



## GLOBAL EXPERTISE IN POLYMER FOAMING

Skolkovo hosted a lecture by an international expert in foamed polymers.

Organised by International Plastic Guide, the event aimed to acquaint Russian manufacturers with international best practices in polymer foaming.

Professor Chul B. Park from the University of Toronto shared his knowledge and unique competencies in this area. Russian companies can benefit from new approaches to the use of gas-filled polymers to develop innovative materials and improve the competitiveness of their products.



**Professor Chul B. Park** Research Chair in Advanced Polymer Processing Technologies, University of Toronto (Canada), Director of the Microcellular Plastics Manufacturing Laboratory. His publication record includes 70 journal papers, 3 reports, and 217 conference presentations. Dr Park is a co-inventor on 7 patents. He has been extensively involved in various industrial projects, including microcellular foaming, inert gas-injection processing, rotational foam moulding, and others.

On 28 November, International Plastic Guide organised a lecture called Global Expertise in Polymer Foaming: Everything and a Little More. The scientific seminar held in Skolkovo was designed to let polymer and construction leaders learn more about new polymer foaming technologies and encourage them to boost the competitiveness of Russian foamed polymer products.

This has been a target market for International Plastic Guide for 14 years. Over this time, the company has successfully launched its own production in St Petersburg and owns the Penoflex trademark of light foams with great mechanical properties and durability.

In addition to R&D, the event's participants had an opportunity to explore the practical side of polymer foaming, computational modelling, soundproof and biodegradable foams, and environmentally friendly foaming agents.

The lecture was given by Professor Chul B. Park, Head of the Polymer Materials Department at the University of Toronto, Head of the Microcellular Plastics Manufacturing Laboratory, and a global expert in new cost-effective and efficient plastic foaming technologies. The lecture of such a high-profile scientist was a major event for the industry.

“Russian companies first started using foaming in the early 2000s,” said Tatiana Serova, CEO of International Plastic Guide, “Chul B. Park, by contrast, has been working in this industry for 31 years. All the expertise that Russian producers have they had to learn on their own. The tools that Professor Park talks about are not yet in use here. In Russia, polymer foaming is primarily used in construction, but with Professor Park’s expertise, it can find its way into other industries, for example, car making.”



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Alexey Samsonenko, Technical Manager at ROLS Isomarket, agrees: “Abroad, polymer foaming is an entire industry with dozens of production facilities. We rather have it the artisanal way – manufacturers purchase equipment in Japan, South Korea, China, Italy or Switzerland, in most cases coupled with the initial technology. Then operations begin, with companies at best experimenting and running tests to master new techniques. However, these experiments lack a uniform direction and systematic approach. And there are simply no Russian scientists who could share their knowledge with the industry. Professor Park’s lecture will help technicians find the right direction for their research.”

The lecture lasted over six hours and dwelt on extrusion foaming, extrusion with direct gas injection, foam injection moulding, tools and techniques for light foam production, classification and use of foaming agents for different kinds of polymers, computational modelling of foaming, environmentally friendly foaming agents, and biodegradable foams.

The participants appreciated the opportunity to talk to the expert directly. “We came to this event to get answers to technology-related questions that arise during our production process,” said Evgeny Glushkov, Head of New Products and Technologies at KompositProm. “The lecturer promised to help in solving our problems. We were excited to learn about the use of various technologies at specific equipment – for example, about regulating the size of bubbles or adjusting the number of cells.”



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The most popular part of the lecture covered methods and technologies of polypropylene processing. “We came to the lecture first of all to hear about new polystyrene foaming solutions,” says Oksana Kalyanova, Chief Process Engineer at Protek Group. “And we did learn new things about it. While we already knew about polystyrene processing technologies, it was very interesting to learn about polypropylene. This was something new for us.”

The polystyrene part of the lecture was praised by many participants. Eduard Zamyslov, PhD in Chemistry and Technical Director at International Plastic Guide, said: “This is a completely new approach and new vision. Chul B. Park’s speech should help us reach a new level by introducing new technologies and providing inspiration through a new idea.”

Polypropylene foaming is a very promising area. The material is more environmentally friendly than polystyrene and can be recycled. Foaming can give polypropylene unique insulating and chemical and mechanical properties that are superior to polystyrene.

Oleg Bobkov, Head of Technical Support at International Plastic Guide, said that Chul. B. Park’s lecture was especially important given the expansion in the product range of SIBUR. In his opinion, new knowledge and a new look at the processes will help market participants to better navigate properties of new materials and select the most suitable grades.

