



Postdoc researcher position at the Institute for Photovoltaics (*ipv*) at Stuttgart University

Topic: Development of next-generation perovskite solar cells

Area: Chemistry, physics, materials science or related fields (m/f/d)

We are looking for ambitious and outstanding postdoc scientists to join our team at the Institute for Photovoltaics (*ipv*) at Stuttgart University, Germany.

We are studying and developing next-generation materials for photovoltaics, including perovskite materials. Perovskites are a new generation of semiconductors consisting of organic-inorganic metal halides with opto-electronic properties that can be tuned for applications as light-emitting diodes, detectors, or solar cells.

Perovskites can be processed from wet chemical methods, mechanochemical, and physical/chemical vapor deposition techniques on various surfaces. In a short time, perovskite solar cells reached exceptional efficiencies of 25.7 % (single junction) and 32.5 % (perovskite on silicon tandem).

At *ipv*, we study the fundamental working mechanisms of novel perovskite materials. Guided with this deeper understanding, we built optoelectronic devices such as LEDs, detectors or solar cells.

Your tasks:

- You will synthesize novel perovskite materials with both chemical and physical strategies.
- You will develop new methods to modify the perovskite material including the crystallization chemistry during thin-film formation.
- You will fabricate high efficiency perovskite solar cells on a laboratory scale with our existing technology.
- You will understand the thin film properties using theoretical and simulation methods.
- You will be responsible for the material and device characterization using different methods for example SEM, XRD, PL, electrical measurements, DLS, impedance spectroscopy.
- You will guide master and bachelor students
- You will collaborate with various academic and industrial partners
- You will publish high quality papers, present work at conferences, and write scientific reports in high quality journals

Your profile:

- Successfully completed a doctoral degree in the field of chemistry, physics, materials science, or related.
- Background in semiconductors and solar cell technologies
- Experience in perovskite material synthesis, device fabrication, and characterization
- Self-motivation and problem-solving skills
- Team playing skills and a high scientific aptitude for discussion and collaboration
- Excellent communication skills and experience in organizational work
- Excellent command in English with German language skills will be a plus, but not mandatory

Your benefits of working at *ipv*

- Connected to a highly international, scientific group of front runners in perovskite materials and photovoltaics
- Part of friendly, dynamic, and inclusive research group
- Building next-generation photovoltaics
- Opportunity to collaborate and build a network with many outstanding researchers



- Working with state-of-the-art technologies at a world-class facility for photovoltaics and optoelectronics
- Flexible work schedule
- Live and work in one of the biggest industrial cities in Germany

We hope you are excited to working with us and taking on the new challenges for coping with the current climate challenge human beings are facing.

You may submit your application with a detailed CV, cover letter, and research statement to Prof. Michael Saliba (michael.saliba@ipv.uni-stuttgart.de)

For any further enquiries, you may contact Dr. Chittaranjan Das (chittaranjan.das@ipv.uni-stuttgart.de)