

## Project result 2: Professional development training for scientists

### Training materials for scientists & science communicators

#### Module 6: The role of Public Engagement in Scientists' Professional Development – the role of Scientists

##### 1. General description of the module

<b>Partner institution:</b>	CARDET
<b>Target group:</b>	<ul style="list-style-type: none"> <li>• Scientists, Researchers</li> <li>• Early Career Researchers</li> <li>• Faculty members involved in science communication activities, Science communicators</li> <li>• Science communication students</li> </ul>
<b>Expertise needed per target group:</b>	The target groups need no prior expertise.
<b>Overview of the module:</b>	<p>In this module, participants will have the opportunity:</p> <ul style="list-style-type: none"> <li>• to evaluate the impact of public engagement,</li> <li>• to explore ways of integrating public engagement as part of their professional development,</li> <li>• to execute strategic initiatives.</li> </ul> <p>The module consists of two activities in a workshop format, entailing both group work (2,5 hours) and a single activity entailing individual work (1,5 hours).</p>
<b>Duration:</b>	4 hours
<b>Objectives:</b>	<ul style="list-style-type: none"> <li>- Evaluate the impact of public engagement on professional growth by analysing benefits and addressing challenges.</li> <li>- Recognise the impact public engagement has on continuing professional development through goal-setting and planning.</li> <li>- Execute a strategic public engagement initiative by applying theoretical knowledge to real-world scenarios and selecting appropriate methods for successful implementation.</li> </ul>

<p><b>Assessment:</b></p>	<p>Participants will choose one of the following ways to present their work:</p> <ol style="list-style-type: none"> <li>1. <b>Self-Reflection Paragraph:</b> write a paragraph of 100 words including the following key points:</li> <li>2. <b>5-minute Elevator Pitch:</b> imagine you are in an elevator with a friend or scientist colleague having 5 minutes to inform him/her as to what you have learned during the activities.</li> <li>3. <b>Tweetstorm:</b> Write an X (Twitter) thread (up to 20 threads) to inform others of the key takeaways you learned during the activities.</li> </ol> <p>For each of the above, participants should respond to the following questions:</p> <ul style="list-style-type: none"> <li>• How do your individual values shape and influence your approach to public engagement?</li> <li>• Which skills crucial for effective public engagement have you recognised, and what specific strategies have you identified to overcome challenges in public engagement?</li> <li>• Reflecting on your initiative: Can you outline your steps in planning and executing a public engagement initiative? What overall impact does it have, and what key lessons have you learned for future engagements?</li> </ul>
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## 2. Description of the individual activities

<p><b>Title of activity 1:</b></p>	<p><b>Evaluate the Impact of Public Engagement on Professional Growth</b></p>
<p><b>Duration:</b></p>	<p>1 hour and 30 minutes</p>
<p><b>Core ideas – Content:</b></p>	<p>Participants in this activity will critically evaluate the effects of public engagement on their professional development. Participants gain a deeper understanding of how public engagement can positively impact their professional growth by analysing benefits and strategically addressing challenges.</p>
<p><b>Objectives:</b></p>	<ul style="list-style-type: none"> <li>• Assess personal and professional benefits of public engagement, including the skills developed and the knowledge gained through such a process.</li> <li>• Identify and address the challenges/barriers that hinder scientists' participation in public engagement.</li> </ul>

<p><b>A detailed description of the activity's implementation (word limit 300 words max)</b></p>	<p>Begin the activity by discussing the importance of public engagement for scientists and researchers. Emphasise the value it adds to personal and professional growth, including developing essential skills and knowledge. In the first two exercises, participants engage in self-reflection; first, they reflect on their career journey, focusing on personal experiences with public engagement and then compile a list of skills and knowledge acquired through past public engagement activities. Then, in small groups, participants share insights into their challenges in engaging with the public and suggest practical solutions (including ideas and best practices) to address the identified challenges. Finally, three case studies featuring global examples of public engagement in diverse climate change topics, where participants working in pairs, analyse and discuss how challenges in public engagement were overcome in these case studies and what skills were crucial for success.</p>	
	<p>Lecture</p>	<p>Watch the following video and discuss in the plenary the value Public engagement adds to personal and professional growth.</p> <p>Video: <a href="#">How to engage the public with research?</a></p>
<p><b>Type of activity (select &amp; comment):</b></p>	<p>Reflection</p>	<p>Individually, participants map their career journey to reflect on personal experiences with public engagement (<a href="#">Handout 1: Exercise 1</a>)</p>
<p><b>Type of activity (select &amp; comment):</b></p>	<p>Reflection</p>	<p>Individually, participants list the skills and knowledge gained through previous public engagement activities (<a href="#">Handout 2: Exercise 2</a>). Participants can also use the publication "<i>Benefits of Public Engagement for Researchers</i>" for this activity as an inspiration, as it includes first-hand experiences of researchers and gives an idea of the positive benefits of engaging with the public.</p>
<p><b>Type of activity (select &amp; comment):</b></p>	<p>Group discussion</p>	<p>Participants in groups of 2-3 discuss personal challenges they perceive in</p>

		engaging with the public during their career journey and identify common barriers.
<b>Type of activity (select &amp; comment):</b>	Group discussion	In a plenary discussion, all participants share the challenges they discussed and propose practical solutions to address the identified challenges.
<b>Type of activity (select &amp; comment):</b>	Case studies	Distribute case studies ( <a href="#">Handout 3: Case Studies</a> ) featuring examples of public engagement from worldwide, covering a diverse range of topics demonstrating the cross-sectoral nature of climate change issues. Participants analyse and discuss in pairs: <ol style="list-style-type: none"> <li>1. How were public engagement challenges overcome, and what skills are required?</li> <li>2. What impact do they have on professional growth?</li> </ol>
<b>Tools (select &amp; comment):</b>	Handouts	All handout materials can be used in a digital or printed format.
<b>Links to the activity sheets:</b>	<a href="#">Module 4.1 Handout 1: Exercise 1</a> <a href="#">Module 4.1 Handout 2: Exercise 2</a> <a href="#">Module 4.1 Handout 3: Case Studies</a> <a href="#">Module 4.1. Benefits of public engagement for researchers</a>	
<b>Resources (links to the toolkit &amp; infographics):</b>		

<b>Title of activity 2:</b>	<b>How scientists can make public engagement part of their professional development.</b>
<b>Duration:</b>	1 hour
<b>Core ideas – Content:</b>	Participants in this activity will create personal plans for integrating public engagement into their professional activities. This includes setting goals and identifying ways they can get involved in public engagement.

<b>Objectives:</b>	<ul style="list-style-type: none"> <li>Analyse your needs and set personal goals for incorporating public engagement into your professional practice.</li> <li>Create personal plans for effective public engagement, incorporating templates and structured considerations.</li> </ul>	
<b>A detailed description of the activity's implementation (word limit 300 words max)</b>	<p>Begin the activity by asking participants to use Padlet and write research topics or scientific concepts they are currently working on or are familiar with in the Environmental Sciences field and Climate Change. Present the Padlet in the plenary, briefly review all topics, and start discussions about who the primary audience for each presented topic might be in the case of public engagement. The group discussion fosters diverse perspectives and considerations, enriching participants' understanding of various audience needs and preferences. This collective knowledge gained becomes a valuable resource, enabling individuals to tailor their plans effectively. Then, participants decide on one of the topics (or choose a new one) and work individually on developing a personal plan for making public engagement part of their professional development.</p>	
<b>Type of activity (select &amp; comment):</b>	Brainstorming	Participants use the Padlet to share their current Environmental Studies or Climate Change research topics and foster a plenary brainstorming discussion on how they would integrate public engagement into their professional activities.
<b>Type of activity (select &amp; comment):</b>	Brainstorming	Participants choose one topic from their scientific or personal interests and establish at least three (3) SMART goals ( <a href="#">Handout 4: Setting SMART Goals tool</a> ) for incorporating public engagement into their professional practice.
<b>Type of activity (select &amp; comment):</b>	Workshop	<p>Participants research to inform their public engagement plan for valuable insights.</p> <ul style="list-style-type: none"> <li>- Conduct desk research on the selected topic to address the need to engage the public.</li> </ul>

		<ul style="list-style-type: none"> <li>- Explore existing successful initiatives to understand audience preferences and shape the implementation of their plan.</li> <li>- Consider the communication channels (Digital Platforms, In-Person Engagement, other official channels).</li> <li>- Plan the next steps.</li> </ul>
<b>Type of activity (select &amp; comment):</b>	Whiteboard (e.g. padlet, jamboard)	<a href="https://padlet.com/account/setup">https://padlet.com/account/setup</a>
	Handouts	All handout materials can be used in a digital or printed format.
<b>Type of activity (select &amp; comment):</b>	<a href="#">Module 4.2 Handout: Setting SMART Goals</a>	
<b>Type of activity (select &amp; comment):</b>	Best-practice 25: #ClimateofChange Best-practice 32: Tackling Climate Change in Cities: the Role of Best Practices	

<b>Type of activity (select &amp; comment):</b>	Implementing Public Engagement Initiatives
<b>Type of activity (select &amp; comment):</b>	1 hour and 30 minutes
<b>Type of activity (select &amp; comment):</b>	Participants actively apply theoretical knowledge to practical scenarios in this activity, gaining hands-on experience in implementing public engagement initiatives. The emphasis is on selecting appropriate methods for successful implementation, bridging the theoretical understanding and real-world application for effective public engagement.
<b>Type of activity (select &amp; comment):</b>	<ul style="list-style-type: none"> <li>- Apply a step-by-step guide when implementing public engagement initiatives in professional development practice</li> <li>- Implement part of your personal plan for public engagement and reflect on your practice using a rubric/checklist</li> </ul>
<b>Type of activity (select &amp; comment):</b>	In this activity participants work individually on their personal plans for public engagement. Begin the activity by asking participants to explore the step-by-step <a href="#">“Public</a>

		<p><a href="#">Engagement Guide</a>”, choose one of the objectives set in Activity 2 and prepare a personal plan for public engagement. Then participants reflect on their proposed public engagement activities and plan by using two checklists, one to reflect on the overall plan and one to reflect on their science communication strategies and ideas. Conclude with an assignment to prepare PechaKucha presentations to present their plan to the plenary (for large audiences, this assignment can be done in groups).</p>
<b>Type of activity (select &amp; comment):</b>	Workshop	<p>Participants choose one of the SMART objectives set in Activity 2 of this Module and design their public engagement initiative individually.</p> <p>To do so, participants explore the <a href="#">“Public Engagement Guide”</a> on implementing public engagement initiatives for professional development (page 19). <a href="#">“The guide for the #ClimateOfChange campaign”</a> can also help inspire public engagement initiatives in the Environmental Sciences and Climate Change field.</p>
<b>Type of activity (select &amp; comment):</b>	Reflection	<p>Participants use the following two checklists to reflect on their personal plan practice:</p> <ol style="list-style-type: none"> <li>1. <i>Preparing for a Public Engagement: Checklist</i>: to reflect on the overall plan</li> <li>2. <a href="#">Toolkit for science communicators and trainers</a>: to ensure clear and effective communication focusing on the 12 indicators of quality in science communication.</li> </ol>
<b>Type of activity (select &amp; comment):</b>	Workshop	<p>Participants create a PechaKucha* presentation, following the 20X20</p>

		<p>rule, to present to the plenary their personal initiative plan.</p> <p>*Each presentation consists of 20 slides, each shown for only 20 seconds before automatically progressing to the next one. This results in a total presentation time of 6 mins and 40 secs.</p>
<b>Type of activity (select &amp; comment):</b>	<b>Handouts</b>	All handout materials can be used in a digital or printed format.
<b>Type of activity (select &amp; comment):</b>	<b>Assignment</b>	Google Slides or PowerPoint for the PechaKucha presentations
<b>Type of activity (select &amp; comment):</b>	<a href="#">Module 4.3 Preparing for a Public Engagement: Checklist</a> <a href="#">Module 4.3 Toolkit for Science Communicators and Trainers</a>	
<b>Type of activity (select &amp; comment):</b>	<p>Best-practice 25: #ClimateofChange</p> <p>Practical resource 22: Engaging the Public on Climate Change</p> <p>Practical resource 28: Is climate change actually being taken seriously?</p> <p>Practical resource 43: Toolkit for science communicators and trainers</p>	