COMMON TRAINING PROGRAMME "ARQUS TRANSFER SKILLS" FOR IMPLEMENTATION

December 2023

Work Package 4 – Re-Thinking Transfer

Arqus Research & Innovation Project

(Grant agreement No 101017448)

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Content

The Arqus Research and Innovation project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 101017448.

INTRODUCTION

The report represents the results of the implementation of task 4.2. "*Strengthening innovation capacity: Training and Co-Creation Labs*" (Work package WP4 "*Re-thinking Transfer*") and the product of this task D4.1 "*Common Training Programme Arqus Transfer Skills for implementation".*

The aim of the task in order to reach the final product D4.1 is to identify the feasibility of the common training programme "*Arqus Transfer Skills*" to be implemented. Common training programme that is being developed has to cover introduction of Social Sciences, Humanities, the Arts-based research methods to academic and non-academic entities within Arqus universities' innovation ecosystems, enhancing RDI applicability, and valorisation of research results (value-chain analysis methods).

In order to create the product D4.1 of the task 4.2, the online pilot training programme "*Arqus Transfer Skills*" was implemented in May-June, 2023. The pilot programme invited academics and researchers from all career stages and all disciplines coming from the Arqus universities to participate. The programme covered a wide number of themes related to various forms of transfer of results created in universities, communication with different stakeholders and practical examples of transfer activities from Arqus universities.

The report is based on the review of scientific literature, analysis of studies and statistical data, Arqus community's survey, and feedback of pilot training implemented. The report consists of three parts that show how the common training programme was developed. The first part of the report presents the results of the Arqus community survey carried out. The survey helped to explore the ways in which universities engage with their local ecosystems and offer a platform to exchange on these issues. The second part of the report describes the pilot programme as implemented (implementation process, difficulties and constraints, feedback from participants). The report concludes with conclusions that represent lessons learned.

1. ARQUS COMMUNITY SURVEY ON COMMON TRAINING PROGRAMME

The first part of the report represents Arqus community survey on common training programmes: the methodology (the purpose, stages, design, instrument and sample of Arqus community survey), results of the survey and final conclusions that will help to implement Arqus pilot training.

1.1. Methodology of Arqus community survey

The purpose of the Arqus community survey. Arqus community's survey is aimed at identifying the relevant topics, in order to cover the most actual innovation ecosystem topics, according to the needs and their possible impact on the Arqus community. The common training programme has to be based on transdisciplinary co-creation that consists of (1) joint definition of the problem and contents of the project or initiative, (2) integration of natural and social sciences, (3) integration of non-academic actors and their knowledge, (4) a social learning process and joint reflection on the goals, (5) collective action for implementation (Rist and Herweg, 2016; Jacobi et.al., 2022).

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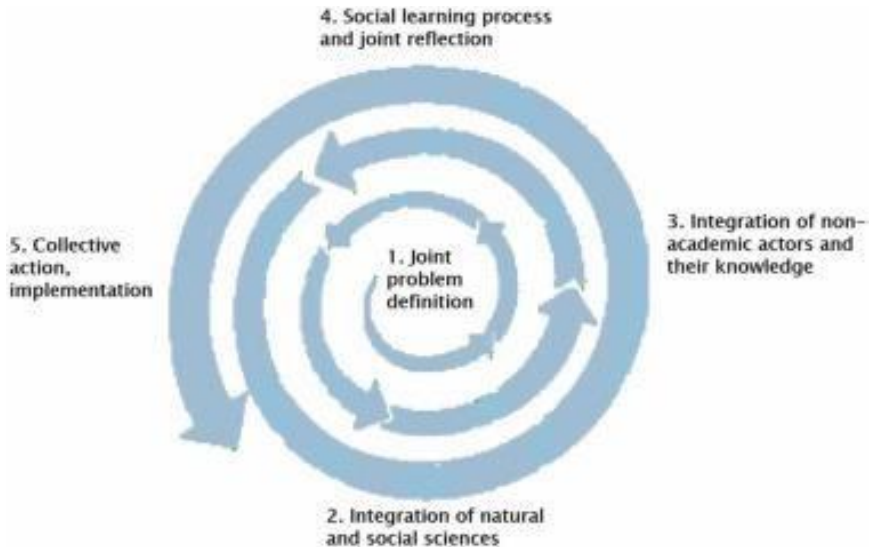

Figure 1. Transdisciplinary co-creation (Rist and Herweg, 2016; Jacobi et.al., 2022)

In order to determine how to implement a common training programme based on transdisciplinary co-creation, it was decided to analyse the training needs and opportunities of Arqus universities through a survey. It's important to identify what topics of training could be interesting for all Arqus community (the aspect of transdisciplinary - joint problem definition) and how the Arqus community could implement the common training together (the aspect of transdisciplinary co-creation – collective action for implementation). The survey seeked to find out training needs and opportunities in three areas SSHA (Social Sciences, Humanities, the Arts) with the aim of implementing these aspects of transdisciplinary co-creation as integration of natural and social sciences, integration of non-academic actors and their knowledge (Figure 1). That helped to create the most relevant joint training programme for the Arqus community. The detailed survey design is shown in table 1.

Stages of Arqus community survey. In order to reach the purpose of the survey, there were the stages and plan of survey established (Figure 2). The Arqus community survey was carried out in three phases. First, according to the identified aim of the survey and relevant themes of training, the questionnaire was created. Second stage - to identify potential respondents who are competent to answer questions. The communication with Arqus coordinators and WP4 group was important at this stage. The last stage – to organise the survey and analyse results.

The Arqus universities	**SS Social Sciences**		**H Humanities**		**A the Arts**	
	Training needs	*Training opportunities*	*Training needs*	*Training opportunities*	*Training needs*	*Training opportunities*
Leipzig University						

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University of Granada						
University of Graz						
University of Lyon						
University of Padua						
Vilnius university						
Expected result	Most relevant training areas and Training opportunities in SS		Most relevant training areas and Training opportunities in H		Most relevant training areas and Training opportunities in A	
Expected final result	**Common Training Programme "Arqus Transfer Skills" for implementation**					

Table 1. Research design

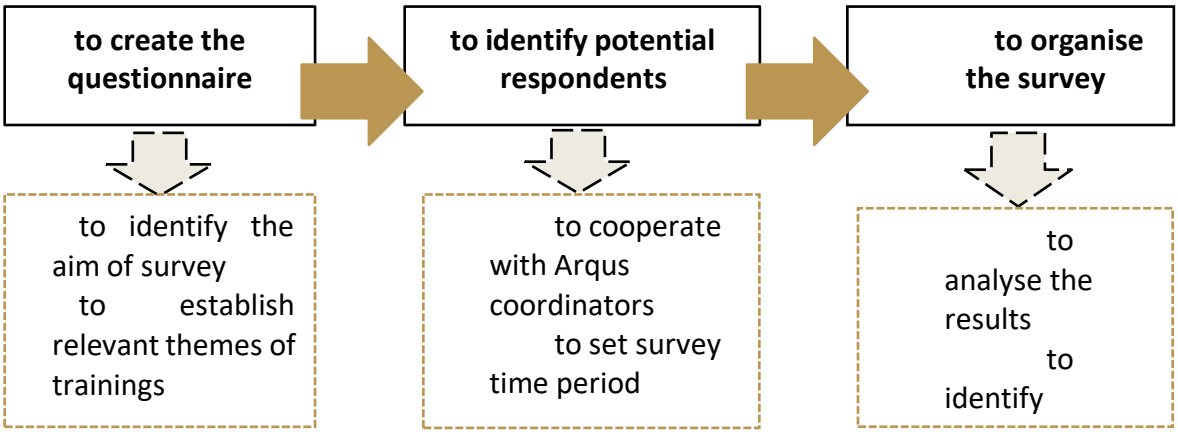

Figure 2. Stages of Arqus community survey

Instrument of the survey. A two-part questionnaire was designed to identify training needs and training opportunities in Arqus universities (Annex 1).

Structure of the questionnaire:

1. IDENTIFICATION OF TRAINING NEEDS (5 questions). The first part of the questionnaire is aimed at identifying the most relevant areas of training in the Arqus community.

Question 1. Training areas that are most relevant for the academic and non-academic entities: Human-environment systems - complex interactions & "wicked problems; Growing inequality, social injustice, population and migration, social policy, social integration; Healthcare and livelihood, pandemic management; Power, ethics and prevention of corruption threats, hate and conflict; Work and tech;

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Modern entrepreneurship; Crisis management; Sensitive data, protection of personal data; Education policy; Social transformation; Recreation, leisure and sports.
Respondents, representing a university or an individual unit within it, indicated their perceptions (what training area is most relevant nowadays) on scale items on a five-point Likert scale of 1 (not relevant) to 5 (very relevant).

Question 2. Effective activities/methods: Computer based training; Webinars and web conferences; Open meetings; Sharing experience with various institutions; Workshops, future labs; Direct consultations; Open-collaboration projects**;** Virtual excursions; Social simulations; Design thinking; Scenario planning; Mind Map and Brainstorming; Receiving manuals.

Respondents, representing a university or an individual unit within it, indicated their perceptions (what activities/methods could be based the training on) on scale items on a five-point Likert scale of 1 (not effective) to 5 (very effective).

Question 3. Developed skills, competencies: Analytical skills; Work skills; Individual skills; Transdisciplinarity.
Respondents, representing a university or an individual unit within it, indicated their perceptions on what skills and competences should the training programme be mainly focused on.

Question 4. Time frame of a training programme: Six months; Three months; One month; 2 weeks.
Respondents, representing a university or an individual unit within it, indicated their perceptions on how the training programme should be organised in terms of time.

Question 5. Suggestions.

2. IDENTIFICATION OF TRAINING OPPORTUNITIES (3 questions). The second part of the questionnaire is aimed at identifying training opportunities within the Arqus community, i.e. what training could be developed by an individual university or unit.

Question 1. Kind of training that the university (department/unit) has provided over the last three years.

Question 2. Kind of training could the university (department/unit) provide.

Question 3. What activities/methods could be the training based.

Sample and data collection. Respondents of the survey were people from Arqus universities who could provide the opinion about the training needs and training opportunities of the represented university (or represented department of particular Arqus university) in order to create the most relevant common training programme based on transdisciplinary co-creation.

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The number of the respondents totalled to 13. The survey sample in more detail is shown in table 2. During the WP4 meeting, the distribution of the questionnaire was discussed and it was decided that the WP4 group would find potential respondents in Arqus universities who could answer the questions, i.e. the questionnaire was sent to WP4 group, which forwarded them to potential respondents.

The survey was conducted in the period from April to September 2022. One detailed answer to the questionnaire was received from representatives of the Universities of Leipzig, Graz and Padua. Four fully completed questionnaires were received from Granada University and six - from Vilnius University (Table 2).

The Arqus universities	**Total**	**Department/unit**
Leipzig University	1	Department for Research and Transfer (Central Administration)
University of Granada	4	Knowledge Transfer Office Medialab UGR Directorate for Participation and Social Innovation - UGR-MediaLab
University of Graz	1	Doctoral Academy Graz
University of Padua	1	Vice Rector of the Third Mission and Regional Relations and Full Professor (Teaching, training methodologies and organisational development) at the Department of Philosophy, Sociology, Education and Applied Psychology
Vilnius university	6	Faculty of Communication Faculty of Law Faculty of History Kaunas Faculty (Social and Physical Sciences (Informatics)) Kaunas Faculty (Humanities) Kaunas Faculty (Institute of Languages, Literature and Translation Studies)

Table 2. Survey sample

1.2 Results of Arqus community survey

The results of the survey are presented first, which represent training needs in the Arqus community, followed by results on training opportunities in Arqus universities.

1. IDENTIFICATION OF TRAINING NEEDS.

Question 1. The first question allowed to identify training areas that are most relevant for the academic and non-academic entities. The results of the first question showed that the most relevant training areas in Arqus community at the moment are:

- Growing inequality, social injustice, population and migration, social policy, social integration.
- Social transformation.

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- Healthcare and livelihood, pandemic management.
- Sensitive data, protection of personal data.

Table 3 shows the most relevant training areas in more detail.

Most relevant areas of training (arranged by importance)	**Broader description (The scales of questions were made on these sources)**
1. Growing inequality, social injustice, population and migration, social policy, social integration	Four megatrends that impact on inequality: technological innovation, climate change, urbanisation and international migration *(Inequality in a rapidly changing world, World social report 2020, United Nations)*
2. Social transformation	Social transformations are driven by the impact of globalisation, global environmental change and economic and financial crises, resulting in growing inequalities, extreme poverty, exclusion and the denial of basic human rights *(Unesco's Management of social transformation programme)*
3. Healthcare and livelihood, pandemic management	The health, economic and social development issues in a COVID-19 pandemic context and aftermath. The COVID-19-pandemic-related challenges highlighted by this pandemic include, but are not limited to, the need for global health cooperation and security, better crisis management, coordinated funding in public health emergencies, and access to measures related to prevention, treatment and control *(Panneer, S., et.al., 2022)*
4. Sensitive data, protection of personal data (Personal security, the right to use personal data, the data classification process)	The data protection package adopted in May 2016 aims at making Europe fit for the digital age. More than 90% of Europeans say they want the same data protection rights across the EU and regardless of where their data is processed. It's important now to strengthen individuals' fundamental rights in the digital age and facilitate business by clarifying rules for companies and public bodies in the digital single market *(Data protection in the EU, https://ec.europa.eu)*

Table 3. The most relevant training areas for Arqus community

Mentioned additional suggestions about the most relevant training areas:

- The areas mentioned above are highly political and mostly address the "problems" popular in Western World, which have little to no relevance to the rest. It's like academic colonialism, ignoring the needs and points of view of pretty much everyone else, hence useless. Do we really need yet another equality, environment, gender, and similar study? It's more of the same and leads nowhere.
- Data analytics, computational intelligence, big data approaches for application in the domain areas of business, public governance, healthcare.
- Sustainability.
- Social Innovation.

Question 2. The results of answers to the second question showed the most effective training tools at the moment would be:

- Direct consultations with an expert on specific issues, Delphi exercises.
- Sharing experience with various institutions from Arqus countries.
- Open-collaboration projects, workshops, future labs.
- Participation in workshops, future labs.

The distribution of responses to this question is shown in the figure 3 below.

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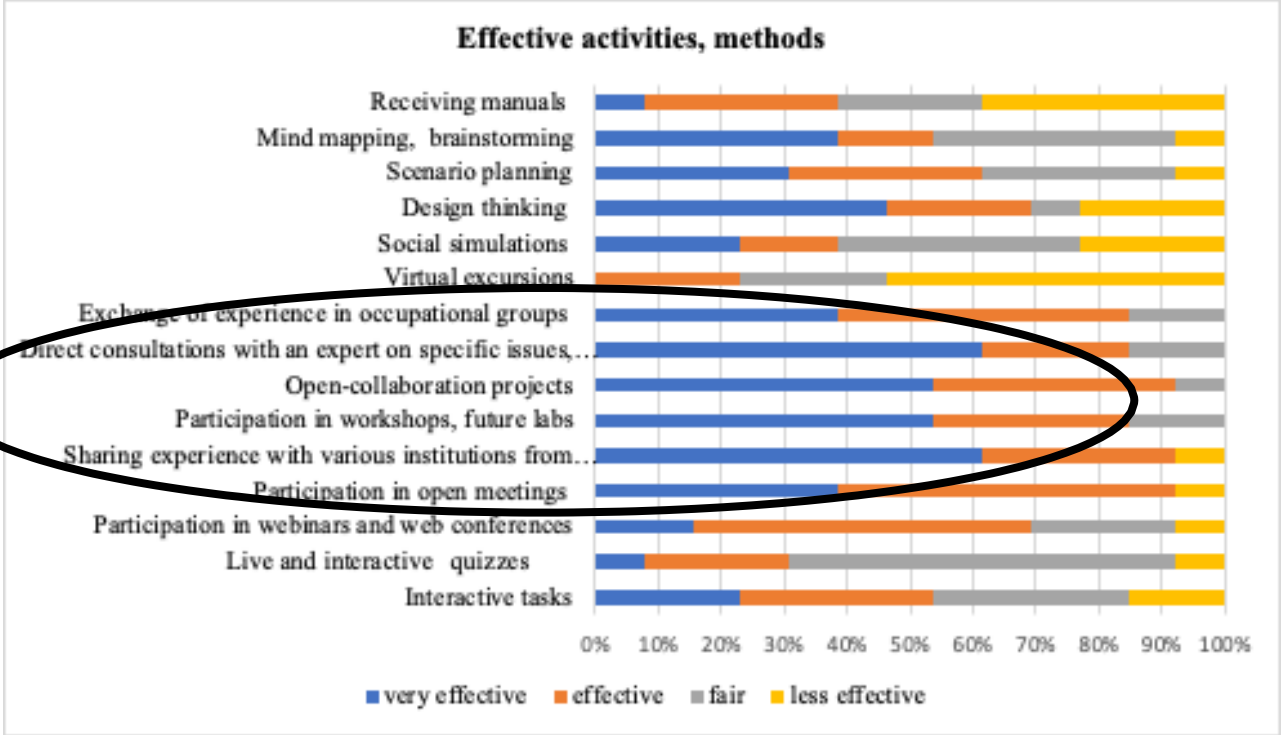

Figure 3. The most effective training tools and methods

Table 4 shows broader descriptions of the most effective training tools. Mentioned additional suggestions about the most effective training activities/methods:

- We need more communication between the people working in less popular research fields. And more attention to the research which doesn't concern the hyped up research subjects.
- Preparing joint research works - articles, conference papers, joint project applications.

Most effective activities/methods (arranged by importance)	**Broader description**
1. Direct consultations with an expert on specific issues, Delphi exercises	Knowledge transfer requires quite intensive (face-to-face) interaction and cooperation. A direct sharing of knowledge between the knowledge senders and receivers (through face-to-face interaction). The face-to-face social interaction shapes a channel of communication which makes tacit knowledge sharing, in particular, easier *(Noorderhaven and Harzing, 2009; Prencipe and Tell, 2001).*The Delphi method consists of several rounds of written questionnaires that allow experts to give their opinions.
2. Sharing experience with various institutions from Arqus countries	Tacit knowledge is based on practice, acquired by personal experience, seldom expressed openly, often resembles intuitions and embodies beliefs and values that can be shared through socialisation and interaction between persons or groups in organisations. Knowledge sharing must be integrated into the culture, values of the universities *(Dei and Bingle van der Walt, 2020).*
3. Open-collaboration projects	Open collaboration is when everyone can join, no principled or artificial barriers to participation exist, decisions and status are merit-based rather than imposed, processes adapt to people rather than people adapt to pre-defined processes. Prime places

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	to find open collaboration are on wikis, on Wikipedia and other Wikimedia Foundation projects, in open source, in open data and open government initiatives, open innovation, citizen engineering, peer production (*https://opensym.org/2012/09/28/definition-of-open-collaboration/*)
These activities and methods grouped in this group were also seen as important to use ● Participation in open meetings / discussions with other professionals, international and local experts ● Exchange of experience in occupational groups - club meetings, forums ● Design thinking (questioning the problem, the assumptions and the implications) ● Mind Map and Brainstorming	

Table 4. The most effective activities/methods

Question 3. The results of the answers to the third question showed that the common training programme should be mainly focused on the development of skills and competences such as increasing opportunities for professional and career development, increasing motivation and satisfaction in daily work, gaining learning/teaching experience in an international context. The table 5 shows skills and competencies that should be developed in the common training programme.

Developed skills, competencies (arranged by importance)	
1. Increasing opportunities for professional and career development	Individual skills
2. Increasing motivation and satisfaction in daily work	Individual skills
3. Gaining learning/teaching experience in an international context	Transdisciplinarity
4. *These skills and competences grouped in this group were also seen as important to develop* ● Strengthening of intercultural competence of all parties involved ● Selecting the appropriate techniques for analysis ● Use of various scientific research methods ● Establishing and monitoring goals and objective	 Transdisciplinarity Analytical Skills Analytical Skills Work skills

Table 5. Skills and competencies developed in Arqus common training programme

Mentioned additional suggestions about skills and competencies developed in the common training programme:

- Exchange of ideas. What is on offer seems to be mechanical and concerns mostly either learning computer or research literacy. While it might be useful for some people, what we really need is a working management training and management support - so I can do an actual research instead of wasting half of my time on researching grant proposals, writing applications, etc. It's like running a company without a manager, when we are forced to emulate business.
- Presentation and communication skills - both technology-assisted and verbal.

Question 4. The results of the answers to question 4 showed how the common training programme should be organised in terms of time. The best formats are one training session per week (six months, three months) or two training sessions per week (two weeks). Another suggestion on this question was about organising summer schools or Arqus week and similar for 3 months with two sessions per week.

Question 5. Provided suggestions that might help to create an effective common training programme for the Arqus Alliance are in table 6.

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We are always open to talk about the real thing, just there is little point to "play" learning, like game elements or something similar. Better match making of the people who work on a similar subject would be nice though.
Specify target groups (e. g. early-stage researchers, undergraduate students, experienced researchers); tailor a programme according to the specific needs of the group (e. g. early-stage researchers should acquire skills for both, the academic and the non-academic labour market). Have internal as well as external trainers who bring in a diversity of perspectives and experiences.
Identification of strong points of each Arqus member and decide a limited number of topics to perform this training in a first approach rather than try to cover a general course.
Community building and intensive residential training session.
Developing Citizen Participation programs, involving people in the decision making processes of their cities.
With substantial additional funding some of the offers of the Doctoral Academy and DocService could be designed for international online participation or in the way of a summer or winter school.
The creation of some young researchers exchange programs promoting skills transfer.

Table 6. Summary of suggestions on training needs

2. IDENTIFICATION OF TRAINING OPPORTUNITIES

Question 1. The results of answers to this question allowed us to determine the kind of training that Arqus universities (various units) have provided over the last three years. Former trainings topics and comments about that:

- IT, gender issues, communication, etc.
- Mostly on online teaching.
- Technology assisted lecturing.
- New administrative and online tools for academic management. Social media management, Research and project Management.
- Mainly technical training about Knowledge Transfer skills (IP management, valorization, legal affairs, project management...) and training about soft-skills (pitching, negotiation...)
- Teaching Innovation. Inclusion and differences. Professional skills development. Communication.
- The University of Graz has a broad offer with regards to transferable skills training. The Human Resources Department offers training programmes for PhD candidates and postdocs, there is also a leadership programme for more experienced staff. The Doctoral Academy Graz as well as the DocService offer courses for academic skills (academic English, proposal writing, publishing), courses for the PhD phase (project management, writing a doctoral thesis) and more general courses (communication skills etc.).
- The University of Granada proposes a handful of training programs available for its employees.
- This would have to be developed. So far, there is neither an established transfer skills teaching programme for employees nor for students at Leipzig University that could easily be opened to other Arqus members. WP4 would be the very opportunity for Leipzig University, to do the first steps towards a systematically implemented transfer skills teaching programme.

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Question 2. The results of the answers to this question allowed us to determine the kind of training that Arqus universities (or department/units) could provide. Possible topics of the training:

- Gender issues, communication, IT, languages, management, etc.
- Seminars/workshops on audiovisual translation.
- Analytics, computational intelligence.
- IP Management, Technology Transfer.
- Sustainability and green. Open science. Teaching. Innovation.
- Social innovation, living labs and podcasting training.
- Digital identity and on-line reputation for researchers and project managers.

Summary of keywords that describe the possible topics for Arqus common training is shown in the figure 4.

Figure 4. Possible topics of the training

Question 3. The results of the answers to this question allowed us to determine activities/methods that would be based on the training that Arqus universities (department/unit) could provide. The answers are labworks, case study workshops, combining theoretical and practical training, and storytelling.

1.3 Summary of Arqus community survey

The summary of Arqus community survey about training needs, opportunities, and effective activities/methods is provided in table 7.

TRAINING NEEDS **Most relevant areas of training**	**TRAINING OPPORTUNITIES** **Kind of training that Arqus universities could provide** *(divided into group by most relevant training areas)*	**MOST EFFECTIVE ACTIVITIES/METHODS**
Growing inequality, social injustice, population and migration, social policy, social integration	Gender issues, Communication *(VU Faculty of Communication)*	Direct consultations with an expert Delphi exercises Sharing experience with various institutions from Arqus countries Open-collaboration projects

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Social transformation	Sustainability and green. Open science. Teaching. Innovation *(University of Padua)* Social innovation, living labs and podcasting training *(University of Granada)* Audiovisual translation *(VU Kaunas Faculty).* Training programmes for PhD candidates and postdocs (project management, writing a doctoral thesis) and more general courses (communication skills etc.); leadership programme for more experienced staff; courses for academic skills (academic English, proposal writing, publishing) *(University of Graz)*	Mentioned suggestions about collaboration projects: Preparing joint research works - articles, conference papers, joint project applications Focused on the ability to develop science The creation of some young researchers exchange programs promoting skills transfer.
Sensitive data, protection of personal data	Analytics, computational intelligence *(VU Kaunas Faculty)* IP Management, Technology Transfer *(University of Granada)* Digital identity and on-line reputation for researchers and project managers *(University of Granada)*	

Table 7. Summary of Arqus community survey

Summarising the results of Arqus community survey, it can be seen that the theme of social transformation has the greatest relevance and feasibility. Social transformation definition by *Unesco's Management of social transformation programme*:

- **Social Inclusion** as an essential feature of fighting poverty, narrowing inequalities, and advancing towards inclusive societies, as one of the key goals of sustainable development.
- **Social Transformations arising from Environmental Change** in recognition of the necessity to address crises ranging from the reduction of natural resources, food, water and energy shortages, loss of biodiversity the pressure of accelerating urbanisation and population growth, to climate change and natural disasters. Considering that sustainable development has inseparable social and environmental pillars, social and environmental challenges are closely interrelated.

The final conclusion of Arqus community survey is: the main goal of the common training programme is to provide participants with the knowledge necessary to prepare joint research works (articles, conference papers, joint project applications), to focus on the ability to develop science in the international and/or collaborative framework, to exchange opinions for creating ideas in the fields of social transformation.

2. ARQUS PILOT TRAINING PROGRAMME

The second part of the report represents preparation and registration to Arqus pilot training programme, how Arqus pilot training was implemented, feedback of participants in the pilot training, conclusions and lessons learned.

2.1 Preparation and registration to Arqus pilot training

The pilot training programme was compiled by the results of Arqus community survey. Based on the results of Arqus community survey, the possible training programme, that consists of five sessions, was drawn up. The pilot

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training programme includes the topics that are most relevant for the target group (young researchers, PhDs, postdocs, etc.). The programme of pilot training is shown in table 8.

Date	Time	Topic
May 5	10:00-11:30 CET	Introductory Workshop „Re-Thinking Transfer or the 3rd Mission of University“
May 9	13:00-14:40 CET	Science Communication
June 5	10:30-12:20 CET	Transferable Skills: From Research to the Market Outside Academia
June 6	13:00-15:15 CET	Transfer in Sustainability: Circular Economy Approaches
Juni 14	13:00-14:30 CET	Social Innovation

Table 8. The programme of Arqus pilot training

Total 9 speakers agreed to share their experience and research results at Arqus pilot training. The speakers that presented their topics in the pilot training:

- Dr. Holger Hoff (Transdisciplinary Interface Manager in the Field of Excellence Climate Change Graz, University of Graz),
- Veronika Rogenhofer (Public Relations Coordinator at the Wegener Center for Climate and Global Change, University of Graz),
- Prof. Paolo Giardullo (Assistant Professor in Sociology at the University of Padua),
- Carole Allouche and Stéphanie Thillet (Career experts, Claude Bernard University Lyon 1),
- Prof. Eleonora di Maria (Professor at the Department of Economics and Management, University of Padua),
- Dr. Inga Matijošytė (Senior researcher and head of the Sector of Applied Biocatalysis at the Life Sciences Center, Vilnius University),
- Prof. Esteban Romero-Frías (Professor at the University of Granada, Director of Medialab UGR- Research Laboratory for Digital Culture and Society),
- Judith Zimmermann (Officer for Strategic Knowledge Transfer Development, Leipzig University).

The detailed programme (descriptions of the topics, speakers and short information about speakers) is attached in Annex 2.

First, registration of potential participants was carried out. Anyone wishing to take part in the pilot training completed a registration form (Annex 3). The participants noted what session they would like to take part in, their institution, gender, name and surname, and email in the registration form. Also, the potential participants agreed that their personal data will be used for organisation of seminars, getting feedback on contents, and reporting purposes of the project. The participants were informed that seminars will be recorded and their material might be used for further dissemination purposes on-line/on social media etc. The link of the training was sent only to registered participants.

A total of 149 unique participants registered for the five sessions. Some registered for one session and some for all sessions. All the pilot training sessions attracted almost equal interest from potential participants. Total of participants registered to Arqus pilot training is represented in table 9.

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Date	Time	Topic	Participants
Session I May 5	10:00-11:30 CET	Introductory Workshop „Re-Thinking Transfer or the 3rd Mission of University“	95
Session II May 9	13:00-14:40 CET	Science Communication	115
Session III June 5	10:30-12:20 CET	Transferable Skills: From Research to the Market Outside Academia	110
Session IV June 6	13:00-15:15 CET	Transfer in Sustainability: Circular Economy Approaches	97
Session V Juni 14	13:00-14:30 CET	Social Innovation	101
TOTAL 149 participants registered			

Table 9. Number of participants registered

The figure 5 represents registrations for different sessions of Arqus pilot training. The largest number of participants have registered for all five sessions (53 participants or 35,6 % of all participants registered) and for four sessions (29 participants or 19,5% of all participants registered).

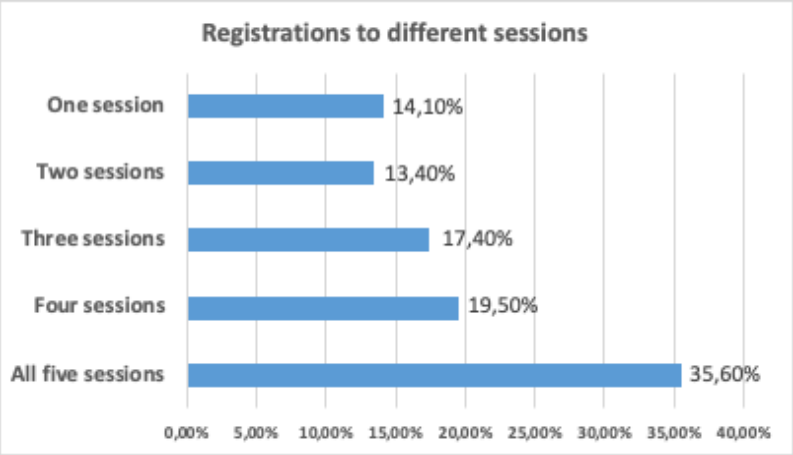

Figure 5. Participants registered for the different sessions

Figures 6, 7 and 8 show the general information about participants registered: institution, position/status at the institution, research field of a participant, and gender. The figures represent answers to questions on the registration form (Annex 3). These questions were gathered only for statistical and reporting purposes.

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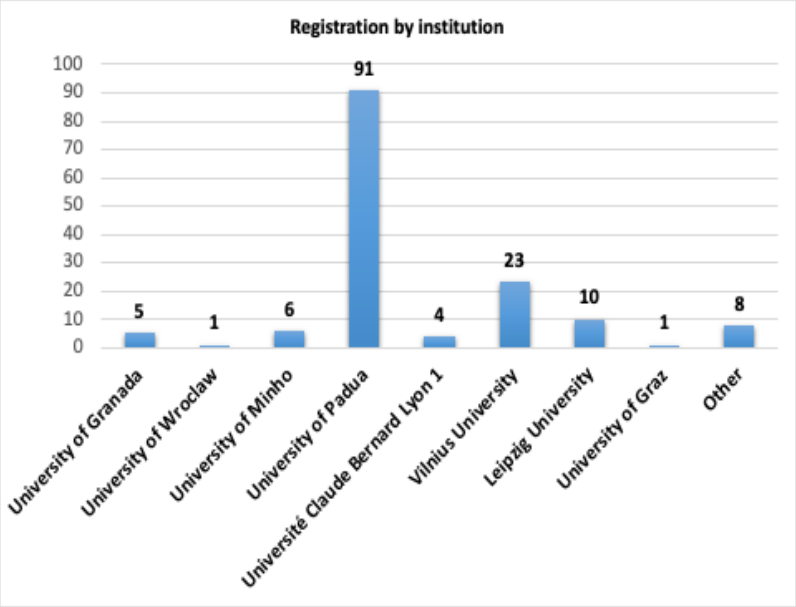

Figure 6. Participants registration by institution

The largest number of registered participants to Arqus pilot training were from University of Padua (91 participants registered) and Vilnius university (23 participants registered) (Figure 6). More 40% of registered participants (60 registered participants) were phd students (Figure 7) and 59 % of registered participants were women (Figure 8).

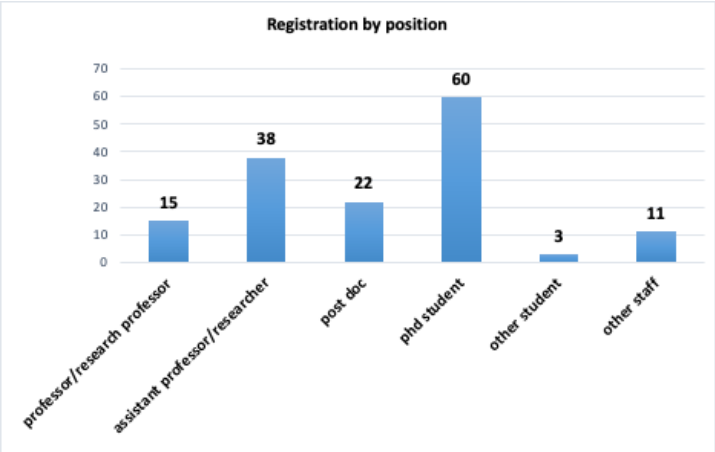

Figure 7 and Figure 8. Participants registration by position in an institution and by gender

The map of keywords that describes research fields of registered participants is shown in figure 9.

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Figure 9. Registered participants research field

There were participants registered to Arqus pilot training in various research fields - Political science, Law, Natural science, Biological Sciences, Computer Science, Engineering, History, Management and entrepreneurship, Education, Philosophy, Communication science, etc.

2.2 Implementation of Arqus pilot training

The training took place online, the link was sent only to registered participants. All training sessions were recorded and material was used for further dissemination purposes. Total number of participants per different session of Arqus pilot training is shown in table 10. The largest number of participants came to the session II *Science Communication* (42 participants) and the session I or introductory workshop (36 participants).

Date	Time	Topic	Participants
May 5	10:00-11:30 CET	Introductory Workshop „Re-Thinking Transfer or the 3rd Mission of University“	36
May 9	13:00-14:40 CET	Science Communication	42
June 5	10:30-12:20 CET	Transferable Skills: From Research to the Market Outside Academia	18
June 6	13:00-15:15 CET	Transfer in Sustainability: Circular Economy Approaches	20
Juni 14	13:00-14:30 CET	Social Innovation	15

Table 10. Number of participants in Arqus pilot training

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The session I or Introductory workshop was held on 5 May on *MsTeam*. The speaker Dr. Holger Hoff (Transdisciplinary Interface Manager in the Field of Excellence Climate Change Graz, University of Graz) gave a presentation on *Re-Thinking Transfer or the 3rd Mission of University* (Figure 10). Total number of participants in this session of Arqus pilot training was 36.

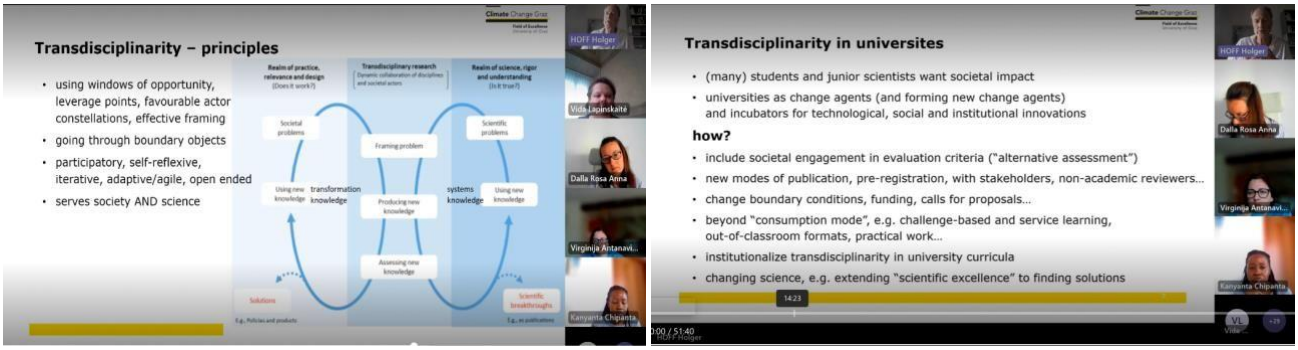

Figure 10. Pictures from session I (May 5) Introductory workshop

The largest number of participants in the session came from University of Padua and Vilnius university, 28 women out of 36 participants, and the largest number of participants in the session I was assistant professor/researcher (Figure 11).

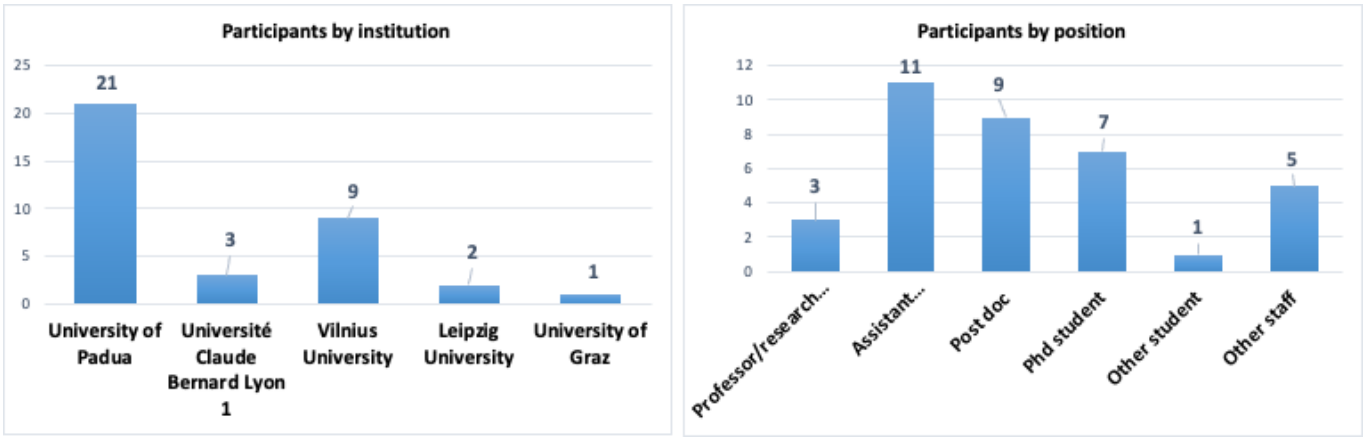

Figure 11. Participation on the session I (May 5) of Arqus pilot training

The session II *Science Communication* was held on 9 May on *MsTeam*. Two speakers gave presentation in this session: Veronika Rogenhofer (Public Relations Coordinator at the Wegener Center for Climate and Global Change) about *How to successfully communicate – for (young?) scientists* and Prof. Paolo Giardullo (Assistant Professor in Sociology at the University of Padua) about *Co-designing public engagement in practice: fieldnotes from NEWSERA project* (Figure 12). Total number of participants in this session of Arqus pilot training was 42.

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Figure 12. Pictures from the session II (May 9) Science Communication

The largest number of participants in session II were from University of Padua and Vilnius university, 39 women out of 42 participants, and the largest number of participants in this session were phd students and assistant professor/researcher (Figure 13).

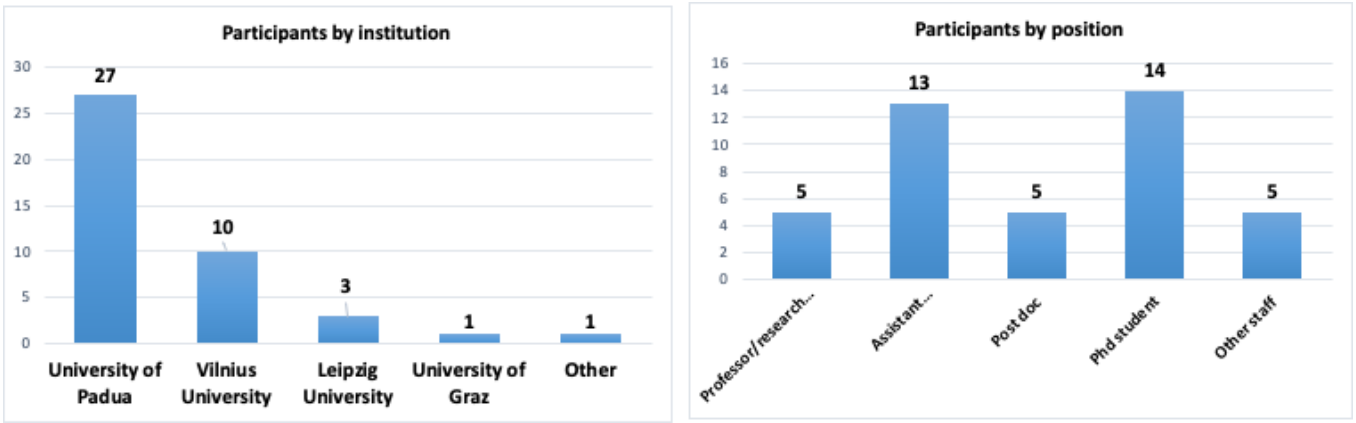

Figure 13. Participation on the session II (May 9) of Arqus pilot training

The session III *Transferable Skills: From Research to the Market Outside Academia* was held on 5 June on *Webex.* Two speakers Carole Allouche and Stéphanie Thillet (Career experts from Claude Bernard University Lyon 1) organised workshop *Do you have what companies are looking for? Skills identification and promotion* in this session (Figure 14). Total number of participants in this session of Arqus pilot training was 18.

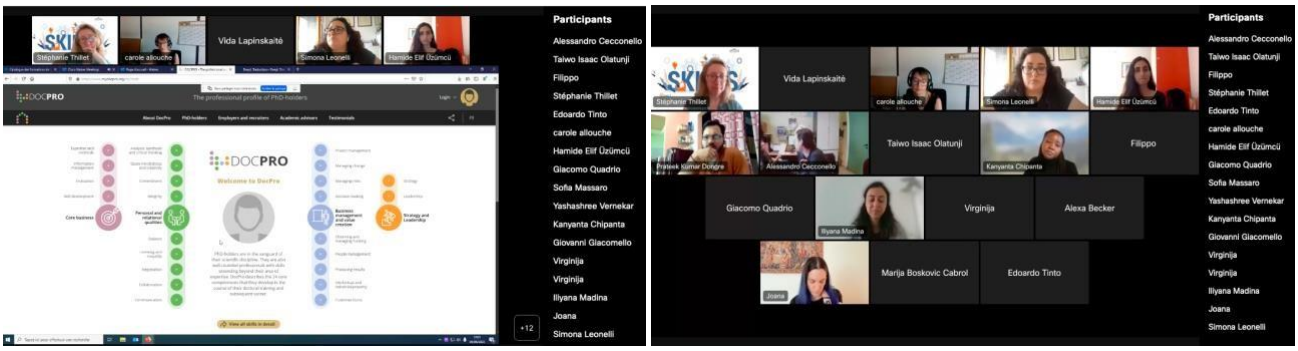

Figure 14. Pictures from the session III (June 5) Transferable Skills: From Research to the Market Outside Academia

The largest number participants in session III were from University of Padua and University of Graz, 12 women out of 18 participants, and the largest number of participants in this session were phd students (Figure 15).

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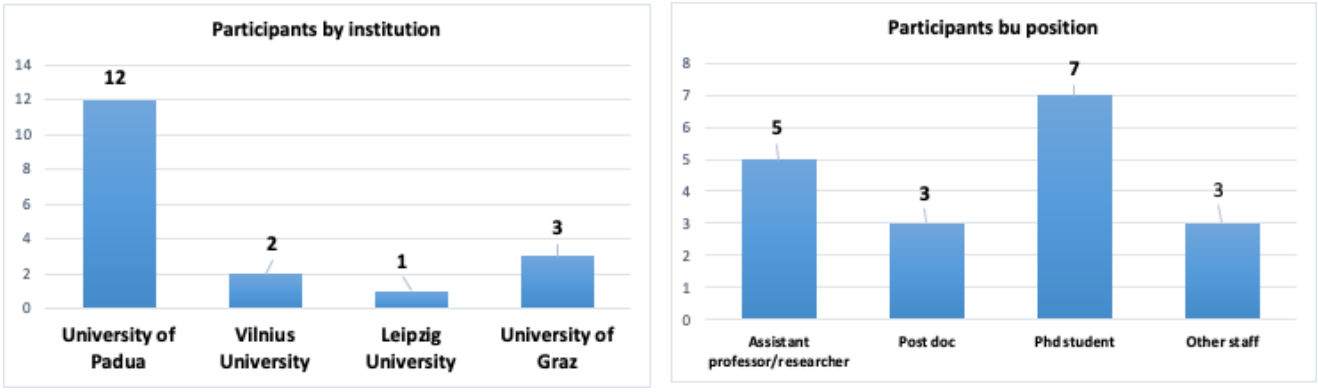


Figure 15. Participation on the session III (June 5) of Arqus pilot training

The session III *Transfer in Sustainability: Circular Economy Approaches* was held on 6 June on *MsTeam*. Two speakers gave presentations in this session: prof. Eleonora di Maria (Professor at the Department of Economics and Management, University of Padua) about *Competitiveness of enterprises and local SME systems. Sustainable/circular business models* and dr. Inga Matijošytė (Senior researcher and head of the Sector of Applied

Biocatalysis at the Life Sciences, Vilnius University) about *The boost of bio- and circular-economy: the quintuple helix model in practise* (Figure 16). Total number of participants in this session of Arqus pilot training was 20.

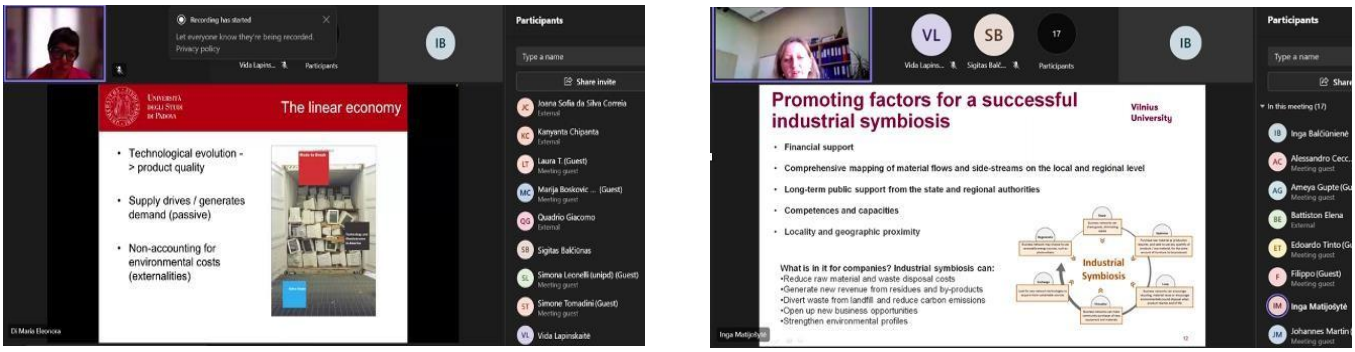
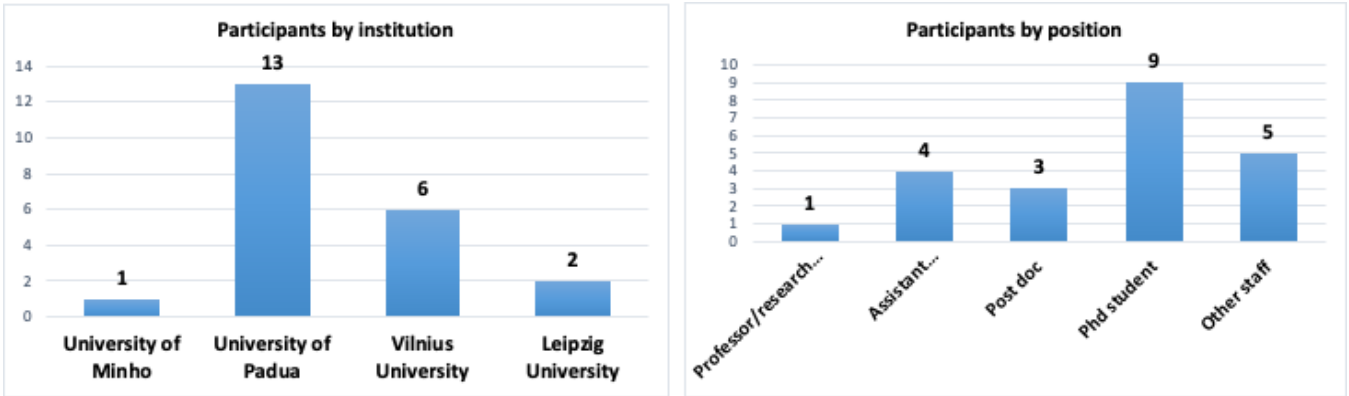


Figure 16. Pictures from the session IV (June 6) Transfer in Sustainability: Circular Economy Approaches

The largest number of participants in session IV were from University of Padua and Vilnius university, 13 women out of 20 participants, and the largest number of participants in this session were phd students (Figure 17).



The Arqus Research and Innovation project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 101017448.

Figure 17. Participation in the session IV (June 6) of Arqus pilot training

The session V *Social Innovation* was held on 14 June on *MsTeam*. Participants listened to presentations of Esteban Romero-Frías (Professor at the University of Granada, Director of Medialab UGR- Research Laboratory for Digital Culture and Society) about *What is a social innovation lab? How to organise a call for social innovation labs?* and Judith Zimmermann (Officer for Strategic Knowledge Transfer Development, Leipzig University) about *Service Learning - Public Benefit Oriented Engagement in Teaching* (Figure 18). Total number of participants in this session of Arqus pilot training was 15.

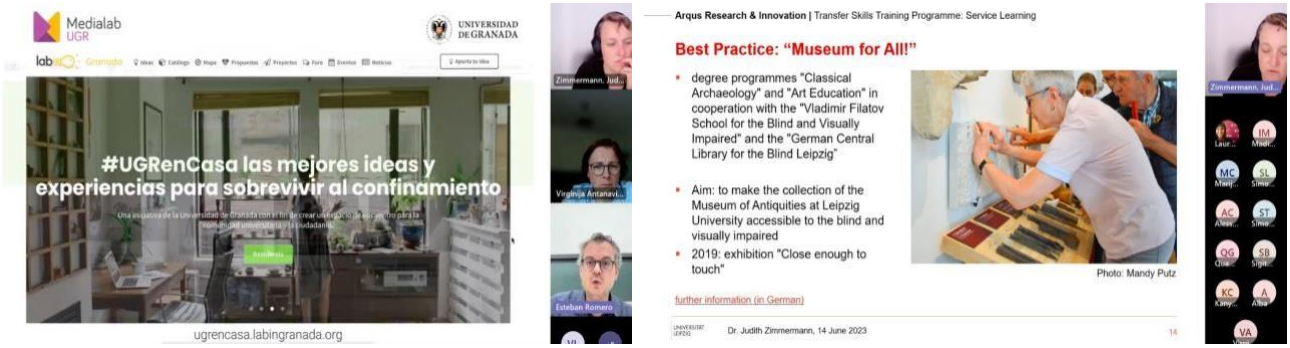


Figure 18. Pictures from the session V (June 14) Social Innovation

The largest number of participants in session V were from University of Padua and Vilnius university, total 10 women and 5 men, the largest number of participants in this session were assistant professor/researcher (Figure 19).

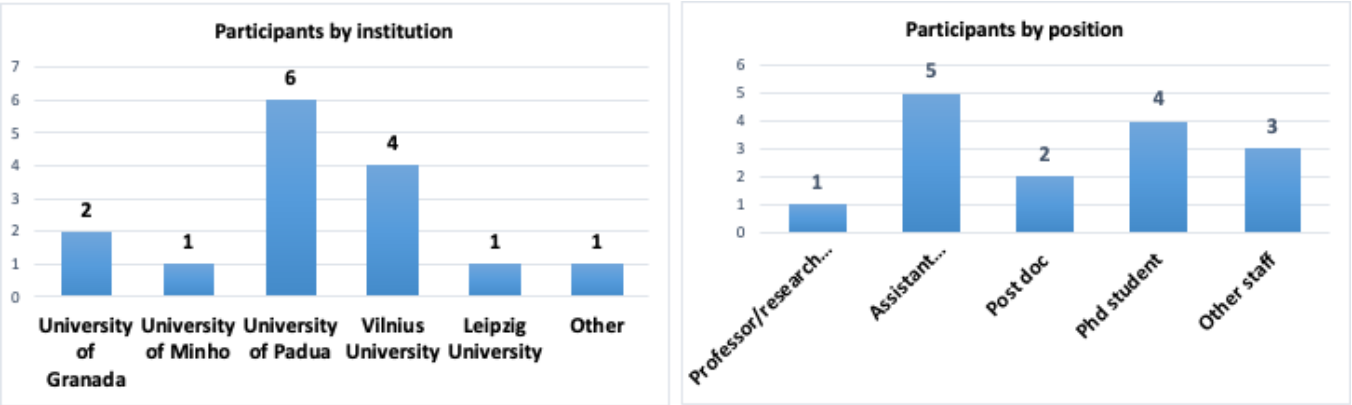


Figure 19. Participation in the session V (June 14) of Arqus pilot training

2.3 Feedbacks of participants of the pilot training

After each training session the participants were asked to fill the feedback form (Annex 4). There are 59 participants who have filled the feedback form. The participants were asked to rate items about the pilot training on a scale from 1 to 5. The rated seven items that described the participants opinion on the pilot training were these: Was the training content helpful to you? Was the training interactive and engaging? How would you rate the speakers' preparation for the training? Were speakers engaging and supportive? Was the training at a comfortable pace? Was the material easy to understand? Did you think the training material was sufficient?

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The figure 20 shows the summary of average ratings of items that describe the pilot training. The presenters' preparation for the training, the comprehensibility of the training material and the appropriate presentation of the training material to the participants received the highest ratings (average rating of 4.3 to 4.1). The interactivity of the training and the usefulness of the training content were rated with a mean score of 3.6-3.7 (Figure 20).

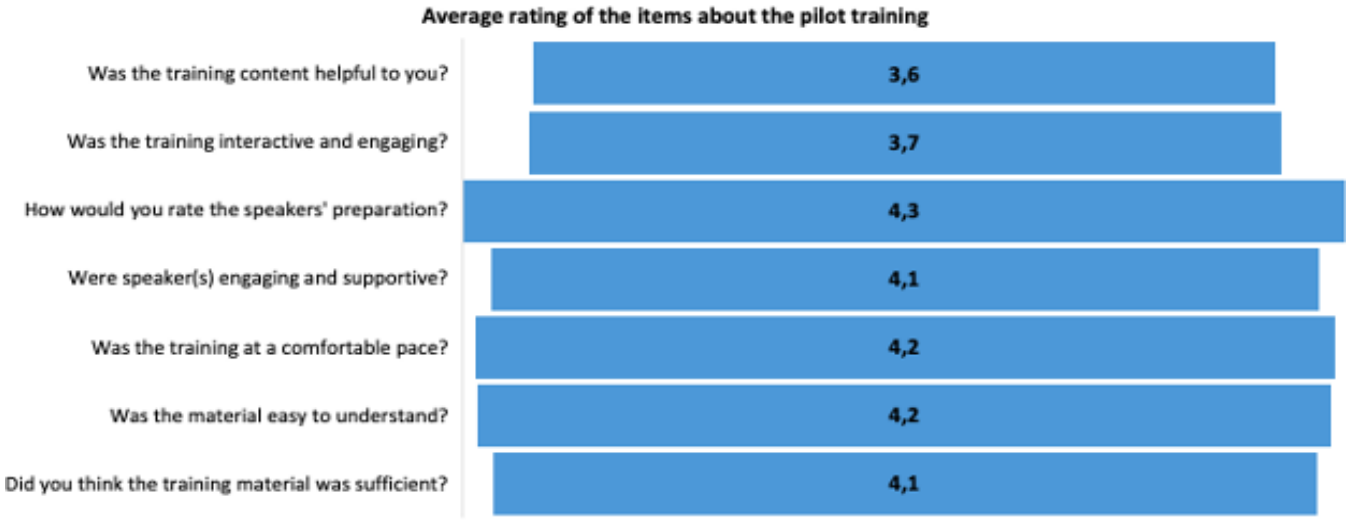

Figure 20. Average rating of items about the pilot training

The following are the evaluations of the individual sessions of the pilot training against these questions. For the first session, feedback was received from 16 participants (36 participants in total) (Table 11).

Items	Average rating
Was the training content helpful to you? *(1 indicates that the training was not helpful at all and 5 means the training was very helpful)*	**4,1**
Was the training interactive and engaging? *(1 indicates that the training was not interactive and engaging at all and 5 means that the training was interactive and engaging)*	**3,8**
How would you rate the speakers' preparation for the training? *(1 indicates poor preparation and 5 means very good preparation)*	**4,7**
Were speakers engaging and supportive? *(1 indicates that speakers were not engaging at all and 5 means that were very engaging)*	**4,4**
Was the training at a comfortable pace? *(1 indicates that the training was not at comfortable pace and 5 means that activity was at comfortable pace)*	**4,4**
Was the material easy to understand? *(1 indicates that the training material was not easy to understand at all and 5 means that the material was very easy to understand)*	**4,3**
Did you think the training material was sufficient? *(1 indicates that the training material was not sufficient at all and 5 means that the material was sufficient)*	**4,4**

Table 11. Average rating of items about the session I (May 5) of the pilot training

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Participants in this training session gave the highest score to the presenter's preparation for the training (average rating - 4,7), also how speaker was engaging and supportive (average rating - 4,4), pace of training (average rating - 4,4), and sufficiency of material (average rating - 4,4). The lowest rating was for the interactivity of the session I of the training and the involvement of participants (average rating - 3,8) (Table 11).

25 participants (of total 42 participants of this session) filled the feedback form about session II (May 9) (Table 12).

Items	Average rating
Was the training content helpful to you? *(1 indicates that the training was not helpful at all and 5 means the training was very helpful)*	3,4
Was the training interactive and engaging? (*1 indicates that the training was not interactive and engaging at all and 5 means that the training was interactive and engaging)*	3,7
How would you rate the speakers' preparation for the training? *(1 indicates poor preparation and 5 means very good preparation)*	4,3
Were speakers engaging and supportive? *(1 indicates that speakers were not engaging at all and 5 means that were very engaging)*	4,1
Was the training at a comfortable pace? (*1 indicates that the training was not at comfortable pace and 5 means that activity was at comfortable pace)*	4,3
Was the material easy to understand? *(1 indicates that the training material was not easy to understand at all and 5 means that the material was very easy to understand)*	4,1
Did you think the training material was sufficient? *(1 indicates that the training material was not sufficient at all and 5 means that the material was sufficient)*	3,8

Table 12. Average rating of items about the session II (May 9) of the pilot training

Participants in this training session gave the highest score to the presenters' preparation for the training (average rating - 4,3) and pace of the training session (average rating - 4,3). The aspects "how the speaker was engaging and supportive" and "was the material easy to understand" were rated with average rating - 4,1. The lowest rating was for items "Was the training content helpful to you?" (average rating - 3,4) and "Was the training interactive and engaging?" (average rating - 3,7) (Table 12).

9 participants (of total 18 participants of session III) filled the feedback form about this session (June 5) (Table 13). Participants in this training session gave the highest score to the interactivity and engagement of the session of training (average rating - 4,3) and understandability of the material (average rating - 4,3). Speakers' preparation for the training session was rated with the average rating 4,1 and the engagement and supportiveness of speakerswas rated with the lowest average rating - 3,9 (Table 13).

Items	Average rating
Was the training content helpful to you? *(1 indicates that the training was not helpful at all and 5 means the training was very helpful)*	4

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Was the training interactive and engaging? *(1 indicates that the training was not interactive and engaging at all and 5 means that the training was interactive and engaging)*	4,3
How would you rate the speakers' preparation for the training? *(1 indicates poor preparation and 5 means very good preparation)*	4,1
Were speakers engaging and supportive? *(1 indicates that speakers were not engaging at all and 5 means that were very engaging)*	3,9
Was the training at a comfortable pace? *(1 indicates that the training was not at comfortable pace and 5 means that activity was at comfortable pace)*	4
Was the material easy to understand? *(1 indicates that the training material was not easy to understand at all and 5 means that the material was very easy to understand)*	4,3
Did you think the training material was sufficient? *(1 indicates that the training material was not sufficient at all and 5 means that the material was sufficient)*	4

Table 13. Average rating of items about the session III (June 5) of the pilot training

Analysing the results of feedback about the session IV, 4 participants (of total 20 participants) filled the feedback form about this session (June 6) (Table 14).

Items	**Average rating**
Was the training content helpful to you? *(1 indicates that the training was not helpful at all and 5 means the training was very helpful)*	3
Was the training interactive and engaging? *(1 indicates that the training was not interactive and engaging at all and 5 means that the training was interactive and engaging)*	2,8
How would you rate the speakers' preparation for the training? *(1 indicates poor preparation and 5 means very good preparation)*	4
Were speakers engaging and supportive? *(1 indicates that speakers were not engaging at all and 5 means that were very engaging)*	3,8
Was the training at a comfortable pace? *(1 indicates that the training was not at comfortable pace and 5 means that activity was at comfortable pace)*	3,8
Was the material easy to understand? *(1 indicates that the training material was not easy to understand at all and 5 means that the material was very easy to understand)*	3,8
Did you think the training material was sufficient? *(1 indicates that the training material was not sufficient at all and 5 means that the material was sufficient)*	4

Table 14. Average rating of items about the session IV (June 6) of the pilot training

Participants in this training session gave the highest score to the presenters' preparation for the training (average rating - 4), also sufficiency of material (average rating - 4). The lowest rating was for the interactivity of the session IV of the training (average rating - 2,8) and the item "Was the training content helpful to you?" or participants' opinions about the training content could be helpful to them (average rating - 3) (Table 14).

For the last session, feedback was received from 5 participants (15 participants in total in the session V) (Table 15).

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Items	Average rating
Was the training content helpful to you? *(1 indicates that the training was not helpful at all and 5 means the training was very helpful)*	3,2
Was the training interactive and engaging? *(1 indicates that the training was not interactive and engaging at all and 5 means that the training was interactive and engaging)*	3,2
How would you rate the speakers' preparation for the training? *(1 indicates poor preparation and 5 means very good preparation)*	4,2
Were speakers engaging and supportive? *(1 indicates that speakers were not engaging at all and 5 means that were very engaging)*	3,6
Was the training at a comfortable pace? *(1 indicates that the training was not at comfortable pace and 5 means that activity was at comfortable pace)*	4,4
Was the material easy to understand? *(1 indicates that the training material was not easy to understand at all and 5 means that the material was very easy to understand)*	4,4
Did you think the training material was sufficient? *(1 indicates that the training material was not sufficient at all and 5 means that the material was sufficient)*	4

Table 15. Average rating of items about the session V (June 14) of the pilot training

Participants in this training session gave the highest score to the session V of the training pace (average rating - 4,4) and understandability of the material (average rating - 4,4). The lowest ratings were rated the items "Was the training content helpful to you?" and "Was the training interactive and engaging?" (average rating - 3,2) (Table 15).

The report below includes participants' comments on the individual pilot training sessions, as well as what they liked most about the pilot training and their suggestions for improving the training.

2.4 Good points and comments for Arqus pilot training

There are participants' comments about the pilot training that emerged during or after the sessions in table 16. Participants have written comments on four sessions of the pilot training. The main comments made by participants about the pilot training sessions were about the need for more interactive exercises, case studies, discussion, etc.

Session I (May 5) **Introductory Workshop „Re-Thinking Transfer or the 3rd Mission of University“**
• In my opinion, examples of public/industrial engagement were missing.
• It would be very helpful to have access to the registration of the session.
Session II (May 9) **Science Communication**

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• First presentation could be longer, with more practical solutions.
• Like for the first seminar, this seminar has very general parts and contents. I mean, today I would have found only one speaker with a presentation more in depth. The first presentation was very very general, at a very basic level, and not helpful. To those who are not students many contents are already known and available.
• More interactive formats would be nice instead of today's lecture format.
• More case studies would be perfect.
• It would be nice if more specific examples could be introduced with some details and specifics and not so general introduction.
Session IV (June 6) **Transfer in Sustainability: Circular Economy Approaches**
• I am not sure that today's topics were really spot-on in the context of transfer skills training.
• I was not able to unmute myself to ask a question.
Session V (June 14) **Social Innovation**
• More interactive exercises with other participants could be useful.

Table 16. Summary of comments about the pilot training

Next, table 17 shows what participants liked the most about this pilot training. To summarise the question about what I liked most about the Arqus pilot training, the following points can be summarised: open and constructive atmosphere at sessions of the training, competent and supportive speakers, interesting presentations that are easy to follow, good review and comments at the sessions time, and etc.

Session I (May 5) **Introductory Workshop „Re-Thinking Transfer or the 3rd Mission of University“**
• Good review and comments.
• Very interesting topic, perfect lecturer.
• Training material.
• The concrete insights, the topic.
• The presentation was clear.
• The presentation provides me with new knowledge and insights regarding the role of science in societal change. Also, I was given new ideas about theoretical perspectives and research designs to consider for further research projects.
• It was a good introduction into what is meant by transdisciplinary skills transfer.
• The speakers were knowledgeable of the field, and made very informative presentation.

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Session II (May 9) **Science Communication**
• Open and constructive atmosphere.
• Easy to follow.
• The interactive part with the participants was quite interesting.
Session III (June 5) **Transferable Skills: From Research to the Market Outside Academia**
• Participatory.
• The tips about stories for job interviews and their experience in recruiting.
• I appreciate a lot the highlight to our career possibilities in the industry/companies out of academia environment; and the highlight to skills, the exercises made me think of possible abilities that can be useful in other job contexts.
• Instilling confidence in PhDs and the introduction of DOCPRO.
• How to tell a story to the recruiters combining your experiences.
Session IV (June 6) **Transfer in Sustainability: Circular Economy Approaches**
• The trainers were jovial and the facilitator too gave a comfortable atmosphere.

Table 17. Summary: what did you like the most about the training session?

2.5 Conclusions and lessons learned

As universities are moving towards more participatory and open forms of doing research as well as communicating scientific output, there are a lot of new and challenging arenas for researchers to engage in. The common training programme is one of the best methods of co-creation and cooperation between universities.

The programme / topics

The results of feedback helped to identify potential and opportunities of the common training programme in the future. The main reason behind the formation of a common training programme is the attempt to develop joint projects and optimise the value created by joining activities. Based on the comments in table 16 and suggestions, how to improve the training programme in table 18, it can be concluded that the pilot training lacked practical examples, interactive exercises, discussion and cooperation with other participants. All these can be lessons learned that can be very useful for the development of Arqus common training programme in the future.

• The prior access to a brief outline of the session would be useful.
• Just that this topic needs more lectures and time dedicated to it.

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• More examples and opportunities for structured discussion. Virtual presentations are not easy to follow and without interaction and discussion it is even harder. I am sorry that I rated the engagement to be low, it is not the fault of the speaker but of the structure of the session.
• Showing some real life examples of where this approach to transfer of skills has worked well.
• The discussants/chairs should be more engaging and supportive. There are parts of the meetings which are very boring.
• If the point of sciecom is to try ourselves out in different formats maybe we could have tried out some examples at least on a conceptual level; adding to point previously made more interactive format would be nice.
• Make meetings more focussed.
• Maybe having the slides of the presentations in advance.
• Describe more personal experience as a recruiter.
• The workshop could have given more attention to the DOCPRO session.
• The training could include some room for small engaging exercises for the participants.
• Better connection.

Table 18. Suggestions, how to improve the training programme

In the end, participants were asked their opinions about the relevant topics for the future training programme. Participants made a large number of suggestions for future training topics, which were divided into five large groups (Table 19):

- Topics related to communication.
- Topics related to artificial intelligence.
- Topics related to co-creation with industry.
- Topics related to sustainability.
- Other topics.

Theme	Topics suggested
Communication	• How to be a good science communication speakers • How to speak to an audience • Communication strategies, methods for transdisciplinarity • Presenting tools; overcoming language barriers • Establishing myself • Experience (positive and negative) with specific scientific communication tools
Artificial intelligence	• The usage of digital AI (ex.: ChatGPT) in our academic work or other agendas. • Artificial intelligence, AI ethics, AI governance • Topics related to computer science and AI perhaps
Co-creation with industry	• Collaboration with industrial partners • How to structure working relationships with Industry partners; especially with regard to funding, how do we engage companies who normally provide services at a fee

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Sustainability	• One health approach in the line of environmental sustainability and biodiversity preservation • Circular economy in industrial/technological fields
Other	• From Research to the Market Outside Academia
	• Future workshops could focus on using online platforms such as LinkedIn, DOCPRO, etc.
	• Different approaches tailored to different scientific fields
	• Other tools for building a portfolio of skills

Table 19. Suggestions for key specific topics at the future training programme

Topics related to communication, co-creation with industry/society and sustainability were also addressed in the pilot training sessions (Session II *Science Communication*, Session III *Transferable Skills: From Research to the Market Outside Academia*, Session IV *Transfer in Sustainability: Circular Economy Approaches*). These topics were included in the pilot training because their relevance was shown by the Arqus community survey (before the pilot training), and now, after the training, the relevance of these topics is also clear. This shows a real need for a deeper analysis in the future.

Organisation / logistics

Certain lessons were learnt regarding the organisation of such training, some of them are really technical ones, others may provide opportunities to improve experiences for trainers and trainees in the future training as similar or the same training should be organised continuously.

Possible points for improvements:

- registrations for different sessions should be separated;
- registration forms should include part of possible questions for the speakers or the problems respondents have encountered and would like to hear suggestions or opinions on them;
- topic description should contain information whether it is basic or more advanced learning sessions;
- in registration form should be stressed that participant should register (in registration form and during the session) using their full names (very relevant when participants need a certificate on participation);
- name and surname must be separated in the registration form.

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LIST OF ANNEXES

ANNEX 1

Questions to identify the most relevant topics in the common training programme Arqus *Transfer Skills*

For departments/units of the Arqus universities

The questions are aiming to identify the most relevant and most current innovation ecosystem training areas for the Arqus community, considering their possible impact as well as the needs of partner universities.

What university's department or unit do you represent?

The Arqus university	**Department/Unit**

IDENTIFICATION OF TRAINING NEEDS

1. **Which of the training areas listed below would your department/unit consider to be most relevant for the academic and non-academic entities in the current situation?** *Please indicate areas of training which would help to improve the performance of your department/unit most (on scale from 1 to 5, where 1 indicates that the topic is not relevant and 5 means that the topic is very relevant).*

Areas of training	**1**	**2**	**3**	**4**	**5**
1. Human-environment systems - complex interactions & "wicked problems" *(Anthropocene, global climate change, biosphere degradation, natural hazards, waste)*					
2. Growing inequality, social injustice, population and migration, social policy, social integration					
3. Healthcare and livelihood, pandemic management					
4. Power, ethics and prevention of corruption threats, hate and conflict					
5. Work and tech *(Social media jobs, online careers, computer/IT training, use of IT tools, managing human teams, teamwork techniques, conflict resolution, stress management)*					
6. The modern entrepreneurship - transforming the world by solving big problems *(Social change, Creating an innovative product)*					
7. Crisis management *(Transformation, changing mindsets, behaviour, policies, business models…)*					
8. Sensitive data, protection of personal data *(Personal security, the right to use personal data, the data classification process)*					
9. Education policy *(From pre-primary to higher education, from policy design to implementation, from student performance and well-being, to teacher training and practices, to school resources)*					

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10. Social transformation *(Activities of cultural institutions, implementation of cultural policy, how to involve people in creating art?)*					
11. Recreation, leisure and sports (Work-life balance or cycle, health-promoting lifestyles, time management)					
Other please specify:					

2. **How effective do you consider the following activities/methods as a means of supporting professional development of the academic and non-academic entities of the department/unit?** *Please evaluate their effectiveness on scale from 1 to 5, where 1 indicates that the activity/method is not effective at all and 5 means that activity is very effective.*

Activities/methods	**1**	**2**	**3**	**4**	**5**
Computer based training – interactive tasks					
Computer based training – live and interactive quizzes					
Participation in webinars and web conferences					
Participation in open meetings / discussions with other professionals, international and local experts					
Sharing experience with various institutions from Arqus countries					
Participation in workshops, future labs					
Open-collaboration projects					
Direct consultations with an expert on specific issues, delphi exercises					
Exchange of experience in occupational groups - club meetings, forums					
Virtual excursions					
Social simulations (with people who represent different groups and organisations), the use of game elements (roles, problem cards, pictures, tokens, boards, etc.).					
Design thinking (questioning the problem, the assumptions and the implications)					
Scenario planning					
Mind Map and Brainstorming					
Receiving manuals and other printed information / materials, videos					
Other please specify:					

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3. What skills, competencies should be developed in a training programme?

Skills, competencies	1	2	3	4	5
Analytical Skills					
Selecting the appropriate techniques for analysis					
Use of various scientific research methods					
Interpreting data, reports					
Generating alternative solutions to problems and challenges					
Work skills					
Establishing and monitoring goals and objective					
Effective collaboration among fellow employees and departments to achieve results (Encouraging collaboration)					
Understanding and seeking to achieve employees and departments mission and values					
Taking appropriate and timely action to overcome unexpected hurdles or obstacles to a plan or project					
Responding to a changing organisation					
Individual skills					
Seeking and utilising opportunities for continuous learning and self-development					
Expressing loyalty and dedication to organisation in interaction with others					
Increasing opportunities for professional and career development					
Increasing motivation and satisfaction in daily work					
Transdisciplinarity					
Gaining learning/teaching experience in an international context					
Greater understanding and responsiveness to social, linguistic and cultural diversity					
Strengthening of intercultural competence of all parties involved					
Strengthening inter•cultural awareness					
Other please specify:					

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4. **What is the best time frame of a training programme for the academic and non-academic entities for the department/unit?** Please choose one answer.

Time plan	once a week	twice a week
Six months		
Three months		
One month		
2 weeks		
On weekends		
Other please specify:		

5. **Please provide any suggestions that might help to create the most relevant joint training programme based on transdisciplinarity.**

IDENTIFYING OF TRAINING POSSIBILITIES

1. **What kind of training has the department/unit provided over the last three years?** Please identify thematic areas of training and describe

Training area	Description
1. Human-environment systems - complex interactions & "wicked problems" *(Anthropocene, global climate change, biosphere degradation, natural hazards, waste)*	
2. Growing inequality, social injustice, population and migration, social policy, social integration	
3. Healthcare and livelihood, pandemic management	
4. Power, ethics and prevention of corruption threats, hate and conflict	
5. Work and tech *(Social media jobs, online careers, computer/IT training, use of IT tools, managing human teams, teamwork techniques, conflict resolution, stress management)*	
6. The modern entrepreneurship - transforming the world by solving big problems *(Social change, Creating an innovative products)*	

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7. Crisis management *(Transformation, changing mindsets, behaviour, policies, business models…)*	
8. Sensitive data, protection of personal data *(Personal security, the right to use personal data, the data classification process)*	
9. Education policy *(From pre-primary to higher education, from policy design to implementation, from student performance and well-being, to teacher training and practices, to school resources)*	
10. Social transformation *(Activities of cultural institutions, implementation of cultural policy, how to involve people in creating art?)*	
11. Recreation, leisure and sports (Work-life balance or cycle, health-promoting lifestyles, time management)	
Other please specify:	

2. **What kind of training could the department/unit provide?**

Please identify thematic areas of training and describe briefly:

3. **Which activities/methods would be the training the department/unit could provide based on?** Please choose applicable categories

Activities/methods	**Choose**
Computer based training – interactive tasks	
Computer based training – live and interactive quizzes	
Participation in webinars and web conferences	
Participation in open meetings / discussions with other professionals, international and local experts	
Sharing experience with various institutions from Arqus countries	
Participation in workshops, future labs	
Open-collaboration projects	
Direct consultations with an expert on specific issues, delphi exercises	
Exchange of experience in occupational groups - club meetings, forums	
Virtual excursions	
Social simulations**, the use of game elements**	
Design thinking	
Scenario planning	
Mind Map and Brainstorming	

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Receiving manuals and other printed information / materials, videos	
Other please specify:	

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ANNEX 2

The detailed programme of pilot trainings

May 5: Introductory Workshop „Re-Thinking Transfer or the 3rd Mission of University“	
10:00 – 10:05 CET	Opening
10:05 – 10:50	**Transformative science and challenge-based learning – the role of transdisciplinarity in a changing world** For addressing challenges such as the twin transitions of climate and digitalization, the universities' first and second mission (research and education) need to be adapted and the third mission (co-development and societal impact) needs to be strengthened. It is no longer sufficient to increase the amount of highly-specialised academic knowledge, but universities' agendas have to align with societal missions, so universities become incubators of transformation. Digitalization will have to be guided by these missions and human wellbeing.Arqus can respond to these challenges by pulling together expertise and experience of its partner universities. **Dr. Holger Hoff** (University of Graz) Transdisciplinary Interface Manager in the Field of Excellence Climate Change Graz. He is an environmental scientist, with focus on planetary boundaries, teleconnections in the Earth system, sustainable production and consumption and SDG implementation.
11:20-11:30	Questions, discussion
May 9: Science Communication	
13:00 – 13:05	Opening
13:05 – 13:45	**How to successfully communicate – for (young?) scientists”** While increasingly becoming a key aspect of doing research, communicating one's scientific output, especially to a lay audience, requires its own skillset and can often present a challenge. How do you break down your findings to make it understandable while maintaining complexity and scientific value? What language should you use in which context? How do you approach different communication formats? This session will delve into several strategies to improve one's science communication efforts, a skillset that is increasingly valuable for one's academic career as well. **Veronika Rogenhofer** Public Relations Coordinator at the Wegener Center for Climate and Global Change
13:45 – 14:25	**Co-designing public engagement in practice: fieldnotes from NEWSERA project** Public engagement seems to be paving the way for new baselines for knowledge creation and innovation paths that include the contributions of regular citizens and other stakeholders. This lecture will give the chance to consider some of the challenges of public engagement as they have been addressed by the NEWSERA project, a three-year-long Horizon 2020 project. Taking stock of the experience of NEWSERA outcomes, the lecture will explore the barriers and opportunities connected to public engagement. **Prof. Paolo Giardullo** (University of Padua) Assistant Professor in Sociology at the University of Padua. He works at the intersection between Science and Technology Studies (STS) and Environmental Sociology. Besides continuative matching these scholarships, he currently works on practices related to Citizen Science and public engagement.
14:25-14:40	Questions, discussion
June 5: **Transferable Skills: From Research to the Market Outside Academia**	
10:30-10:35	Opening
10:35-12:05	**Do you have what companies are looking for? Skills identification and promotion** During this session, the topic of skills developed during the PhD, and more particularly soft, transversal and transferable skills will be addressed. Participants will learn how to identify their skills and how to value them to recruiters. The session will be composed of moments when the whole group is present and exercises in small groups. **Carole Allouche** and **Stéphanie Thillet** (Claude Bernard University Lyon 1) are career experts with much experience in counselling PhDs on their professional integration.
12:05 – 12:20	Questions, discussion
June 6: **Transfer in Sustainability: Circular Economy Approaches**	

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13:00-14:00	**Competitiveness of enterprises and local SME systems. Sustainable/circular business models** In this session the focus will be on the introduction of the circular economy framework and how environmental sustainability can be integrated into companies' strategy to strengthen their competitiveness. Circular business models will be presented. **Prof. Eleonora di Maria** (University of Padua) Professor at the Department of Economics and Management. Her main research topics concern the competitiveness of enterprises and local SME systems with respect to internationalisation processes, environmental sustainability and business innovation, technological innovation in organisations and business networks, sustainable business models, environmental and social sustainability, and new forms of enterprise.
14:00-14:30	**The boost of bio- and circular-economy: the quintuple helix model in practise** Driving innovation and scaling up new sustainable solutions requires multi-actor partnerships involving public, private, academia, and the civil society, and in close syntony with the natural environment. Cooperation culture shapes how principles of circular economy and bioeconomy are implemented in practice. Given the potential for improving the use of biological waste and cooperation between geographically proximate companies and farms, development opportunities of industrial symbiosis were chosen to be analysed in the five selected Lithuanian municipalities. The case study of industrial symbiosis in selected Lithuanian regions, which covered socio-economic, business and technological aspects, will be elaborated during the presentation. **Dr. Inga Matijošytė** (Vilnius University) Senior researcher and head of the Sector of Applied Biocatalysis at the Life Sciences Center. yt. Her research interests include searching for new/novel biocatalysts, developing biocatalysts and their application in biocatalytic processes, and bioeconomy development.
15:00 – 15:15	Questions, discussion
June 14: Social Innovation	
13:00 – 13:05	Opening
13:05 – 13:45	**What is a social innovation lab? How to organise a call for social innovation labs?** A social innovation laboratory is an instrument to think in common with an experimentation and prototyping approach, combining reflection and orientation to action, in order to generate solutions to the complex challenges that affect to the common good in our time, whether in neighbourhoods, in institutions, in organisations, or in society as a whole. We will address practical issues to set up social innovation labs in universities. Impronta Granada is one our most challenging initiatives in this regard. **Prof. Esteban Romero-Frías** (University of Granada) Professor at the University of Granada. Director of Medialab UGR- Research Laboratory for Digital Culture and Society. His research focuses on issues related to culture and digital society, particularly in matters of innovation, learning and analysis of social networks in various fields.
13:45 – 14:15	**Service Learning - Public Benefit Oriented Engagement in Teaching** Service Learning is an important field of action of student knowledge transfer and particularly well suited for knowledge transfer from the humanities and social sciences. In a simple and effective way, students can combine social engagement with their professional education. Students bring their knowledge to bear, for example, in concrete cooperation with non-university partners such as schools, associations or companies. When students work together with non-university partners in civil society, culture or business on concrete problems, both sides benefit. Judith Zimmermann will first briefly introduce the instrument "Service Learning" as such as well as the necessary prerequisites for planning and implementation. The approach will then be illustrated using examples from Leipzig University before concluding with time for questions from the participants. **Judith Zimmermann** (Leipzig University) Officer for Strategic Knowledge Transfer Development
14:15 – 14:30	Questions, discussion

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ANNEX 3

Registration form
Arqus Pilot Training Programme "Arqus Transfer Skills"

As part of the Arqus Alliance we are launching an online pilot training programme "Arqus Transfer Skills". We invite academics and researchers from all career stages and all disciplines coming from the Arqus universities to participate. The programme will cover a wide number of themes related to various forms of transfer of results created in universities, communication with different stakeholders and practical examples of transfer activities from Arqus universities.

If you are interested in the training programme or one of the topics foreseen in it, please, register till **3 May**.
The training will take place online, link will be sent only to registered participants. The training will be recorded and material might be used for further dissemination purposes.

Arqus Research and Innovation (Arqus R.I.) has received funding from the European Union's Horizon 2020 Research and Innovation Programme under the grant agreement No 101017448.

1. I am planning to participate (multiple choices are possible).

- May 9 - Science Communication
- May 15 - Social Innovation
- June 5 - Transferable skills from research to the market outside academia
- June 6 - Sustainability – Circular Economy

2. Surname, name. Required to answer. Single line text.

Enter your answer:

3. E-mail. Required to answer. Single line text.

Enter your answer:

4. Institution. Required to answer. Single choice.

- Maynooth University
- University of Granada
- University of Wroclaw
- University of Minho
- University of Padua
- Université Claude Bernard Lyon 1
- Vilnius University
- Leipzig University
- University of Graz
- National University of Kyiv-Mohyla Academy
- Other

5. Research field (philosophy, law, medicine, etc.)Single line text.

Enter your answer:

6. Position in the institution. Required to answer. Single choice.

- professor/research professor
- assistant professor/researcher
- post doc
- phd student
- other student
- other staff

7. Gender. **Required to answer. Single choice.**

this information will be separated from the other personal data and used only in anonymised and aggregate form for statistics and reporting. It will not be disseminated, published or otherwise made public.

- Woman
- Man
- Non-binary
- Prefer not to say

8. By ticking this box I agree that my personal data will be used for: - organisation of seminars – getting feedback on contents - reporting purposes of the project. Required to answer. Single choice.

- yes

9. I am informed that seminars will be recorded and their material might be used for further dissemination purposes on-line/on social media and give my consent to Vilnius University processing my personal data, specifically my voice and my image, to produce the recording. This consent can be withdrawn at any time without explanation, by emailing mokslas@cr.vu.lt. Withdrawing consent does not affect the legality of data processed before the withdrawal.

N.B. Information shared on-line / through social media is subject to an international transfer to a third country where data protection may not be as strict as the GDPRRequired to answer. Single choice.

- yes

10. I will need the attendance certificate. Required to answer. Single choice.

- yes
- no

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ANNEX 4

FEEDBACK QUESTIONNAIRE ABOUT THE PILOT TRAINING PROGRAMME "ARQUS TRANSFER SKILLS"

Dear Participant,

Please provide feedback on your experience regarding this pilot training programme "Arqus Transfer Skills". This information is important for implementation of the Common Training Programme of "Arqus Transfer Skills". The survey is anonymous: information about a specific participant is not disclosed in the answers provided.
Thank you for your participation.

QUESTIONS

1. Institution

(the first 3 questions are gathered only for statistical and reporting purposes)

- Maynooth University
- University of Granada
- University of Wroclaw
- University of Minho
- University of Padua
- Université Claude Bernard Lyon 1
- Vilnius University
- Leipzig University
- University of Graz
- National University of Kyiv-Mohyla Academy
- Other

2. Research field (philosophy, law, medicine, etc.)

Enter your answer:

3. Please specify your status/position at the university?

- professor/research professor
- assistant professor/researcher
- post doc
- phd student
- other student
- other staff
- Other, please specify:

4. Gender

- Woman
- Man
- Non-binary
- Prefer not to say

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5. Was the training content helpful to you?

Please rate this item on a scale from 1 to 5, where 1 indicates that the training was not helpful at all and 5 means the training was very helpful

1	2	3	4	5

If you have any comments, please specify:

6. Was the training interactive and engaging?

Please rate this item on a scale from 1 to 5, where 1 indicates that the training was not interactive and engaging at all and 5 means that the training was interactive and engaging

1	**2**	**3**	**4**	**5**

If you have any comments, please specify:

7. How would you rate the speakers' preparation for the training?

Please rate this item on a scale from 1 to 5, where 1 indicates poor preparation and 5 means very good preparation

1	**2**	**3**	**4**	**5**

If you have any comments, please specify:

8. Were speakers engaging and supportive?

Please rate this item on a scale from 1 to 5, where 1 indicates that speakers were not engaging at all and 5 means that were very engaging

1	**2**	**3**	**4**	**5**

If you have any comments, please specify:

9. Was the training at a comfortable pace?

Please rate this item on a scale from 1 to 5, where 1 indicates that the training was not at comfortable pace and 5 means that activity was at comfortable pace

1	**2**	**3**	**4**	**5**

If you have any comments, please specify:

10. Was the material easy to understand?

Please rate this item on a scale from 1 to 5, where 1 indicates that the training material was not easy to understand at all and 5 means that the material was very easy to understand

1	**2**	**3**	**4**	**5**

If you have any comments, please specify:

11. Did you think the training material was sufficient?

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Please rate this item on a scale from 1 to 5, where 1 indicates that the training material was not sufficient at all and 5 means that the material was sufficient

1	**2**	**3**	**4**	**5**

If you have any comments, please specify:

12. If you have any comments, please specify

Enter your answer:

13. What did you like the most about this training session?

Enter your answer:

14. Do you have any suggestions that can help us improve the training programme? What could be added or improved?

Please provide any suggestions:

15. What are the key specific topics you want to learn more about at the future training programme?

Please identify thematic areas of training and describe briefly:

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