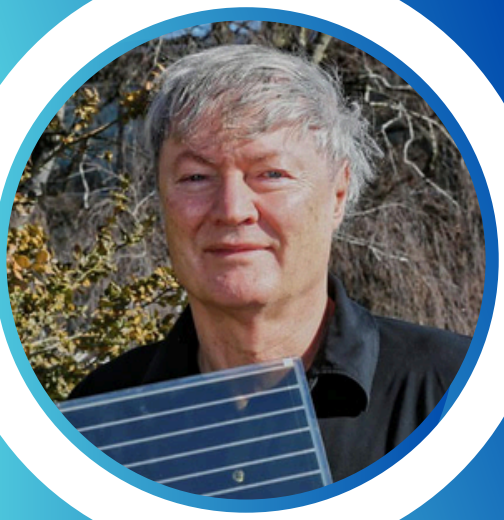
EUROPEAN ACADEMY OF SCIENCES
IN SUPPORT OF EXCELLENCE IN SCIENCE AND TECHNOLOGY



INVITED SPEAKER
WEBINAR SERIES

PROF. MICHAEL GRAETZEL

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE (EPFL)

11 March, 2025 **14.00 CET**

Michael Graetzel pioneered molecular photovoltaics, introducing mesoscopic photosystems that revolutionized solar energy conversion. His work led to the development of perovskite solar cells, now exceeding 26.7% efficiency, surpassing conventional photovoltaics. His research also advanced lithium-ion batteries and photoelectrochemical cells for solar-driven water splitting and CO_2 reduction, enabling renewable energy storage. With over 1,700 publications, 332,600 citations, and an h-index of 267, a ranking issued by Stanford University places Graetzel in the first position across all fields. A member of over 12 academies and recipient of 14 honorary doctorates, Graetzel has been honored with prestigious awards, including the Millennium Technology Grand Prize, Balzan Prize, King Faisal International Science Prize, BBVA Frontiers of Knowledge Award, and the Leonardo da Vinci Medal of the European Academy of Sciences.

Topic

"Molecular Photovoltaics and the Stunning Rise of Perovskite Solar Cells"

Photovoltaic cells using molecular dyes, semiconductor quantum dots or perovskite pigments as light harvesters have emerged as credible contenders to conventional devices. Dye sensitized solar cells (DSCs) use a three-dimensional nanostructured junction for photovoltaic electricity production. They possess unique practical advantages in particular highly effective electricity production from ambient light, ease of manufacturing, flexibility and transparency, bifacial light harvesting, and aesthetic appeal, which have enabled industrial mass production and commercial applications. They served as a launch pad for perovskite solar cells (PSCs) which are presently being intensively investigated as one of the most promising future PV technologies, the PCE of solution processed laboratory cells having currently reached 26.7 %. Present research focusses on ascertaining their long-term operational stability and scale up to pilot production of large modules. My lecture will cover our most recent findings in these revolutionary photovoltaic domains.

Language English

Format Online **Platform** Zoom & Youtube Streaming