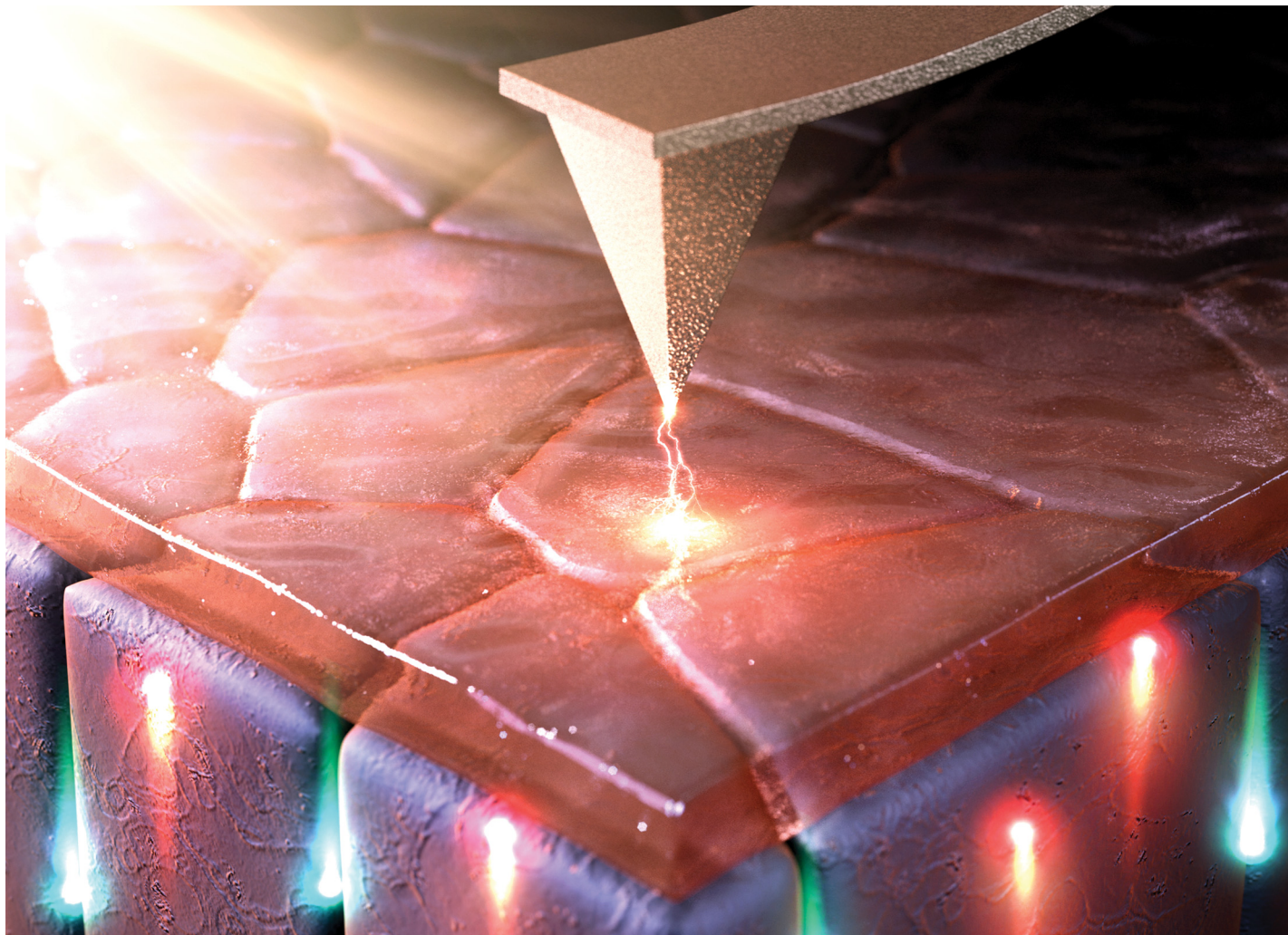




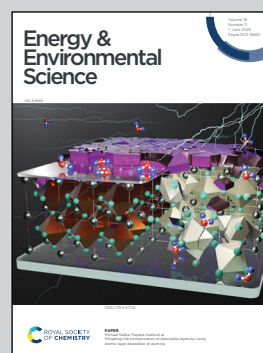
Showcasing research from Dr Yun's Nanoscale Photovoltaics Laboratory, School of Photovoltaic and Renewable Energy Engineering, UNSW Sydney, Kensington, Australia.

Efficient charge separation at localized 2D ferroelectric domains in perovskite solar cells

This work reveals the potential of ferroelectric-assisted charge separation in 2D perovskites in conjunction with conventional p-n junction photovoltaics. We fabricate high-quality perovskite devices in which a ferroelectric 2D perovskite layer with oppositely polarized regions is locally formed on top of a 3D perovskite layer. This configuration promotes distinct potential offsets between the two regions and acts as an excellent electron-hole pair separator. Our findings offer promising opportunities for the design of ferroelectric and p-n junction hybrid photovoltaic devices.

Image reproduced by permission of Jae Sung Yun from *Energy Environ. Sci.*, 2025, **18**, 5287.

As featured in:



See Dohyung Kim, Jun Hong Noh, Jae Sung Yun *et al.*, *Energy Environ. Sci.*, 2025, **18**, 5287.