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Valérie Gabelica Receives 2022 Heinrich Emanuel Merck Award for Analytical Science

- **Belgian chemist wins prestigious science award worth € 15,000**
- **Recognition of researchers who develop new methods in chemical analysis**

Darmstadt, Germany, April 20, 2022– Merck KGaA, Darmstadt, Germany, a leading science and technology company, today presented Dr. Valérie Gabelica (44), Inserm, and Director of IECB, Pessac, France, with the 2022 Heinrich Emanuel Merck Award for Analytical Science. The award ceremony took place during the analytical conference [EuroFAST2022](#), Nijmegen, the Netherlands, where the prize winner held a lecture entitled “Advancing mass spectrometry to study nucleic acid structures and interactions”.

“It is a great honor and I am particularly grateful to Merck KGaA, Darmstadt, Germany, for shining the spotlight on analytical chemistry. Although sometimes considered ancillary tools, new analytical developments are indeed the backbone of any scientific endeavor,” Gabelica said after receiving the award.

[Gabelica](#) has developed analytical methods based on mass spectrometry to study nucleic acid structures and their interactions with neighboring molecules. The groundbreaking aspect of Gabelica’s work centers on making circular dichroism ion spectroscopy feasible for large biomolecule ions. With mass spectrometry so far typically unable to detect chirality, her work opens new doors to measuring chirality directly with the mass spectrometer. Gabelica’s research to measure circular dichroism directly on biomolecular ions expands the capabilities of mass spectrometry for structural analysis. It could enable a wide range of applications,



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taking advantage of the mass separation and circularly polarized light to characterize other chiral molecules. She has achieved international acclaim with an [article](#) published in the renowned trade magazine "Science".

This year's winner of the Heinrich Emanuel Merck Award for Analytical Science obtained a PhD in Chemical Sciences in 2002 at the University of Liège, Belgium. After a postdoc position as a Humboldt fellow at Goethe University in Frankfurt, Germany, Gabelica rejoined the Mass Spectrometry Laboratory at the University of Liège as a research associate in 2005. She then moved to the Institut Européen de Chimie et Biologie (IECB, Pessac, France) in 2013, where she is the current director, and became a research director at Inserm (Institut national de la santé et de la recherche médicale – French National Institute of Health and Medical Research).

"With her groundbreaking investigations revealing molecular interactions, Valérie Gabelica joins a prominent group of innovative Heinrich Emanuel Merck Award winners," said Ulrich Betz, Vice President Innovation at Merck KGaA, Darmstadt, Germany. "By directly assessing the chirality of any molecule already during mass spectrometry, the versatility of this technology has been greatly enhanced with potential further use in life science and drug discovery."

The Heinrich Emanuel Merck Award for Analytical Science, worth € 15,000, has been recognizing scientists focusing on new methods in chemical analysis and the development thereof since 1988. The resulting applications are aimed at improving the quality of human life, for example in fields such as life, material and environmental sciences.

Apart from the award presented today, Merck KGaA, Darmstadt, Germany, recognizes science and scientists with many other awards. The latest addition to this is the [Future Insight Prize](#), which was announced for the first time in July 2018 and will be awarded again in July of this year to researchers for their work on helping to combat climate change. Further research [grants and awards](#) from Merck KGaA, Darmstadt, Germany include, among others, the [Emanuel Merck Lectureship](#), the [Innovation Cup](#), and the [Alfred A Bader Award](#) for student innovation.

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Heinrich Emanuel Merck Award for Analytical Science

Merck KGaA, Darmstadt, Germany, began granting the Heinrich Emanuel Merck Award in 1988 to mark the centennial of the first standardization of analytical methods by Dr. Carl Krauch, a Merck KGaA, Darmstadt, Germany, chemist. This list of the prizewinners documents the significance of the prize in the analytical sciences community, which has often laid the groundwork for important discoveries.

Winners of the Heinrich Emanuel Merck Award are:

| Name | Year | Institution, Country |
|----------------------------|------|---|
| Dr. Valérie Gabelica | 2022 | Inserm, IECB, Frankreich |
| Prof. David Alsteens | 2019 | Catholic University Leuven, Belgien |
| Prof. Francesco Ricci | 2017 | University of Rome, Italy |
| Prof. Petra Dittrich | 2015 | ETH-Zürich, Switzerland |
| Prof. Aaron Wheeler | 2012 | University of Toronto, Canada |
| Prof. Luisa Torsi | 2010 | University of Bari, Italy |
| Dr. Alexander Makarov | 2007 | Thermo Fisher Scientific, Germany |
| Prof. Shuming Nie | 2007 | Emory University, Atlanta, USA |
| Prof. Yoshinobu Baba | 2004 | University of Tokushima, Japan |
| Prof. Jonathan V. Sweedler | 2002 | University of Illinois, USA |
| Prof. Norman Dovichi | 2000 | University of Alberta, Canada |
| Prof. Renato Zenobi | 1998 | ETH-Zürich, Switzerland |
| Prof. D. Jed Harrison | 1996 | University of Alberta, Canada |
| Prof. Andreas Manz | 1996 | Imperial College London, United Kingdom |
| Prof. Aviv Amirav | 1993 | University of Tel Aviv, Israel |
| Dr. Brian A. Bidlingmeyer | 1990 | Millipore Corporation, USA |
| Prof. Reinhard Niessner | 1990 | Technical University München, Germany |
| Prof. Mastaka Hiraide | 1988 | University of Nagoya, Japan |
| Prof. Otto S. Wolfbeis | 1988 | University of Graz, Austria |

Heinrich Emanuel Merck (1794-1855)

Heinrich Emanuel Merck was a direct descendant of Merck KGaA, Darmstadt, Germany's founder Friedrich Jacob Merck, who had received a privilege for a pharmacy—later known as Engel-Apotheke—in Darmstadt in 1668. Heinrich Emanuel Merck was occupied with research, which was unusual at the time. His teachers included the Erfurt pharmacist and reformer of the pharmaceutical field, Johann Bartholomaeus Trommsdorff, and the chemical analyst Martin Heinrich Klaproth, as well as the phytochemist Sigismund Friedrich Hermbstaedt. The latter two both lectured at the university in Berlin.

In 1816, Heinrich Emanuel Merck took over his father's pharmacy in Darmstadt, which his family had owned since 1668. Soon afterwards, Heinrich Emanuel Merck began working intensively on a new field of analytical chemistry at his lab in the pharmacy: alkaloids. His experiments to isolate and characterize the known alkaloids led to the start of bulk production in 1827, which enjoyed immediate success. In his „Cabinet of pharmaceutical and chemical innovations“, Heinrich Emanuel Merck presented 16 alkaloids for scientific experiments to his fellow experts and doctors. Heinrich Emanuel Merck was well known among his customers for the purity of the alkaloids he sold.

In the year 1888 Dr. Carl Krauch (1853-1934), chief analytical chemist at the Darmstadt laboratories published the first analytical standard work, a narrow book titled "Testing chemical reagents for purity". In the same year, the company announced that from now on, only reagents would be introduced to the market that complied with Krauch's purity criteria described in this book. This was the birth-hour of the reagents of guaranteed purity, and at the same time it was the beginning of modern thinking in analytical chemistry.

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Merck KGaA, Darmstadt, Germany, a leading science and technology company, operates across healthcare, life science and electronics. Around 60,000 employees work to make a positive difference to millions of people's lives every day by creating more joyful and sustainable ways to live. From advancing gene editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2021, Merck KGaA, Darmstadt, Germany, generated sales of € 19.7 billion in 66 countries.

The company holds the global rights to the name and trademark "Merck" internationally. The only exceptions are the United States and Canada, where the business sectors of Merck KGaA, Darmstadt, Germany, operate as EMD Serono in healthcare, MilliporeSigma in life science, and EMD Electronics in electronics. Since its founding in 1668, scientific exploration and responsible entrepreneurship have been key to the company's technological and scientific advances. To this day, the founding family remains the majority owner of the publicly listed company.