

**CA21169 Dynalife - Information, Coding, and Biological Function, The Dynamics of Life**  
**Deliverable D4B: Report on prototype of the National Platform for Dissemination.**

**WG4. Dissemination and Communication.**

Specific task: “Develop a prototypical ‘National Platform’ for Dissemination and Scientific Communication in the field of Informational and Theoretical Biology, preferably in an ITC country; promotion of this prototypical National Platform as a model for other European countries involved in the Action, and also at an international level, promoting communication, dissemination, and science-art crossover activities related to informational biology at large, and remarking the importance of basic research for the evolution and the well-being of the human society.”

**WG4, Milestones: M4.1:** Implementation of a prototype of National Platform for Dissemination in the field of Informational Biology.

Dissemination and scientific communication are fundamental components of the DYNALIFE Action. On the research front, dissemination plays a pivotal role in bridging disciplinary divides, fostering collaboration within the Action, and communicating significant scientific findings to peers, thereby catalyzing new partnerships. These efforts will expand the network, strengthen the critical mass of researchers, enhance knowledge exchange, and support the development of young researchers in the field.

Communication efforts targeting a broader audience aim to engage researchers and professionals from diverse disciplines, raise public awareness about the importance of the Action, amplify its societal impact, and establish dialogue with stakeholders across various sectors. These include government entities, healthcare institutions, and industry representatives, ensuring the Action's results reach and resonate with all relevant audiences.

To achieve these objectives, the Action will go beyond traditional scientific dissemination methods such as journal publications, special collaborative issues, conferences, workshops, and training schools for early-career researchers. A key innovation will be the development of a **National Dissemination Platform**, designed to enhance dissemination and science communication activities across all Working Groups (WGs) of the Action. This platform will also serve as a dynamic interface with society, particularly stakeholders at all levels. It will be a testbed for effective communicative methodologies and tools to promote the emerging field of Informational Biology. The lessons learned from this initiative are expected to inform the implementation of similar platforms in other participating countries.

In addition to standard tools like a dedicated website and engagement via scientific social networks, particular emphasis will be placed on the methodologies and instruments developed within WG4. While some participants bring experience in dissemination and communication activities, collaboration with professional science communicators will be actively encouraged to

enhance effectiveness.

The Action will also prioritize the creation of video documentaries tailored for use at multiple communication levels. These documentaries will enhance interaction and collaboration with stakeholders, including those in the pharmaceutical and biotechnological industries, significantly expanding the reach and impact of the Dissemination Platform. Adequate mechanisms will be put in place to protect and exploit intellectual and industrial property rights, ensuring that the outcomes of the Action are not only shared but also safeguarded for broader benefit.

## **Practical Implementation**

This report examines the evolution of the development of a prototype **National Dissemination Platform** in the field of Informational Biology over the first two years of the DYNALIFE Action.

## **Challenges Encountered**

The primary challenge arose from the fact that the initial team, comprising members from an ITC (Inclusiveness Target Country) and part of the secondary proposers of the Action, encountered unforeseen difficulties in developing the platform at their national level. To address this issue, the Core Group and the Management Committee discussed potential solutions at multiple meetings.

Given the platform's critical role in achieving the Action's objectives (as outlined in the Work Plan, which includes a dedicated task, milestone, and deliverable), an alternative strategy has been devised and is now being actively implemented.

## **New Strategy for Platform Development**

### **Key Considerations**

- 1. Decoupling Development from Location:** While the initial intention was to prioritize development in an ITC country, the digital nature of the platform enables its creation via virtual collaboration. This flexibility allows the prototype to be adapted to the specific needs of any interested country.
- 2. Incorporating Open Science Principles:** Discussions highlighted the need for the platform to operate within an **Open Science** and **Open Data** framework. Additionally, data must be persistently organized to ensure easy retrieval and longevity, even beyond the duration of the Action. This approach ensures resources are available for future projects and proposals.

## **Proposed Solution**

The selected solution is the creation of an **Open Science and Open Access repository** to host

the Action's outputs. This repository will facilitate dissemination and scientific communication while enabling the development of the prototype platform. The repository will include metadata to ensure accessibility for multiple use cases, including knowledge exchange, internal dissemination, and public outreach.

From an operational standpoint:

1. **Data Hosting:** The **DALIA Open Data Repository** (<https://dalia-bo.cnr.it>), developed by the Bologna Research Area Library of the National Research Council of Italy, will host the Action's data. DALIA employs the proven open-source tool **CKAN** (<https://ckan.org>) and adheres to EU recommendations for archiving, describing, and preserving data under Open Science principles. The Bologna Research Area Library, well-known for its expertise in educational projects and research support, also developed **NILDE (Network for Inter-Library Document Exchange)**, a widely adopted tool among Italian and international libraries. DALIA can organize and preserve digital products such as multimedia materials, video interviews, and teaching resources, ensuring compliance with Open Science standards.
2. **Software Hosting:** Software outputs will be archived and managed via **GitHub** (<https://github.com>).
3. **DOI Assignment:** DALIA has the capability to assign **DOI (Digital Object Identifier)** labels to products lacking unique identifiers, ensuring precise identification and long-term accessibility. This includes preprints, grey literature, and other research outputs.

## Implementation Steps

1. **Data Collection:** A questionnaire is being distributed to all members of the Action to identify the types and volumes of available data. This survey serves as the foundational step for designing the repository's organizational structure, ensuring FAIR (Findable, Accessible, Interoperable, Reusable) access to data.
2. **Metadata Creation:** Metadata will be generated to enable easy, logical access to the platform's contents. This step is crucial for creating a **prototypical Dissemination Platform** that can also cater to broader audiences, including stakeholders and the general public.
3. **Repository Structuring:** The repository will be structured to accommodate the identified data types and ensure streamlined access for users at all levels.
4. **Development of a Generalized Dissemination Platform:** A functional prototype will be developed to showcase dissemination and communication capabilities. This platform will serve as a model for future adaptations in different contexts. In particular, to promote knowledge exchange between Action workgroups, selected cases of theoretical models developed in the WG1 will be included in the repository to allow them to be tested against biological data using instruments, tools and methodologies provided by WG2.

This is foreseen to be the seed for the development of a future testing platform to be expanded and refined throughout the rest of the Action and beyond

## **Current Status**

The questionnaire is being circulated to all Action participants, and responses are being collected through the dedicated email address **dynalife-info@area.bo.cnr.it**. These responses will inform the repository's development and the broader platform structure.

## Annex A: Presentation Letter

### Subject: Survey for COST Action CA21169 Open Data Repository/Dissemination Platform

Dear Colleagues,

We are excited to share an important initiative of the COST Action CA21169 project, "**Information, Coding, and Biological Function: The Dynamics of Life**" (DYNALIFE). A core objective of this Action is to foster a dynamic network of collaboration among researchers and to establish a robust platform for dissemination and scientific communication through structured, accessible data.

To achieve this, we have prepared a survey designed to gather essential information about your research activities and the potential resources you could share within an **Open Science and Open Data** framework. Your input will play a pivotal role in shaping a central repository that will serve as a lasting resource for the research community.

### Project Overview

As part of the COST Action, one of our goals is to develop an interconnected, structured ontology, to support data sharing, knowledge management, and peer-to-peer collaboration. This ontology will form the foundation of a collaborative database hosted on the **DALIA platform** (Dati Aperti della bibLIoteca d'Area di Bologna) of the CNR (National Research Council of Italy). The DALIA platform is specifically designed to facilitate seamless exchange and dissemination of research outputs and results, fostering interdisciplinary and international collaboration.

### How You Benefit

By participating in this survey, you will:

- **Enhance Visibility:** Share information about your research and resources, making your work discoverable and fostering new partnerships.
- **Promote Collaboration:** Gain easy access to resources, data, methodologies, and findings shared by other researchers within the COST network.
- **Boost Dissemination:** Increase the reach and impact of your research as part of a well-structured, international platform.
- **Support Peer Communication:** Connect directly with peers across workgroups, enabling knowledge exchange on methodologies, innovations, and key topics.
- **Support Stakeholders Communication:** Connect with a virtual forum that includes stakeholders from various sectors, such as funding bodies, science policy advisors, industry representatives, public health officials, and societal organisations at multiple levels. This forum is designed to foster engagement and communication across key areas of interest.

## Why Your Contribution Matters

The data collected through this survey will serve as the foundation for a comprehensive **open data network**, one of the central goals of our Action. This repository will not only support ongoing research but also become a valuable resource for future projects, amplifying the visibility and impact of your work. All kind of data can be shared, also through other repositories, for example, a link to access a publication through the publisher. Also it is possible to assign a DOI to a document lacking it, for example, a technical report, a preprint, etc. This ensure that the data can be uniquely identified and accessed, even after the end of the Action.

## How to Participate

We kindly invite you to complete this **preliminary survey** by accessing the form via the following link:

**[Survey Link \(https://forms.gle/BhxxR73DoVgC4Fw59\)](https://forms.gle/BhxxR73DoVgC4Fw59)**

Your responses will enable us to draft the initial version of the repository and dissemination platform. In a subsequent phase, a follow-up survey will gather additional detailed information about researchers and the resources to be shared within the open data environment.

Thank you very much for your valuable contribution to this initiative. Together, we can create a lasting resource that fosters collaboration, innovation, and scientific impact.

Warm regards, The COST Action CA21169 (DYNALIFE) Team