



## SWATNet NEWSLETTER

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### Editorial

#### Dario Del Moro, SWATNet Training leader

*For all researchers, the PhD is a time of personal and professional growth, offering the chance to develop skills, broaden perspectives, and gain confidence in navigating the world of science. It's not always an easy road—there are challenges to overcome—but the rewards are profound. The knowledge acquired and the experiences gained leave a lasting impact that extends far beyond the degree itself. While there have been administrative hurdles along the way, the effect of this program on the lives of young researchers is life-changing and makes the effort worthwhile.*

*In these years, I have had the privilege of guiding talented PhD students as they progress through their academic journeys, and I have witnessed how their involvement in SWATNet shapes their lives. The collaborative nature of this program, with its shared research themes and joint training events, has also enriched their experience, helping them build networks that will support their careers for years to come. These networks provide more than just academic training—they open doors to international collaboration, foster multidisciplinary approaches, and create a sense of belonging in a global scientific community. They also expose students to diverse practices and career pathways, including opportunities in industry, which are crucial for adaptable and versatile professionals.*

## 1. Introduction from the Coordinator, Emilia Kilpua

When drafting the proposal, I had no idea what we were getting ourselves into—but I wouldn't hesitate to press the submit button again. It's been a wild ride filled with fun, frustration, excitement, and growth. We have gathered many good memories along the way, with

some highlights being our first face-to-face meeting after the covid-19 restrictions were lifted, held in beautiful Coimbra and our last workshop organized in historic Villa Mondragone close to Frascati. We had an excursion to old Coimbra university, night barbecue at the observatory and a private dinner at cozy country style restaurant. And many more such events in between, organized by our beneficiaries. It is often the moments in between the actual work that tie everything together into a meaningful experience.



The best part has been working with our incredible students and supervisors. Although start of PhD work may feel slow, every student achieved exciting scientific results from exploring how solar eruptions form to forecasting their propagation through interplanetary space. It has also been a delight to see how fluently our students have presented their results in major meetings in our field like EGU, and European Space Weather Week and disseminated them for a wider public.

From the coordinator's perspective, the biggest challenges have been administrative issues and the extremely tight schedule considering the diversity of our training. We had in total 3 schools, 7 workshops, one-month observatory training and 2-3 months industrial training. Managing that has been stressful for both students and supervisors. Luckily, we had a dedicated consortium and great project manager, including help from our universities/ institutes. On the other hand, all these events were successes and students have built competitive CVs.

I would like to end this by thanking all involved and hope that collaborations we have tied during the project will last. Maybe we will see another SWATNet in the future.

## 2. Voices of SWATNet ESRs

The 12 Early-Stage Researchers (ESRs) of SWATNet will be soon completing their PhD studies resulting in a PhD thesis defence. This is a significant milestone for everyone at SWATNet – for ESRs themselves, for their advisors both in the main host universities as well as the satellite universities where they spent their secondments, and for the project as whole. You can find the list of ESRs and the topics of their PhD projects here: <https://swatnet.eu/esr/>.

We invite you to read how being part of SWATNet impacted the students' lives during these three years.

*"I am delighted to have been part of the SWATNet project. The numerous workshops and summer schools organised by SWATNet not only equipped me with valuable scientific knowledge essential for conducting research but also provided critical skills complimentary to research, such as writing research proposals, preparing funding applications, and acquiring competences*

*relevant for careers outside academia. Moreover, I personally benefited from the international collaborations among the participating European universities and the diversity of cultural background among the SWATNet PhD students and professors, which enriched our meetings and discussions."* - **Edin Husidic**

*"SWATNet, with its multitude of summer schools and workshops as well as industrial and observational training, provided a very sophisticated and diverse education in space weather research, which definitely changed the way I view and think about the field. Moreover, as it provided the ability to travel to and attend scientific events in many European countries, it facilitated building a comparatively big network."* - **Andreas Wagner**

*"SWATNet has positively impacted my academic career. Even though it was a difficult voyage, it was all worthwhile when I look back on it. SWATNet has offered exceptional professional opportunities for academic success. I feel that it is a complete package in itself for a student to advance in an academic career."* - **Mayank Kumar**

*"I feel that being a part of the SWATNET consortium had a profound positive impact on my impressions of a career in research. I believe that over the course of three years, thanks to countless networking opportunities, workshops and seminars, I gained a lot of theoretical knowledge and exposure into a lot of different topics in solar physics, be it mainstream or niche. I feel lucky to have been a part of this 'technical family' and would like to wish all my friends, colleagues and supervisors the very best for the times to come."* - **Shreyesh Biswal**

*"This project has been a transformative experience for me, both professionally and personally. Various scientific, administrative, and other challenges were encountered throughout the project, but these difficulties fostered personal growth and taught me resilience, adaptability, and the value of collaboration. The opportunity to travel, collaborate with people from diverse backgrounds, and immerse myself in different work and training environments has been very enriching."* - **Slava Bourgeois**

*"SWATNet has been a transformative experience for me, providing access to some of the best space research collaborations and networks, along with the opportunity to pursue a fully funded PhD. The workshops, schools, and connections with other ESRs have strengthened my*

*technical expertise and fostered relationships that will be valuable throughout my career. Although the observational and industrial training required time outside my core research, I believe they will contribute to my overall professional growth."* - **Lidiya Annie John**

*"SWATNet made it possible for me to embark on an incredible journey alongside brilliant PhD fellows and researchers. It allowed me to develop both personally and academically in the field of solar physics. Through this experience, I was able to build a strong professional network that will benefit my career for years to come."* – **Guilherme Nogueira**

*"I was thrilled to be part of the SWATNet project, collaborating with brilliant researchers and wonderful people in a dynamic international environment. The comprehensive programme - including school workshops, events, and industrial internships - not only helped me acquire new skills but also broadened my professional perspective, making me feel like an integral part of a vibrant global community. I hope that in the future, the interchange between European countries will become more accessible by streamlining bureaucratic processes, further enriching experiences like this one."* - **Simone Chierichini**

*"Thanks to the synergy and excellence of SWATNet members, the organization of stimulating internal workshops, and the funding to participate in major international conferences, SWATNet has allowed me to grow immensely both as a scientist and as a person. I have significantly deepened my expertise in Deep Learning and Artificial Intelligence, expanded my knowledge in the fascinating fields of Solar Physics and Space Weather, and forged lifelong bonds with amazing people."* - **Grégoire Francisco**

### 3. Training and Outreach Update

The training programme of SWATNet has concluded with the last workshop from the series of seven. **Workshop 7 "Careers: Academic vs Non-Academic Opportunities" (8-11 April 2024)** with the majority of students as well as speakers being present face to face brought up interesting insights for unconventional careers path as well as deepened the understanding of various academic tracks one can choose after defending a PhD – the timing of this Workshop was

perfect as the training programme of most ESRs has been finalised and they were at the stage of starting to write their PhD manuscripts and looking what is available out there and where to move forward next: <https://swatnet.eu/workshop-7-careers-academic-versus-non-academic-opportunities/>

The **SWATNet Open Day** was organised in conjunction with the European Space Weather Week 2024 (ESWW2024) and took place on Wednesday, **6 November 2024**. The organisers showcased promotional material and videos on a screen that was visible to 500+ participants representing the space weather community of Europe. The booth dedicated to SWATNet was set up at the Science Fair where the ESRs who were present there face to face interacted with the visitors demonstrating the scientific achievements of the project. For that, each ESR provided a short (1-3 minutes) video explaining their thesis, accompanied by relevant material. More detailed description of this event can be found here: <https://swatnet.eu/esww2024/>

On top of these two events organised within the SWATNet programme, the ESRs attended local and international conferences and seminars to present their scientific results, exchanged ideas, and actively interacted with the EU research community. The ESRs in collaboration with their supervisors and colleagues kept the momentum going this year and produced multiple scientific results which can be accessed through the following webpages:

<https://swatnet.eu/publications/>  
<https://swatnet.eu/conference-presentations/>  
<https://swatnet.eu/public-talks/>

Additionally, most of ESRs finalised their industrial training in companies – partners of SWATNet <https://swatnet.eu/partners/> - you may find several interesting entries about that by visiting the [SWATNet blog](#).

The project was busy not only to generate the scientific results, but also make sure they are visible, accessible and attractive to different audiences. To increase their visibility to the scientific community as well as general public, SWATNet kept the collaboration with the Horizon Results Booster program ([HRB](#)) and brought it to the next level. During the fourth year of SWATNet more developments in this activity were undertaken in collaboration with a number of sister projects - [SERPENTINE](#), [IDOLS](#), [SOLER](#), and [SPEARHEAD](#) - grouped in the Space Weather Cluster. The objective

was to create a portfolio dissemination plan with strategies to establish a strong collaboration between projects within the project group, including a point presentation template, a brochure, a template for invitees, a save-the-date template for the event, and social media cards for the cluster. Additionally, recommendations from HRB were provided to promote ongoing collaboration and the organization of future joint dissemination activities within the project group.



The SWATNet's Open Day at Coimbra, Portugal, 6 November 2024.

## 4. Final Conference

Over 70 face-to-face participants and over 50 online participants joined the SWATNet Final Conference which took place on 10-14 February 2025 in Helsinki, Finland - the land of the project coordinator. The first three days (Monday, 10 February - Wednesday, 12 February) were focused on science topics, covering the three SWATNet research-oriented themes, one per day - "Modelling and Forecasting Solar Activity", "Coronal and heliospheric modelling and forecasting", and "Forecasting Space Weather with Artificial Intelligence".

These sessions included talks by the SWATNet ESRs, External Advisory Board members and keynote & invited speakers from a wider research community. Thursday, 13 February, was a "Training day" dedicated to the discussions on doctoral training. On Friday, 14 February the outreach and dissemination topics were put at the spotlight and included the collaborative analysis of the project's 4 year impact. The researchers, young and experienced, from all over Europe and beyond, the industry representatives, the Ministry of Education of Finland, the Doctoral School and University administration actively participated in the panel discussions, presented their views on doctoral education transformation, possible funding schemes to support researchers, good practices with industry placements, and outreach for space weather research. The programme and the abstract books can be downloaded from this page:

<https://swatnet.eu/swatnet-final-conference/>.



The SWATNet's final conference, Helsinki, February 2025.

## 5. Upcoming Activities

- PhD defenses;
- A review paper which will summarise and integrate what have been learnt in SWATNet;
- Final Reporting period (August – October 2025) and closure of the project.