

Evonik meets Science 2019: Advancing research in Tissue Engineering

- Evonik, together with research academics, explore the future of tissue engineering in clinical and laboratory usage
- The forum focused on four key topics: skin reconstruction, scaffold biomaterials, bioprinting and cell therapy

Singapore. The global tissue engineering market is making headway, expanding its breadth and depth in recent years to find biological substitutes for traditional regeneration methods. At the "Evonik meets Science 2019" forum, held for the first time in Singapore on September 25 and 26, more than 50 international industry experts and academics including Evonik's innovation specialists, dive into the latest developments and outlook in this growing field.

Dr. Ulrich Kuesthardt, Chief Innovation Officer of Evonik Industries AG highlighted the importance of such high-level meetings: "It is essential for us to constantly engage in a dialogue with our industry and academic partners. Exchanging of knowledge, as seen in this forum, sets the right atmosphere for open and sustainable innovation. Cultivating this strong global network complements our own research expertise."

The focus of this year's science forum is also in parallel with the company's current research activities at the Tissue Engineering Project House, established last year at Evonik's Asia Research Hub, located in the Biopolis area of the city state. "Singapore is at the forefront of biomedical advancements in Asia Pacific which makes it an ideal location to host this forum," Peter Meinshausen, Regional President of Evonik Asia Pacific South said. "It has been one year since our project house started in Singapore, and we have already

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been forming different strategic relationships with the local scientific community. This also helps to drive our growth in the region, for Singapore is our innovation gateway to Asia and beyond."

Tissue engineering for regenerative medicine applications

The ageing population and increasing number of chronic diseases call for effective regenerative treatments, like the functional replacement of tissue – and it is this need that pushes the frontiers of tissue engineering research even further. During the forum, joint presentations of Evonik experts and university partners covered the latest research and findings on topics such as skin reconstruction for in-vitro testing, scaffold biomaterials, bioprinting and cell therapy.

Scaffold made from biomaterials act as a template to guide the growth of new tissues. For example, in the field of orthopedics, cartilage scaffold has been used to provide a structure where the cells can migrate, attach and proliferate to repair the cartilage. Advances in 3D printing technology also allows the customization of the shape and size of the scaffold to each patient. Incorporation of growth factors and cells in the scaffold greatly enhances the regeneration of the damaged cartilage.

"A breakthrough in this field would benefit many," said Dr. Alexander Koenig, Head of Evonik Tissue Engineering Project House. "In our groundbreaking research, we are currently testing new methods to simplify and accelerate the growth of human tissue and cells in the laboratory, as well as to increase reproducibility. With the insights shared in the forum, we can identify and develop new solutions that could be scalable for various clinical applications."

With the 2-day conference in Singapore, Evonik gathered international experts to share their knowledge and to combine efforts to significantly improve treatments for patients who are - to



name just two examples - suffering from chronic wounds caused by diabetes or deriving from major burns.

Since 2001, "Evonik meets Science" is held regularly, where Evonik experts engage in discussions with leading international scientists from a range of disciplines. The topics of the past forums focused on bio-renewables, functional polymers, nanotechnology, catalysts, and biotechnology, and were hosted in Germany, China, Japan, and the USA.

Company information

Evonik is one of the world leaders in specialty chemicals. The focus on more specialty businesses, customer-oriented innovative prowess and a trustful and performance-oriented corporate culture form the heart of Evonik's corporate strategy. They are the lever for profitable growth and a sustained increase in the value of the company. Evonik benefits specifically from its customer proximity and leading market positions. Evonik is active in over 100 countries around the world. In fiscal 2018, the enterprise with more than 32,000 employees generated sales of $\in 13.3$ billion and an operating profit (adjusted EBITDA) of $\in 2.15$ billion from continuing operations.

Evonik Asia Pacific South

Headquartered in Singapore, Evonik is present in the Asia Pacific South region with production sites, sales offices, innovation and technical service centers located in Australia, Bangladesh, India, Indonesia, Malaysia, New Zealand, Pakistan, Philippines, Singapore, Thailand and Vietnam. With more than 1,800 employees in the region, the company steadily grows its footprint in Asia Pacific South by expanding its regional operations in response to the growing demand. Evonik Industries has been establishing customer relationships and importing a broad range of products in the Asia Pacific South region since the 1920's.

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