EUROPEAN
PLASMA RESEARCH
ACCELERATOR WITH
EXCELLENCE IN
APPLICATIONS

Membership Extension Strategy WP6

B. Cros (CNRS), A. Mostacci (Sapienza)

EuPRAXIA-PP Annual Meeting 2025, 29-31 October 2025

This project has received funding from the European Union´s Horizon Europe research and innovation programme under grant agreement No. 101079773

WP6 - Membership Extension Strategy

Funded by the European Union

Mandate

→ **Outreach to European and international communities** interested in the Technology and User Science, definition of extension approach, integration into international landscape.

Guidelines of WP6 activity

→ Attempts have been made explore how EuPRAXIA can be optimally utilized for **the benefit of all**.

→ EuPRAXIA has already gained significant visibility as a large-scale international project. Its development is expected to stimulate **collaborative exchanges worldwide**.

→ EuPRAXIA will contribute to reinforce **collaborative approach** within scientific network that allow sharing of know-how within Europe.

Latest Milestone

→ **Workshop** to imagine the role of Eupraxia outside the current partnership.

EUROPEAN
PLASMA RESEARCH
ACCELERATOR WITH
EXCELLENCE IN
APPLICATIONS

EuPRAXIA Preparatory Phase

EuPRAXIA Outreach

WP6 - Membership Extension Strategy

27th September 2024, Isola d'Elba, Italy

Programme Committee
Brigitte Cros (Chair)
Andrea Mostacci (Chair)
Pierluigi Campana
Massimo Ferrario
Antonio Falone

Local Organizing Committee
Antonio Falone (Chair)
Anna Rita Ciamarra
Catia Conti
Alessio Del Dotto
Martina Del Giorno
Giorgio Delzeri
Valentina Dompè
Maurizio Garzella
Gabriele Lo Re
Giorgia Masi
Claudia Pelliccione
Andrea Quattrini
Stefano Romeo

www.eupraxia-pp.org

This project has received funding from the European Commission Horizon Europe Research and Innovation Programme under Grant Agreement no. 101079773

EUROPEAN
PLASMA RESEARCH
ACCELERATOR WITH
EXCELLENCE IN
APPLICATIONS

EuPRAXIA Preparatory Phase

EuPRAXIA Outreach

WP6 - Membership Extension Strategy

27th September 2024, Isola d'Elba, Italy

9.00 – 9.30	EuPRAXIA accelerator and facility: a technical perspective	*Massimo Ferrario*
9.30 – 9.45	EuPRAXIA Collaboration and its organisation	*Antonio Falone*
9.45 – 10.00	Reason and directions of Membership Extensions	*Pierluigi Campana*
10.00 – 10.30	Pioneering experience on the development of accelerators from scratch: SESAME facility	*Andrea Lausi*
11.00 – 11.30	Research initiatives in INDIA and potential opportunities for EuPRAXIA	*Rajeev Pattathil*
11.30 – 12.00	Research Initiatives in Developing Communities and Potential Opportunities for EuPRAXIA	*Christine Darve*
12.00 – 12.30	The Latin American Synchrotron in the Greater Caribbean	*Galileo Violini*
16.00 – 16.25	Plasma based positron sources for testing positron acceleration at EuPRAXIA	*Gianluca Sarri*
16.25 – 16.50	Synergies for laser development between EuPRAXIA and other fields including fusion and industry	*Leonida Antonio Gizzi*
16.50 – 17.15	Nuclear physics in plasma at EuPRAXIA	*Paolo Tomassini*
17.15 – 17.40	EuPRAXIA possible contributions to the Linear Collider development	*Jens Osterhoff*
18.00 – 18.20	The African School of Physics	*Ketevi Adikle Assamagan*
18.20 – 18.40	Tools for Students training in EU and funding opportunities	*Carsten Peter Welsch*
18.40 – 19.30	Discussion/Round table - Strategy for linking Eupraxia to other worldwide similar accelerator activities	*Convener: Brigitte Cross, Andrea Mostacci*

Programme Committee
Brigitte Cros (Chair)
Andrea Mostacci (Chair)
Pierluigi Campana
Massimo Ferrario
Antonio Falone

Local Organizing Committee
Antonio Falone (Chair)
Anna Rita Ciamarra
Catia Conti
Alessio Del Dotto
Martina Del Giorno
Giorgio Delzeri
Valentina Dompè
Maurizio Garzella
Gabriele Lo Re
Giorgia Masi
Claudia Pelliccione
Andrea Quattrini
Stefano Romeo

www.eupraxia-pp.org

This project has received funding from the European Commission Horizon Europe Research and Innovation Programme under Grant Agreement no. 101079773

Outreach Workshop – September 2024

Funded by the European Union

Presentation of EuPRAXIA	9.00 – 9.30	EuPRAXIA accelerator and facility: a technical perspective	*Massimo Ferrario*
	9.30 – 9.45	EuPRAXIA Collaboration and its organisation	*Antonio Falone*
	9.45 – 10.00	Reason and directions of Membership Extensions	*Pierluigi Campana*
Potential links in countries not yet represented in EuPRAXIA	10.00 – 10.30	Pioneering experience on the development of accelerators from scratch: SESAME facility	*Andrea Lausi*
	11.00 – 11.30	Research initiatives in INDIA and potential opportunities for EuPRAXIA	*Rajeev Pattathil*
	11.30 – 12.00	Research Initiatives in Developing Communities and Potential Opportunities for EuPRAXIA	*Christine Darve*
	12.00 – 12.30	The Latin American Synchrotron in the Greater Caribbean	*Galileo Violini*
EuPRAXIA framework for R&D	16.00 – 16.25	Plasma based positron sources for testing positron acceleration at EuPRAXIA	*Gianluca Sarri*
	16.25 – 16.50	Synergies for laser development between EuPRAXIA and other fields including fusion and industry	*Leonida Antonio Gizzi*
	16.50 – 17.15	Nuclear physics in plasma at EuPRAXIA	*Paolo Tomassini*
	17.15 – 17.40	EuPRAXIA possible contributions to the Linear Collider development	*Jens Osterhoff*
Training and young researcher education	18.00 – 18.20	The African School of Physics	*Ketevi Adikle Assamagan*
	18.20 – 18.40	Tools for Students training in EU and funding opportunities	*Carsten Peter Welsch*
	18.40 – 19.30	Discussion/Round table - Strategy for linking Eupraxia to other worldwide similar accelerator activities	*Convener: Brigitte Cros* *Andrea Mostacci*


Round table
EuPRAXIA
Strategy for linking EuPRAXIA to other worldwide similar accelerator activities
Discussion
How do you see the role of EuPRAXIA in the interaction with facilities/activities outside the present EuPRAXIA consortium?
How can EuPRAXIA be beneficial for the communities that you represent?
After today's presentations/discussion, do you see any specific topic/issue that EuPRAXIA could try to address?
Speakers
Andrea Lausi
Galileo Violini
4
G. Violini
R. Pattathil
M. Ferrario
C. Darve
K.A. Assamagan
A. Lausi

B.

Workshop outcomes and suggestions

Funded by the European Union

The workshop was helpful in highlighting interesting perspectives and guidelines for EuPRAXIA outreach activity

- There is a huge networking activity worldwide in imagining **research collaboration** also in the global south.
- Particle accelerator based science is seen as a boost of **research and industrial activities** in emerging countries.
- Global challenges: **UN Sustainable Development Goals**, Pollution, Water treatments, …
- Interest and opportunities in **medical applications** are growing.
- **Green field** issue: building research centers from scratch, scalability and compactness of EuPRAXIA sources is an advantage.
- **EuPRAXIA model** of a collaborative effort can be interesting when institutes/countries can not sustain the whole infrastructure investment.

Workshop outcomes and suggestions – II

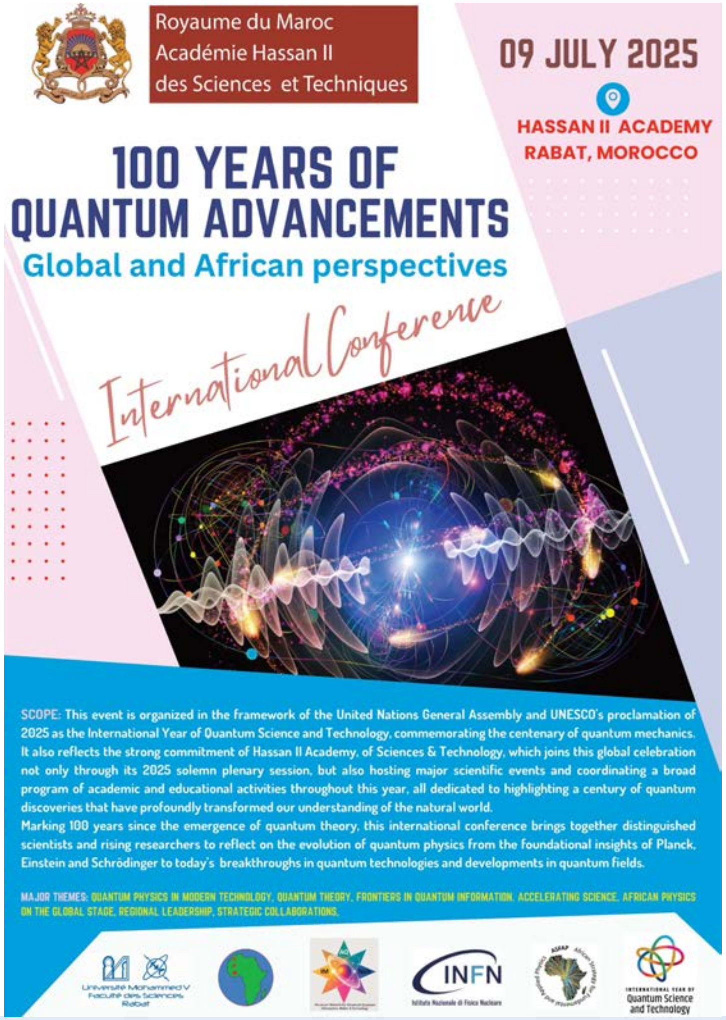
Funded by the European Union

The workshop was helpful in highlighting interesting perspectives and guidelines for EuPRAXIA outreach activity

- Different regions are acting in **different ways** (examples from Africa, Central America, Middle East, India …)
- Imagine **EuPRAXIA as international facility**, not European, thus spreading our richness. Countries could join to build their own centers.
- One strong point of EuPRAXIA is **being multidisciplinary** and cross fertilization is useful.
- **Training** is a constant effort (e.g. Africa school of Physics): EuPRAXIA can be attractive and useful.
- **Training or schools** can be used to advertise our technology and create a community
- **Promoting EuPRAXIA** in countries different from ours is important: we have to **understand the priorities** of the new communities and improving feedback (e.g. by training/schools).

Outreach activity

Funded by the European Union



zoom ASP Online Seminars Join

09:00 → 09:15 **Welcome address** 15m

09:15 → 09:30 **Keynote address — From Bohr to Qubits: The Evolution of Quantum Thought** 15m
Speaker: Prof. Lalla Btissam Drissi (Mohammed V University, Morocco)

09:30 → 11:00 **Development of a compact research infrastructure in Morocco based on a Compact Light Source**

- 09:30 **Compact cost-effective electron accelerators for multi-disciplinary applications** 25m
  Speaker: Prof. Andrea Mostacci (Sapienza University of Rome e INFN-Roma I (IT))
- 10:00 **Particle accelerators physics in Africa, present and future: what opportunity for Morocco?** 25m
  Speaker: Dr Sanae Samsam (INFN Milano)
- 10:30 **Status of European Compact Light Sources: perspective for a CLS in Morocco Bridging to South-Europe** 25m
  Speaker: Prof. Luca Serafini (INFN-Milan)

11:00 → 11:15 **Discussion** 15m

11:15 → 11:30 **Break** 15m

11:30 → 12:30 **African Physics on the Global Stage**

- 11:30 **The ATLAS Inner Tracker Upgrade** 25m
  Speaker: Dr Mounia Laassiri (Brookhaven National Laboratory (US))
- 12:00 **The 4th African Conference of Physics and the African Strategy Symposium** 25m
  Speaker: Dr Ketevi Adikle Assamagan (Brookhaven National Laboratory (US))

12:30 → 12:45 **Discussion** 15m

https://indico.cern.ch/event/1548598/ 1/2

Outreach activity

Funded by the European Union

Outcomes and suggestions

Funded by the European Union

- **Serious interest** from people deciding the science policy.
- Need of countering the **brain-drain of researchers** moving abroad from the whole Africa.
- **Facility scalability** is an advantage; LINACs are better than circular accelerators.
- **Green field**: building research centers from scratch for applied physics. “Conventional” accelerators, scalable to plasma ones.
- Need of **international funding**.
- Experience at **CERN** and connection to particle physics initiatives.

Next steps

Funded by the European Union

Investigate the opinion of the pillar's representatives on opportunities/advantages of an outreach activity.

Scientific Impact
Is there any need of each facility that can be satisfied by connections with institute outside the ones now in EuPRAXIA? For instance: in-kind contribution, qualified personnel, etc.

Societal impact - Training
The existence of a lively scientific network is not only beneficial for researchers, but it can allow student training and exchange. What are the needs of each facility or the benefits that each facility could offer?

Societal impact – Compact research centre from green-field
Among the galaxy of EuPRAXIA activities, do you see some proposal for research centres to be built from scratch in non-developed countries?

Link to other networks

Funded by the European Union

- EuPRAXIA will be an essential tool for the **demonstration of plasma technology for linear accelerators**, scalable to high energy linear accelerator.
- EuPRAXIA is discussed in **ALEGRO workshops** and linked to the 10TeV initiative coordinated by SLAC and LBNL; EU partners are involved in the joint coordination of WG
- **Next ALEGRO meeting**: https://agenda.infn.it/event/47329/

Summary

Funded by the European Union

WP6 - Membership Extension Strategy

- Linking EuPRAXIA to **existing research networks**/initiatives

- Understanding how EuPRAXIA could **outreach new communities** (outcomes of the workshop)

  Training (schools, hosting students, …)

  Being able to face the issues related to **new facilities**

  EuPRAXIA model of a collaborative effort

  EuPRAXIA is a **multidisciplinary** project

Thank you for your attention