



**HAL**  
open science

## Scope and challenges for organic solar cells in the current race to performance

Ludovic Torteck

► **To cite this version:**

Ludovic Torteck. Scope and challenges for organic solar cells in the current race to performance. Summer School on Nano-Organics 2016, Jul 2016, Paris, France. cea-02346091

**HAL Id: cea-02346091**

**<https://cea.hal.science/cea-02346091>**

Submitted on 4 Nov 2019

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

---

# Scope and challenges for organic solar cells in the current race to performance

Ludovic Tortech\*<sup>1,2</sup>

<sup>1</sup>Institut Parisien de Chimie Moléculaire (IPCM) – Université Pierre et Marie Curie (UPMC) - Paris VI, CNRS : UMR8232 – Université Pierre et Marie Curie (UPMC) 4 place Jussieu 75252 Paris Cedex 05 Bâtiment F/74, France

<sup>2</sup>CEA Saclay (LICSEN, Laboratoire d'Innovation en Chimie des Surfaces et Nanosciences) – CEA – 91191 Gif-sur-Yvette cedex, France

## Abstract

After a brief state of art of the challenges of renewable energy and more specifically of the solar cells, the place of organic solar devices will be discussed in front of competitive technology such as Perovskite or CIGS. Indeed organic solar cells reveal numerous advantages competing with higher efficiency devices. Despite that, numerous challenges are emerging with the constant increase of the performance of organic solar cells (OSC); the optimization at each step of the electronic processes becomes critical. We will pay a specific attention to the charges collection at the electrode and more specifically at the anodic side of the device emphasizing the energetic leveling of each material involved.

---

\*Speaker