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News Release

Prestigious Award from the Bayer Foundation:

Otto Bayer Award goes to Prof. Ruth Ley Ph.D.

- Director of the Department of Microbiome Research at the Max Planck Institute for Developmental Biology in Tübingen is honored for outstanding achievements in her field
- Four young scientists receive the Bayer Early Excellence in Science Award
- Werner Baumann: "The Bio Revolution has the potential to transform our economies and contribute to overcoming global challenges."

Leverkusen, February 17, 2021 – The Bayer Foundation has awarded Ruth Ley Ph.D. with the Otto Bayer Prize, endowed with 75,000 euros. The researcher at the Max Planck Institute for Developmental Biology received the award in a virtual ceremony for her groundbreaking research on the human microbiome – the totality of all microorganisms that naturally colonize a healthy human – which can reach an impressive mass of approximately one kilogram. She was the first person to characterize the important role of the human gut microbiome in obesity, which opened up new approaches for biomedical research on a range of topics from metabolic disorders, to neurology and even cancer. Born in 1970, the British and American research scientist has been Director of the Department of Microbiome Research at the Max Planck Institute for Developmental Biology in Tübingen since 2016. Before, she was associate professor at Cornell University in the Department of Molecular Biology and Genetics.

In his laudatory speech, Werner Baumann, Chairman of the Board of Management of Bayer, emphasized the importance of science and transparency in research: "In record time – much quicker than even the most optimistic observers dared to hope – scientists were able to develop various vaccines against the virus. This success is also a testament for the value of global collaboration. Now we are on the brink of a vaccination program of historic scale. It has the potential to boost trust in science and vice versa, it needs trust to

get large parts of the population vaccinated. We as business community must meet the need for transparency in research and set new standards.”

At the same time, Baumann stressed the relevance of biorevolution. “Looking at climate change, the loss of biodiversity or hunger – there really are pressing global challenges that we are facing collectively. Science and innovation will lead the way. Advances in biology and in artificial intelligence – what experts call the Bio Revolution – have the potential to transform our economies and contribute to overcoming global challenges.”

Werner Baumann congratulated the award winner Ruth Ley: “Research on microbiomes has the potential to revolutionize our approach to nutrition and diseases. We are very pleased to honor today a true pioneer and outstanding scientist in microbiome research.”

Ruth Ley herself said: “One of the missions of my research is to find out how we can keep the gut microbiome balanced and make it work for us. I am delighted to see that my area of research is recognized as a mainstream scientific topic now. I was not always sure that it would be accepted by the medical sciences. The award puts microbiome research in the limelight, and I think we can expect important new treatments to result from it.”

Early Excellence in Science Awards 2020

In addition to the Otto Bayer Award, the Bayer Foundation also presented the Bayer Early Excellence in Science Awards (EESA). Liam Condon, Head of the Crop Science Division, handed over the EESA virtually to the prize winners.

In the **Biology** category Dr. Julia Mahamid (European Molecular Biology Laboratory (EMBL) in Heidelberg) was awarded. Her cryo-electron microscopy studies include analysis of nuclear peripheries and the machinery of gene expression in bacteria. She has also further developed specimen preparations under cryogenic conditions for tomographic electron microscopy analyses.

In the **Chemistry** category Dr. Josep Cornellà (Max Planck Institute for coal research in Mülheim) is the winner for his innovative research on the design and use of catalytic strategies in organic synthesis. In his research, he used new catalytic systems based on nontoxic, commonly occurring and easily accessible elements to unlock unforeseeable catalytic processes.

In the **Medicine** category Dr. Nicolai Franzmeier (LMU Munich) was honored for developing new imaging techniques to investigate Alzheimer's disease. He has succeeded in identifying key brain mechanisms that underlie the spreading of tau pathology, i.e. the key driver of cognitive decline, across brain networks.

The new addition in 2020 is the category of **Data Science** in the Life Sciences: Dr. Marinka Zitnik (Harvard University) was being presented with the award for her innovative use of machine learning approaches to analyze multidimensional biomedical data. Innovative solutions such as those developed by Dr. Zitnik are essential for dealing with the massive amounts of data and their complexity in medicine and life sciences.

The Otto Bayer Award

The Otto Bayer Award is one of the most prestigious and sought-after honors for life scientists in German-speaking countries. The award winner was chosen last year, but due to the Corona pandemic, the award ceremony did not take place until now. The Otto Bayer Award honors scientists who have conducted pioneering research in innovative areas of biochemistry and chemistry. It has been presented since 1984 in memory of its endower and the inventor of polyurethane chemistry, Professor Otto Bayer. The former Head of Research at Bayer AG (not related to the company founder), who died in 1982, promoted intensive contact with academia and supported the university training of young scientists.

The winners were selected by the newly founded Bayer Foundation Science Council. The Council members are: Professor Edith Heard (Director General of the European Molecular Biology Laboratory, Heidelberg), Professor Regine Kahmann (Director of the Max Planck Institute for Terrestrial Microbiology, Marburg), Professor Lothar Willmitzer (Director of the Max Planck Institute for Molecular Plant Physiology, Golm), Professor Dirk Trauner (Janice Cutler Chair in Chemistry and Professor of Neuroscience and Physiology at New York University in the United States), Professor Patrick Cramer (Director of the Max Planck Institute for Biophysical Chemistry in Göttingen and Chairman of the Bayer Foundation's Board of Trustees).

The Bayer Foundation

The prize is awarded by the Bayer Foundation. The foundation sees itself as a promoter of innovation and a pioneering spirit at the interface between industry, academia and civil

society. Its objectives include the recognition of outstanding achievements in research, the promotion of science talents and support for innovative school projects. The Foundation honors outstanding research achievements every two years with the Otto Bayer Award and in alternate years with the Hansen Family Award, each of which carries prize money of EUR 75,000. In addition, the foundation presents two talent awards: the international Bayer Early Excellence in Science Award in biology, chemistry, medical sciences and since 2020, data science, each with prize money of EUR 10,000; and the Bayer Thrombosis Research Award for basic and clinical thrombosis research with prize money of EUR 30,000.

About Bayer

Bayer is a global enterprise with core competencies in the life science fields of health care and nutrition. Its products and services are designed to benefit people by supporting efforts to overcome the major challenges presented by a growing and aging global population. At the same time, the Group aims to increase its earning power and create value through innovation and growth. Bayer is committed to the principles of sustainable development, and the Bayer brand stands for trust, reliability and quality throughout the world. In fiscal 2019, the Group employed around 104,000 people and had sales of 43.5 billion euros. Capital expenditures amounted to 2.9 billion euros, R&D expenses to 5.3 billion euros. For more information, go to www.bayer.com.

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