



Horizon 2020 Work programme

Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy

Call

H2020-FNR-2020: Food and Natural Resources

Topic name

FNR-16-2020: ENZYMES FOR MORE ENVIRONMENT-FRIENDLY CONSUMER PRODUCTS

FuturEnzyme:

Technologies of the Future for Low-Cost Enzymes for Environment-Friendly Products

Final ID: 101000327

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CONFIDENTIALITY LEGAL DOCUMENTS INTERCONSORTIA D1.5

MANUEL FERRER
CSIC
Marie Curie 2, 28049, Cantoblanco, Madrid, Spain

Document information sheet

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Contact details:	Manuel Ferrer, mferrer@icp.csic.es; Patricia Molina, patricia.molina@icp.csic.es

Summary

1. Scope of Deliverable	4
2. Cluster Enzymes for Greener Products.....	4
3. Synergies and confidentiality aspects	4
4. Future actions.....	6
Annex 1 – Minutes of the kick-off meeting of the Cluster Enzymes for Greener Products	6
Annex 2 – Agenda of the BSC workshop on Computational Enzyme Bioprospecting and Engineering	14
Annex 3 – Agenda of the event Managing data & resources: examples in research projects.....	15
Annex 4 – Agenda of the event Your impact on environment and society: Workshop on Responsible Research & Innovation	16

Confidentiality legal documents interconsortia

1. Scope of Deliverable

The initial idea of this document is to establish the basis of a legal framework, signed by all authorized legal partners, that will help creating a transparent legal and policy framework in which to operate, exploit and disseminate synergies with other FNR-16-2020-funded projects, including experimental collaborations.

Following the milestone MS4 (month 20, January 2023), in this deliverable, aspects regarding the mentioned issue are covered and described, by gathering information from the interconsortia (Cluster Enzymes for Greener Products) meetings.

2. Cluster Enzymes for Greener Products

This Cluster integrates the four funded projects under the frame of Horizon 2020 Work Programme 2018-2020, call “Food and Natural Resources”, topic FNR-16-2020 “Enzymes for more environment-friendly consumer products”: [EnXylaScope](#) (Grant Agreement no 101000831), [FuturEnzyme](#) (Grant Agreement no 101000327), [OXIPRO](#) (Grant Agreement no 101000607), and [RADICALZ](#) (Grant Agreement no 101000560). It was formed in cooperation with the European Research Executive Agency (REA) (Unit B3 “Biodiversity, Circular Economy and Environment”), and its main objective is to join efforts for a higher efficiency and impact. The first meeting of this inter-consortia group, was held online on 14 October 2021 (minutes and agenda in **Annex 1**).

3. Synergies and confidentiality aspects

When the project FuturEnzyme was conceived, the idea was to prepare an agreement between the four projects of the mentioned Cluster, with the aim of covering legal and confidentiality issues if real experimental synergies were to be undertaken. This has not been possible in practice, since each project has their own peculiarities and visions. But the aim to collaborate is still a priority for the four projects, so different actions are actively being developed jointly to explore and exploit synergies at communication and dissemination levels, but also experimental synergies. A roadmap was prepared after the first meeting to list the common agreed actions, and a [Report on actions](#) was published. Two strong points in this regard, are the Cluster’s newsletter, and a joint policy brief. Regarding the Cluster’s newsletter, [The Active Site](#), periodic meetings take place to organize the work and brief the outcome, and it is launched every 3 months. Already 5 issues have been produced, the last one released on 18 May 2023. It is promoted through the projects’ websites and social media accounts (partners from the projects sum up to the spreading efforts). In the line of the visual design of the newsletter, a [policy brief](#) was released on March 2023, and another is in early stages of preparation. For this, a Policy Working Group (PWG) was built, and regular on-line meetings are held. All the relevant policy information gathered by the projects is organized in a shared folder, and updated when needed by the PWG members. It has been spread by the 4 projects in their social media and websites, and it has been sent to different relevant policy contacts. It is worth mentioning in here that besides the PWG, an Executive Group was also fixed (composed of the Coordinators and Project Managers).

A divulgative article in [Ambienta journal](#) was produced in cooperation with EnXylaScope and more are in the planned actions, e.g. in CORDIS, popular magazines, scientific magazines (e.g. Horizon magazine), brochures, etc.

On 11 April 2023, an online roundtable took place, organized by OXIPRO and with invitation extended to the other sister projects. The stakeholders attending were representatives from policy, regulatory bodies, and industry. From FuturEnzyme’s part, Henkel was invited, since in this occasion it was focused in detergent industry but, unfortunately, they could not attend due to agenda issues. Further roundtables in this line will be set-up by OXIPRO that will give us the opportunity to broaden our collaborations.

FuturEnzyme's partner BSC is also partner in OXIPRO, which has paved the way to prepare a joint computational workshop. Under the description "Workshop on Computational Enzyme Bioprospecting and Engineering", it took place in person in Barcelona, conducted by BSC, on 22-23 May 2023. In total, 23 participants attended from both consortia (agenda in **Annex 2**).

Another ongoing joint action is the online event "Managing data & resources: examples in research projects", which will take place on 9 June 2023 (agenda in **Annex 3**). The matter is to shed light on how to manage information and how to properly exchange it inside the project, inside the Cluster, and through the institutions and general public. Moreover, it is planned to include a round table to discuss such issues and integrate the possible different points of view and performances of the assistants, so our day-by-day work can be improved. It is closed to the projects involved (the Cluster + Horizon Europe project Nymphé, of which FuturEnzyme's coordinator CSIC is also partner).

Moreover, an event on Responsible Research and Innovation has been organized by FuturEnzyme and the invitation extended to the Cluster. Under the name "Your impact on environment and society: Workshop on Responsible Research & Innovation", this online participative activity will take place on 21 June 2023 (agenda in **Annex 4**). The objective is to gather together experts and participants from different circles (public, policymakers, academia, industry) to discuss about RRI principles and find joint solutions to the challenges faced in research and innovation.

FuturEnzyme's partner UHAM organized the 5th European Summer School on Industrial Biotechnology (ESSIB) in Hamburg from 3 to 6 July 2023 (agenda [here](#)). The ESSIB is aimed at PhD students and postdocs and offers lectures, a poster session, two laboratory courses on "Hands-On Metagenomics/computational tools", and an excursion to the European X FEL. The invitation is open to the other 3 projects from the Cluster.

Other relevant decision in this regard, agreed in the meeting, was to check the possibilities for experimental synergies (e.g. sharing Life Cycle Assessments). Furthermore, in the spotlight is a Cluster meeting in month 36 (May 2024) whose purpose is to agree on a common communication strategy and to evaluate the possibility for sharing techniques, materials, results, etc. Co-integrating enzymes of other consortia may yield products of higher environmental quality and consumer acceptance: the Cluster's aims to find joint exploitable solutions to challenges and problems encountered during their respective projects.

A platform for enzyme bio-prospecting and engineering, that facilitates a wide use of the scientific algorithmic achievements, was developed jointly between two of the FNR-16-2020 projects in the Cluster Enzymes for Greener Products, OXIPRO and FuturEnzyme, thus maximizing the efforts in this call. Several biocontainers have already been developed in OXIPRO and FuturEnzyme for bio-prospecting and engineering, including the AHATool, EP-Pred and ASiteDesign; the development of two of them, [EP-Pred](#) (the program can be downloaded in GitHub [etiur/EP-pred: A machine learning program to predict promiscuity of esterases \(github.com\)](#)) and [ASiteDesign](#), represent two joint publications between the FuturEnzyme and the OXIPRO consortiums. These activities evidence a clear example of the real scientific collaboration established between consortia.

In the case of EnXylaScope, their partner Divis will develop a software tool, including a graphical user interface (GUI). The tool can serve as a platform tool for other enzyme applications and EnXylaScope will offer its development to the other Cluster projects.

All the outcomes from the mentioned Cluster's joint actions that will require the signing of legal documents for confidentiality/non-disclosure, will be prepared and signed for the parties involved before sensitive information is exchanged.

Further synergies:

- To organize/perform campaigns to reach not only a European audience but also non-European audience (suggested by the Project Officers), and broadening the reach to consumer and social audience; for this the help of consumer organisations can be used: FuturEnzyme in collaboration with Altroconsumo, EnXylaScope by their partner RISE.
- To use a common platform for open science deposits. [FuturEnzyme](#) and [OXIPRO](#) already using Zenodo.
- Other webinars, courses, workshops, training events.
- Round tables/joint policy meetings.
- Compile inputs to public consultations, technological implementations, gaps, etc.

4. Future actions

The information and actions briefly detailed in this deliverable exemplify the efforts done to establish synergies with the other three FNR-16-2020-funded projects, which is key not only for the individual and joint developments of the projects, but also in reaching the objectives of the Horizon 2020 Work Programme 2018-2020, call “Food and Natural Resources”, topic FNR-16-2020 “Enzymes for more environment-friendly consumer products”. That said, while none of the actions herein described have required the signature of a legal framework to establish real experimental synergies, we will continue to keep this possibility open as more specific results are generated, enabling such synergies, in the second reporting period. In case, any Cluster’s joint actions in this direction that will require the signing of legal documents for confidentiality/non-disclosure, will be prepared and signed for the parties involved before sensitive information is exchanged.

Annex 1 – Minutes of the kick-off meeting of the Cluster Enzymes for Greener Products



Horizon 2020 Work programme
 Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research
 and the Bioeconomy

Call
 H2020-FNR-2020: Food and Natural Resources

Topic name

FNR-16-2020: Enzymes for more environment-friendly consumer products

Cluster name

Enzymes for greener products



Grant agreement no
101000831



Grant agreement no
101000327



Grant agreement no
101000607



Grant agreement no
101000560



FNR-16-2020 Cluster "Enzymes for greener products"

EVENT/ACTION

First FNR-16-2020 Cluster meeting minutes

DATE

14th October 2021

LOCATION

Online

Version

Final

Authors, project and contact of the responsible author:

Patricia Molina, Manuel Ferrer (FuturEnzyme, mferrer@icp.csic.es), Carolina Peñalva (EnXylaScope, carolina.penalva@aitip.com), Gro Bjerga (OXIPRO, grbj@norceresearch.no) and Aurelio Hidalgo (RADICALZ, ahidalgo@cbm.csic.es)

INTRODUCTION

The first meeting for the FNR-16-2020 Cluster “*Enzymes for greener products*”, organised in cooperation with the European Research Executive Agency (REA) (Unit B3 “Biodiversity, Circular Economy and Environment”), was held online on 14th October 2021. This Cluster gathered together to join efforts for a higher efficiency and impact of the 4 integrating projects: EnXylaScope (Grant Agreement no 101000831), FuturEnzyme (Grant Agreement no 101000327), OXIPRO (Grant Agreement no 101000607) and RADICALZ (Grant Agreement no 101000560). These projects are funded under the frame of Horizon 2020 Work Programme 2018-2020, call “Food and Natural Resources”, topic FNR-16-2020 “Enzymes for more environment-friendly consumer products”.

This meeting is the first of a series of meetings through which the 4 Consortia, in accordance with the terms of the Grant Agreement, will undertake the best collaborative efforts with a view to maximise efficiency and impact, by favouring synergies and avoiding overlapping or duplication of activities. This is especially important given that the 4 projects target multiple types of audiences such as scientific community and other social audience, SMEs, industry, consumers, policy makers, etc.

The Project Coordinators and Project Managers of the 4 projects attended the meeting, which was joined by the 2 Project Officers and the Head of Sector in Unit B3 “Biodiversity, Circular Economy and Environment” of the European Research Executive Agency (REA), to give advice and help identifying synergies. The Policy Officer of the European Commission Directorate-General “Research and Innovation” also presented the policy aspects related to the topic FNR-16-2020.

This meetup was proposed by Gro Bjerga, Coordinator of OXIPRO, and Manuel Ferrer, Coordinator of FuturEnzyme, and soon accepted by the rest of the Coordinators, at which the Project Officers agreed. It was organised by Spanish National Research Council CSIC, using the online platform *Conecta CSIC*. The recording of the meeting is available under this [link](#).

MINUTES

Manuel Ferrer welcomed all the participants and gave the speaking turn to **Evdokia Achilleos**, Head of Sector of the REA Unit B3 “Biodiversity, Circular Economy and Environment”. She highlighted the importance of this meeting and that REA is implicated in building well-functioning relations amongst all the participants and facilitating dialogue with Policy Officers working in related areas. She also encouraged the Cluster members to be aware of any initiative regarding the topic “*use of enzymes and related*” at a national level, suggesting contacting the National Contact Points in this direction. She reminded that it would be much appreciated that project results from the FNR-16-2020 Cluster are communicated to the Project Officers. Gathering the results of the 4 projects is positive also because it will help in the exploitation of the results even after the projects are completed. She reminded the benefit of keeping REA updated about future collaborations, as they will facilitate networking also with other clusters if we need a support.

Then, **Paloma Mallorquín**, Policy Officer of the EC DG “Research and Innovation” Unit B1 “Circular Economy & Biobased Systems” intervened to give an EU policy content resume. One of the points she described is the EU strategy for sustainable textiles, highlighting the importance of introducing the use of enzymes in all the steps of the production. At the end of her intervention, she invited the projects members to check the implementation plan of the [Missions in Horizon Europe](#), published in September 2021, to explore further synergies in our research areas with this EU initiative.

Manuel Ferrer thanked Paloma Mallorquín for her involvement in our Cluster meeting. He also pointed that a key message during the communication and dissemination strategy may be that through the activities of the 4 projects, we are not only going to reduce the pollution and harm to the environment, but with our

developments we will also contribute to the recovery and restoration of natural environments, which is possible by reducing pollution levels.

Our Project Officers, **Ruska Kelevska** (EnXylaScope, OXIPRO and RADICALZ) and **Colombe Warin** (FuturEnzyme) took the floor, and reminded the fact that there are deliverables at each reporting periods, called “policy briefs”; Those are very important documents to channel the projects’ results to the different levels of the EU. Colombe Warin suggested that it could be interesting to have synergies at these policy briefs that could help when transferring the results to the EU hierarchy. Manuel Ferrer agreed and suggested the possibility of preparing two such policy briefs, one in the first year of the projects to settle the stage we are now, and one at the end of the projects, so when projects end one can compare the “before” and the “after” and see what we have achieved.

Following the agenda, **Carolina Peñalva presented EnXylaScope** as Project Coordinator. Then, she proposed the following collaborations, opportunities and synergies:

For policy-work: promoting agreements, organization of a policy event, such as a Colloquium.

Regarding Dissemination and Communication events: common participation in courses, workshops, webinars (EnXylaScope targets 3 thematic webinars that can be framed in the Cluster for greener products); publication of promotional articles, etc. (already achieved [one](#) thanks to FuturEnzyme project); common conference “Enzymes for more environment-friendly consumer products” with the 4 relevant projects included.

About real experimental synergies: periodic online/face-to-face meetings where to identify synergies and increase the potential impact and to identify some common areas of interest, and sharing ideas. As example, partner Divis will develop a software tool, including a graphical user interface (GUI). The tool can serve as a platform for other enzyme applications and EnXylaScope will engage with other FNR-16-2020 funded proposals regarding how they would like to see the tool developed over the project.

Manuel Ferrer pointed the fact that different events are planned, so it would be useful to prepare a timeline to collaborate in them without conflicts; it may also be positive to establish an NDA (non-disclosure agreement) in case experimental synergies are expected; a key message that we need to make clear is that we are targeting many different products to promote a sustainable bioeconomy in different directions.

Paul Webb, Head of REA Department B “Green Europe”, commented through the public chat that the collaboration in the mentioned events would be very welcome.

Then, **Manuel Ferrer, Coordinator of FuturEnzyme**, presented the project. Inter-consortia network events proposed are webinars (month 1-24), workshops, courses, and conferences (month 24-36), general inter-consortia meeting (month 36) and inter-consortia policy event (month 44). He questioned about the need of a transparent legal framework in which to operate, exploit and disseminate synergies. More in detail, the *suggested actions* are:

- Media package release (2022)
- Webinar “Enzymes for more environmental-friendly consumer products” (2022)
- Summer School on Metagenomics (2022)
- Workshop on good practices (2023)
- Course on bioinformatics and computational analysis (2023)
- Industry-oriented workshop (2023)
- Workshop on European Green Deal aligned with Rights, Ethics and Equality (2023)
- Intra-consortium exploitation workshop with other funded projects (2024)
- Conference on International biotech/bioeconomy (2024)
- Intra-consortium policy event with other funded projects (2024)

He also proposed to join forces for an article in the CORDIS communications like research EU or articles in other scientific (peer review) or popular journals; FuturEnzyme will run a confidential questionnaire and if the output results in public interest, it can also be interesting to perform a Cluster one.

Aurelio Hidalgo, RADICALZ's Coordinator resumed the project (a change in the agenda was needed due to IT issues). He pointed at the organization of:

- Technical meetings, planned for year 2 (2022).
- Training events such as a workshop and a summer school on enzymes for bioeconomy, planned for year 3 (2023).
- Communication events such as the European Night of Researchers or an interactive round table (ESOF2024), planned for years 2 and 3 (2022 and 2023)
- Dissemination actions such as newsletter (not usually highly successful in terms of subscriptions, but maybe a joint one with the 4 projects will help).
- Industrial stakeholder legacy info day, planned for year 4 (2024).
- Dedicated sessions in relevant conferences on biocatalysis, biotechnology and/or metagenomics.
- Policy-related discussions (to prepare policy meeting and policy brief).

Gro Bjerga, Coordinator of OXIPRO, described the project. Regarding collaboration for coherent policy-making, she proposed the following actions: a working group with FNR-16 community Cluster Enzymes for greener products; a joint policy meeting at month 12 (06/2022); FNR-16 contribution for policy-makers at month 24 (06/2023). OXIPRO also has other tools, such as 2 round tables or joint policy meetings; 1 lunch talk at EU Parliament where synergies are welcomed. OXIPRO has several ways to bring policy feedback, e.g., policy reports. The project met and agreed in the following *structure* and *actions* for the Cluster collaboration:

Structure proposed: propose to establish a working group to support policy making.

Activities proposed: invite Cluster members to 2 round table/joint policy meetings (OXIPRO: 1st and 3rd year); joint high-impact social awareness campaign throughout Europe (OXIPRO: 3rd year online, 4rd year physical in ES-Barcelona and NO-Bergen); joint publication (access possible areas for this); capacity building (OXIPRO: webinar series).

Immediate actions: joint press release on the «enzyme Cluster» (OXIPRO offers to prepare the draft); common #tags and @ the other projects (#enzymecluster); common platform for open science deposits (Zenodo).

Colombe Warin liked the immediate actions, and she proposed to fix in this moment the tags to be used to transfer them to the communication department at REA.

PROPOSED ACTIONS

After the end of the presentations, the common actions to undertake are discussed.

Immediate:

- To prepare a report of maximum 2 pages summarizing this event and to be published on the project's websites (Manuel Ferrer suggested the first draft to be prepared by FuturEnzyme and then shared to ALL to agree in a final draft).
- Preparation of the minutes summarizing the meeting and key actions (FuturEnzyme, ALL).
- To agree on common tags for communication and dissemination: #EUGreenResearch #enzymecluster #enzyming #greenerproducts #greentech #REA_research #circulareconomy #climatechange #sustainable

#consumerproducts #green #ecofriendly #environment #biotechnology #biobased #EUMissions #EUGreenDeal (add for policies, ALL).

- To discuss and agree on common messages to be clearly mentioned during the communication and dissemination activities, such as the sectors we target and why, the Sustainable Development Goals (SDGs) we target and why, the industrial sectors we target and why, the enzymes we all together target and why, the technologies we target and implement and why, the implications on environment, in bioeconomy, in health, in decreasing contamination level, in safety, in consumer benefits (in a quantitative level), how we ensure industrial implementation and why this is important, the role of EU funding in reaching the European Green Deal (EGD) objectives, etc. (messages to be discussed and agreed by ALL).

- To prepare a joint press release, or preferably a launch a web friendly newsletter case on websites and LinkedIn of all four projects on the same day (ALL, RadicalZ). For this purpose, a visual identity image for this will be designed by AITIIP, that will be later evaluated by ALL before final agreement.

- To prepare a roadmap (first draft for circulation Feb 18th, 2022; accepted by the Cluster coordinators), to mark the specific activities, collaborations and initiatives and their timing that will make easier to visualize all the Cluster actions (FuturEnzyme, ALL). Note: this roadmap will compile all communication/dissemination/exploitation/training events/activities, which can be of common interest, planned by the different Consortia.

- To organize/perform campaigns to reach not only an European audience but also non-European audience (ALL). This action was suggested by Ruska Kelevska, who added the idea of carrying out a campaign to reach a broader consumer and social audience, so the results are better spread and better understood. In here, we can use the help of consumer organisations: FuturEnzyme in collaboration with Altroconsumo, EnXylaScope by their partner RISE, by performing different surveys about consumer acceptance and other tests. In this regard, as immediate action, Manuel Ferrer suggested that maybe the Cluster members can contact their countries' consumer organisations to check if it is possible to make an altogether campaign. Colombe Warin pointed that it is positive that it is made not only at national level but to enlarge at EU level by focusing more on Central and Eastern Europe.

- To organize working groups (at least an executive and a policy group; see details below) for activities related to technical work for consumer products (e.g. taking care for example of national standardization activities as suggested by Ruska, etc.). Gro Bjerga comments (by the public chat) that they have a partner involved in standardization of life sciences, so it could be useful to check with them, they will plan to provide a webinar on the topic of standardization (OXIPRO, ALL).

- To organize a working group for policy-related activities (OXIPRO, ALL).

- To use a common platform for open science deposits (ALL).

- To design an image using the isotypes of all four projects to be used for common dissemination, exploitation and communication activities (AITIIP will propose a logo/image, to be later on defined/agreed with ALL).

- To agree on a template for networking activities (the template may contain the cluster branding, if and when agreed).

On a longer term:

- Webinars, courses, workshops (ALL); to be discussed once the roadmap is detailed (see above).

- Round tables/joint policy meetings (ALL); to be discussed once the roadmap is agreed upon (see above).

- Training events: summer schools (ALL); this can be discussed once the roadmap (see above) is detailed.

- Join forces for articles in CORDIS, popular magazines, scientific magazines (e.g. [Horizon magazine](#)), newsletters, etc. Ruska Kelevska and Colombe Warin suggested the possibility to publish a brochure on [CORDIS](#) platform when the projects have interesting results to promote our research. It is free of charge and Projects Officers can provide the needed contacts ([ALL](#)).
- Organize a joint policy event at the end of the projects: preparation of a policy paper/brief – one now, and one later or at the end of the project ([ALL](#)); this can be discussed once the roadmap (see above) is detailed.
- Compile inputs to public consultations, technological implementations, gaps, etc.
- Check the possibilities for experimental synergies (sharing Life Cycle Assessments, etc.).
- Agree on regular meetings involving all project members of the 4 Consortia.

FINAL COMMENTS AND REMARKS

It is important to notify for events and feedback for policy making as soon as possible to the Project Officers, not wait until reporting periods or any other deadlines.

Marta Redrado, Project Manager from EnXylaScope, proposed to work by defining Coordinator’s meetings in which what is going to be done is decided and then, small and specialized groups composed of members of the 4 Consortia meet to discuss how to carry the actions out.

Colombe Warin reminded us to keep them posted about our actions in advance, and that our Project Officers support us and help us to channel our research in the best possible way. She also suggested that we can make actions with target on other countries that are not a part of our Consortia.

WORKING GROUPS

Two working works are suggested, namely an **Executive group** and a **Policy Group** (ALL). Once the roadmap with activities are defined, other synergies and Groups will be inspected.

Executive group:

Name	Project	Charge
Carolina Peñalva	EnXylaScope	Coordinator
Manuel Ferrer	FuturEnzyme	Coordinator
Gro E. Kjærøng Bjerga	OXIPRO	Coordinator
Aurelio Hidalgo	RADICALZ	Coordinator
Marta Redrado	EnXylaScope	Project Manager
Patricia Molina	FuturEnzyme	Project Manager
Anne Dorthea Mæland	OXIPRO	Project Manager
Nargisse Nejda	RADICALZ	Project Manager

Policy group:

Name	Project	Charge
Carolina Peñalva	EnXylaScope	Coordinator
Manuel Ferrer	FuturEnzyme	Coordinator
Gro E. Kjærøng Bjerga	OXIPRO	Coordinator
Aurelio Hidalgo	RADICALZ	Coordinator
Marta Redrado	EnXylaScope	Project Manager
Patricia Molina	FuturEnzyme	Project Manager
Anne Dorthea Mæland	OXIPRO	Project Manager
Nargisse Nejda	RADICALZ	Project Manager

PARTICIPANTS

Name	Project/EU division	Charge	e-mail
Carolina Peñalva	EnXylaScope	Coordinator	carolina.penalva@aitiip.com
Manuel Ferrer	FuturEnzyme	Coordinator	mferrer@icp.csic.es
Gro E. Kjæreng Bjerga	OXIPRO	Coordinator	grbj@norceresearch.no
Aurelio Hidalgo	RADICALZ	Coordinator	ahidalgo@cbm.csic.es
Colombe Warin	FuturEnzyme	Project Officer (REA)	Colombe.WARIN@ec.europa.eu
Ruska Kelevska	EnXylaScope, OXIPRO and RADICALZ	Project Officer (REA)	Ruska.KELEVSKA@ec.europa.eu
Marta Redrado	EnXylaScope	Project Manager	marta.redrado@aitiip.com
Patricia Molina	FuturEnzyme	Project Manager	patricia.molina@icp.csic.es
Anne Dorthea Mæland	OXIPRO	Project Manager	anma@norceresearch.no
Nargisse Nejda	RADICALZ	Project Manager	radicalz@cbm.csic.es
Evdokia Achilleos	REA, Unit B3 "Biodiversity, Circular Economy and Environment"	Head of Sector	Evdokia.ACHILLEOS@ec.europa.eu
Paloma Mallorquín	DG Research & Innovation, Unit B1 "Circular Economy & Biobased Systems"	Policy Officer (DG RTD)	Paloma.MALLORQUIN@ec.europa.eu
Paul Webb	REA.B "Green Europe"	Head of Department	-
Roberto Enseñatt-Waser	REA, Unit B3 "Biodiversity, Circular Economy and Environment"	Project Adviser	-
Giulio Pattarano	REA, Unit B3 "Biodiversity, Circular Economy and Environment"	Research Programme Administrator	-
Attila Berczik	REA, Unit B3 "Biodiversity, Circular Economy and Environment"	Deputy Head of Unit	-
Berta Gonzalvo Bas	EnXylaScope	R+I Director	berta.gonzalvo@aitiip.com
Pablo Domínguez de María	RADICALZ	Innovation and Exploitation WP leader	-

AGENDA

COORDINATORS' MEETING*

Cluster "Enzymes for greener products"

(14th October 2021, 13:00 - 15:00)

On-line link: <https://conectaha.csic.es/b/pat-ox0-xbn-x5z>

- 13:00-13:10** Welcome
Manuel FERRER - FuturEnzyme's Coordinator
Brief introduction to the event, the agenda and the participants
- 13:10-13:15** Welcome
Evdokia ACHILLEOS - Head of Sector
REA, Unit B3 "Biodiversity, Circular Economy and Environment"
- 13:15-13:25** Presentation on topic FNR-16 -2020
Paloma MALLORQUIN - Policy Officer
DG Research & Innovation, Unit B1 "Circular Economy & Biobased Systems"
- 13:25-13:30** Introduction of Project Officers of FNR-16-2020 projects
Ruska KELEVSKA and Colombe WARIN - Project Officers
REA, Unit B3 "Biodiversity, Circular Economy and Environment"
- 13:30-13:35** EnXylaScope: project overview and synergy expectations¹
Carolina PEÑALVA - EnXylaScope's Coordinator
Short Q&A

- 13.40-13.45 **FuturEnzyme: project overview and synergy expectations**¹
Manuel FERRER - FuturEnzyme's Coordinator
Short Q&A
- 13.50-13.55 **OXIPRO: project overview and synergy expectations**¹
Gro E. Kjæreng BJERGA - OXIPRO's Coordinator
Short Q&A
- 14.00-14.05 **RADICALZ: project overview and synergy expectations**¹
Aurelio HIDALGO - RADICALZ's Coordinator
Short Q&A
¹Brief of the project, partners and synergy ideas.
*Meeting organised in cooperation with the REA (Unit B3 "Biodiversity, Circular Economy and Environment").
- 14.10-14.45 **Discussion of synergies and opportunities**
Coordinators and other participants
- Dissemination and communication: popular science articles, courses, workshops (Master, PhDs, postdoct, ...), webinars, roundtables, ...
 - Technical meetings: IP and PO, ...
 - Policy actions: policy events, policy paper, ...
 - Stakeholder and Consumer actions: infodays, stakeholder/consumer briefings, ...
 - Frameworks for sharing ideas, techniques, materials, ...
 - How to avoid overlapping or duplication of activities.
 - Etc.
- 14.45-14:55 **Conclusions and agreed actions**
Coordinators
Live summary of actions to be taken on synergies and opportunities: key bullet points and take-home actions
- Draft a short report (max 2 pages) to be published on the projects' website
 - Etc.
- 14:55-15:00 **Closing remarks and next steps**
Ruska KELEVSKA and Colombe WARIN
- 15:00 **End of the meeting**

Annex 2 – Agenda of the BSC workshop on Computational Enzyme Bioprospecting and Engineering

Day 1 - 22nd May, 2023

Introduction

9:00 - 9:30: Registration and Welcome

- Participants check-in at the BSC hall and receive a brief welcome and introduction to the workshop.

9:30 - 10:00: Session 1 - Introduction and Key Concepts

- Protein Engineering introduction and its importance.
- Key concepts and theories, including the machine learning revolution in biocatalysis, are covered.

In silico Bioprospecting

10:00 - 10:50: Session 2 - High throughput *in silico* Bioprospecting

- An introduction to computational bioprospecting and its relevance for enzyme discovery and engineering.

10:50 - 11:10: Coffee Break

11:10 - 11:50: Session 3 - Discovering New Enzymes with HMM-Based Bioprospecting.

Invited Speaker: Dr. Pablo Pérez García

11:50 - 12:30: Session 4 - The potential of machine learning in bioprospecting

- EP-Pred for the bioprospecting of promiscuous ester hydrolases.
- Generative adversarial networks (GANs) as an infinite source of synthetic protein sequences.

12:30 - 14:15: Lunch Break

- Informal presentation and discussion with the Directors of FUTUREZYME, Dr. Manuel Ferrer, and OXIPRO, Dr. Gro Bjerga (remote connection).

14:15 - 14:45: Session 5 - Bioexcel building blocks and workflow theory

- Discussion of the importance and benefits of using building blocks in scientific workflows for computational modeling and simulation.

14:45 - 18:00: Session 6 - Hands-on (I)

- Participants engage in a practical, hands-on activity related to the workshop sessions of Bioprospecting.

Day 2 - 23rd May, 2023

Protein Engineering

9:00 - 9:40: Session 7 - System Preparation for Protein Simulations

- Selection and preparation of the protein structure for simulations, including protonation states, water molecules...
- Overview of recommended tools and software.

9:40 - 10:20: Session 8 - AsiteDesign: A semi-rational algorithm for automated enzyme design. Invited Speaker: Dr. Sergi Rodà Llordés

10:20 - 10:40: Coffee Break

10:40 - 11:20: Session 9 - Evolutionary Algorithm for Protein Engineering: Multistate Design

11:20 - 12:00: Session 10 - Protein Energy Landscape Exploration (PELE) software

- Theory and methodology of PELE software for simulating protein-substrate binding affinity with high accuracy and efficiency.
- Applications of PELE in protein engineering for industrial biotechnology.

12:00 - 12:45: Session 11 - FRESCO: A Rapid Computational Protocol for Enhancing Protein Stability. Invited Speaker: Dr. Hein J Wijma

12:45 - 14:00: Lunch Break

14:00 - 18:00: Session 12 - Hands-on (II)

- Participants engage in a practical, hands-on activity related to the workshop sessions of Protein Engineering.

Annex 3 – Agenda of the event Managing data & resources: examples in research projects

9 June 2023

9.30-9.35: Welcome, and introduction – Manuel Ferrer

9.35-9.45: Presentation by Manuel Ferrer, representing FuturEnzyme

9.45-9.55: Presentation by Gro Elin Kjæreng Bjerga, representing OXIPRO

9.55-10.05: Presentation by Carolina Peñalba, representing EnXylaScope

10.05-10.15: Presentation by Elena Biagi, representing Nymphe

10.15-10.45: Presentation by Noelia Vallejo, discussing Nagoya protocol

10.45-11.00: Short break

11.00-12.00: Discussion about the way to move forward with data management

Annex 4 – Agenda of the event Your impact on environment and society: Workshop on Responsible Research & Innovation

21 June 2023

10.00 – 10.30: Welcome and general introduction to RRI

10.30 – 11.30: Workshop activities in small working groups, led by RRI experts

11.30 – 11.50: Presentation of group work

11.50 – 12:30: Discussion, conclusion and farewell