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National Institute for Materials Science (NIMS)

DSM

National Institute for Materials Science and DSM to collaborate on research in biomedical material science

The Netherlands-based DSM and the Japan-based National Institute for Materials Science (NIMS) announced today the agreement on collaborative research in biomedical-related material science, initially focusing on the joint development of biocompatible materials that are inert against protein adsorption and cell adhesion.

The two-year agreement was signed on June 1, between Dr. Jos Put, Chief Technology Officer of DSM Innovation Center, and Dr. Sukekatsu Ushioda, NIMS President. The partners expect this joint research project to be the first of many collaborative undertakings in a long-term partnership going forward.

Outline of initial collaboration

Whenever a medical device comes into direct contact with living tissue or body fluids, the initial interactions between the device and the biological material occur at the interface, i.e. the surface. Thus managing the interface where these “worlds collide” is the primary role of medical coatings and is arguably one of their most important performance attributes. The first event in this contact is the rapid adsorption of proteins onto the surface. This protein adsorption often leads to serious consequences such as thrombosis and/or implant rejection.

DSM Biomedical and NIMS have joined forces in developing technologies for controlling this interface. Both DSM and NIMS have developed so called non-fouling surface technologies which prevent the undesired non-specific protein adsorptions and cell adhesions on medical device surfaces. By collaborating in the spirit of open innovation, it is expected that such technologies can be brought to market in a fast and effective manner.

These types of non-fouling surfaces are expected to be broadly applied in in-vitro diagnostics, extra corporeal circulation and blood banking devices as well as in-vivo medical devices and implants.

Dr. Put commented: “DSM is an intrinsically innovative company, active in numerous fields of life science and materials science applications. The core competence of DSM is the synthesis of complex molecular structures and the formulation of these structures into functions tailored to

specific applications. DSM develops complex compounds by exploring all possible approaches to design the most sustainable routes.

“DSM executes projects under a system of open innovation system, which involves basic research with universities and research institutes and applications development with customers, suppliers, and at times, even with competitors. The company is delighted to realize one of its long-held goals to include Japan, a powerhouse of innovation, in its open innovation system through this cooperation agreement with NIMS. We believe that our agreement will lead to broader cooperation linking basic research and applications development in the science and technology fields for profitable business opportunities.”

Dr. Ushioda commented: “The collaboration between the International Center for Materials Nanoarchitectonics (MANA) at NIMS and the DSM Innovation Center at DSM, a leading company in the field of Life Sciences and Performance Materials, is very meaningful for NIMS’s international expansion. It also has great significance for NIMS to take this first step into the field of biomedical-materials science through collaboration with a medical-related company such as DSM.”

About DSM

DSM is a life science and material science company. It started as Dutch State Mines, a state-owned mining company. Royal DSM N.V. creates solutions that nourish, protect and improve performance. Its end markets include human and animal nutrition and health, personal care, pharmaceuticals, automotive, coatings and paint, electrical and electronics, life protection and housing. DSM manages its business with a focus on the triple bottom line of economic performance, environmental quality and social responsibility, which it pursues simultaneously and in parallel. DSM has annual net sales of about €8 billion and employs some 23,000 people worldwide. The company is headquartered in the Netherlands, with locations on five continents. DSM is listed on Euronext Amsterdam. More information: www.dsm.com

About National Institute for Materials Science (NIMS)

The National Institute for Materials Science (NIMS) is Japan’s sole Independent Administrative Institution (IAI) specializing in materials science. The NIMS surveys substance and material research required for the next generation and is run under the theme of “material research that creates tomorrow.” The NIMS was inaugurated in April 2001 when the National Research Institute for Metals (NRIM) and the National Institute for Research in Inorganic Materials (NIRIM) were merged. It aims to comprehensively control and promote basic research and development of materials science and advance the level of expertise in this field. To that end, the NIMS has deepened collaboration with various research institutes in Japan and other countries around the world. Headquartered in Tsukuba, Ibaraki, the NIMS has multiple branch offices in and out of Japan. There are 1,450 employees (as of April 1, 2010, including permanent and non-permanent employees). It ended fiscal year 2009 with approximately 22 billion yen on hand.