CEA-INES, AIT, Fraunhofer ISE & IWES and TECNALIA
invite you to participate to:

Second Workshop on Building-Integrated Photovoltaics

CEA-INES, Le Bourget du Lac (France)
September 15th–16th, 2014

The workshop shall address the current and long-term specifics of Building Integration (BIPV) in distinction to Building Application (BAPV).
It will mainly focus on:
- Photovoltaics and building R&D consideration,
- Market and regulations features.

With the participation of 20 speakers, among those:
- Wilma Eerenstein (ECN)
- Ingrid Weiss (WIP)
- Christophe Ballif (EPFL)
- Astrid Schneider (Solar Architecture)
- …

⇨ *More information and registration on: http://www.ines-solaire.org.*

*The information can also be found on SOPHIA project website (www.sophia-ri.eu)
and on the Eurosun Conference website (http://www.eurosun2014.org/cms/home.html).*

Organizers:

CEA-INES: Ya Brigitte Assoa
Fraunhofer ISE: Wendelin Sprenger
Fraunhofer IWES: Siwanand Misara
TECNALIA: Jose Mari Vega de Seoane López
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In partnership with:

PROGRAMME

Day 1: BIPV R&D challenges

Outcome: Understanding of BIPV modelling and testing methods

Morning sessions

Session 1: BIPV components design tools
- Modelling methods: thermal, electrical, optical…
- Parameters studies for BIPV (like U and g values)
- Tools integrating models of BIPV components

- *Yaël Gilad* (GILAD-SHIFF ARCHITECTURE, Israel): *"Adaptive 3D Plastic BIPV skins"*
- *Wilma Eerenstein* (ECN, Holland): *"Thermal modeling of BIPV elements and solutions for heat reduction and shade optimization"*
- *Wiep Folkerts* (SEAC, Holland): *"Prefab integrated PV for roof renovation"*

Afternoon sessions

Session 2: Integration in building design software
- Coupling Building design tools (TRNSYS, Energy Plus…) and BIPV design tools
- BIPV integration in architectural software (Autodesk, Revit, BIM…)

- *Ismael Lokhat* (Cythelia, France): *"Demonstration of a mechanically ventilated thin-film BIPV roof / Using a 3D model for the simulation of PV / BIPV"*
- *Pierrick Haurant* (CETHIL, France): *"Energy analysis of a solar domestic hot water system integrating a high efficiency PV-T component"*

Session 3: Best practices for BIPV characterization
- Component
- Building

- *Leon Gaillard* (Chaire EDF-CETHIL, France): Analysis tools to improve model validation and development using monitoring data for BIPV systems and PV systems operating in challenging environments
- *Wendelin Sprenger* (Fraunhofer ISE): Statistics of time-dependent physical quantities
- *Mohammed Ayad* (UDES, Algeria): ”Experimental Study of the Photons converter applied in the Photovoltaics Conversion Systems”

Optional: Visit of Helios Building at INES site

V. 22/07/14

Day 2: BIPV: Paving the way for future applications

Outcome: Improvements required for BIPV products

<u>Morning sessions</u>

Introduction: Overview of BIPV applications
- Definitions, examples of products
- *Astrid Schneider* (Solar Architecture, Germany)
- *Christophe Ballif* (EPFL, Suisse): "Low cost and ubiquitous BIPV elements: novel approaches based on thin film and crystalline silicon technology"
- *Christof Erban* (Fraunhofer ISE, Germany): " The sky is the limit"

Session 1: Current BIPV market situation
- Examples of installations
- Incentives in countries
- *Claudio Ferrara* (Fraunhofer ISE, Germany): "BIPV technologies – customized or mass market"
- *Bruno Gaiddon* (Hespul, France): "PV façade of the HIKARI building in Lyon"
- *Laurent Quittre* (ISSOL, Belgium):"The French Ministery of Defense: Photovoltaics meet the zinc roofs of Paris"

Session 2: Expectations of Architects and Constructors
- Round table with stakeholders
- Brainstorming discussion

<u>Afternoon sessions</u>: Joint sessions with SOLARROK project **solarrok**
Innovation and market support actions, regional and national approaches

Session 3: Market support actions
- Regulations (thermal, EPBD…), PV and building codes in countries
- Barriers to BIPV, cost of BIPV products, database of BIPV products
- Bankability
- *Bernd Koll* (Kuraray, Germany): "Glass/Glass PV modules as BIPV safety glass elements"
- *Hiroko Saito* (PVTEC, Japan): "BIPV activities in Japan"
- *Philip Pieters* (IMEC, Belgium): "Technologies and Requirements for BIPV"
- …

Session 4: Innovation support actions
- Demonstration projects…
- Proposal of training, best practices…
- *Ingrid Weiss* (WIP-Renewable Energies, Germany): "Mission and Approach for EU PV Technology Platform Working Group on BIPV"
- *Eric Pilat , Francoise Cadiou* (CEA, France): "Market survey method in Solar Design project"
- *Jose Mari Vega de Seoane Lopez* (TECNALIA, Spain): "BFIRST project: Building integrated fibre-reinforced solar technology"
- …

ACCESS

National Institute for Solar Energy - INES

All Sessions in "Lynx 4" building - Room 107

50, avenue du lac Léman

SAVOIE TECHNOLAC

73375 Le Bourget du Lac - France

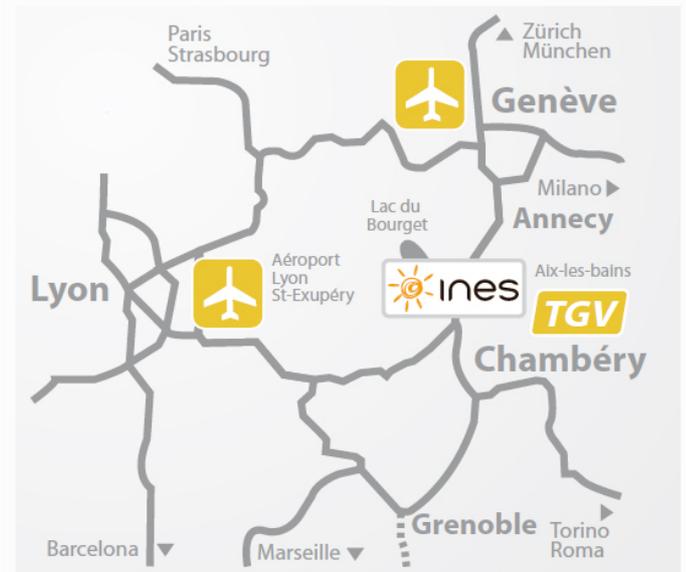**www.ines-solaire.org**

By train:

Less than 10 min. away by car and 15 min. away using public transports from the Chambéry and Aix les Bains train stations.

From the stations to INES with public transports:
• Chambéry station: Line 9 with "Stac"
• Aix-les-Bains station: Line 1 with "Ondéa"

By car:

- From **Lyon**: Follow the A43 towards Geneva, Grenoble, Chambéry. Take the exit towards the E70 – TURIN MILAN, GRENOBLE, ALBERTVILLE, CHAMBERY airport and follow the N201 Bourget du Lac, Aix les Bains, Savoie Technolac, then head towards the Bourget du Lac / Savoie Technolac.

- From **Grenoble**: Follow the A41 towards TURIN-MILAN, CHAMBERY, SAINT MARTIN D'HERES, after the toll follow the indication towards Aix les Bains, Bourget du Lac, Savoie Technolac.

- From **Annecy:** Follow the A43 towards Chambery, Lyon. Exit at Chambery airport, Albertville, Grenoble, then after the toll, follow the N201 towards Bourget du Lac, Aix les Bains, Savoie Technolac, then towards Bourget du Lac/ Savoie Technolac.

By plane:

Less than 1h away by motorway from Lyon-Saint Exupéry and Geneva Cointrin international airports .