

Press Release



Leverkusen,
October 18, 2019

Covestro Science Celebration at K2019

Covestro AG
Communications
51365 Leverkusen
Germany

Contact
Petra Schäfer
Telephone
+49 214 6009 6332
Email
petra.schaefer
@covestro.com

Sustainable and digital breakthroughs awarded

- **Covestro rewards scientific pioneering in academia and research**
- **Sustainable production and applied artificial intelligence in focus**

Covestro acknowledges scientific ingenuity for green and digital chemistry and engineering with two awards. The American scientist Dr. Newell Washburn is the recipient of the global Covestro Science Award, in recognition of his role in pioneering a scientific digital innovation that speeds the development of customized polymer formulations. Dr. Washburn is an associate professor of chemistry and biomedical engineering with a courtesy appointment in the department of materials science and engineering at Pittsburgh's Carnegie Mellon University (CMU).

The second award, the Covestro Science Medal, goes to a team of Covestro chemists and engineers. Dr. Rainer Weber, Andreas Bulan, Michael Großholz, Rainer Hellmich and Giorgio Dolfini have developed and successfully applied a groundbreaking scientific research on producing a basic chemical with less energy consumption and thus less environmental impact: they have succeeded in saving 25 percent of electricity when producing chlorine. They accepted the awards during the Covestro Science Celebration at K 2019. Held every three years, K 2019 is the world's leading trade show for the plastics and rubber industry. It takes place October 16-23 in Düsseldorf, Germany.

"These pioneers in industry sustainability and applied artificial intelligence contribute to a new era of material science," said Sucheta Govil, Chief Commercial Officer of Covestro, responsible for innovation. "Only science can provide breakthrough solutions for the future. We want to reward the outstanding contributions of these scientists and researchers in the fields of sustainability and digitalization. By fostering open innovation of academia and



industry we help to speed up solutions for our customers and thus keep pushing the boundaries of what is possible.”

Machine Learning in lab research

Dr. Washburn was singled out for a proprietary technology that solves a common industry challenge. Traditionally, formulating polyurethane elastomers, foams and coatings to a customer’s exact specifications is a time-consuming process, filled with trial and error in the lab. Dr. Washburn’s Hierarchical Machine Learning approach, developed in collaboration with Dr. Barnabás Póczos in CMU's Machine Learning Department, leverages data analytics and simulation to more quickly determine the formulation that meets sustainable customer requirements. Dr. Washburn is working closely with Covestro experts in the Coatings, Adhesives and Specialties, and Polyurethanes businesses to optimize this novel approach.

“The experience I’ve had with Covestro has been extremely valuable,” said Dr. Washburn. “I’m thankful for the opportunity to work with an organization that nurtures innovation and recognizes the value it brings to its business, and the business of its customers.”

Energy saving chlorine production

The second rewarded innovation points out to a more sustainable production. About two thirds of all chemical products need chlorine for their production which is generated in an electricity consuming process. Covestro helps to change that. Together with industry partners the team of chemists and engineers developed a process that reduces the amount of electricity needed by around 25 %.

The principle of chlorine production has been well known for more than hundred years. It works via electrolysis - meaning sending power through a saline solution. The novelty within Covestro’s newly developed process is: the hydrogen producing electrode is replaced by a so-called oxygen depolarized cathode. This was developed by Covestro and it works with two volts instead of three.. In the upcoming years Covestro will introduce this process in two of their plants and thus save up to 40.000 tons of CO₂ per year.

About Covestro:

With 2018 sales of EUR 14.6 billion, Covestro is among the world’s largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and



employs approximately 16,800 people (calculated as full-time equivalents) at the end of 2018.

This press release is available for download from the Covestro press server at www.covestro.com. A photo is available there for download as well. Please acknowledge the source of any pictures used.

Find more information at www.covestro.com.

Follow us on Twitter: <https://twitter.com/covestro>

ps (2019-178E)

Forward-looking statements

This news release may contain forward-looking statements based on current assumptions and forecasts made by Covestro AG. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Covestro's public reports which are available at www.covestro.com. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.