



# At a glance

Carsten P Welsch

*INFN-LNF*

*University of Liverpool*

*The Cockcroft Institute*



UK Research  
and Innovation



# What is EuPRAXIA-DN?



- MSCA Doctoral Network with a budget of 3.2M€;
- 12 high-level Fellowships (*10 Fellows will be funded by the EU, another two by the UKRI guarantee funds*);
- Interdisciplinary and cross-sector plasma accelerator research and training program carried out between universities, research centres and industry;
- Allows for organizing (large) number of events;
- Recognized importance of plasma accelerator R&D at European level!

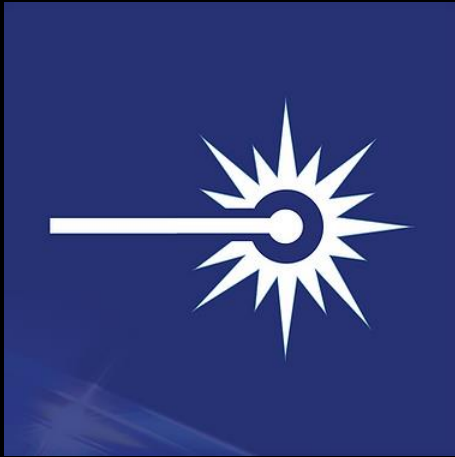
# Beneficiaries



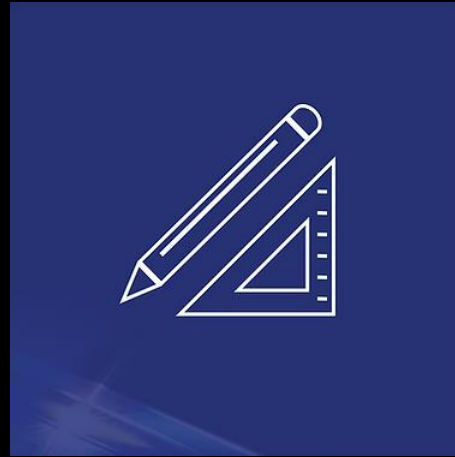
# Partner Organizations



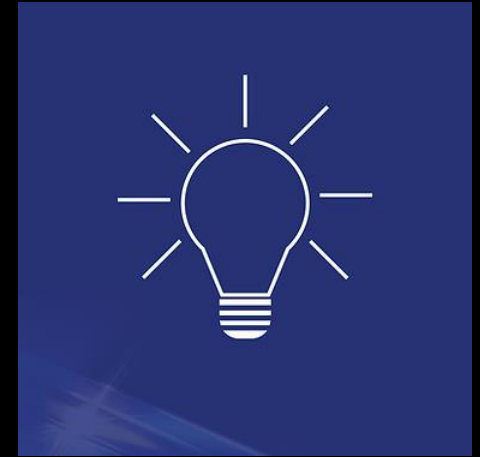
# Research



Laser & Plasma



Facility Design &  
Optimization

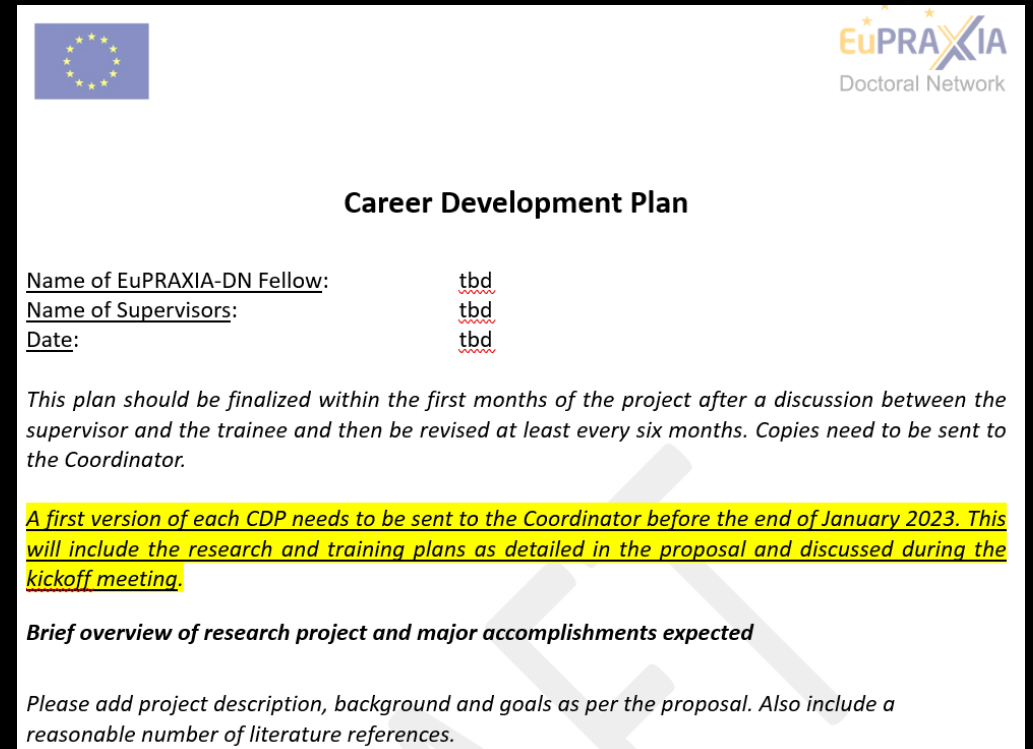


Applications

The network's main scientific and technological objectives are split into three closely interlinked work packages.

# Individual research projects

- Will be presented later today
- **Draft Career Development Plan** (see Naomi) to be established by the end of February and sent to the Coordinator.
- **Secondments** to be included as per our proposal!



The screenshot shows a form titled "Career Development Plan" with the following fields and instructions:

- Name of EuPRAXIA-DN Fellow:** tbd
- Name of Supervisors:** tbd
- Date:** tbd

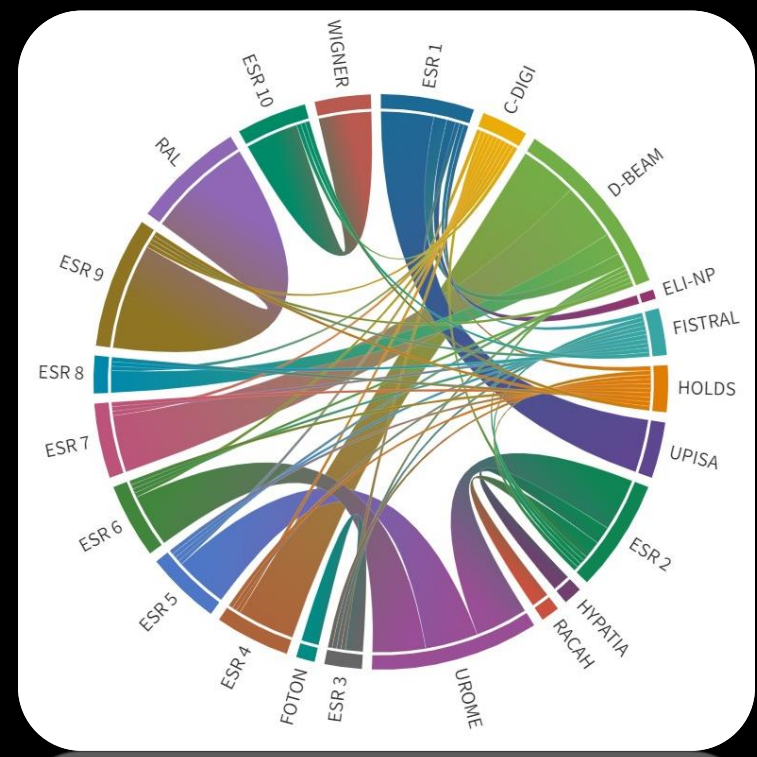
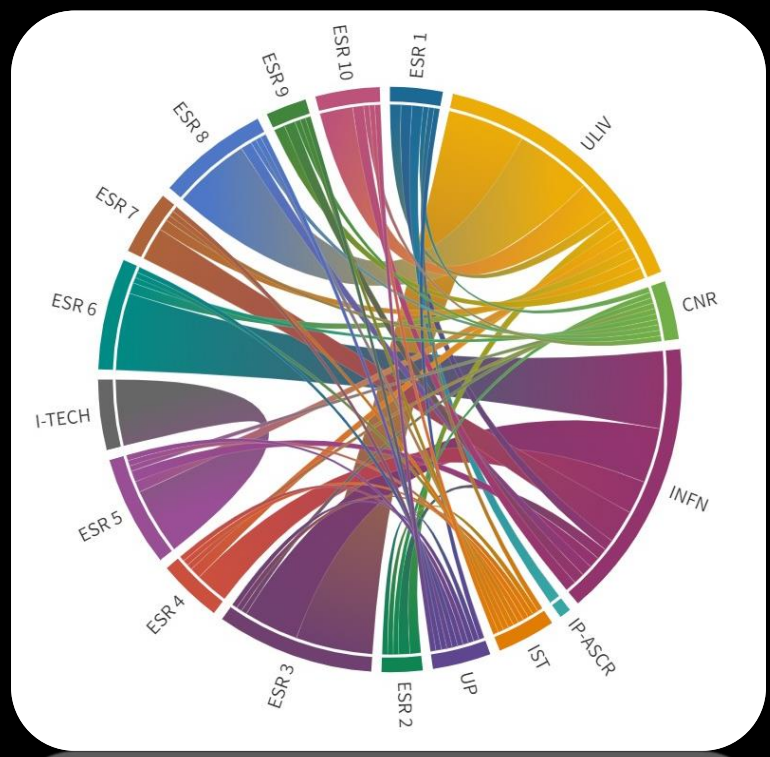
*This plan should be finalized within the first months of the project after a discussion between the supervisor and the trainee and then be revised at least every six months. Copies need to be sent to the Coordinator.*

**A first version of each CDP needs to be sent to the Coordinator before the end of January 2023. This will include the research and training plans as detailed in the proposal and discussed during the kickoff meeting.**

***Brief overview of research project and major accomplishments expected***

*Please add project description, background and goals as per the proposal. Also include a reasonable number of literature references.*

# Secondments





# Secondments

Fellow	Host institution	PhD enrolment	Start date	Duration [months]	Deliverables
ESR1	CNR-INO	UPISA	6	36	D2, D3, D4
<b>Project Title and WP(s):</b> <i>Manipulation and Characterization of Ultrashort Laser Pulses for High-quality Electron Bunch Acceleration (WP2)</i>					
<b>Objectives:</b> Theoretical/numerical studies into ultrashort pulse train generation using high power lasers (M1, m18); study longitudinal (time-related) functions of focused beam to optimize laser-plasma coupling and resonant wave excitation; investigate transverse functions in view of typical usage of off-axis focusing mirrors; study possibility of wavefront tailoring to match focusing/propagation properties of different pulses; assess stability and reproducibility of the obtained laser pulse trains; demonstrate high efficiency pulse train generation at low power/intensity, $Ti:Sa$ , 100 TW (M2, m30); Demonstrate pulse train generation at 100 TW level in experiment (M3, m38).					
<b>Expected Results:</b> Report on activity related to M1 (D2, R: m18); paper on low power proof-of-concept measurements (D3, PDE: m24); paper on high power measurements (D4, PDE: m42)					
<b>Secondment(s):</b> IP-ASCR <sub>2</sub> (laser R&D, m12); ELI-NP <sub>2</sub> (REMPI, m30); D-BEAM <sub>2</sub> (advanced instrumentation, m42).					

This is your roadmap! Please stick to it closely if you can and avoid changes.

# Training & Events



- International **school** on plasma accelerators;
- EuPRAXIA **camps** on focused research topics – always across the different project work packages;
- Researcher **skills training** designed to prepare all Fellows for their future careers and make them attractive for employers in academia and industry;
- Final **conference** and **outreach symposium** to present project results.

**Events are open to all Fellows and wider community !**

# EuPRAXIA-DN Events - Details

## Main Training Events & Conferences

Complementary Skills and Media School

*EuPRAXIA* School

*EuPRAXIA* Camp I - Technologies

*EuPRAXIA* Camp II - Science

*EuPRAXIA* Camp III – Innovation

Hands-on training Diagnostics

Advanced Researcher Skills School

Technology Transfer & Careers School and  
Symposium

Final conference

- Outreach **symposium** will be held in 2026 together with the LIV.INNO CDT to maximize impact;
- Final **conference** location will be decided in due time.

# Project Website



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## ACCELERATING RESEARCH AND TRAINING

- ✓ Plasma accelerators
- ✓ Associated technologies
- ✓ Applications

TRAINING THE NEXT GENERATION

## HIGH LEVEL FELLOWSHIPS

LEARN MORE

The EuPRAXIA Doctoral Network (EuPRAXIA DN) is a new Horizon Europe Marie Skłodowska-Curie Actions Doctoral Network (MSCA-DN), offering 12 high level fellowships between universities, research centers and industry that will carry out an interdisciplinary and cross-sector plasma accelerator research and training program for the new EuPRAXIA research infrastructure.



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## NETWORK STRUCTURE

<b>Work Packages</b> Find out more about the different work packages within EuPRAXIA DN.		<b>Partners</b> EuPRAXIA DN will bring together teams with a long-standing track record in their particular research area.	
<b>Steering Committee</b> The Steering Committee is responsible for the overall network strategy.		<b>Fellows</b> By connecting Fellows across three different WPs, bigger programs of research can be tackled than any of the institutions involved could address alone.	
<b>Project Team</b> The Project T.E.A.M. is very experienced in the coordination and management of large international projects.		<b>Contact Us</b> Get in touch to find out more about our projects, vacancies, research and more.	



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## RESEARCH

THE NETWORK'S MAIN SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES ARE SPLIT INTO THREE CLOSELY INTERLINKED WORK PACKAGES

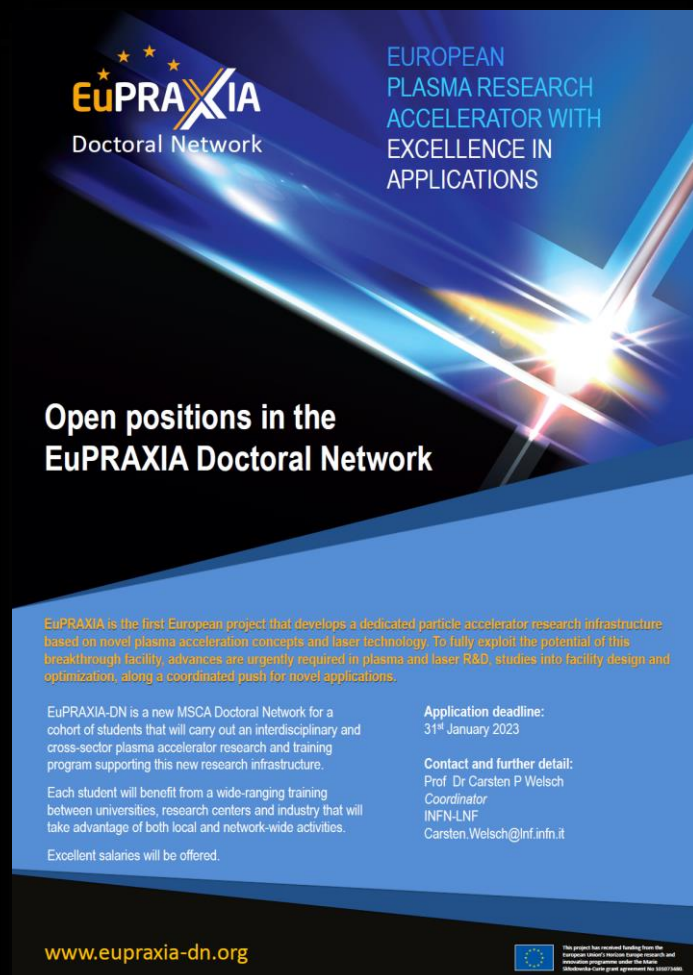


### Laser & Plasma

This WP will tackle an overall optimization of the accelerated electron beam by carrying out comprehensive studies into the optimization of the laser and plasma parameters.

- ✓ Manipulation and Characterization of Ultrashort Laser Pulses for High-quality Electron Bunch Acceleration (Consiglio Nazionale delle Ricerche - Istituto Nazionale di Ottica)
- ✓ Theoretical and Experimental Studies of Plasma Formation in Capillary Discharge Waveguides for Plasma-based Accelerators (Istituto Nazionale di Fisica Nucleare)
- ✓ Study laser-plasma interaction in a preformed plasma channel in a high repetition rate regime (ELI Beamlines)
- ✓ Short-pulse Laser-driven Injector (Lunds Universitet)

# Position Vacancies



**EuPRAXIA**  
Doctoral Network

EUROPEAN  
PLASMA RESEARCH  
ACCELERATOR WITH  
EXCELLENCE IN  
APPLICATIONS

**Open positions in the  
EuPRAXIA Doctoral Network**

EuPRAXIA is the first European project that develops a dedicated particle accelerator research infrastructure based on novel plasma acceleration concepts and laser technology. To fully exploit the potential of this breakthrough facility, advances are urgently required in plasma and laser R&D, studies into facility design and optimization, along a coordinated push for novel applications.

EuPRAXIA-DN is a new MSCA Doctoral Network for a cohort of students that will carry out an interdisciplinary and cross-sector plasma accelerator research and training program supporting this new research infrastructure.

Each student will benefit from a wide-ranging training between universities, research centers and industry that will take advantage of both local and network-wide activities.

Excellent salaries will be offered.

Application deadline:  
31<sup>st</sup> January 2023

Contact and further detail:  
Prof. Dr. Carsten P. Welsch  
Coordinator  
INFN-LNF  
Carsten.Welsch@lnf.infn.it

[www.eupraxia-dn.org](http://www.eupraxia-dn.org)

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska Curie grant agreement No 101019718.

- 12 Fellowships on offer for start spring/summer 2023;
- R&D projects across the 3 EuPRAXIA-DN work packages;
- International training program
- Excellent salaries will be offered.
- Recruitment requires collective effort.
- **All partners have to advertize their Fellowship/s via institutional channels and Euraxess!**

[www.eupraxia-dn.org](http://www.eupraxia-dn.org)

# Recruitment



Please use all possible channels to promote our positions, e.g.

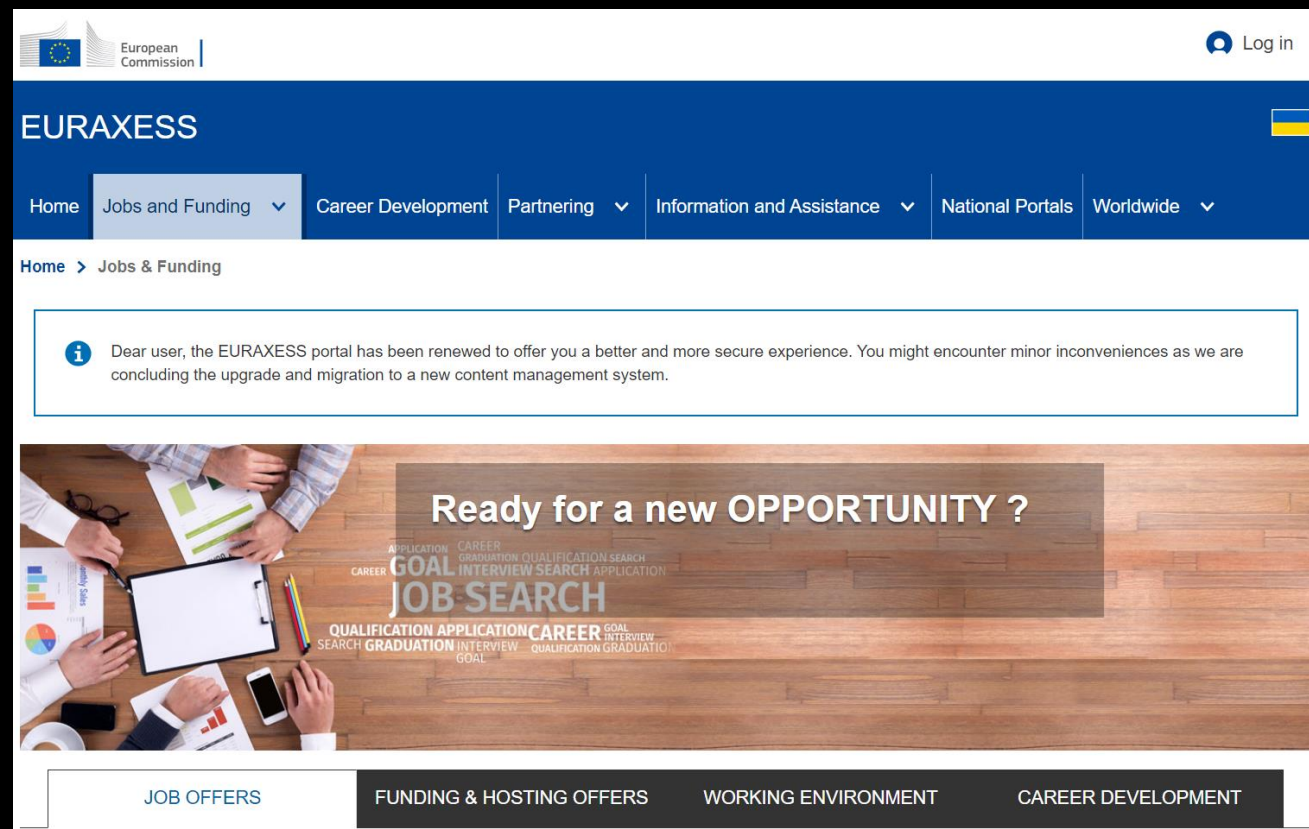
- Your own web sites and social media channels
- EURAXESS (you have to do this!)
- Newsletters
- Most importantly – your personal contacts!

INFN and ULIV will promote all positions and have already circulated posters and put adverts about all Fellowships online.

Our first application is at the end of this month – so this needs immediate action after this meeting!

# Recruitment

Euraxess



The screenshot shows the Euraxess website interface. At the top left is the European Commission logo. The main header is blue with the text 'EURAXESS' and a flag icon. Below the header is a navigation menu with items: Home, Jobs and Funding (selected), Career Development, Partnering, Information and Assistance, National Portals, and Worldwide. A breadcrumb trail shows 'Home > Jobs & Funding'. A message box contains the text: 'Dear user, the EURAXESS portal has been renewed to offer you a better and more secure experience. You might encounter minor inconveniences as we are concluding the upgrade and migration to a new content management system.' Below this is a large banner image with the text 'Ready for a new OPPORTUNITY ?' and 'JOB-SEARCH'. The banner also features various terms like 'APPLICATION', 'CAREER', 'GRADUATION', 'QUALIFICATION', 'INTERVIEW', and 'SEARCH'. At the bottom of the banner are four buttons: 'JOB OFFERS', 'FUNDING & HOSTING OFFERS', 'WORKING ENVIRONMENT', and 'CAREER DEVELOPMENT'.

Please use <https://euraxess.ec.europa.eu/jobs/853126> as reference.

# Who can be recruited?

- Researchers can have any nationality
- Fellows may not have resided or carried out their normal activities in host country for more than 12 months in the 3 years prior to start date of their contract
- May not be in possession of a PhD already
- Soon-to-be-Postdocs possible, but rather not advisable
- Details may require careful checks!!



# Info on our webpage



## HOW TO APPLY

**If you are interested in working on some of the most advanced research and development challenges in plasma accelerators, then a PhD within EuPRAXIA-DN might be right for you.**

[APPLICATION FORM](#)

[PROJECTS](#)

If you wish to apply, please fill in the application form together with the following documents:

- High-school and University diploma
- Pdf file of your master thesis
- Names and addresses of at least two references
- Results of language tests (if any)
- List of publications and/or talks (if any)
- Letters of recommendation (if any)
- Other relevant documents

Save this document by naming it as:  
YournameYYMMDD\_EuPRAXIA-DN.doc

Send it together with all other information to:  
Prof Carsten P. Welsch  
carsten.welsch@inf.infn.it

*Please note that all applications are uploaded to a shared area where institutions who still have vacancies are able to download and consider suitable applicants. Due to the large number of applications no official communication will be made if your application is unsuccessful, however, as a guide we suggest that if you have not heard from us after 60 days from your application it is unlikely you will be contacted further.*



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## VACANCIES

### Mobility

Researchers can be of any nationality. They must comply with the rule for mobility.

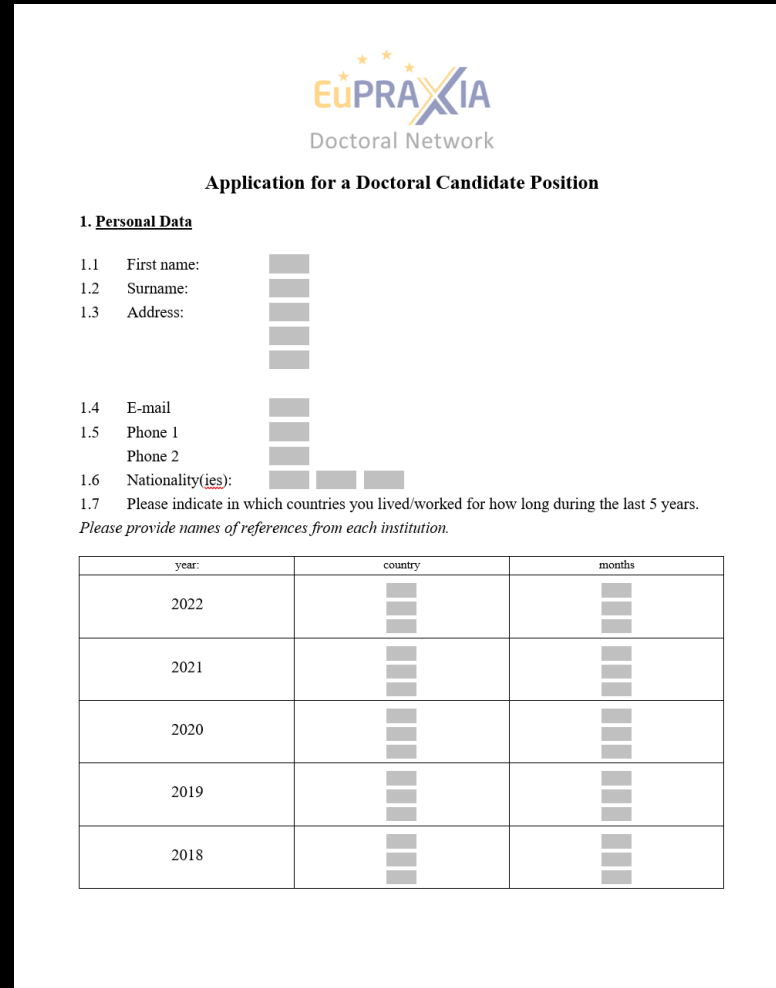
Researchers are normally required to undertake trans-national mobility (i.e. move from one country to another) when taking up their appointment. One general rule applies to the appointment of researchers in a network: At the time of recruitment by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc) in the country of their host organisation for more than 12 months in the 3 years immediately prior to the reference date.


Short stays such as holidays and/or compulsory national service are not taken into account. As far as international European interest organisations or international organisations are concerned, this rule does not apply to the hosting of eligible researchers. However the appointed researcher must not have spent more than 12 months in the 3 years immediately prior to the reference deadline for submission of proposals or recruitment by the host organisation, depending on the action, in the same appointing organisation.

In case of any questions concerning the specific Marie Curie rules, please send an email to the Network Coordinator.

# Recruitment - standardized

- For the purpose of network-internal screening and assessment
- Form details past activities (eligibility) and interests
- Additional information will likely be needed by your institute and/or university



  
 Doctoral Network

**Application for a Doctoral Candidate Position**

**1. Personal Data**

1.1 First name:

1.2 Surname:

1.3 Address:

1.4 E-mail:

1.5 Phone 1:

Phone 2:

1.6 Nationality(ies):

1.7 Please indicate in which countries you lived/worked for how long during the last 5 years.  
Please provide names of references from each institution.

year:	country	months
2022	<input type="text"/>	<input type="text"/>
2021	<input type="text"/>	<input type="text"/>
2020	<input type="text"/>	<input type="text"/>
2019	<input type="text"/>	<input type="text"/>
2018	<input type="text"/>	<input type="text"/>

# Recruitment - status

- Published (some) positions in EURAXESS, findaphd.com and different local websites
- Posters were distributed to all partners
- First deadline for applications: 31 January 2023
  
- All contracts need to start before 31 December 2023.
- We should target 1 October 2023 (+/- 2 months) as start date for our Fellows to synch with academic year.
-

# Selection procedure

- Vacancies now/soon internationally published
- **Need to continue** (news releases, institute web pages, direct contact, conferences, etc.)...unlikely we will fill all posts in first round
- Equal opportunities policy to be followed
- Target: Fill 40% of vacancies with women
- Selection by host, in agreement with other teams from WP and network coordinator

# Recruitment

- All applications will be sent to Carsten Welsch (INFN) initially
- They will be made available via SharePoint. A summary table will show in which position/s applicants are interested in. The Coordinator will check the eligibility of the candidates.
- The criteria for recruitment will be the
  - candidate's letter of intent,
  - their academic record and
  - two letters of recommendation.
- Local recruitment rules and regulations will determine the exact process. Our Fellows will very likely have to apply “a second and possibly third time” (following local processes)!

# Recruitment

## From proposal:

- Shortlisted candidates will be interviewed by a board consisting of the lead scientists of the respective WP via online interviews.
- To avoid unconscious bias, the primary supervisor will involve an experienced staff member from another beneficiary partner who will shortlist applicants alongside the supervisory team. Any applicant in either shortlist will be invited to interview.
- Panels will include one representative from industry and have balanced gender representation.
- Each interviewer will assess each applicant with a score out of ten against each assessment criterion that was articulated in the advert.
- All staff involved in interviews will be required to have had training in unconscious bias and mental health awareness.

The final decision on recruitment will be made by the respective supervisory team based on the result of the assessment in agreement with the other teams involved in the WP and the Coordinator.

# Start of Appointment

- Standard information form to Coordinator, we will help you setup your Fellow/s in the ECAS portal
- Declaration of Conformity to be submitted within 20 days
- Discussion of Career Development Plans
- Provide Grant Agreement, i.e. full proposal
- Induction to Marie Curie rules and regulations
- Suggestion: Carefully address Fellow status!

# What the Fellows get

- (min.) contract conditions defined by MSCA rates
- Full time employment, social security benefits, etc.
- Researchers to be made aware of the network, their rights and duties, appointment conditions, etc
- The training budget will be managed by the supervisors to implement the R&D and training program.



# End of appointment

- Researchers are requested to complete a confidential questionnaire with information about
  - Background, career plans, etc
  - Nationality, age, gender, discipline
  - Assessment of the time spent in the network and of training received
- Often the Fellowship is “only” the beginning of a journey! Fellows are likely to stay research-active.

# Project implementation

## Good contact with Fellows

- Important to establish a good contact with the Fellows;
- Useful to have a neutral person for mediation between Fellow and Supervisor, if required

Commission policy: Fellow is king / queen !!

- Worked well: Project info-package
  - Contract and annexes
  - Social security issues
  - Career development plan

Follow the Charter for Researchers

# Summary



- A major European initiative in training the next generation of plasma accelerator experts starts “today”.
- Three work packages address a number of important research challenges;
- There are many opportunities for us to work together.

**I look forward to this exciting adventure!**



# EuPRA~~X~~IA

## Doctoral Network



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement no. 101073480.



**UK Research  
and Innovation**