



News Release

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Industrial research at the highest scientific level:

Otto-Bayer-Medals for Excellence in Research

- Three Bayer-research teams have been awarded for excellent innovations
 - Bayer: Record-budget for research and development with Euros 3,1 billion in 2010
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Leverkusen, September 8, 2010 – Scientists of the Bayer group have been awarded for their excellent achievements for three research projects with the Otto-Bayer-Medal. This award honors successful contributions from research for new products or applications as well as innovative technologies. Werner Wenning, chairman of the board of management of the Bayer AG, and Dr. Wolfgang Plischke, member of the Board of Management of Bayer AG, responsible for innovation, technology and environment, presented the awards to the prizewinners in the setting of the Bayer-Science-Day with about 800 researchers on September, 8th 2008 in the historic town hall in Wuppertal.

„The results of our researchers and developers are the pillar for our international competitiveness“, says Wenning. The awarding of the Otto-Bayer-Medal shows the outstanding importance of research for the company. Bayer plans to spend around 3,1 bill Euro for research and development in 2010 correspondingly – as much as no other other company in the german chemical-pharmaceutical industry. „The good development of our Healthcare products, the promising pipeline candidates both in pharma and in crop protection as well as the new applications and technologies for our hightech materials show the innovation power of Bayer“, explained Wenning.

Research projekts from Bayer HealthCare, Bayer CropScience, Bayer MaterialScience and Bayer Technology Services were honored. „The awarding of the Otto-Bayer-Medal is by far more than a symbolic act. It is part of our company and research culture, which supports creativity and innovations, promotes performance and rewards success“, says board member Plischke. „With efficient cooperations and strategic partnerships we will

extend and complement our own know-how systematically through excellence from outside of Bayer. “

The projects in which the 2010 winners of the Otto Bayer Medal are involved reflect the wide spectrum of research activities at Bayer. They range from innovative technologies for pharmaceuticals research through new fungicides for crops to a resource-saving process for polymer production.

Bayer HealthCare: Setting the industrial standard with a new informatics platform for pharmaceutical research

The development of new drug products is associated with high attrition rates on the road from the idea to an optimized active ingredient candidate that complies with the increasingly stringent standards required of an innovative drug product. The rapid development of new technologies in pharmaceutical research in recent years has meanwhile led to an explosive increase in data volumes. Individual databases and software applications that were developed historically, in which scientists have to arduously assemble and analyze their data, represent a major challenge. The “Pharmacophore Informatics” (Plx) project at Bayer Schering Pharma was therefore launched with the objective of developing a fully integrated informatics platform for research, analysis and multidisciplinary collaboration.

The interdisciplinary team, comprising Professor Joachim Mittendorf, Dr. Roger-Michael Brunne, Dr. Michael Härter, Dr. Stefan Mundt, Dr. Peter Nell and Dr. William Scott from Bayer Schering Pharma’s Research Department, has now developed an intuitive and in this composition unique platform. Plx enables centralized access to all available data and applications and supports scientific decision-making in the complex field of chemical and biological data. The user-friendly platform has rapidly established itself as an essential part of daily research work at Bayer.

Bayer CropScience: new fungicidal active ingredients to protect crops against disease

The growing world population and associated increased demand for food make necessary new and sustainable solutions to safeguard harvests. Three new fungicides from a new

generation of fungal respiratory chain inhibitors could help. Dr. Heiko Rieck, Dr. Ralf Dunkel, Dr. Marie-Claire Grosjean-Cournoyer, Haruko Sawada, Anne Suty-Heinze and Dr. Ulrike Wachendorff-Neumann from Monheim, Lyon and Yuki have undertaken the crucial steps needed to identify novel active ingredients from a familiar principle of action. These substances may also deliver outstanding additional benefits in addition to their ability to control plant diseases.

Fluopyram was developed to effectively combat various stubborn plant diseases caused by fungal pathogens which can lead to substantial economic damage. Fluopyram is used in more than 70 crops, including vines and table grapes, pome and stone fruit, vegetables and field crops. One important advantage that is particularly beneficial for the food industry and ultimately also the consumer is that it improves storage stability and increases the longevity of harvested produce.

Bixafen is an innovative cereals fungicide that, thanks to its positive effects on plant physiology, exerts a harvest-increasing effect. Bixafen was developed specifically for leaf application to combat speckled leaf blotch (*Septoria tritici*) and rust. Bixafen will set a new standard in combination with the established active ingredient prothioconazole from Bayer. In addition Bixafen is extremely suitable for use as a component in resistance management.

Penflufen is a new active ingredient for seed treatment of numerous crops. In addition to outstanding disease control with minimal application volumes, penflufen also improves plant vitality.

Bayer MaterialScience: New processing technologies for sustainability and resource conservation

TDI (toluene-diisocyanate) is a precursor for the production of flexible polyurethane foam. It is used to produce durable and high-quality comfort products that have become an indispensable part of our daily lives today. Examples include sleep-friendly cold foam mattresses, high-end chairs and seating, and back-friendly cushions for office chairs and automotive seating, as well as precision-fit protective packaging, protective cushioning for microphones and headphones and numerous other applications in the sports and leisure segment.

The team comprising Bayer MaterialScience and Bayer Technology Services employees Friedhelm Steffens, Dr. Klaus Biskup, Dr. Rainer Bruns, Dr. Volker Michele, Dr. Christian Six and Wolfgang Taube has succeeded in developing an innovative TDI process. With this new technology, known as gas-phase phosgenation, the last stage of the reaction now takes place in the gas phase instead of the liquid phase as in the past. This sets new standards in the efficient and climate-friendly production of TDI and enables energy savings of up to 60 percent. Furthermore, the technology requires up to 80 percent less solvent. This contributes to a far more positive energy and environmental balance. Bayer is already building a facility incorporating this process in Caojing (China), and a second is planned for Dormagen.

The Otto-Bayer-Medal is regularly awarded to outstanding researchers in the company since 1984 in memory of the inventor of the polyurethan chemistry and former research head of the Bayer AG Prof. Dr. Otto Bayer (deceased in 1982, not related to the founder of Bayer).

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