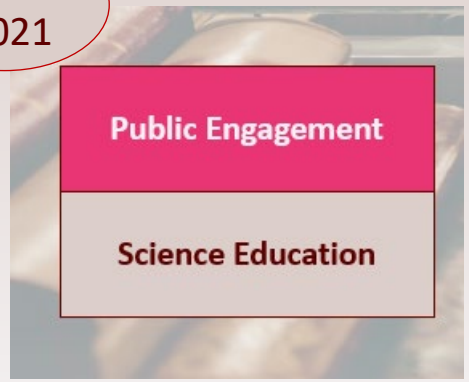
Working Group established

Dec 2021



Action Plan

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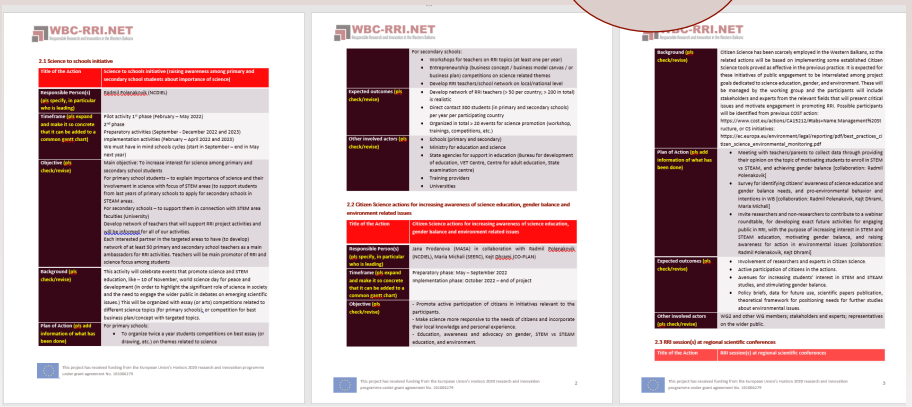

- WG2 brings together scientists and science communicators from the region who engage in activities of their institutions to **support science education and public engagement to science** as well as related activities in and for the Western Balkans.
- Operations started in 2022, in line with an Action Plan including eight different activities and following a precise organisational structure.
- New members have been regularly welcomed and, as of today, WG2 includes more than 30 members active at different levels.

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WG2 Activities

Understanding the state-of-play

Science to School initiatives (Act. 2.1)

Citizen Science actions (Act. 2.2)

Exchanging experiences

RRI session(s) at scientific regional conferences (Act.

Raising awareness

Presenting RRI related project results at Researchers Nights (Act. 2.4)

Development of policy briefs (Act. 2.5)

New ways of doing things

Engineering Creativity Center (Act. 2.6)

Developing tools for more effective communication skills fostering public engagement (Act. 2.7)

Mainstreaming science education for CSO-s in (national) open forums (Act. 2.8)

Understanding the state-of-play

- Learning from other members / countries
- Analyse different practices in the region
- Provide and share evidence

Raising awareness about necessary change

- Engage in public dialogue, highlight importance of the issue
- Promote good practices
- Advocate to exploit the opportunities offered

Proposing new ways of doing things

- Develop recommendations
- Develop and share policy briefs
- Consult stakeholders

Highlights

Science to Schools initiative (2.1 – NCDIEL, MASA)

Main objective: To increase interest for STEM subjects among primary and secondary school students and to start a network of teachers to be the main promotor of RRI and science focus among students

- Several integrated events addressing anchor initiatives (focused on: SE & GE) and promoting science to schools
- **3 Workshops for 150+ teachers** on innovation, entrepreneurship, inclusivity, STEM, digital skills, green transition, and green skills.
- Pilot network of teachers in NM to act as RRI ambassadors and example for other WB
- **NCDIEL and MASA teams participated in additional initiatives and side projects**:
  - RRI promotion for the just adopted National Development Strategy of NM 2024-2044 (UNDP)
  - Synergies with GREENOVET and INTERVET-WB
  - Establishing focal team for climate education and education for sustainable development (GIZ support)
  - Teaching training on green competences (supported by city of Skopje)
  - International competition on green innovation for secondary schools (supported by www.greenovet.eu project), after the annual National competition for secondary schools
  - Active role in the UNDP workshop: “The importance of dealing with misinformation and access to information – situations, challenges and perspectives” (> 250 students and teachers from primary and secondary schools)

Highlights

Citizen Science (2.2 MASA, NCDIEL, CO-PLAN, SEERC)

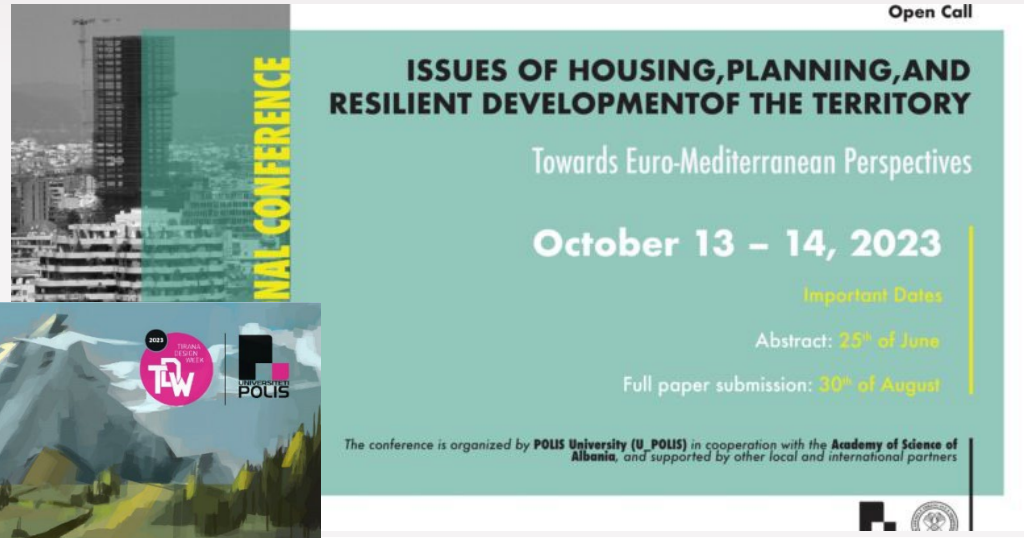
Main objective: To promote citizen participation in science activities while contributing to make science more responsive to citizens' needs. To raise awareness on gender, STEM vs STEAM education, and environment

- A **robust engagement with students** through a comprehensive survey involving 174 high school and university participants. Additionally, we surveyed 118 high school teachers. The forthcoming scientific publication, expected to be published in February 2024, will draw diverse perceptions about science education.
- Jana Prodanova, represents MASA as member of the Network of Educators and Trainers, within the Citizen Science Academy established by the European Citizen Science project
- A **policy brief on citizen science** was crafted, offering insights into its possibilities, opportunities, motivation, and expected benefits.
- Successful organization of a **webinar titled "Spreading Citizen Science in the Western Balkans".** The event featured esteemed speakers from EU-funded projects such as ECSA, ECS, StepChange, and COESO, as well as prominent organizations like the Center for the Promotion of Science and the Center for Behavioral Research in Psychology - STAR, Faculty of Philosophy in Novi Sad, both from Serbia. This webinar attracted 40 registered participants, fostering dialogue and collaboration among key stakeholders.

Highlights

RRI promotion at regional conferences (2.3 – COPLAN, ZSI)

Main objective: To explore regional conferences where to support RRI-dedicated sessions



Highlights
Researchers Nights (2.4 - UNS)

Main objective: To Presenting RRI related research results at Researchers Nights to make science more popular and improve skills for science communication

Researchers' Night 2023

- Organized on September 29, 2023 at the Science Club of Svilara Cultural Station for the first time (Dr. Vladimir Todorovic)

  - Around **100 researchers** from UNS presented their work and research
  - **20** various **workshops**
  - More than **1000 visitors**
  - Various scientific and popular lectures and workshops in the field of AI, application of chemistry in art, microorganisms-based biomaterials, etc.
  - More than 1000 visitors enjoyed rich program in various fields and had a chance to learn more about arts, computer science, algorithms, medicine, etc.

Highlights

Policy briefs on Public Engagement (PE) and Science Education (2.5 - SEERC, UNS, MASA, UNBL)

Main objective: To communicate and disseminate the project's activities and the insights gained from them and to reporting suggestions/recommendations for the successful organization and implementation of PE activities –while occasionally depicting the PE/SE-related environment in WBs

3 policy briefs developed along with evolving of the project WPs:

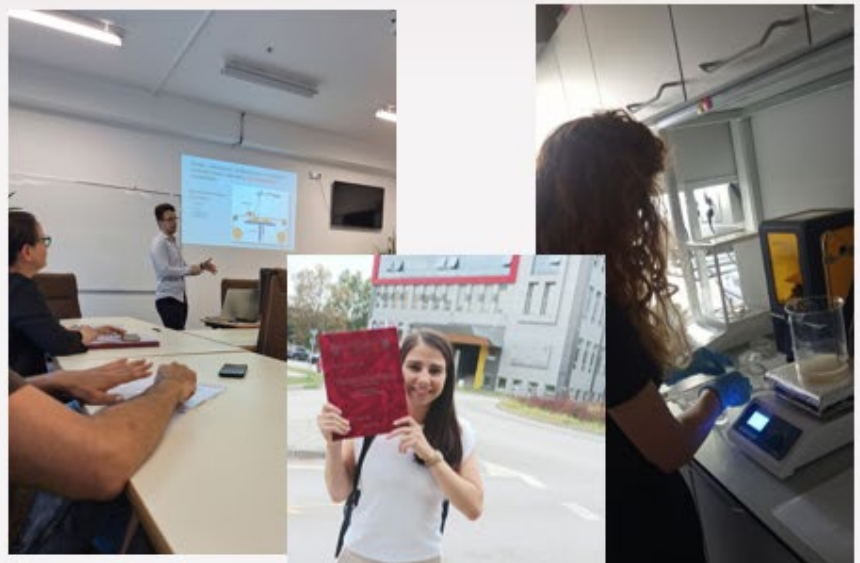
1. A brief on **science education with emphasis on citizen science**
   In collaboration with A 2.2 based on a survey launched in Sept 2023 on measuring students' perceived usefulness of citizen science in STEM/STEAM
2. A Brief on **Public Engagement for local and regional authorities**
3. A Brief on **Public Engagement for R&I actors**

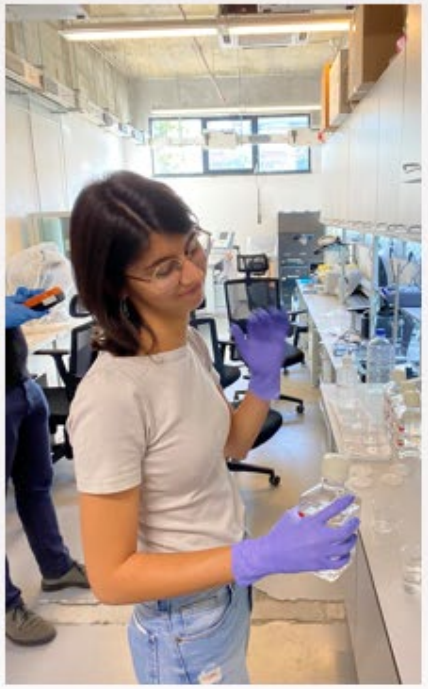
Highlights

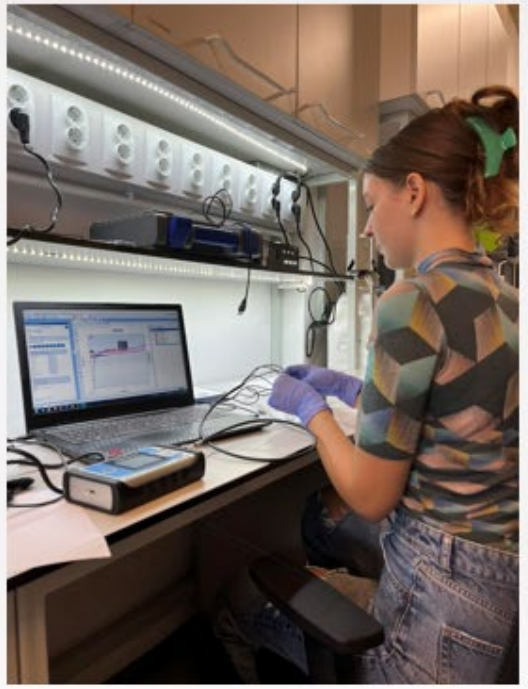
Engineering Creativity Centre (2.6 - UNS)

Main objective: To popularise science and scientific research and achievements based on the Engineering Creativity Centre and create a new way of involving students

10 trainings in 4 scientific areas (textile electronics, green electronics, electrical engineering, microfluidics), Mentorships of 2 BSc thesis and 2 MSc thesis, Hosted 14 students for laboratory practice, Promotion of gender equality in STEM – majority of members are female

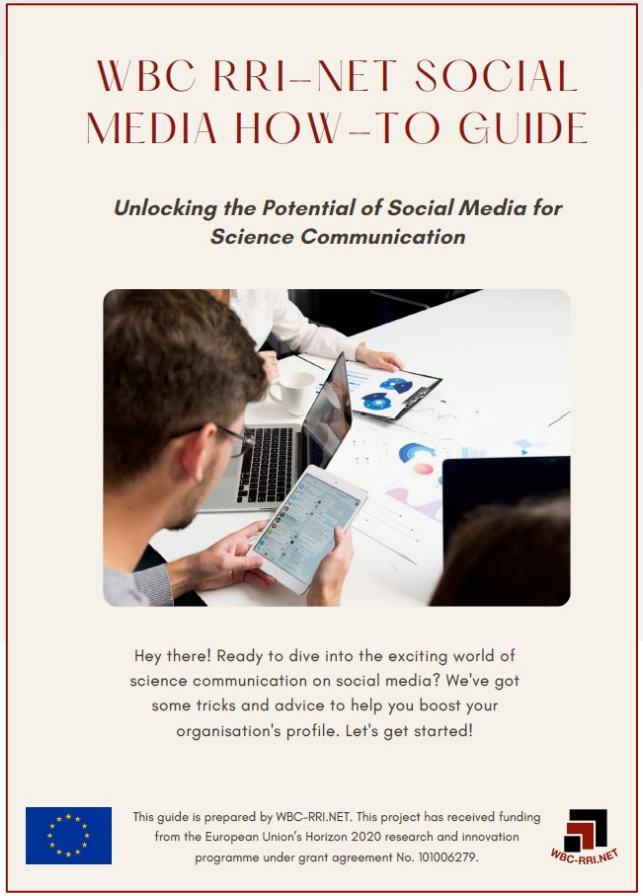






Highlights

Raising Awareness and upgrading skills for science communication (2.7 - ZSI)



Highlights
Mainstreaming science education for CSO-s in (national) open forums (2.8 – CO-PLAN)

Main objective: To enhance the scientific literacy of CSO-s who are undertaking actions and activism in support of local community needs

- **Citizen science mainstreamed in National Forum on Nature** and results disseminated in a joint CSO declaration
- Science engagement principles presented in **National Forum on Protected areas**

Synergies in actions: from lessons learnt to future plans

- **General agreement about the fact that science education must be further supported with better and higher funding from the government and that better use of public funding is needed**
  - support to establishment of the new laboratories in schools, secured raw material for current laboratories, advanced STEM related trainings for teachers, support to science related competitions, etc.)
- General awareness about the fact that **STEM education is important** for providing better career choices for youth
- But the **key challenge is the motivation of students (and teachers)** to engage in science-related activities that are not part of the curricula

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Synergies in actions: from lessons learnt to future plans

- **The power of collaboration across the Quintuple Helix,** evident in our successful networking efforts and the diverse participation in our activities and **NGO's significant role as to STEM education support as to** extracurricular activities (summer camps, trainings, competitions, experiential and fact-based learning trainings, etc.), both for teachers, as well as for students.
- The **international dimension brings high benefit** (e.g. international competitions, case-study challenges involving students from different countries, mobility (traveling) to another country for a competition, etc.).

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Synergies in actions: from lessons learnt to future plans

Looking ahead, WG2 plans involve continued **engagement with the Association** to leverage its resources and networks for sustained impact. This includes exploring avenues **for collaborative projects, seeking additional funding opportunities, and expanding the reach of our initiatives**.

The Association might play a pivotal role in aligning our activities with broader RRI objectives, ensuring the long-term success and sustainability of our endeavors in the Western Balkans.

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