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INSTITUTIONAL CHANGES TO EMBED CITIZEN SCIENCE IN RPOS: THE CASE OF UNISR AS AN IMPLEMENTER PARTNER OF THE EUROPEAN TIME4CS

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ABSTRACT

What is new?	Institutional barriers and lack of engagement in research-performing organisations (RPOs) may limit the development and impact of Citizen Science (CS) initiatives. In the present case study, we detail the transformative and multidisciplinary approach of Vita-Salute San Raffaele University (UniSR) through the European project TIME4CS, showcasing how tailored roadmaps and mutual learning with other RPOs with established support structures and expertise for CS were able to overcome these challenges.
What was the approach?	The approach involved several key steps: 1) creation of a *de novo* research organization area dedicated to Research Development; 2) formation of a multidisciplinary core team to implement TIME4CS activities; 3) mapping the initial and final levels of awareness of CS among UniSR researchers through surveys; 4) developing and implementing a detailed communication plan, including seminars, newsletters, articles, and a repository of CS resources; 5) involvement of UniSR students, professors, researchers but also research support

	officers in the initiatives; 6) establishment of a contact point for stakeholders interested in CS and in active participation in European Citizen Science Association (ECSA) groups; 7) support to the development of pilot initiatives and projects of CS.
What is the academic impact?	The academic impact includes increased awareness and engagement in CS initiatives among UniSR researchers. The actions triggered by the TIME4CS project have led to the emergence of several new CS research projects, enhancing UniSR's research excellence and contributing to its strategic goals of internationalization and competitiveness. This case study provides a model for overcoming institutional barriers in the promotion of CS and enhancing research excellence.
What is the wider impact?	The wider impact of the initiatives includes fostering a more collaborative and inclusive research environment at UniSR. By involving researchers, students, professors, research support officers, and external stakeholders, the project promoted a culture of Open Science and Responsible Research and Innovation (RRI). The activities also contribute to the broader scientific community by participating in ECSA groups and sharing resources and best practices, potentially influencing other institutions to adopt similar approaches.
Keywords	Citizen Science, Institutional change, Participatory research

BACKGROUND

Citizen Science (CS) can be defined as "the voluntary participation of non-professional scientists in research and innovation at different stages of the process and at different levels of engagement, from shaping research agendas and policies, to gathering, processing and analysing data, and assessing the outcomes of research" (European Commission, 2020).

In today's rapidly evolving scientific scenario, Research Performing Organizations (RPOs) must adapt and evolve to address the challenges of an increasingly complex world. The integration of CS into the scientific research process offers a powerful approach towards achieving this goal. Society is evolving into a peer-to-peer model where citizens increasingly take on decision-making roles. As a result, scientists should focus on generating knowledge both *for* and *with* citizens. To enable this sustainable transition, CS is essential (Wildschut, 2017). Moreover, as an added benefit, CS has the potential to enhance public trust in democracy, governance, and science.

Adopting CS as a method to involve the public in research and innovation requires significant institutional changes within research environments. Social and organizational transformations are needed to adjust the internal policies of RPOs and create

structures, governance models, and operations that support CS (LERU, 2016; LERU, 2018). CS, due to its potential to enhance public participation in science, is a key focus of the European research agenda. However, its success depends on institutional support. To aid this, LERU recommends: i) recognizing CS as an evolving research methodology with societal and educational benefits; ii) establishing a single point of contact within institutions to guide scientists and liaise with regional initiatives; iii) raising awareness about successful practices, including community management, open science standards, and diversity policies; iv) including long-term infrastructure and data repository commitments in funding proposals; v) ensuring compliance with ethical, legal, and privacy regulations, supported by professional advice; vi) adapting evaluation systems to incorporate metrics for societal impact and citizen participation (LERU, 2016). These recommendations are based on insights from existing projects and aim to help institutions foster impactful CS initiatives.

THE EUROPEAN PROJECT TIME4CS

The EU-funded project TIME4CS sought to bridge the gap between the limited use of CS as a research methodology in European universities and RPOs and the significant advantages it can offer. The 3-year project (2021-2023) tackled this issue innovatively, striving to foster sustainable institutional changes to promote CS adoption in RPOs. It was built on the idea that RPOs aiming to achieve Institutional Changes toward CS ("implementers", with UniSR among them) can learn from RPOs with extensive experience in CS ("front-runners"). This shared knowledge allowed Implementers to develop and follow detailed Roadmaps. After a first knowledge consolidation, knowledge sharing and mutual learning, roadmaps for each implementer institution were co-designed and then implemented, also thanks to training activities that weree undertaken in each institution seeking to activate an institutional change. Last, the impact of the actions completed was assessed.

Intervention areas

Institutional changes should impact both the social mindset of RPOs' workers and the organizational aspects, such as norms, protocols, procedures, and policies. TIME4CS identified four Intervention Areas to stimulate the institutional changes necessary to promote CS (Herrera et al., 2022):

1) Research: RPO ecosystems should acknowledge CS as a research methodology with societal and educational benefits, planning or implementing changes in organisational structures or functions. Actions promoting the adoption of CS initiatives should be realized for students and researchers, to enable and enhance research activities using CS methodology. The RPO should establish/belong to international or national CS networks.
2) Education and Awareness: implementing actions to raise awareness of CS such as training programs and CS information sessions for students, researchers, and management.

3) Support resources and Infrastructure: establishment of resources within RPOs to support researchers in effectively carrying out CS activities, such as a centralized contact point for addressing CS-related inquiries, strategic plans for advancing CS, support in communication for CS projects, free tools to be used for CS, or internal funds.
4) Policy and Assessment: to encourage the implementation of CS activities, research evaluation frameworks should be modified to recognize CS contributions within the policies and assessment criteria applied by RPOs.

For the four Intervention Areas, a set of tailored Grounding Actions (GA) was defined for each implementer RPO in collaboration with experienced institutions. These GAs also aimed to lay a foundation for medium- to long-term progress. To define the grounding actions necessary to implement CS, an RPO would clarify the objectives for the institution, establish measurable success criteria for effective monitoring and evaluation, identify the stakeholders impacted by the initiative and ensure their involvement in the decision-making process, plan the implementation steps methodically, anticipate possible obstacles, and assess the required resources (Vilarchao et al., 2022).

UniSR CONTEXT

Vita-Salute San Raffaele University (UniSR), established in 1996, is reknown for its exceptional integration of teaching and research. One of UniSR's defining features is its close affiliation with the San Raffaele Research Hospital, a pioneer in cutting-edge medical and scientific research. This affiliation offers endless opportunities for students and researchers to engage in groundbreaking projects and collaborate with experts at the forefront of their respective fields. The fusion of educational excellence and cutting-edge research at UniSR sets it apart as a beacon of innovation and knowledge in Italy. It stands as a prestigious institution in the landscape of Italian higher education, offering three Faculties with comprehensive departments that encompass not only undergraduate and graduate programs but also state-of-the-art research centers, doctoral courses, and master's programs.

The University's mission revolves around the fundamental question "*Quid est homo?*", seeking to unravel the complexities of human existence, recognizing that humanity is distinct biologically, psychologically, and spiritually. This mission aligns perfectly with the collaborative efforts between UniSR and San Raffaele Research Hospital, which foster a holistic approach to understanding and enhancing the human condition.

In 2021, a new Area dedicated to Research Development was created with the goal, among others, to implement strategic initiatives to support UniSR research excellence, contributing to the internationalization and competitiveness of the University, with a focus on Responsible Research and Innovation (RRI) pillars and cross-cutting themes. CS is classically positioned at the interface between Public Engagement (PE) and Open Science (OS), two of the six RRI pillars (Wehn et al., 2020). UniSR has always been fully committed to ensuring the quality, trustworthiness, and reproducibility of research

conducted by its investigators. By upholding high standards of integrity, UniSR actively fosters an environment where the responsible conduct of research is openly discussed and encouraged. Integrating CS through institutional changes has been fundamental to achieving this goal. UniSR's participation in the TIME4CS project has provided valuable support in this process, allowing it to gather best practices from other project partners and share its own experiences with CS.

UniSR & CS at the Beginning of TIME4CS

Awareness of CS among UniSR researchers was generally low, with a few exceptions in certain research groups and some isolated, fragmented research initiatives that incorporated CS or public engagement activities (such as EU-funded projects like PERITIA (PERITIA, nd) and RENergetic (RENergetic, nd)). Additionally, UniSR had not previously offered training sessions or workshops on CS for researchers, students, or support staff, and lacked specific professional expertise focused on CS. UniSR was not involved in any CS-specific networks nor collaborating with CS-dedicated organizations, apart from its involvement in the TIME4CS project. Although science evaluation reform, science communication, public engagement, and open science were integrated into UniSR's institutional research strategy and policies, CS was not yet an integral part of its open science strategy.

Survey on UniSR Researcher Awareness of CS

To collect information regarding the awareness and the interest of the research community in CS, one year from the beginning of the project (Month 12, and before any CS promoting initiatives) we shared a survey among researchers. The very short, 5-minute survey was anonymous: the responses could not be traced back to the respondent and no personally identifiable information was captured. Data were collected online with Microsoft Forms. Graph analysis and visualization were performed with GraphPad Prism: data were analysed through contingency tables and the Chi-square test. The original text of the survey is attached to the present article in the Appendix.

22 (19.6%) researchers had heard about the concept of CS (Figure 1A). Only 5 (4.6%) of them declared to have been involved, as a private citizen, in a CS research project regarding a different scientific field from theirs (Figure 1B). As a researcher, 3 (2.8%) had been involved in designing, setting up or analysing the results of a CS research project (Figure 1C) and 18 (16.5%) had been involved in other participatory research activities involving citizens actively in a research project (Figure 1D). They briefly described these other initiatives, for example research projects having a Patient Advocacy Organization as a partner, collection of data during a science festival, the participation of lay reviewers in scientific boards for project evaluation, projects involving high school students or elderly healthy subjects, or workshops aimed at understanding citizens needs/requirements.

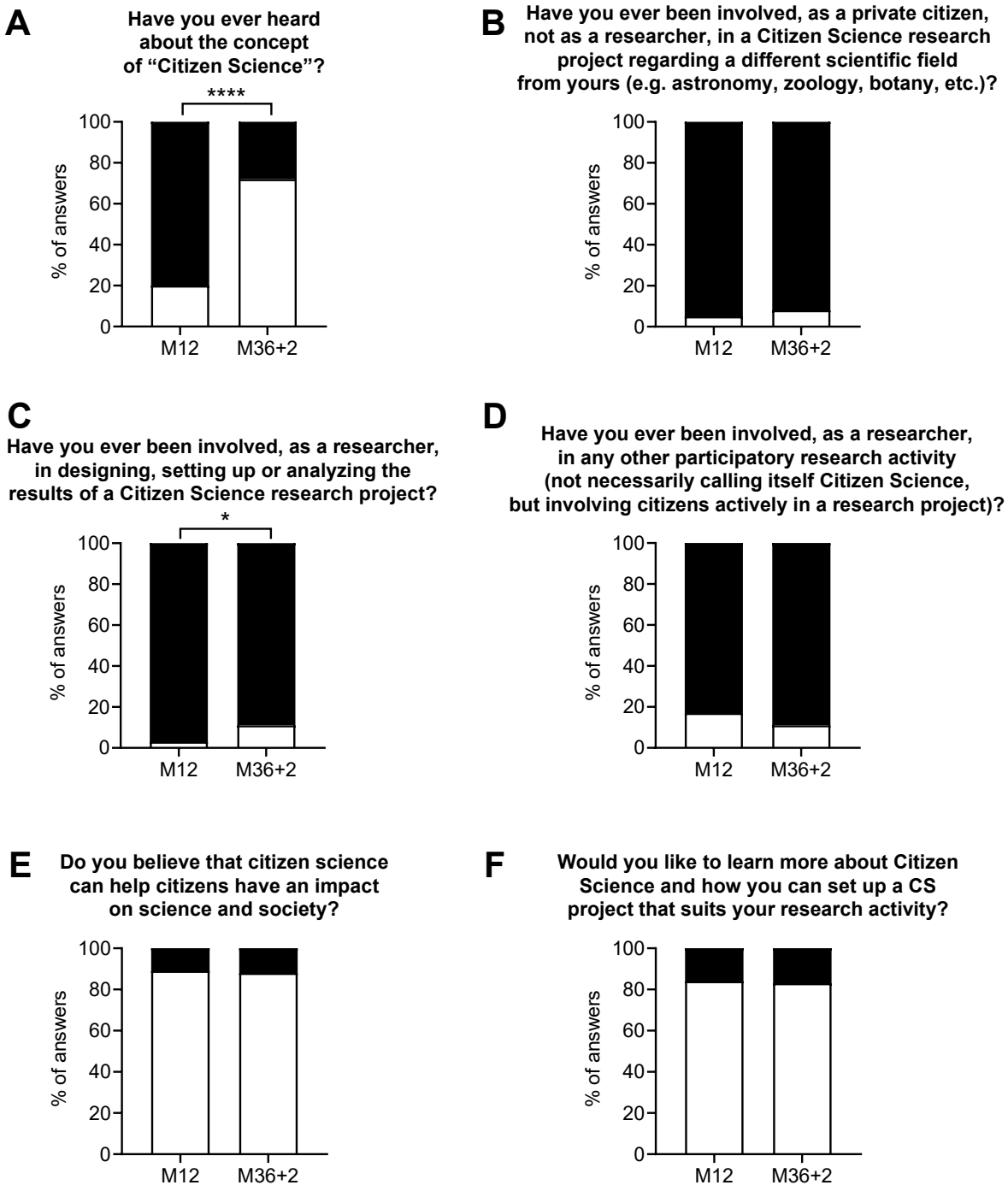

Figure 1. Survey on the awareness of UniSR researchers on Citizen Science. Answers to the indicated question for each panel, collected at months 12 from the beginning of the project (*M12*) and 2 months after the end of the project (*M36+2*). Graphs show, in white for Yes and black for No, the percentage calculated on the number of answers received for each question: A) *M12* n=112, *M36+2* n=75, B-D) *M12* n=109, *M36+2* n=75, E) *M12* n=88, *M36+2* n=75, F) *M12* n=86, *M36+2* n=75. All data were analysed through contingency tables and the Chi-square test: A) χ^2 (DF=1, n=187)=51.04, p<0.0001; C) χ^2 (DF=1, n=184)=4.95, p=0.0261.

When asked if they considered CS useful for their research activity, 69 (77.5%) researchers answered positively (Figure 2A). Explaining this answer, 32 (41.6%) of the participants mentioned the possibility of engaging or educating the public, 22 (28.6%) the opportunity to get different views, 6 (7.8%) access to local knowledge, 6 (7.8%) the collection of data, 4 (5.2%) increased awareness, 4 (5.2%) new fund raising opportunities or collaborations, and 3 (3.9%) the reduced time and costs of a project (Figure 2B). On the other hand, among the few not considering CS as a valuable tool, when describing limitations or undesirable aspects of CS (Figure 2C) 6 (54.5%) researchers mainly focused on the lack of expertise in citizens, 3 (27.3%) that they did not see any possibility of involvement for citizens in basic research, and 2 (18.2%) on the lack of spare time to dedicate to CS.

Encouragingly, the vast majority of researchers (78, 89%) were convinced that CS can help citizens to have an impact on science and society (Figure 1E) and 72 (83.7%) were interested in knowing more about CS and how to set up a CS project suiting their research interests (Figure 1F).

Data depicted in Figure 1 and 2 of the present study have been uploaded to the San Raffaele Open Research Data Repository, DOI: 10.17632/g4t9w3gmfb.1.

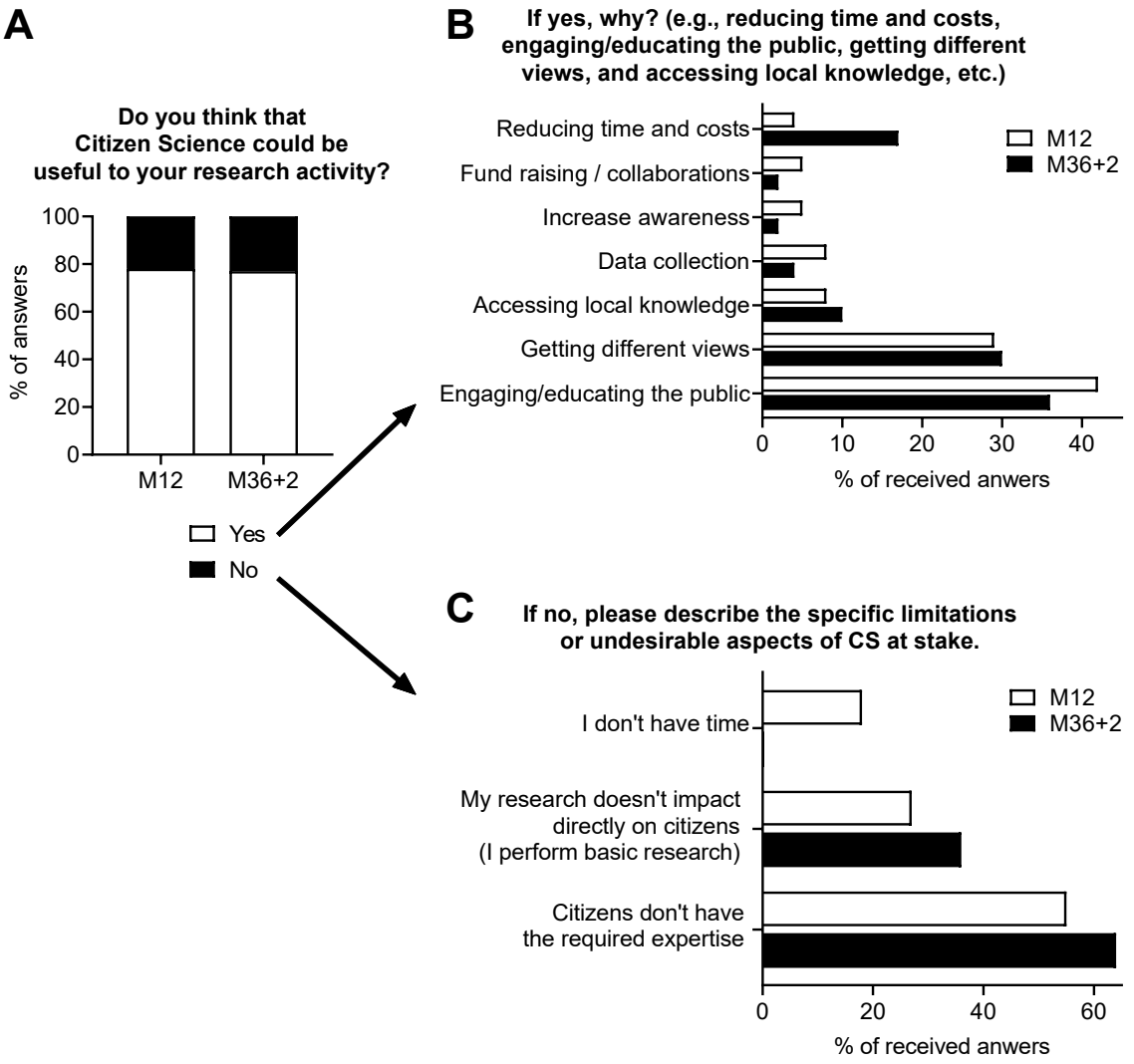

Figure 2. Desirable and undesirable aspects of Citizen Science according to UniSR researchers. Answers to the indicated question for each panel, collected at months 12 from the beginning of the project (*M12*) and 2 months after the end of the project (*M36+2*). Graphs show the percentage calculated on the number of answers received for each question. A) in white for Yes and black for No, *M12* n=89, *M36+2* n=75. B-C) multiple answers were possible: B) desirable aspects of CS, in white *M12* n=57 with 77 answers and in black *M36+2* n=51 with 84 answers; C) undesirable aspects of CS, with in white *M12* n=11 with 11 answers and in black *M36+2* n=11 with 11 answers.

UniSR-tailored Grounding Actions

In the initial phases of the project, the project team had only a theoretical and limited grasp of the perception of CS and PE within the University. Moreover, information on CS and PE was highly fragmented, with various perceptions and ideas from different stakeholders.

A significant achievement at the beginning of the project was the formation of an informal group of stakeholders from various areas of the institution. This group

included representatives with different expertise: Science Communication, Project Management, Open Science, Research Integrity, Impact Assessment, Public Engagement. The team also benefited, in the last year of the project, from the assignment of a former researcher as a full-time person dedicated to CS. Moreover, the team grew to include members of the UniSR research community, providing valuable insights from researchers.

Given each institution's basal situation, the collaboration among experienced partners of the TIME4CS project and beginners resulted in the compilation of Roadmaps composed of a set of Grounding Actions (GAs). In particular, UniSR's roadmaps comprise 10 GAs, covering all the four intervention areas previously outlined (Salnikova et al., 2023). Some of these GAs were adjusted and/or added during the project lifetime (Table 1).

Table 1. TIME4CS roadmaps to achieve institutional changes in Citizen Science (CS) at UniSR. Grounding Actions have been defined covering four Intervention Areas.

Intervention Areas	Grounding Actions (GA)
Research	GA1 – Participation in a CS network
	GA2 – Implement changes in the organizational structures or functions
Education and Awareness	GA3 – Set up information initiatives for researchers and training programs for students
	GA4 – Set up informal opportunities for interactions with researchers
Support resources and Infrastructure	GA5 – Identify an institutional contact point for CS
Policy and Assessment	GA6 – Adopt evaluation criteria for researchers' evaluation that consider CS
+ Four more GAs to be implemented after the end of the project	
Research	GA7 – Develop CS methodology for research activities and projects
	GA9 – Becoming theorists and practitioners of CS/Research
Education and Awareness	GA8 – Organise debates or public events to promote CS
Support resources and Infrastructure	GA10 – Integrating a training module focused on CS, into different degree programs

The initial GAs were implemented by the third and last year of the project, with the new GAs starting or expected to start in the post-project (2024-2026) and stabilisation (2027-2028) periods (Salnikova et al., 2023). Generally speaking, a turning point for their implementation was a mentoring visit at the halfway point of the second year of

the project. This event allowed researchers, managers and core team to benefit from the knowledge and exchange with Front-runner institutions, consistently improving the raising awareness process started in UniSR.

GA1 – Participation in a CS network. This GA was aimed to transfer novel concepts, different approaches and methodologies into R&I activities implemented at UniSR. UniSR joined the European Citizen Science Association (ECSA) in April 2022; after becoming a member we joined up to three Working Groups (WGs) and we are currently chairing one of them. Becoming part of an international CS community has fostered institutional changes within our organization by bringing in fresh perspectives, experiences, and inspiration. This engagement created a ripple effect, allowing community members to share new approaches and insights with other researchers in the organization, gradually making these changes structural and, ultimately, institutional. We also joined the Italian CS association (Citizen Science Italia, CSI).

GA2 – Implement changes in the organizational structures or functions, to engage the supporting services in the process and define a workflow to support researchers regarding CS practices. In addition to forming the core team, UniSR focused on raising awareness among research support services to engage them in a workflow that ensures adequate support for researchers interested in implementing CS practices. This was accomplished through targeted training sessions and seminars that offered concepts, methodologies, practical examples, and specialized expertise, thereby helping to establish a robust knowledge base within the research community. The core team acted as an institutional trigger, raising awareness within UniSR.

GA3 – Set up information initiatives for researchers and training programs for students, to increase expertise and knowledge of researchers regarding CS and stimulate an internal dialogue regarding CS. Here are some examples of the launched initiatives:

- A monthly newsletter for researchers, called *Bits of Citizen Science*, showcasing CS theory and principles, advertising internal and external seminars and webinars, suggesting good reads, highlighting the growing interest for CS in funding opportunities, etc;
- A series of inspiring seminars, called *Science and Society*, covering different aspects of CS, from its integration into funding bodies, to gender aspects, from the exploitation of wearable devices to human computation with the crowdsourcing of data analyses;
- Five articles for the TIME4CS website, where we shared our ongoing experience (Quadri, 2021; Fedeli, 2022; Fedeli, 2023a; Fedeli, 2023b; Fedeli, 2023c);
- Sharing TIME4CS initiatives on UniSR social media;
- Organization of an inspiring 2-day workshop on CS with tailored sessions for researchers, professors, and research support staff, involving partners from front-runner organizations that shared their experience with our personnel and involved the core team in a train-the-trainer session (Fedeli, 2023c).

Moreover, CS principles and theory were included in specific training modules for students of Master's Degrees in Communication of Science and Health, in Biotechnology and Medical Biology, and in Nursing and Midwifery, and the PhD courses in Molecular Medicine, in Philosophy, and in Cognitive and Behavioural Sciences.

GA4 – Set up informal opportunities for interactions with researchers, aiming to foster interdisciplinary dialogue, enhance mutual understanding, and broaden perspectives on CS practices within their respective fields. Although this GA was suspended, the appointment of a former UniSR researcher as the CS Officer has facilitated communication with researchers.

GA5 – Identify an institutional contact point for CS. First, we created a dedicated email address, citizenscience@unisr.it. Then, a specific section on CS in the UniSR intranet was developed, with a repository of useful and curated resources, including publications on CS (divided into principles of CS, CS and research, CS and teaching), an interactive form for self-evaluation of the feasibility of a CS project based on Pocock et al. (2014), and an archive of the Bits of Citizen Science newsletter and of the articles published by us on the TIME4CS website.

GA6 – Adopt evaluation criteria for researchers' evaluation that consider CS. With this GA, we aim at attracting the interest of researchers in CS and encouraging the researchers, especially early stage, to apply OS and CS practices in a systematic way. A whole set of new evaluation criteria is currently undergoing approval in our institution and the ones which embed CS were successfully inserted into the list.

GA7 – Develop CS methodology for research activities and projects. We defined effective case studies to be shared with the research community, to raise and increase interest in CS. We offered researchers support and knowledge on CS, strengthening the reputation of the core team, and attracting more researchers and their interest. As a tangible result of this GA, the first UniSR CS project was launched at the beginning of 2024, just a few months after the end of the TIME4CS project (UniSR, 2024) and is now uploaded in the European (eu-citizen.science, 2024) and Italian (Citizen Science Italia, 2024) databases of CS projects.

GA8 – Organise debates or public events to promote CS. In order to strengthen UniSR's expertise in CS, reinforce the relationship between science and society, widen the audience of seminars, engage more people and, potentially, build an ecosystem of actors interested in CS and Public Engagement, from January 2025 we plan to define a calendar with selected topics (and speakers) and identify the target audiences. We also started a collaboration with Citizen Science Italia, with the aim of networking different realities interested in CS, in particular in the health sector. To launch the first seminars open to external stakeholders we will take advantage of the expertise collected in organizing a workshop open to researchers, patients' associations, and funding bodies. Through this meeting, UniSR aimed to spark a discussion that would encourage funding bodies to consider integrating CS approaches as a requirement in funding calls,

promote the engagement of patient associations in shaping funding priorities and objectives, and enhance existing collaborations between our researchers and their associated patient organizations (Fedeli, 2023c). Moreover, UniSR is partnering in the European project MEET with other universities in Milan for the organization of the European Researchers' Night and the connected activities in schools: we are now developing projects for pupils based on the CS methodology that will spark for the 2024/2025 and 2025/2026 school years.

GA9 - Becoming theorists and practitioners of CS/Research. In the years following the end of TIME4CS, we plan to produce scientific articles as results of pilot projects on CS or collaboration with researchers in writing reviews and position papers. A first article has currently been submitted.

GA10 – Integrating a training module focused on CS, into different degree programs. Building on the work accomplished under GA3, which delivered a training course to Master's degree students in Nursing and Midwifery, the Master's degree in Communication of Science and Health, and PhD students, UniSR will explore the integration of a CS course into other degree programs. To do this, we will consolidate the training module on CS and engage in discussions with Faculty Deans and Chairs of Degree Courses to explore incorporating the CS training module into the educational offerings.

UniSR & CS at the End of TIME4CS

To measure the impact of TIME4CS on the UniSR research community, 2 months after the end of the 36-month-long project (M36+2) we repeated as a follow-up the survey we had performed at month 12 of the project (M12).

Significantly, the percentage of researchers aware of the concept of CS strikingly increased from 19.6% to 72.0% (22 and 54 researchers, respectively, Figure 1A), suggesting the efficacy of the work completed through TIME4CS. The percentages of researchers almost remained unaltered in the following questions: the vast majority of them (69, 92.0%) had never been involved in a CS project as a citizen (Figure 1B) or in other forms of participatory science (67 researchers, 89.3%, Figure 1D).

Interestingly, a statistically significant difference was found when asking about their participation in CS projects as a researcher (Figure 1C): at M12 only 3 (2.8%) researchers answered positively, whereas at M36+2 8 (10.7%) did the same and this can be easily correlated with the birth of the pilot CS projects at UniSR. 66 (88.0%) researchers were convinced of the usefulness of CS in helping citizens have an impact on science and society (Figure 1E) and 62 (82.7%) of them were still interested in knowing more about CS (Figure 1F), motivating us to continue our activity of promotion of CS as a legacy of the TIME4CS project.

Regarding the perceived usefulness of CS in their research activity, 58 (77%) agreed (Figure 2A) and reducing time and costs was the advantage of CS that seems to have changed the most (Figure 2B) in its percentage from M12 (3 answers, 3.9%) to M36+2

(14, 16.3%). Among the minority of researchers still not convinced of the worthwhileness of CS, the lack of expertise in lay people remained the major concern (Figure 2B).

CONCLUSIONS

The European project TIME4CS has successfully initiated institutional changes within our university to promote CS, setting a valuable precedent for others to follow. For RPOs aiming to embrace this collaborative approach, several key suggestions/lessons learned emerged from our experience:

1) Plan training initiatives for researchers and administrative staff, to allow the exchange of experiences and to increase the know-how on CS within your RPO.
2) Communicate to the research community that CS is a research approach like any other, with its limitations and biases. Its strength lies in the combination of methods, where the disadvantages of one method can be compensated by the advantages of another one. CS is not a "pinch of salt" you add to a research project to give it some taste: instead, it is one of the main "ingredients" and it should be used when appropriate and useful, as with every other research method.
3) Identify and engage internal stakeholders, at all levels: governance, research support offices, researchers, professors, and students.
4) Identify ownership and responsibility for the project, from project management to administrative management to implementation of the tasks.
5) Design effective and tailored communication activities to engage stakeholders and appropriately address cross-cutting issues.
6) Define ad hoc monitoring and assessment exercises, with the involvement of external professional organizations, to ensure the quality and effectiveness of implemented activities.

In conclusion, by fostering effective cooperation between science and society, RPOs can bridge gaps and promote a mutual understanding that enhances scientific endeavours. This synergy not only recruits new talent into the scientific community but also ensures that these talents are attuned to societal needs and responsibilities. Furthermore, CS initiatives pair scientific excellence with social awareness, promoting a more responsible and ethically conscious scientific community. Through the integration of CS methodology, RPOs can benefit from the embracement of a new mindset, more prone to institutional changes with a consequent resilient approach. Ultimately, this integration leads to the development of policies that are more relevant and beneficial to society at large, ensuring that science serves the broader interests of humanity.

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APPENDIX

Citizen Science Internal Survey

Citizen Science is the practice of directly involving the general public in scientific research by asking citizens to actively participate in study design, data collection and/or data analysis.

The aim of this survey is to better understand the extent to which UniSR researchers are informed about Citizen Science, whether they have ever been involved in a Citizen Science project, and if they are interested in, and willing to engage in Citizen Science activities.

This survey is anonymous. The responses cannot be traced back to the respondent and no personally identifiable information is captured.

1. Have you ever heard about the concept of "Citizen Science"?
   - *Yes*
   - *No*
2. Can you give an example of a Citizen Science project/initiative that you know about?

   Open-ended response field
3. Have you ever been involved, as a private citizen, not as a researcher, in a Citizen Science research project regarding a different scientific field from yours (e.g. astronomy, zoology, botany, etc.)?
   - *Yes*
   - *No*
4. Have you ever been involved, as a researcher, in designing, setting up or analysing the results of a Citizen Science research project?
   - *Yes*
   - *No*

5. Have you ever been involved, as a researcher, in any other participatory research activity (not necessarily calling itself Citizen Science, but involving citizens actively in a research project)?
   - *Yes*
   - *No*
6. If yes, could you very briefly describe it.

   Open-ended response field

7. Do you see a difference between Citizen Science and other forms of participatory research? And what would that be for you?

   Open-ended response field

8. Do you think that Citizen Science could be useful to your research activity?
   - *Yes*
   - *No*
9. If yes, why? (e.g., reducing time and costs, engaging/educating the public, getting different views, and accessing local knowledge, etc.)

   Open-ended response field

10. If no, please describe the specific limitations or undesirable aspects of CS at stake.

    Open-ended response field

11. Do you believe that citizen science can help citizens have an impact on science and society?
    - *Yes*
    - *No*
12. If yes, please describe what kind of impact you could have.

    Open-ended response field

13. Would you like to learn more about Citizen Science and how you can set up a CS project that suits your research activity?
    - *Yes*
    - *No*
14. Do you have any suggestions how Citizen Science as a methodology of doing research could be fostered in UniSR?

    Open-ended response field

15. Do you have any other thoughts or comments about Citizen Science that you may want to share?

    Open-ended response field

16. Personal Data Processing Authorization

BIOGRAPHIES

Maya Fedeli earned a PhD in immunology to pursue a successful career as a researcher in the fields of microRNA and cancer immunotherapy. She is now Citizen Science and EU project communication officer at the Research Policy Office at UniSR.

Elena Maffia is an EU policy officer. She was national contact point at APRE - Agency for the Promotion of European Research, with a history of working in the business consultancy and academic sector, and consolidated experience in project management for EU and national projects, research strategy and policy development. She is now EU policy officer at the EU Research Strategy and Policy Office at UniSR.

Federica Prete is a research manager. She was a FP7 national contact point at APRE - Agency for the Promotion of European Research and then National and EU Funding Officer at Politecnico di Milano. She is now Horizon Expert Evaluator and Head of the EU Research Strategy and Policy Office at UniSR.

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