

PRISMAS- Recruitment day

PhD Research and Innovation in Synchrotron Methods
and Applications in Sweden

ONLINE-WEBINAR
Lund, 13 August 2024



Key players

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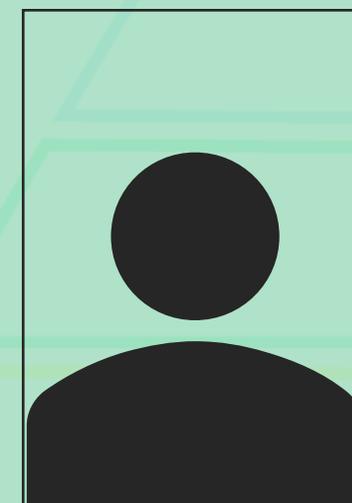
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Dr. Doriana
Orbanic

PRISMAS Students



Today's topics

- ▲ Introduction of MAX IV Laboratory
- ▲ The PRISMAS Programme
- ▲ The PRISMAS Training activities
- ▲ Conducting a PhD in Sweden
- ▲ How to join the PRISMAS Programme
- ▲ Q&A

Questions?

Please add them in the
Q&A module of this
webinar

Introduction of MAX IV

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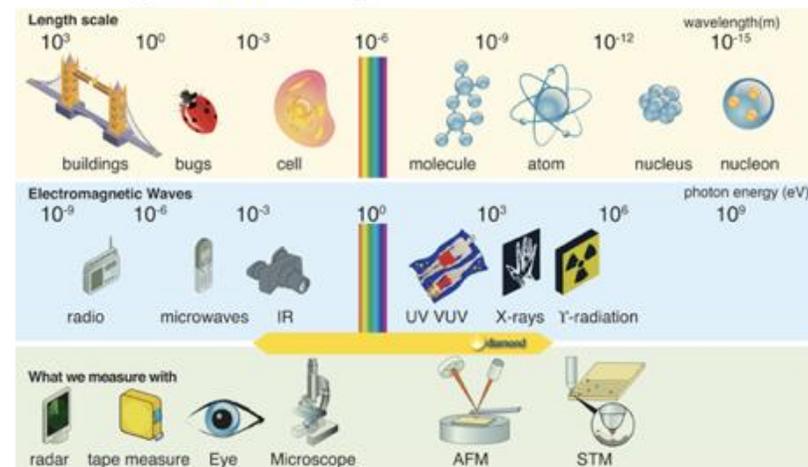


MAX IV

- A national research infrastructure (Synchrotron) in Lund, southern Sweden.
- A facility open to researchers from Sweden, Scandinavia/the Baltic Region and the whole world.
- Currently about 1500 users/year
- A successor to a long tradition of accelerator design and development in Lund.
- First diffraction limited light-source.

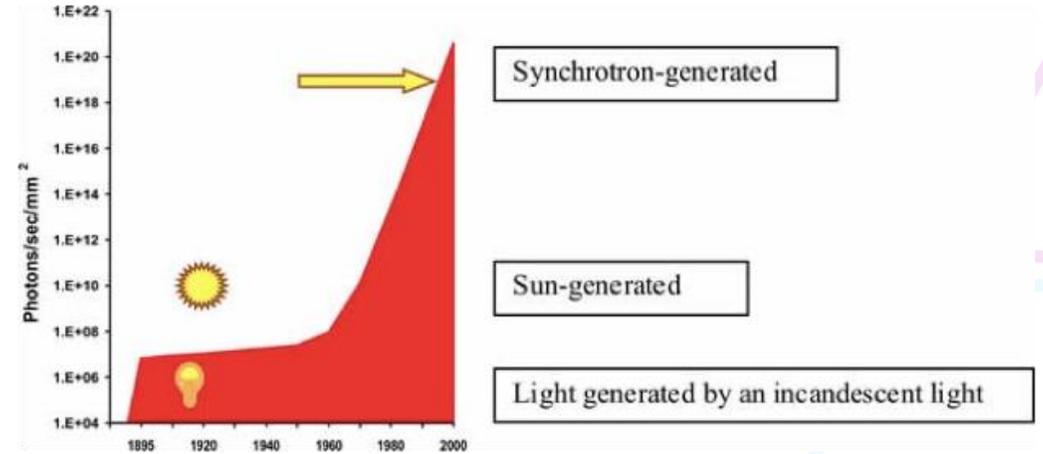
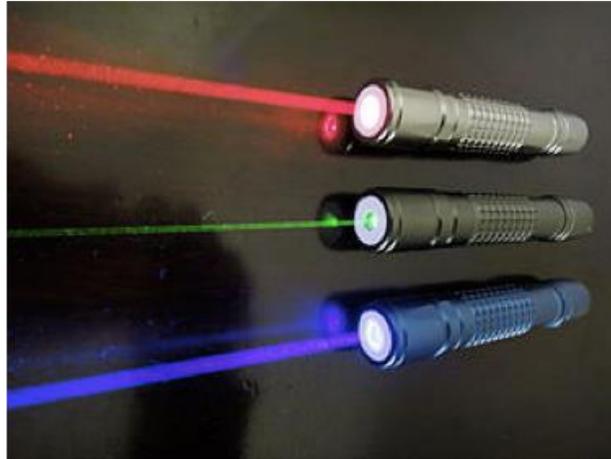


The many colours of light



What is a synchrotron?

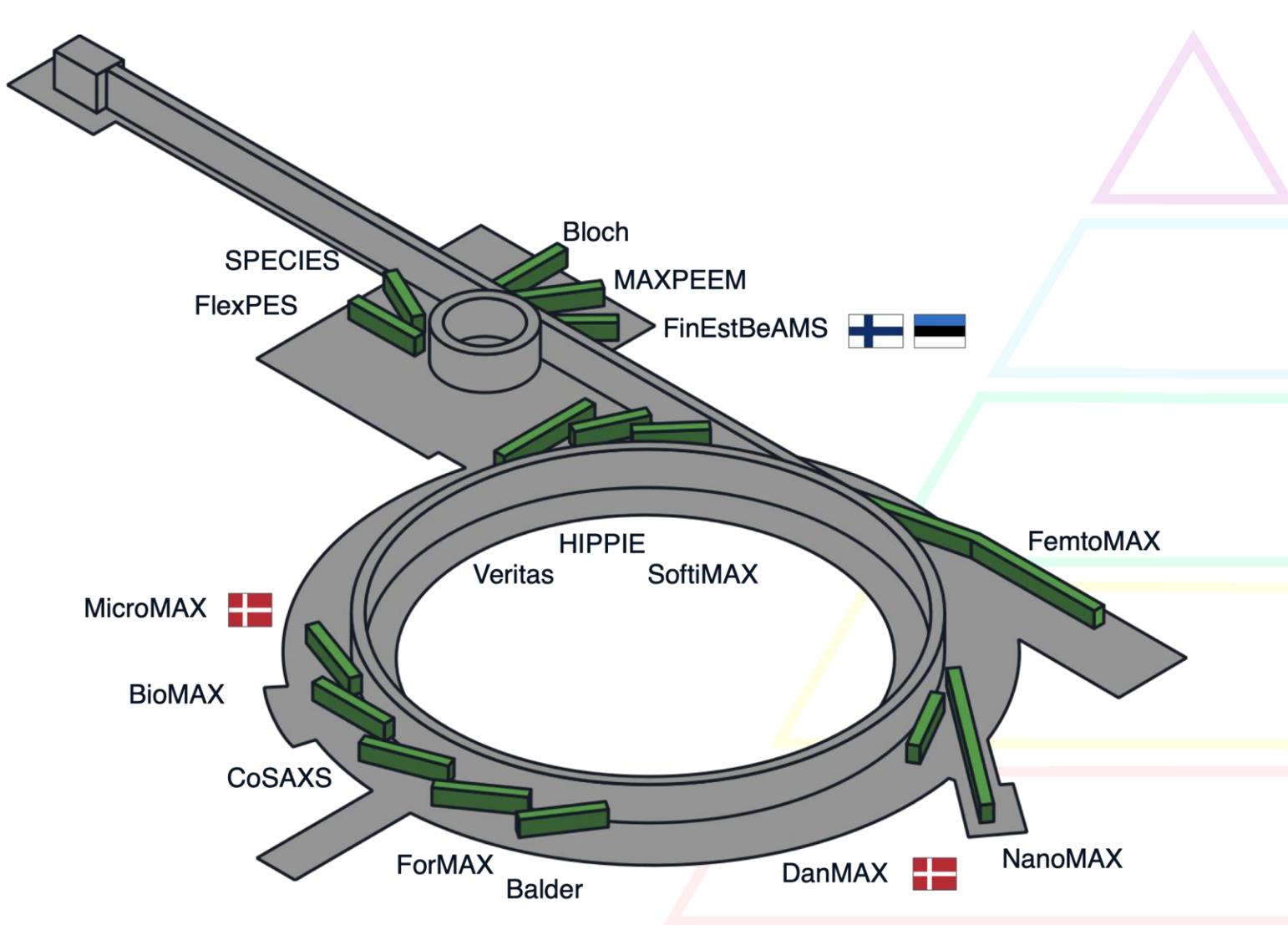
- A synchrotron is an accelerator of electrons. The electrons are maintained in a circular ring by magnetic field and at nearly the speed of light they produce light tangentially to their trajectory.
- The light (mainly X-rays) is used to study different systems; applications from medicine to hard physics.



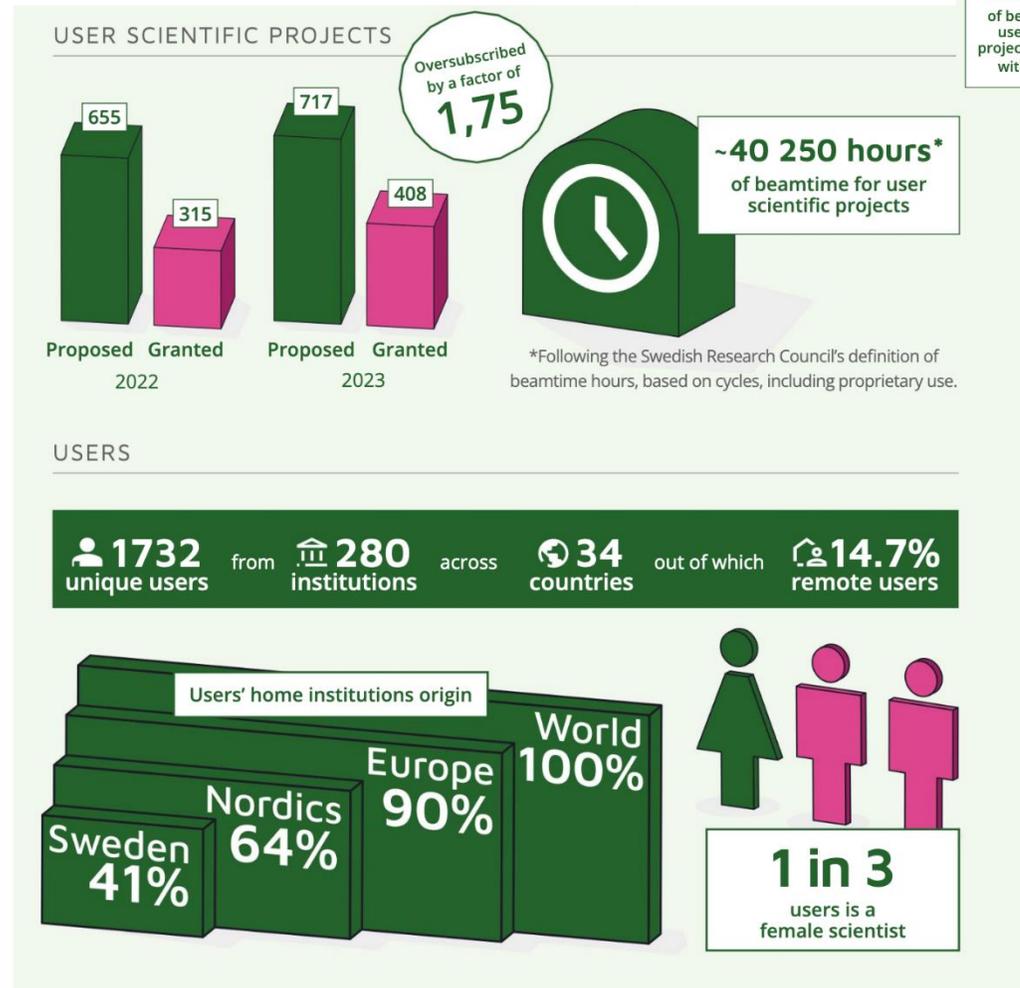
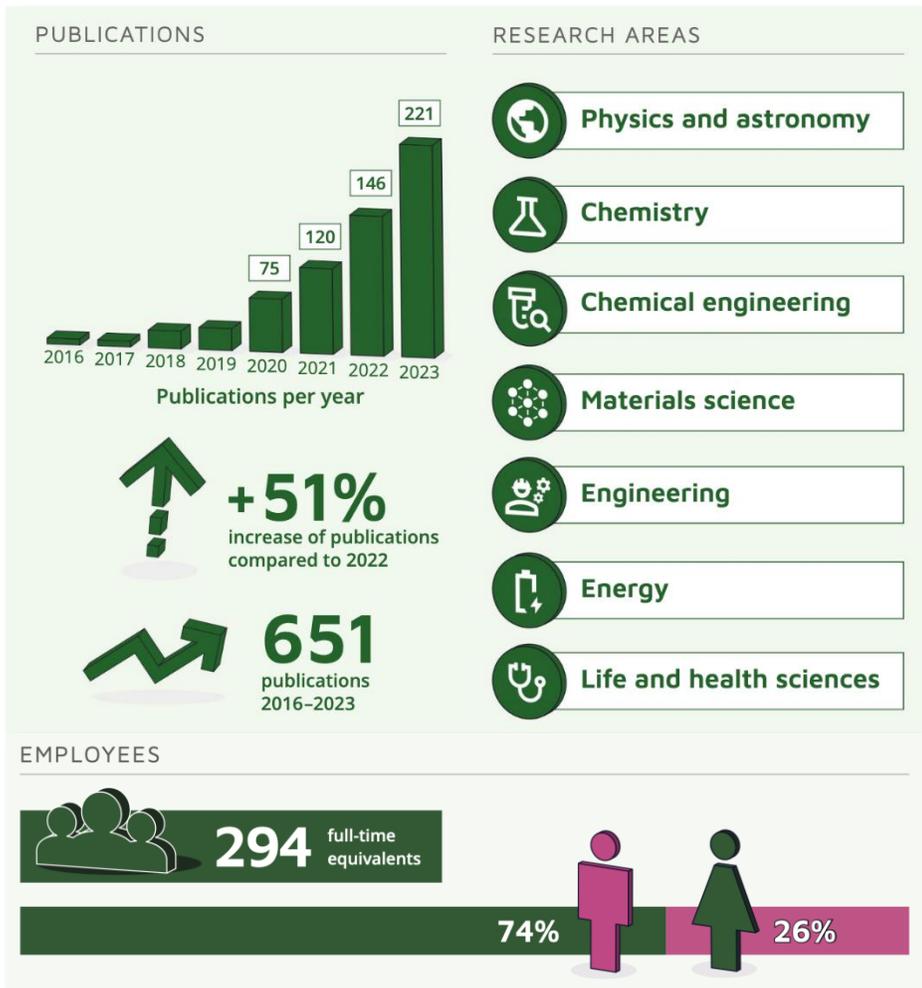
Properties of synchrotron light

- **High brightness:** synchrotron light is extremely intense and highly collimated.
- **Wide energy spectrum:** light is emitted with energies ranging from infrared light to hard, energetic (short wavelength) X-rays.
- **Tunable:** through sophisticated monochromators and insertion devices, it is possible to obtain an intense beam of any selected wavelength.
- **Highly polarised:** the synchrotron emits highly polarised radiation, which can be linear, circular or elliptical.
- **Emitted in very short pulses:** pulses emitted are typically less than a nano-second.

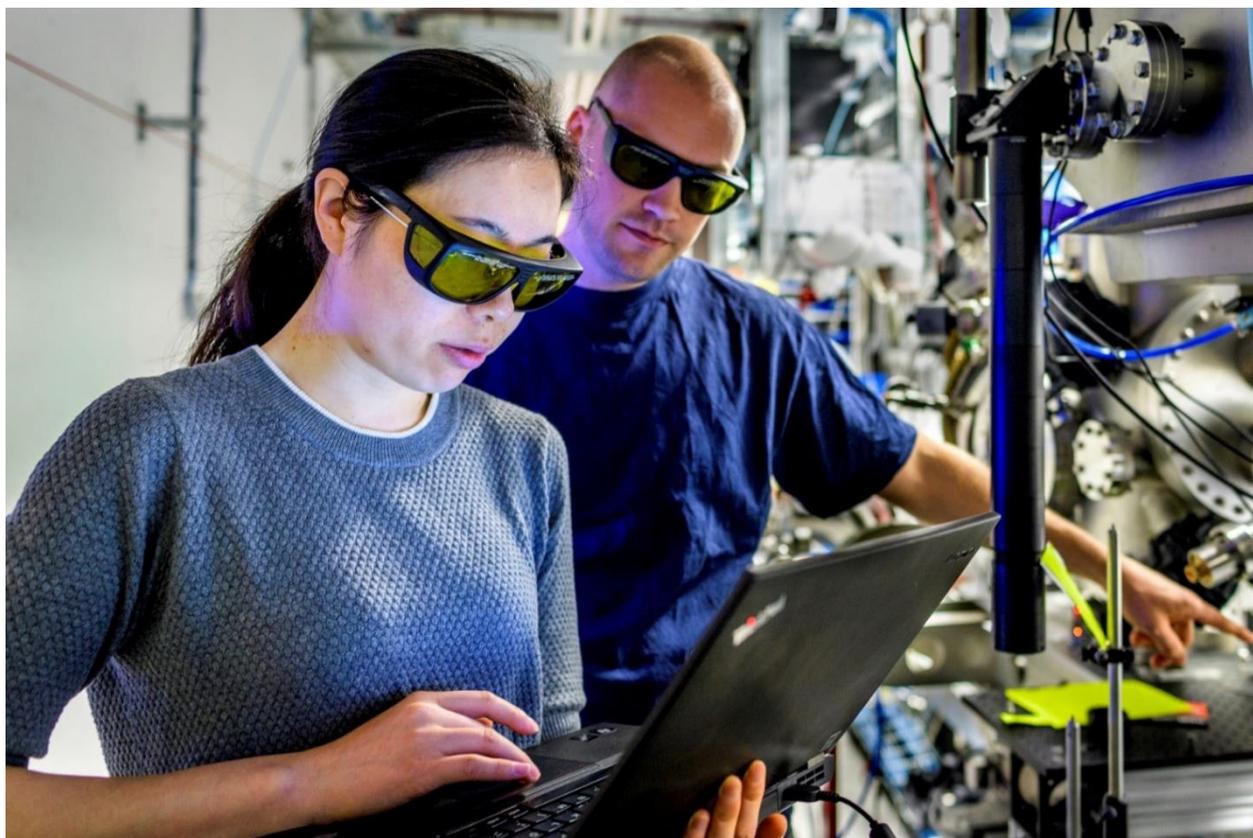
MAX IV : 16
Beamlines in
operation.



MAX IV Laboratory – in numbers



Your secondment @ MAX IV



As temporary staff @ MAX IV you will:

- Gain expertise in key synchrotron-based technologies
- Be involved in experiments at a beamline
- Develop your project with tools on the forefront of science
- Be integrated in the MAX IV community
- Have the opportunity to enable life-long lasting personal networks

The PRISMAS Programme

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PRISMAS at a glance

PhD Research In Synchrotron Methods and Applications in Sweden



01.01.23 - 31.12.27



Total budget: 15 699 563€

EU: 5 376 000 € Consortium: 10 323 563 €



Coordinator: MAXIV



[MSCA COFUND project \(ID: 101081419\)](#)



Healthy People
 Healthy Planet
 Clean Energy
 Sustainable technologies
 Accelerator Science

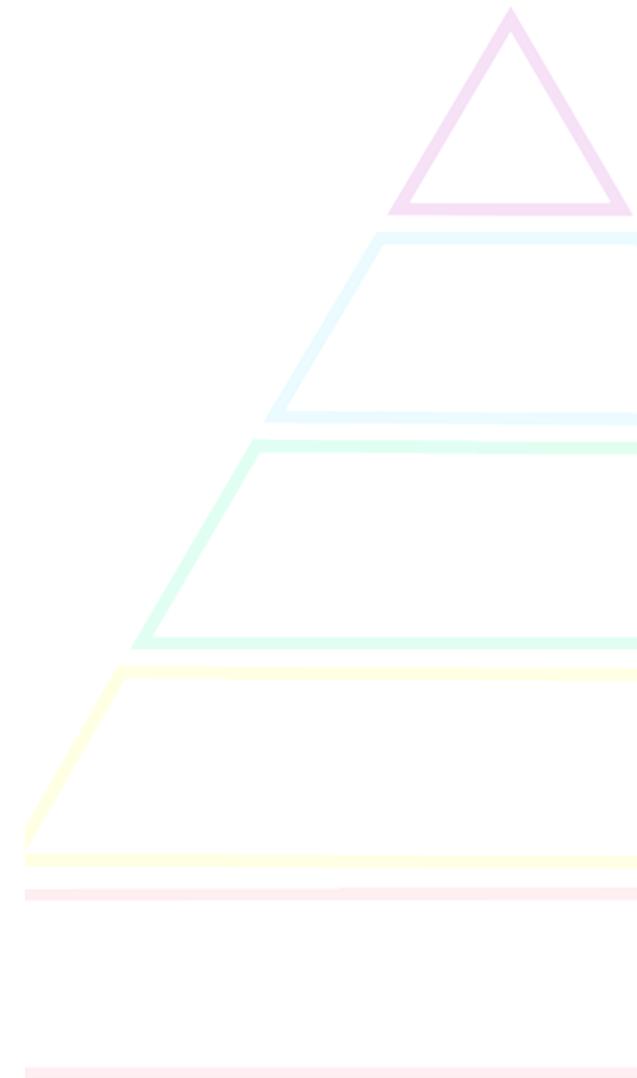
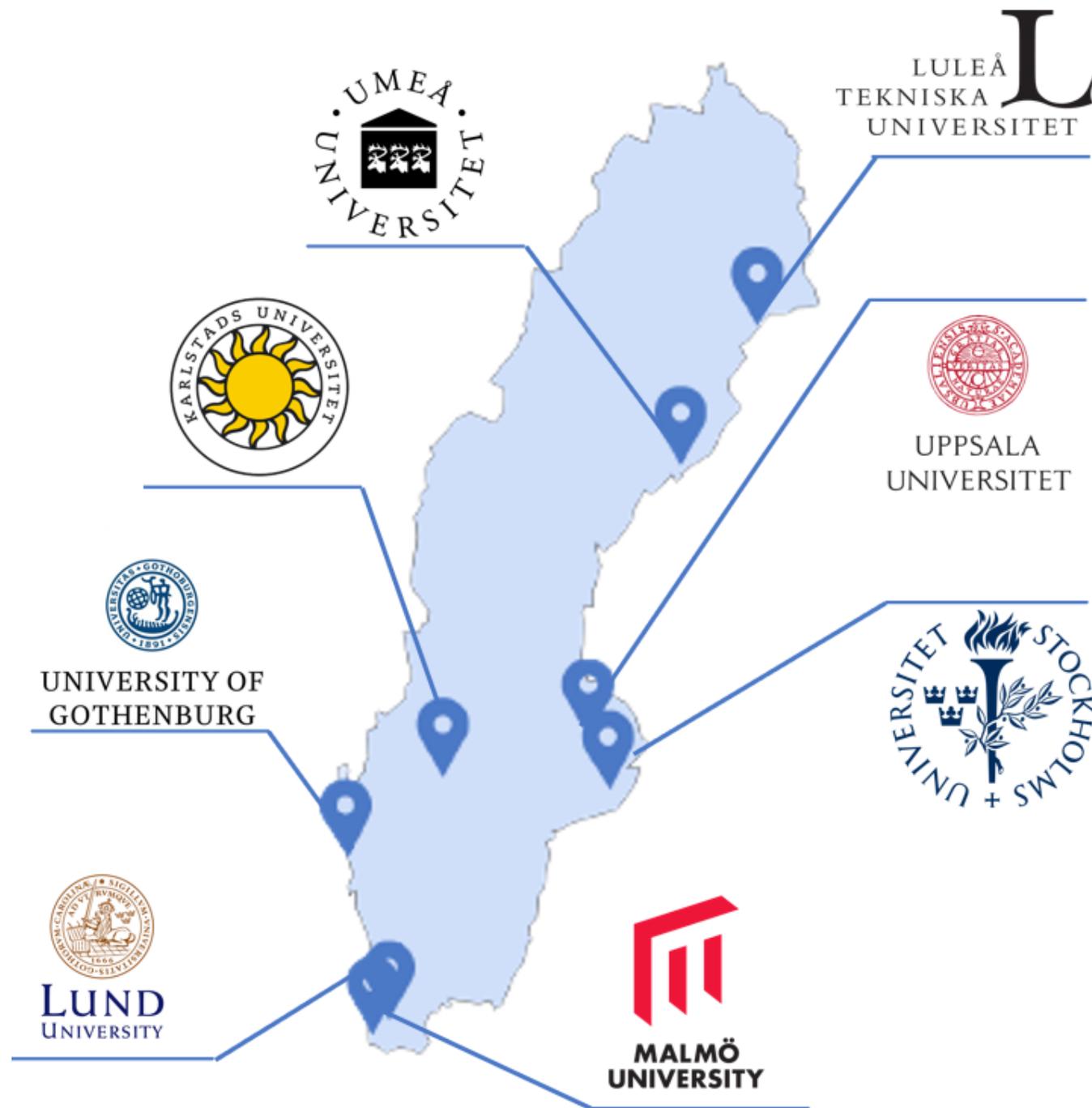
40 doctoral Positions

8 Swedish Universities

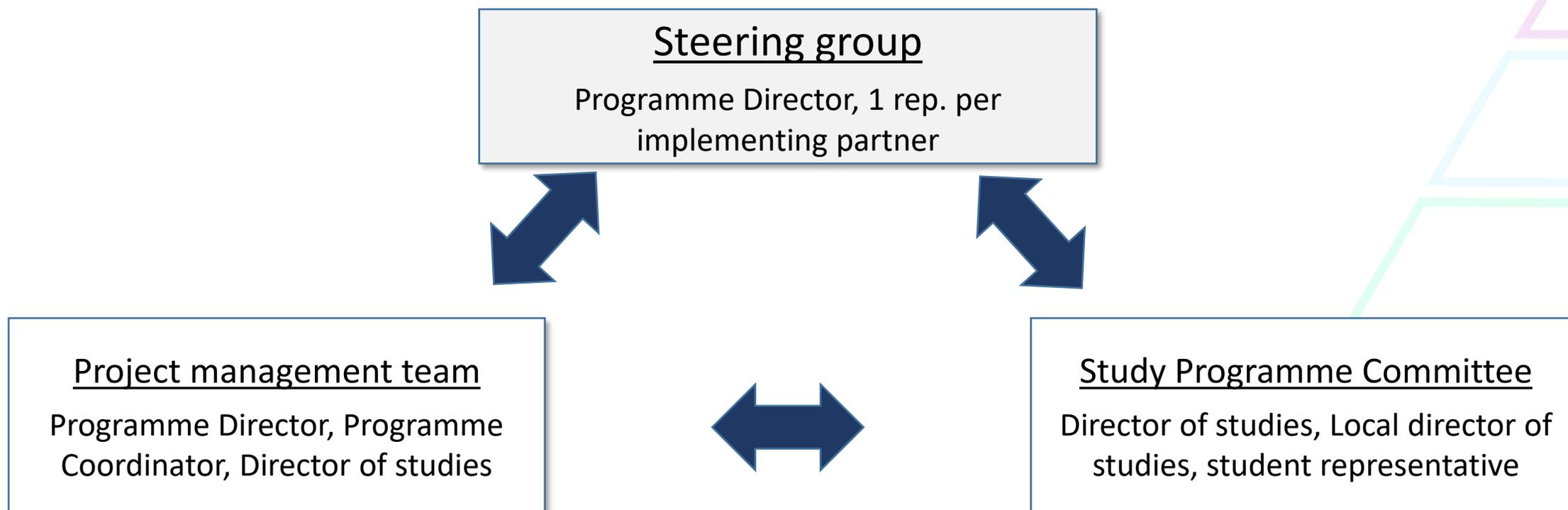
43 associated partners

3-12 months secondment at
 MAX IV

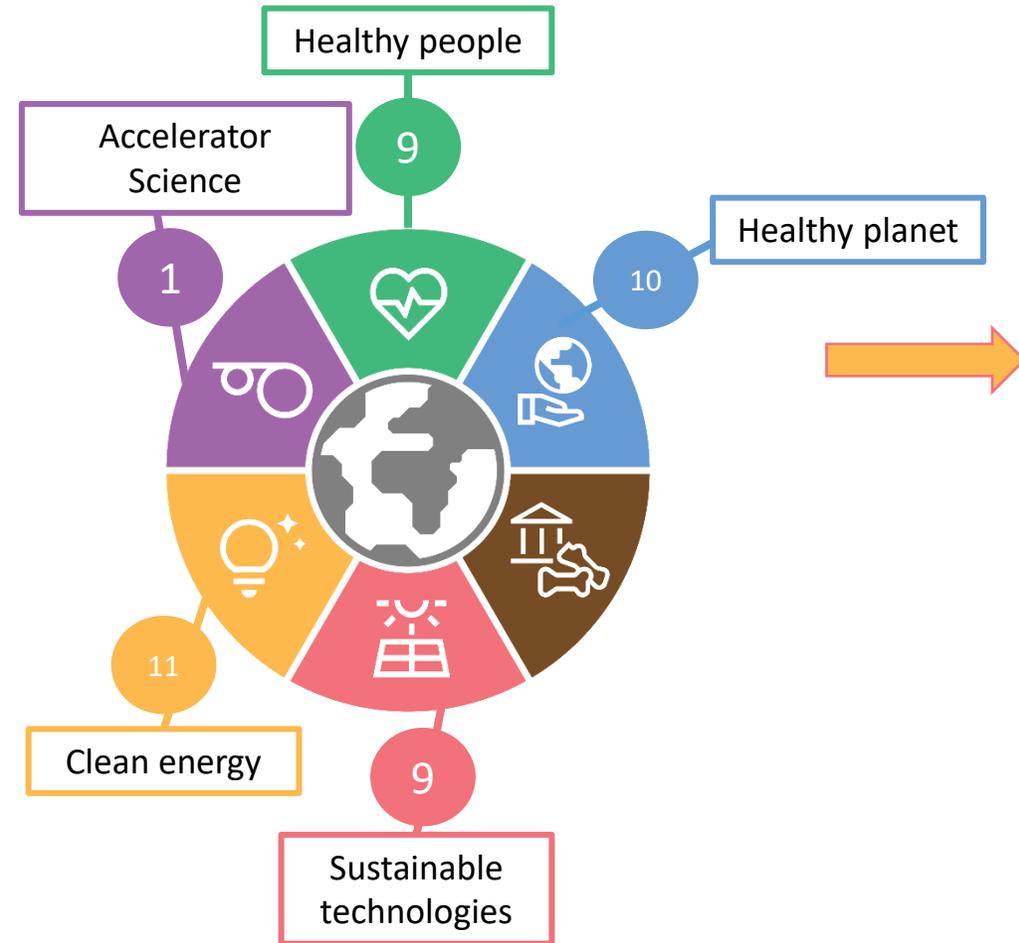
5 Research Areas



Governance structure



Research projects



PROJECT NAME	UNIVERSITY	PI
Using magnetoionics and x-ray scattering to investigate energy materials under in-operando conditions	Uppsala University	Germán Salazar Alvarez
Development of synchrotron-based X-ray techniques for Prussian blue analogue-based aqueous batteries	Uppsala University	Leiting Zhang
Chlorine Surface Activation Mechanism on Wildfire Smoke Particles and Its Relevance to Stratospheric Ozone Depletion	University of Gothenburg	Xiangrui Kong
Aerosol particle surface characterization in-situ for enhanced atmospheric science	Lund University	Axel Eriksson
Identifying Active Sites in Electrochemical Ammonia and hydrocarbon Synthesis via In Situ APXPS and XAS	Stockholm University	Jiayin Yuan

[Project details](#)

APPLICATION THROUGH LOCAL HOST UNIVERSITY SYSTEM !

Recruitment

	July	Aug	Sept	Oct	Nov	Dec	Jan
3 rd Recruitment call	[Orange bar]						
Interview-phase					[Orange bar]		
Employment							[Orange arrow with 01/25]

PRISMAS Training activities

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PhD studies in the PRISMAS program

PRISMAS is a hybrid program combining research training in your scientific field with a **specialization in synchrotron methods**.

You will be enrolled as a doctoral student at one of the partner universities, but will spend a large portion of your time on PRISMAS-specific activities.

Your Home University

- Enrollment in a PhD program in science or engineering
- Employment as a doctoral student
- Your main supervisor and 'home' research group
- Focus on training as an independent researcher in your main scientific field

PRISMAS

- Research/development in collaboration with MAX IV staff
- Co-supervisor at MAX IV
- Focus on development of specialized expertise in synchrotron instrumentation and methods and related topics
- Dedicated activities for PRISMAS students:
 - Annual meeting in Lund
 - Summer schools

PRISMAS learning objectives

We aim to train researchers who are:

- Able to **use synchrotron methods** effectively to enhance the quality and impact of research in their fields, and able to **help others to do so**.
- Able to **communicate the principles** of synchrotron methods, their applications and importance to various audiences, including **scientists in their own fields, scientists in general, businesses and policymakers, and the public**.
- **Well-prepared for careers** in industry, academia, or research infrastructure.

PRISMAS will give you:

Strong expertise in X-ray methods relevant to the thesis

Broad knowledge and understanding of X-ray methods and synchrotron facilities in general

Transferrable skills for future careers

PRISMAS educational components

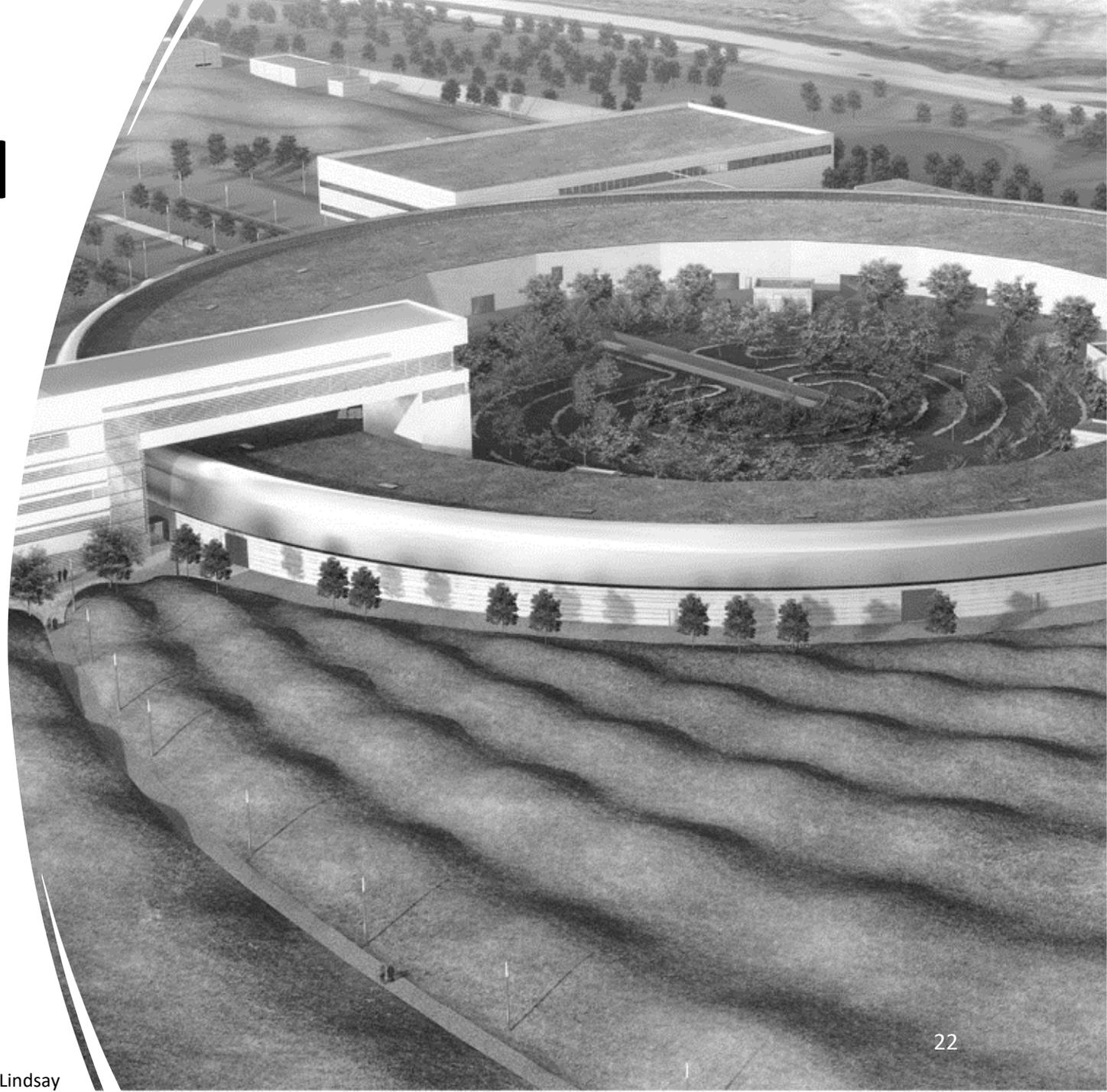
- Annual meetings (1 ECTS)
 - All PRISMAS students and supervisors will **meet up once per year** to discuss the PhD projects and developments at MAX IV. Linked to the annual MAX IV user meeting; attend both and you'll stay up-to-date on **the most important developments** in synchrotron science and engineering.
- Summer schools (2ECTS)
 - Tutorials, scientific lectures, and hands-on exercises to develop knowledge and skills around a **broad range of X-ray methods**.
 - **Taught by experts** from synchrotron facilities and experienced scientists.
 - **3 schools**, 1 week each, just for PRISMAS students



1st Annual Meeting: June 2024

PRISMAS educational components

- Research/development at MAX IV
 - 3-12 month **on-site secondment**, integrated with MAX IV staff
 - **Experiments at MAX IV** and other facilities via regular proposals
- Courses
 - As a PRISMAS student, you should complete at least 20 ECTS in **courses in X-ray science and methods or related topics**. A variety of courses are offered by the PRISMAS network of universities.



Conducting a PhD in Sweden

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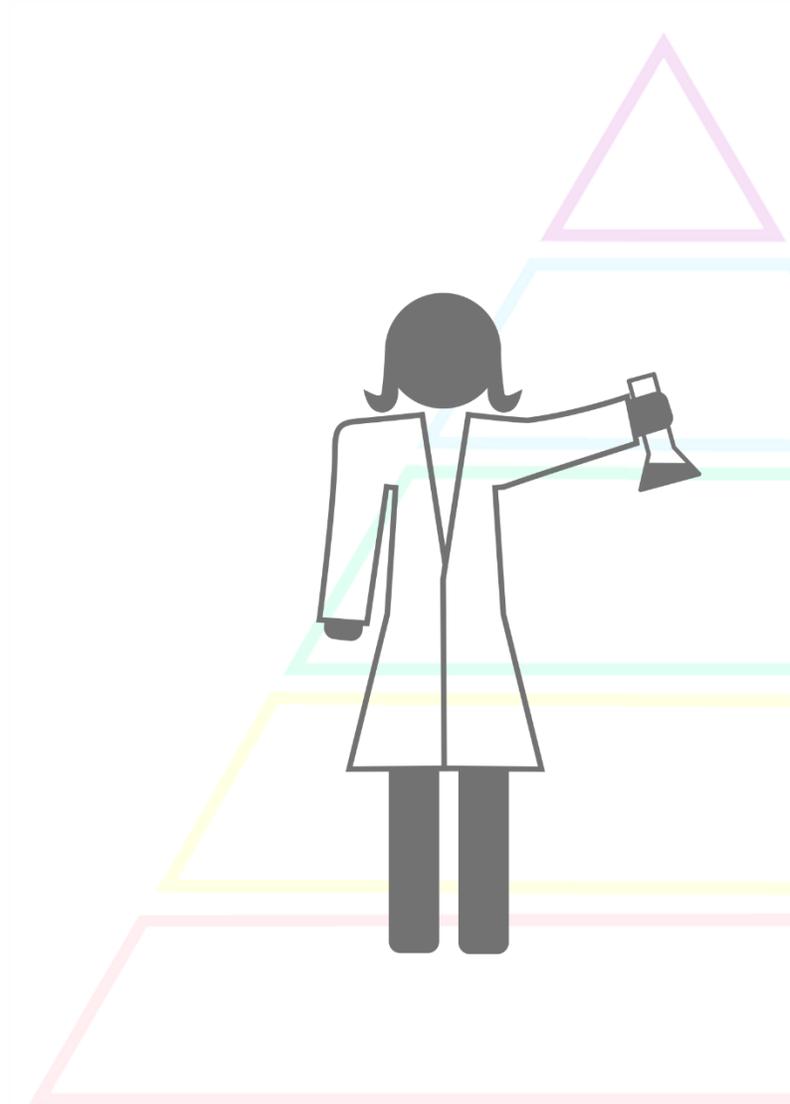
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PhD studies in Sweden

Dual role: **Student** and employed **research staff**

- 4-year position, full-time
- Competitive salary with full benefits and protections (-> [general info](#))
- At least two supervisors:
 - 1 main supervisor – main responsible for planning and follow-up of your research training
 - 1 or more co-supervisors – provide specialized expertise, additional mentorship and advice, etc.
- Robust follow-up procedures to make sure your studies are on track and address any problems
- Culminates in a written dissertation and public defense; success results in award of PhD degree
- [Welcome to Sweden!](#)



PhD studies in Sweden

Specific requirements are set by the **program** you're enrolled in.

- Defined in a "General Study Plan" for the specific degree program
- Usually: 60 ECTS of relevant courses.
 - Some required courses
 - Most are elective, but must be relevant for the student's education. Selection together with supervisor.
- Often: an intermediate thesis can be submitted after two years. After approved thesis and defense, the "Licentiate" degree is awarded.



How to join PRISMAS

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Eligibility criteria

Have you...

- Not** resided in Sweden for more than 12 months within the period from 2021-08-30 until 2024-08-31?
- Achieved **240 ECTS** (Masters Degree) in a relevant field?
- Not** already been awarded a doctoral degree?
- The possibility to be **available** for the project start (January 2025)?

Answered all questions with **YES?**



[Apply here](#)

Application package



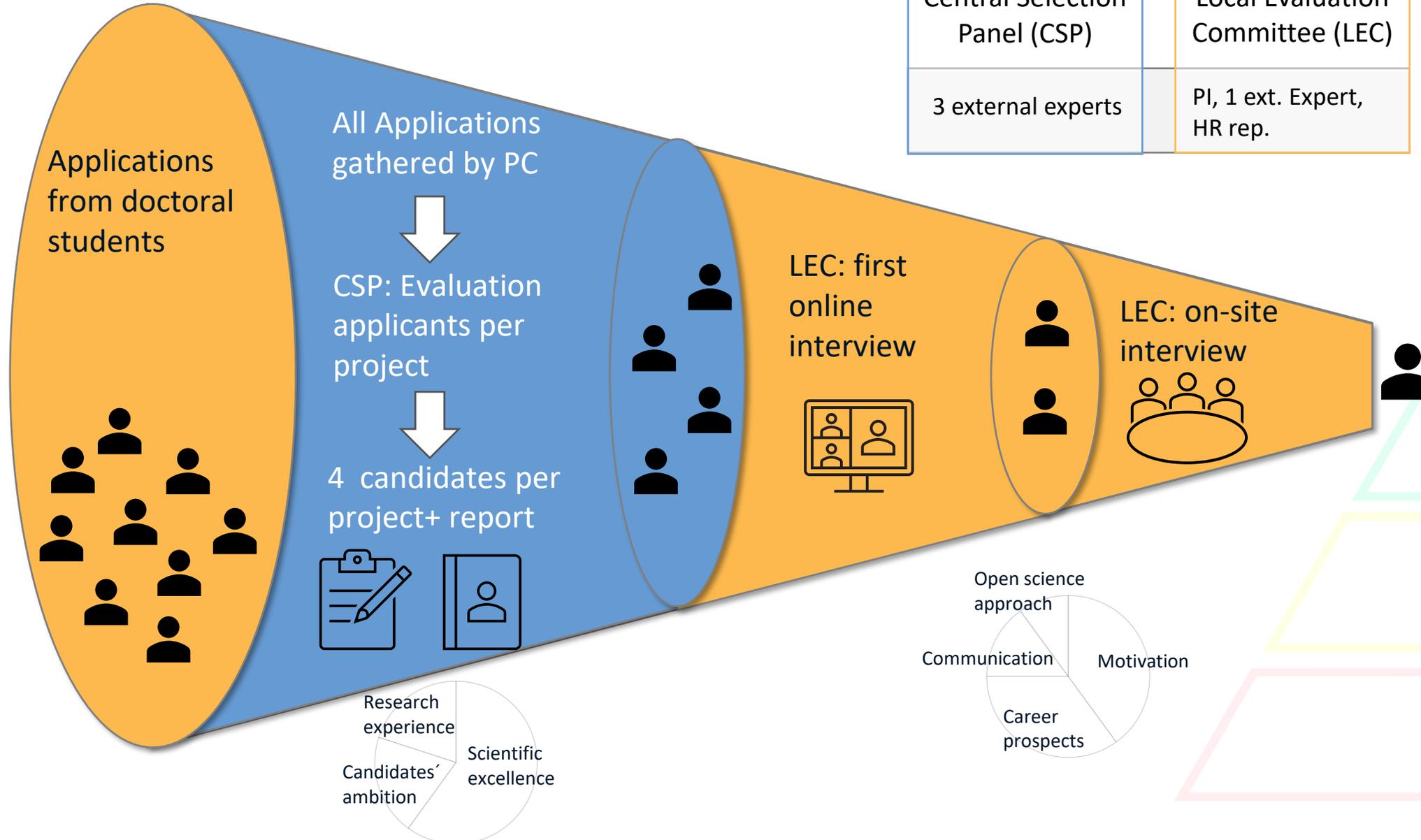
**APPLICANTS
GUIDE !**

- **CV in the Europass format**, max 4 A4 pages ([download template here](#))
- Two-page **cover letter** (if you apply for more than one PRISMAS project at one or more universities you should include a priority ranking).
- Minimum one **reference letter**
- **Proof of English language knowledge** (minimum CEFR proficiency level B2).
- **Academic transcript**, including grades for all coursework, with a transcript of a diploma in English.
- Additional documents you consider relevant for the application – specific for each position (check Job Ad)

Please note:

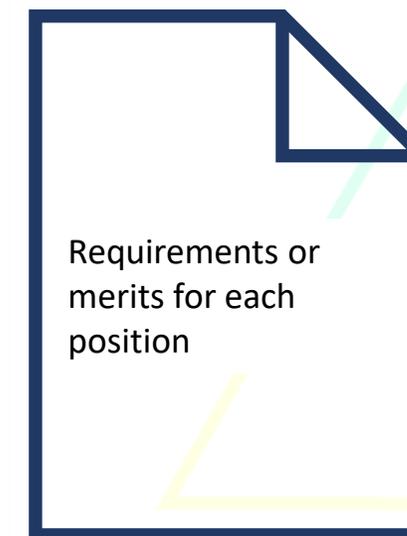
PRISMAS Management reserves the right to exclude incomplete applications in the selection process, without any additional notification to the applicant

Recruiting process of candidates



Evaluation criteria

Criteria	Weight	Description
Scientific excellence	60%	Academic education and training, relevant courses and grades; Academic excellence (incl. prizes, publications, participation in international programmes such as Erasmus); Dual degree/diploma
Adequacy of the career plan and the thesis project	20%	Ambition both in relation to the PRISMAS Project/s applied for and in relation to the applicant's research interests more broadly.
Research experience	20%	Research environments within and outside of the Higher Education sector, as well as sectors and organisations which are impacted by research outcomes.





PLEASE CHECK OUR [FAQ page](#)

Q&A

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Thank you!

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Contact



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