

### Stability issues in perovskite-based solar cells

Luis K. Ono<sup>1</sup>, Sonia R. Raga<sup>1</sup>, Yuichi Kato<sup>1</sup>, Mikas Remeika<sup>1</sup>, Shenghao Wang<sup>1</sup>,

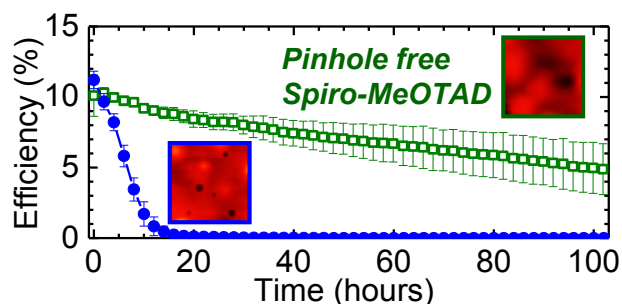
Michael V. Lee<sup>1</sup>, Andrew J. Winchester<sup>1</sup>, Atsushi Gabe<sup>1</sup>, and Yabing Qi<sup>1,\*</sup>

<sup>1</sup>Energy Materials and Surface Sciences Unit (EMSS), Okinawa Institute of Science and Technology

Graduate University (OIST), 1919-1 Tancha, Onna-son, Kunigami-gun, Okinawa 904-0495, Japan

E-mail: Yabing.Qi@OIST.jp

Organo-lead-halide perovskite (OHP) based solar cells are the new solar cells that hold promises for large-scale solar-to-electricity conversion at low-cost. However, there are few studies providing the data on the lifetime and possible degradation mechanisms of OHP-based solar cells under operation conditions (*e.g.* under light and cell operated at maximum power point). The current understanding on the mechanisms for the degradation in OHP-based solar cells [1] as well as remedies to prolonged lifetimes [2] will be discussed.



**Figure 1.** Pinhole-free 2,2',7,7'-tetrakis(N,N-di-p-methoxyphenylamine)-9,9'-spirobifluorene (spiro-MeOTAD) hole transport layers (HTLs) were deposited on the organic-inorganic hybrid perovskite films. CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub>-based perovskite solar cells employing the pinhole-free HTL showed a prolonged lifetime under one sun and operated at the maximum power point.

### References

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- [2] L.K. Ono<sup>+</sup>, S.R. Raga<sup>+</sup>, M. Remeika, A.J. Winchester, A. Gabe and Y.B. Qi\*, *J. Mater. Chem. A* **3**, 15451 (2015). (<sup>+</sup>Contributed equally)