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Yearly Report of the Swiss Photonics National Lab SRPV

Mission

SRPV strives in bringing all interested parties from research and development, industry and academia together to address technological advances in photovoltaics

Team

- EMPA Dübendorf (EMPA), Department for Functional Polymers, Prof. Dr. Frank Nüesch
- EMPA Dübendorf (EMPA), Department for Thin Films and Photovoltaics, Prof. Dr. Ayodhya Tiwari
- UAS SUPSI Cannobio (ISAAC), Institute for Applied Sustainability to the Built Environment, Dr. Roman Rudel
- EPFL Neuchâtel (PVLAB) and CSEM (PV-center), Prof. Dr. Christophe Ballif
- EPFL Lausanne (LPI), Laboratory of Photonics and Interfaces, Prof. Dr. Michael Grätzel
- EPFL Lausanne (LSPM), Laboratoire des sciences photomoléculaires, Prof. Dr. Anders Haagfeldt
- ZHAW Winterthur (ICP- Institute of Computational Physics), Organic Electronics and Photovoltaics, Prof. Dr. Beat Ruhstaller

Main achievement

Workshop: Lifetime and Reliability Issues in PV (10.09.2015). The workshop attracted more than 60 participants to the premises of SUPSI in Manno. Besides technical experts, attendees from insurance companies and politics were also present.

Inauguration of the Flisom's new CIGS solar cell production facility at Niederhasli (11.6.2015)

Numerous discussions with companies are ongoing regarding new developments in various fields of PV, e.g.

- Crystalline silicon solar cells: Implement fabric electrodes in c-silicon solar cells. First test runs were carried out in collaboration with CSEM and Empa.
- Lead iodide perovskite solar cells: Strong collaboration and development between SPN partners and Dyesol or Solaronix.
- Contact with German glass manufacturer for barrier substrate development

Brainstorming and first steps towards the creation of a new 'Swiss PV quality Platform'

NRP70 PV2050: Novel PV technologies for optimum space usage and efficient electricity Production: The project has accomplished its first year and engendered numerous collaborations between the project partners. For example, a new class of hybrid tandem cells is investigated using crystalline silicon or CIGS solar cells as bottom cell and novel $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite junctions as top cell.

Next steps

PV outreach event at Empa (February 2016) with invited speakers from industry and politics. Exhibition of new generation technologies is also planned.

Collaborative efforts with industry will be pursued

PV technology development will be seeded by using SPN grants. It is planned to instaurate a PV technology award to encourage technological activities (in contrast to scientific ones).

The development of PV module lifetime assessment methods will be promoted