

WELCOME ADDRESS COORDINATOR' MESSAGE

As we approach the end of the VIPERLAB project on November 30th, we are glad to reflect on the progress and milestones achieved over the past three years in advancing perovskite photovoltaic (PV) technology. VIPERLAB has supported the European research community through unified, accessible platforms and fostered collaboration across academia and industry.

In 3,5 years we processed 137 project submissions, granting access to 108 user projects, 9% of which involved industrial partners. Despite challenges such as administrative delays and a cyber-attack, we exceeded planned access days, thanks to a 2.3x increase in actual user days provided.

Our platforms—VIPERLAB-GATE, Knowledge Exchange Platform (KEP), and Virtual Access Platform (VAPo)—were widely adopted, with updates including new modeling tools, simulation resources, and training materials that were viewed by thousands of users. Throughout the VIPERLAB years, we hosted numerous events, including webinars, workshops, and training sessions, further strengthening our knowledge-sharing network.

Strategic initiatives to support European PV included three workshops on harmonization and the creation of a Strategic Research and Innovation Agenda (SRIA) to guide Europe's leadership in perovskite PV. VIPERLAB's collaborative efforts with stakeholders, such as ISOS and ETIP-PV, were pivotal in standardizing protocols and setting strategic industry goals.

Thank you for your continued engagement and contributions. We are proud of what we have accomplished together, solidifying Europe's PV landscape with an enduring legacy of innovation and cooperation. Maybe add a sentence here to invite to keep the eyes on KEP because we are about to upload soon many public reports.



VIPERLAB

OPEN ACCESS TO THE EUROPEAN PEROVSKITE RESEARCH INFRASTRUCTURES

FULLY CONNECTED VIRTUAL and PHYSICAL PEROVSKITE PHOTOVOLTAIC LAB



Hear What Our Testimonials Have to Say About the Impact of the VIPERLAB Project!





VIPERLAB ACTIVITIES

VIPERLAB Final Public Event

Over the past three and half years, the VIPERLAB project has significantly advanced cooperation on the Perovskite PV topic through the development of a strategic research and innovation agenda and coordination of virtual and physical access to the main perovskite PV research and infrastructures in Europe. In this context, the VIPERLAB Final Public event titled [“Unveiling the future of Solar Energy with Perovskite PV”](#), organised by [PNO Innovation Belgium](#) in collaboration with the [VIPERLAB](#) partners, was held at the 41ST European Photovoltaic Solar Energy ([EU PVSEC](#)) Conference and Exhibition Conference on 23 September 2024.



VIPERLAB Final Public event on 23 September 2024

Read the proceedings of the event [here](#).

Discover our poster [here](#).

Round Robins nears completion!

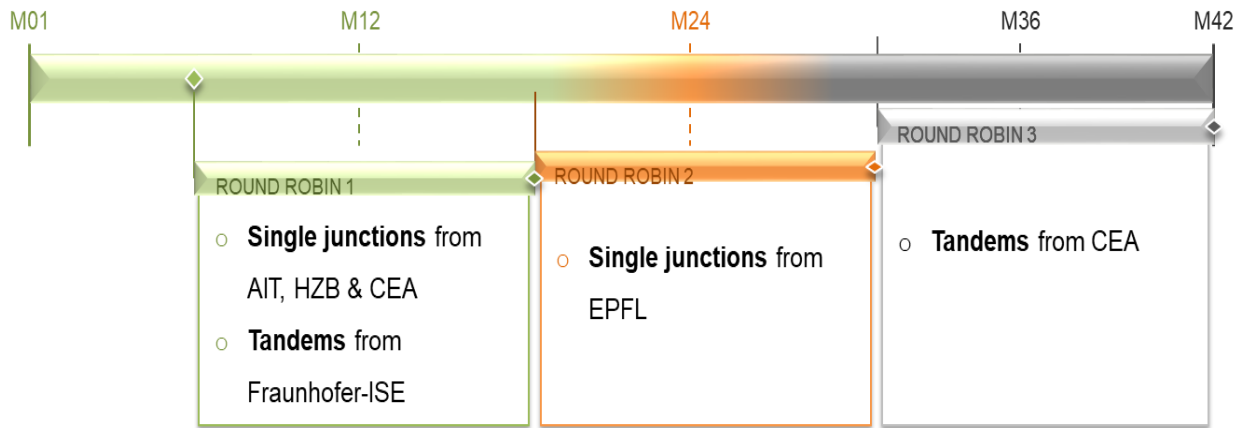
As part of the VIPERLAB project, six Round Robins were successfully organised; three focusing on measurement and three on aging processes. Their key findings and recommendations from all these Round Robins will soon be made publicly available, providing valuable insights for stakeholders.

Various types of Perovskite solar devices have been explored, encompassing a wide range of configurations. These include both rigid glass and flexible substrates, employing either metal or carbon electrodes. Additionally, single junction or tandem architecture with silicon.

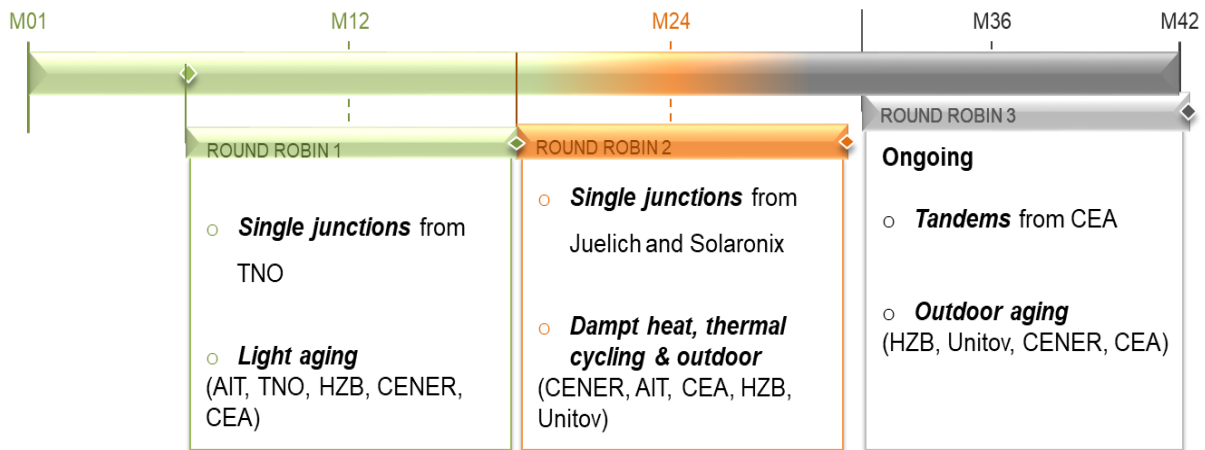
In the aging Round Robins, cells were subjected to the most critical stress factors, including light exposure, temperature cycling, and damp heat, following conditions recommended by the ISOS protocols. Furthermore, outdoor aging tests were conducted in different climatic regions - Spain, France, and Germany – to assess performance.

These findings emphasise the critical importance of ensuring cell stability and minimising waiting periods between tests. Key points include standardizing contact procedures, performing EQE measurements or using tailored spectral mismatch correction, controlling and monitoring temperature, and applying the correct spectral distribution for tandem cells.

Implementing these steps can greatly enhance measurement consistency across different laboratories.



Measurement round robin



Aging round robin overview

More details and guidelines in the upcoming public reports [here](#).



VIPERLAB SHINING AT RELEVANT EVENTS!

International Summit on Organic and Hybrid Photovoltaics Stability

From 30th September to 2nd of October HZB hosted the [15th edition of the International Summit on Organic and Hybrid Perovskite Solar Cell Stability \(ISOS 15\)](#) organized by the group of [Helmholtz-Center Berlin](#) and the [Humboldt University](#).



The summit has been an important forum for the ongoing discussion on topics of stability of organic and hybrid perovskite solar cells since 2008. It has resulted in impactful outcomes such as the ISOS protocols for the ageing of third generation solar cells. And is driven by a worldwide community of research experts on the topic of stability of such solar cells.

At the recent ISOS conference, VIPERLAB organized six roundtable discussions focused on advancing perovskite solar cell (PSC) and organic photovoltaic (OPV) technologies. These discussions covered critical topics including **Testing Protocols for Perovskite (Tandem) Solar Cells**, where new stability testing standards and data reporting practices were proposed, and **Lab Digitalization - Data Management and Research Opportunities**, which explored digital solutions for improved data tracking and analysis.

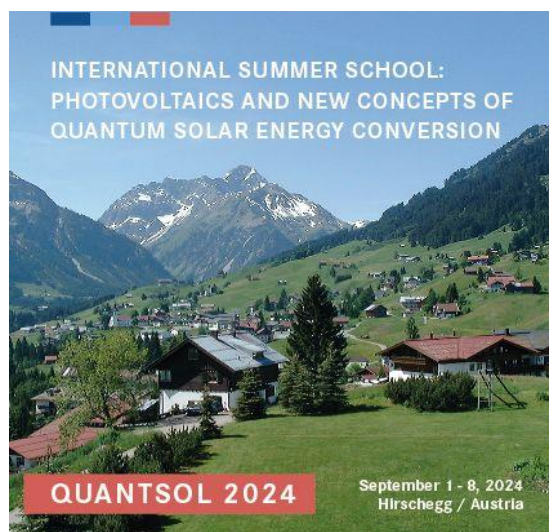
The **ISOS Protocols** roundtable called for updates to reflect realistic reverse bias testing, while the **Encapsulation and Outdoor Testing** session emphasized better materials and practical guidelines for field testing. The final roundtable on **Deployability** addressed challenges related to real-world application and scalability of perovskite technology, highlighting the need for practical, standardized approaches as the field progresses.



Quantsol Summer School 2024

From 1st to 8th September, the [International Summer School on Photovoltaics and New Concepts of Quantum Solar Energy Conversion](#) was held in Hirschegg, Kleinwalsertal, Austria.

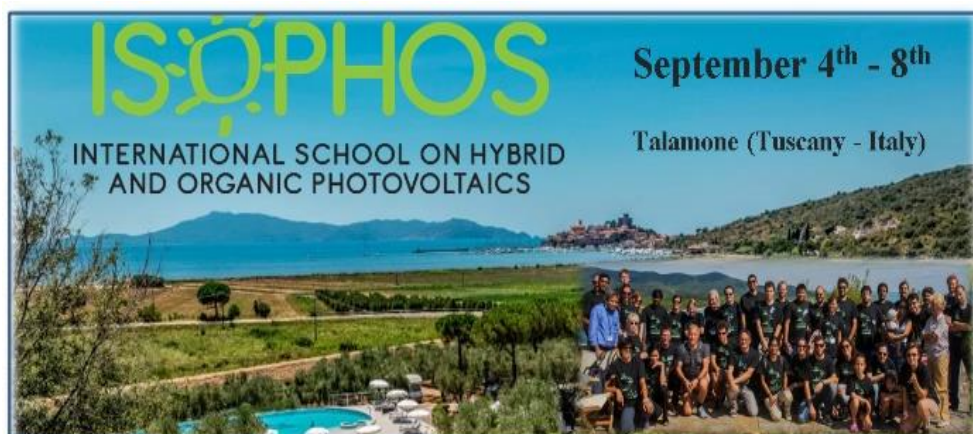
Invited speakers, all recognised scientists from leading world institutions, gave lectures covering a wide range of topics on the fundamental principles of the conversion of solar energy into chemical and electrical energy as well as the physical and technical challenges.



International School on Hybrid and Organic Photovoltaics (ISOPHOS)

The 16th edition of the [ISOPHOS](#) was held from 3th till 7th of September 2024 in Talamone (Tuscany-Italy). ISOPHOS was focused on recent advances in science and technology of organic and hybrid photovoltaic devices, including small molecules, polymers, perovskites, dye solar cells and the use of Graphene and other 2D materials for energy applications.

The 17th edition of the International School on Hybrid and Organic Photovoltaics (ISOPHOS) will be held from the 2nd till 6th of September 2025.





BECOME PV WORKSHOP: Boosting the Exploitation and COMmercialisation of Emerging PV technologies

The [European Energy Research Alliance](#) (EERA) and [EERA Joint Programme Photovoltaic Solar Energy](#) joined forces for an insightful workshop on the future of photovoltaics, where groundbreaking research and innovative material systems like metal-halide perovskites are paving the way for a revolution in solar energy. This workshop aimed to bring together leading research teams, SMEs, industry leaders, potential end-users, and representative organisations.

The goal was to foster collaboration and share insights on bridging the gap between current research and the commercialisation of these cutting-edge PV technologies.

In this context, VIPERLAB hosted the Strategic Research and Innovation Agenda (SRIA) and Harmonisation and Standardisation workshop. The final outcomes of this insightful event will soon be available on our [website](#).

MEET THE CONSORTIUM



JOIN THE VIPERLAB COMMUNITY:



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