

Development of new-generation solar cells

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(PhysOrg.com) -- Researchers from The University of Queensland (UQ) and Korea have combined their expertise in polymer patterning and materials science in a bid to develop new-generation solar cells.

UQ's Australian Institute for [Bioengineering](#) and [Nanotechnology](#) (AIBN) Director, Professor Peter Gray, has signed a memorandum of understanding with Yonsei University in Seoul, Korea.

It will allow AIBN Professor Ajayan Vinu's research group to work closely with Yonsei Department of Chemical and Biomolecular Engineering, Professor Eunkyong Kim, and School of Advanced [Materials Science and Engineering](#), Professor Cheolmin Park.

Professor Vinu said the collaboration would encourage “the creation of new science and new products”, including efforts to improve the efficiency of solar cells.

He said AIBN would bring expertise in [materials science](#), particularly Prof Vinu's work on and porous semiconducting and bio-nanomaterials.

Yonsei researchers would match this expertise with their knowledge of [polymer](#) patterning and fabrication.

“We can't all be experts in every field. That is why we are collaborating with these experts in this field,” Professor Vinu said.

“We have expertise in the fabrication of porous functionalised

semiconducting nanostructures that will maximise quantum efficiency of dye sensitized or organic [solar cells](#), while the Yonsei researchers have know-how in designing the various types of solar cell device.

“The fusion of materials development and device fabrication can help us to achieve a new solar cell technology or product with a low cost, which is going to make a huge revolution in the solar industry.”

Beyond collaborating on research, the bond between AIBN and Yonsei includes joint conferences, student exchanges and plans for a joint lab in Korea.

AIBN will host the third joint International Conference on Emerging and Advanced Nanomaterials in Brisbane from October 22-25.

Provided by University of Queensland

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