News Release

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BASF researchers receive R&D award for Diesel Oxidation Catalyst designed to reduce tailpipe emissions

The Research and Development Council of New Jersey has awarded a team of BASF inventors with the prestigious 2021 Thomas Alva Edison Patent Award for outstanding environmental contributions. The award honoring an innovative Diesel Oxidation Catalyst (DOC), which enables automotive OEMs to meet tighter emission regulations and clean the air we breathe, was presented at a ceremony held on November 18.

The Thomas Alva Edison Patent Award for 2021 was presented to BASF inventors Shiang Sung, Stanley Roth (retired), Claudia Zabel, Susanne Stiebels, Andreas Sundermann, and Olga Gerlach.

As automotive emission regulations become more stringent, OEMs require better catalysts to meet the new regulations. The engine exhaust treatment system for a diesel vehicle typically consists of a DOC to remove hydrocarbons (HC) and carbon monoxide (CO), followed by a SCR (Selective Catalytic Reduction) catalyst to remove nitrogen oxides (NOx). The SCR catalyst needs nitrogen dioxide (NO_2) from the DOC to function effectively. The generation of enough NO_2 from the DOC at low temperatures was a major challenge, especially when the catalyst must be still functioning after 15 years of vehicle usage. This innovative DOC technology successfully met that challenge, enabling OEMs to cost-effectively meet new emission regulations and ensure clean air to breathe.

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“It is a great honor for BASF and our inventors to be recognized for this significant environmental innovation,” said Peter Walther, Senior Vice President, Heterogeneous Catalysis Research at BASF. “This cost-effective solution will help enable clean air for a sustainable future.”

The invention has demonstrated the ability to reduce diesel exhaust emissions, providing a significantly heathier environment. An international team involving BASF research sites in Iselin, New Jersey, and Hannover, Germany, as well as hte GmbH, a subsidiary of BASF in Heidelberg, Germany, worked closely together on this patent.

About BASF’s Catalysts division

BASF’s Catalysts division is the world’s leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF’s Catalysts division develops unique, proprietary solutions that drive customer success. Further information on BASF’s Catalysts division is available on the Internet at www.catalysts.basf.com.

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