

PRESS RELEASE

Number 34

WACKER Presents Innovation Award for Novel Manufacturing Process for Cysteine

Munich, July 18, 2022 – WACKER, the Munich-based chemical group, has conferred the 2022 Alexander Wacker Innovation Award on an in-house Spanish-German team for developing and launching a novel and far more efficient fermentation process for producing *L*-cysteine. The team, consisting of Johanna Koch, Annemarie Reutter-Maier, Rupert Pfaller, and Mario Arcos Rodriguez, managed to intensify the natural fermentation power of the *E. coli* bacteria strains used in the process and to set new standards for glucose conversion and productivity. The company presented the €10,000 award at its Innovation Days in Munich, Germany.

Traditionally, cysteine is manufactured by extraction from human and animal-derived raw materials, such as hair, feathers and bristles – a process that is labor intensive and uses significant amounts of hydrochloric acid. WACKER was the first company in the world to produce industrial quantities of cysteine by fermentation. The patented biotech process is entirely free of animal products and primarily uses glucose as a raw material, rendering the company's cysteine products purely vegan. This makes them especially suitable for use in food and pharmaceutical products.

The interdisciplinary group that received this year's innovation award, consists of three scientists based at WACKER's Corporate R&D facility in Munich, Germany, and a bioprocess engineer working at the company's cysteine plant in León, Spain. The team has now found a way to boost the productivity of the *E. coli* bacteria used in the fermentation process and to customize and enhance the process metrics for the overhauled bacterial strain without the usual setbacks when scaling up the process. "Thanks to this pioneering approach, our WACKER BIOSOLUTIONS division is able to strengthen its technological leadership as a manufacturer of high-quality cysteine", said WACKER's Executive Board member Angela Wörl.

By developing new *E. coli* strains with unique metabolic pathways, skillfully selecting process conditions, including an novel system to optimize glucose feed, the team improved the overall process efficiency beyond previously known limits. At the same time, the sustainability of the production-process has risen markedly. "The winners of the Alexander Wacker Innovation Award have once again shown that outstanding biotechnology know-how coupled with interdisciplinary cooperation between product development, engineering departments and production are the key success factors for efficiently developing and implementing sustainable production processes," emphasized Angela Wörl.

The Spanish-German project group's innovative approach to improving the fermentation of cysteine prevailed against strong competition. 25 development teams from Brazil, China, Germany, South Korea, and the United States submitted applications for this year's Alexander Wacker Innovation Award.

About the Alexander Wacker Innovation Award

Since 2006, WACKER has honored its employees' outstanding R&D work at its annual research symposium. Named after the company's founder, the €10,000 Alexander Wacker Innovation Award is conferred for outstanding performance in product innovation, process innovation and basic research.

About Vegetarian Cysteine

WACKER's *L*-cysteine and its derivative *L*-cystine – brand name FERMOPURE® – count among WACKER BIOSOLUTIONS' core products. Due to their entirely plant-based and inorganic source materials, these amino acids are purely vegan. *L*-cysteine and *L*-cystine are ideal for use in food and pharmaceutical products and as expectorants in cough medicines. Since 2018, WACKER has manufactured both cysteine and cystine at its production site in León, Spain, which has benefited significantly from the trailblazing work of this year's Alexander Wacker Innovation Award winning team.






Mario Arcos Rodriguez (second from left), Johanna Koch, Rupert Pfaller and Annemarie Reutter-Maier (from left to right) received this year's Alexander Wacker Innovation Award from WACKER Board Member Angela Wörl (far left) and Christoph Kowitz, Head of Corporate R&D. (Photo: WACKER)

Please note:

This photo is available for download at:
<http://www.wacker.com/pressreleases>

For further information, please contact:

Wacker Chemie AG
Media Relations & Information
Florian Degenhart
Phone +49 89 6279-1601
florian.degenhart@wacker.com
www.wacker.com
follow us on:   

The company in brief:

WACKER is a globally active chemical company with some 14,400 employees and annual sales of around €6.21 billion (2021). WACKER has a global network of 26 production sites, 23 technical competence centers and 52 sales offices.

WACKER SILICONES

Silicone fluids, emulsions, rubber grades and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS

Polyvinyl acetates and vinyl acetate copolymers and terpolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions

WACKER BIOSOLUTIONS

Biotech products such as cyclodextrins, cysteine and biologics, as well as fine chemicals and PVAc solid resins

WACKER POLYSILICON

Polysilicon for the semiconductor and photovoltaic industries