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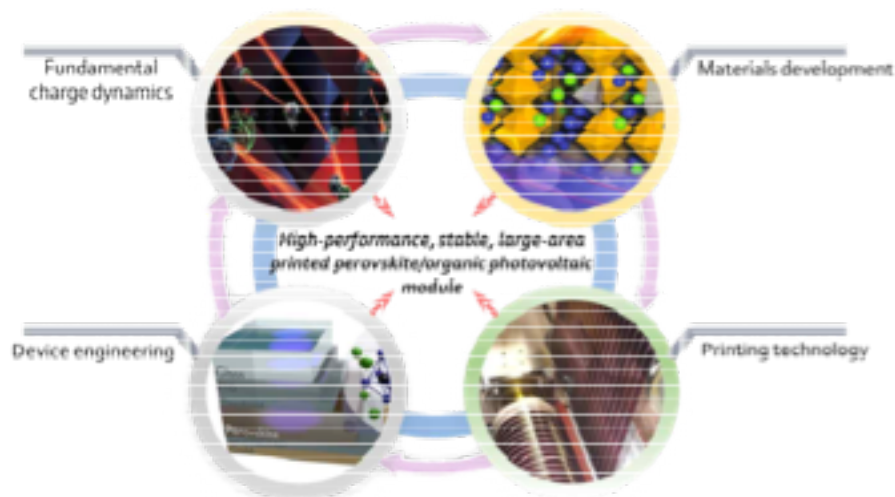
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## **GIST-Imperial College London (ICL) promotes international joint research and development of next-generation flexible solar cell commercialization technology**

- Gwangju Institute of Science and Technology (GIST, President Kiseon Kim) School of Materials Science and Engineering Professor Kwanghee Lee and the Centre for Plastic Electronics (CPE) headed by Professor James R. Durrant of the School of Chemistry of Imperial College London (ICL) in the U.K. will conduct international joint research from March of this year.
  - The Imperial College London (ICL) Centre for Plastic Electronics (CPE) team includes chemistry Professor Martin Heeney, physics Professor Ji-sun Kim, and Assistant Professor Martin McLachlan. It plans to undertake joint international research with MSWAY Co., Ltd., to develop a large-area flexible transparent electrode substrate, which is an essential core material for 'Development of a large-area printed perovskite/organic junction solar cell module.'
- Recently, perovskite solar cells have been highlighted as the next-generation solar cell such as a building-integrated photovoltaics (BIPV), which is installed on the wall of a building, and as an auxiliary power source for future electronic devices because it has a high light conversion efficiency of 20% or more.
  - Unlike conventional inorganic-based solar cells, perovskite solar cells have the advantage of being capable of mass production at low process costs through

solution and roll-to-roll processes. On the other hand, the size of the perovskite solar cell currently being researched is focused on unit devices of less than 1 cm<sup>2</sup>, so research on large-area modules that can be used in practice is lacking.

- In connection with this joint research, the project entitled 'Development of a large-area printed perovskite/organic junction solar cell module with ultra-high efficiency, long life, and reproducibility' was selected as the second phase of the Global Research Laboratory (GRL) project of the National Research Foundation of Korea.
  - The project will be carried out with 1.44 billion won (2,20.3.-2023.2) over the next three years, aiming to develop not only ultra-high-efficiency unit elements but also printed flexible modules and flexible transparent electrode substrate materials using perovskite/organic junction solar cells through international joint research and exchange of technology with laboratories with excellent research capabilities overseas.



<Research objectives for this project>