

Overview —

Award Winners

Since our first awards in 1984, we have recognized more than **80 brilliant minds** including **Nobel laureates** Benjamin List, Emmanuelle Charpentier, Stefan Hell, and Christiane Nüsslein-Volhard and have recognized fields ranging from **synthetic biology, plant genetics, molecular spectroscopy, machine learning** and so much more.



Winners of the

Otto Bayer Award for Chemistry and Biochemistry —

2024

Meritxell Huch

**Max Planck Institute of Molecular
Cell Biology and Genetics,
Dresden Germany**

Human Organoids

For her research on human organoids. Her pioneering research on human organoids has significantly advanced the use of organoid models in drug discovery, screening, and disease modeling for personalized medicine.

Her research is of great importance for the development of new therapies to combat life-threatening cancer in these organs without the need for animal testing.

2022

Frank Glorius

**University of Münster,
Münster Germany**

Catalysis

For the development of an extensive array of groundbreaking catalytic reactions for organic synthesis, facilitating the sustainable synthesis of organic molecules with high levels of selectivity and purity that offer outstanding value for medical and agricultural applications.

2020

Ruth Ley

**Max-Planck-Institut für Entwicklungsbiologie,
Tübingen, Germany**

Microbiome

For her groundbreaking discoveries of the importance of human gut microorganisms for human health. She was the first scientist revealing the link between the composition of the human microbiome and the occurrence and manifestation of obesity in humans. Her scientific work has sparked novel research paths towards the understanding of the involvement of the human microbiome in metabolic disorders, neurological diseases, and cancer. Her work will certainly support the development of new therapies to treat serious human diseases.

2018

Tobias Erb

**Max-Planck-Institut für terrestrische Mikrobiologie,
Marburg, Germany**

Synthetic Biology

For outstanding achievements in the field of synthetic biology, especially the application of artificial photosynthesis. His work is about creating novel enzymes and pathways for the capture and conversion of greenhouse gas carbon dioxide. He has successfully designed an artificial photosynthesis process that is more efficient than the natural one evolved in plants. Transplanting this process into plants, algae or synthetic cells could lead to crops with improved productivity or novel processes in chemistry that meets human energy and requirements and at the same time reduce CO₂ from the atmosphere.



2016

Dirk Trauner
Ludwig-Maximilian-University Munich,
Munich, Germany
Photopharmacology

For his pioneering contributions in Photopharmacology and Chemical Optogenetics. Trauner developed novel synthetic photoswitches that can sensitize a wide variety of cellular receptors toward light. His work has potential to open new chemotherapeutical treatment opportunities, including chemical treatment strategies to cure blindness and cancer.

2014

Frédéric Merkt
Laboratory for Physical Chemistry, ETH Zürich,
Zürich, Switzerland
Molecular Spectroscopy

For his outstanding contributions in Molecular Spectroscopy and the characterization of highly-electronically excited atoms and molecules by high-resolution spectroscopic and XUV laser technology developments. The work of Prof. Merkt made significant contributions to the understanding of the basic chemical structure, bonding and physical behavior of molecules and ions, and to the investigation of unusual properties in high molecular Rydberg states.

2012

Benjamin List
Max-Planck-Institut für Kohlenforschung,
Mülheim, Germany
Organocatalysis

For his outstanding achievements in the field of organo-catalysis. Around 80 percent of all chemical products are manufactured with the help of catalyst, making processes efficient and help to save resources. List's work on enamine catalysis and symmetric counteranion directed catalysis (ACDC) opens up a new path towards more sustainable chemistry.

2010

Detlef Weigel
Max-Planck-Institut für Entwicklungsbiologie,
Tübingen, Germany
Plant Genetics

For his outstanding contributions to the understanding of molecular-biological principles governing the variability of plants. His results in genome research enhance the predictability of the responses from crop plants to rapid environmental changes, and thus help to understand how apparent genetic disadvantages might become advantages under changing environmental conditions. This understanding will accelerate the use of green genetic engineering in crop science technologies and agricultural strategies.

2008

Thomas Carell
Ludwig-Maximilian-University,
Munich, Germany
DNA Research

For his outstanding work on understanding the development of damage to deoxyribonucleic acid – particularly through UV light – and DNA repair processes, development of cancer and aging processes. These research findings could have tremendous practical significance, for example in the detection of chemical compounds as mutagens, and the analysis of resistance development in drugs whose mode of action – as with many cancer treatments – is based on an interaction with the DNA.

2006**Alois Fürstner****Max-Planck-Institut für Kohlenforschung,
Mülheim, Germany***Organic Synthesis*

For his outstanding work in the field of organometallic chemistry, including especially catalysis research and its application in the production of complex natural substances. At the focus of these activities are extensive studies on the metathesis of alkenes and alkynes, and the development of new concepts for homogeneous catalysis. The breakthroughs achieved here enable elegant total synthesis of numerous natural substances such as macrolides, alkaloids and glycoconjugates.

2003**Christian Griesinger****Max-Planck-Institut für biophysikalische Chemie,
Göttingen, Germany***NMR Techniques*

For his outstanding achievements in the field of magnetic resonance spectroscopy. The method he developed for three-dimensional magnetic resonance spectroscopy enabled the identification of highly complex protein structures. This in turn has made possible important findings on the function of enzymes and key contributions to understanding biological activity in cells.

2001**Herbert Waldmann****Max-Planck-Institut für molekulare Physiologie,
Dortmund, Germany***Chemical Biology*

For his outstanding achievements in the field of bioorganic chemistry. By combining organic chemistry and biological methods, he developed important findings on signal transduction in cells that make an important contribution to the understanding of these highly complex biological processes.

1998**Carsten Bolm****RWTH Aachen,
Aachen, Germany***Catalysis*

For his outstanding achievements in the field of preparative chemistry. As a result, the spectrum of enantioselective reactions – particularly as regards aspects of oxidation and carbon-carbon linkages – has been expanded to include a wide range of new chiral ligands, thus considerably broadening knowledge about asymmetric metal catalysis.

Ulrich Koert**University of Marburg,
Marburg, Germany***Organic Synthesis*

For his outstanding achievements in the field of preparative chemistry. The stereoselective synthesis of oligotetrahydrofurans enables the buildup of complex molecular structures. Embedded in membranes, such structures enable the simulation and study of natural phenomena such as sodium or potassium transport in ion channels.

1996**Stefan Jentsch****Max-Planck-Institut für Biochemie,
Martinsried, Germany***Ubiquitinylation*

For his outstanding achievements in the field of cell biochemistry. Based on his molecular biological analyses on the makeup of the ubiquitin proteasome system in yeasts, his research led to the conclusion that the systematic breakdown of protein is vital and of critical regulative importance for the organism of all living things, including humans.

1995

Paul Knochel
Ludwig-Maximilian-University Munich,
Munich, Germany
Organic Synthesis

For his outstanding achievements in the field of organometallic chemistry. His research particularly into functionalized zinc and copper organyles provided astoundingly simple solutions for many reactivity and chemoselectivity problems. In this way, he opened up new and efficient synthesis paths to polyfunctional molecules that were previously difficult to access by traditional means.

Gerhard Ecker
University of Münster,
Münster, Germany
Organic Synthesis

For his outstanding achievements in the field of organometallic chemistry. His research particularly into organozirconium chemistry led to the implementation of mechanistic concepts in reactions of preparatory importance for organic chemistry and polymer chemistry. Also, of fundamental importance are his analyses of the elementary steps of important organometallic reactions with respect to the reactivity behavior and mechanism.

1994

Robert Schlögl
Fritz Haber Institute of Max Planck Society,
Berlin, Germany
Catalysis

For his outstanding achievements in the field of heterogeneous catalysis. His research into the characterization of the microstructure of industrial catalysts' enabled surface-physical analyses with model systems that are of elementary importance for understanding catalytic processes.

1993

Dieter Hoppe
University of Münster,
Münster, Germany
Organic Synthesis

For his outstanding achievements in the development of extraordinarily effective and practical methods for enantio- and diastereoselective active substance synthesis based on carbanion chemistry in connection with chiral identification through supramolecular interactions. The synthesis building blocks he created represent fundamentally new developments and provide solutions for previously unresolved synthetic problems.

François Diederich
ETH Zürich,
Zürich, Switzerland
Organic Synthesis

For his outstanding achievements in connection with molecular identification using cyclophane-type receptors and with the chemistry of low-molecular and polymeric carbon allotropes and carbon-rich compounds, for which he enabled widespread and fundamentally new preparative access.

1992

Christiane Nüsslein-Volhard
Max-Planck-Institut für Entwicklungsbiologie,
Tübingen, Germany
Developmental Biology

For her outstanding achievements in the field of developmental biology. Her groundbreaking analysis of the pattern formation mutants of the fruit fly *Drosophila* played a key role in explaining the genetic steering of embryonic development (Nobel Prize in physiology or medicine 1995).

1992**Herbert Jäckle****Max-Planck-Institut für biophysikalische Chemie,
Göttingen, Germany***Developmental Biology*

For his outstanding achievements in the field of developmental biology. His molecular-biological characterization of the first segmentation genes active in the *Drosophila* embryo and their interplay as the basis for further pattern formation led to embryological insight of fundamental importance.

1991**Martin Quack****ETH Zürich,
Zürich, Switzerland***Physical Chemistry*

For his outstanding achievements in the field of intramolecular molecular dynamics and kinetics – for new approaches in connection with the theory of unimolecular processes and with the mechanism for infrared photochemistry, as well as for taking into account dynamic aspects in high-resolution spectroscopy. In this way he provided key impulses for understanding elementary chemical reactions.

1990**Kurt Peter C. Volhardt**
**University of California,
Berkeley, CA, USA***Organic Synthesis*

For his outstanding achievements in the field of organometallic synthesis, and particularly for the systematic expansion of cobalt-mediated [2+2+2] cycloaddition. He succeeded in using the high selectivity of this reaction to display theoretically interesting molecules and for the total synthesis of complex natural substances.

Wolfgang A. Herrmann**Technical University of Munich,
Munich, Germany***Catalysis*

For his outstanding achievements in the field of synthesis and the characterization of transition metal complexes. By opening up new preparative methods, he also provided model compounds for stoichiometric and catalytic reactions that are of great importance in understanding the fundamental steps that take place on catalyst's surfaces.

1989**Helmut Schwarz****Technical University of Berlin,
Berlin, Germany***Organic Synthesis / Reaction Mechanisms*

For his outstanding achievements in the field of organic mass spectrometry – for explaining the decomposition of low-energy organic ions in the gas phase and the elementary processes that take place in this connection. By combining a wide variety of techniques, he succeeded in determining the structures of unusual rearrangement products through experiment and calculation.



1988**Hartmut Michel****Max-Planck-Institut für Biophysik,
Frankfurt, Germany***Photosynthesis Receptors***Johann Deisenhofer****Max-Planck-Institut für Biochemie,
Martinsried, Germany***Photosynthesis Receptors*

For their outstanding achievements in explaining the three-dimensional structure of the photosynthetic reaction center of the purple bacterium *Rhodospseudomonas viridis*. These findings have drawn tremendous international acclaim, providing key impulses both to research into other membrane proteins and to photosynthesis research (Nobel Prize in chemistry 1988).

1987**Martin Jansen****University of Bonn,
Bonn, Germany***Material Science*

For his outstanding achievements in the field of solid-state research – for the exploration of numerous oxidic and particularly binary systems. Partly through new preparatory methods, he succeeded in exploring and comprehensively characterizing previously unknown or insufficiently described products.

Arndt Simon**Max-Planck-Institut für Festkörperforschung,
Stuttgart, Germany***Material Science*

For his outstanding work in the field of solid-state research, with regards to cluster chemistry questions. Using special synthesis and analysis methods, he succeeded in gaining key insight into the general structural principles and properties of the analyzed systems.

1986**Manfred T. Reetz****Max-Planck-Institut für Kohlenforschung,
Mülheim, Germany***Organometallics*

For his outstanding achievements in the field of organic synthesis with organometallic compounds, and particularly for the development of stereoselective synthesis methods. These processes have provided crucial impulses to conventional organic chemistry and are now widely used in natural substance synthesis.

Horst Kessler**Technical University of Munich,
Munich, Germany***NMR Techniques*

For his outstanding achievements in the field of dynamic stereochemistry and particularly for the development of two-dimensional NMR spectroscopy for conformation analysis and its use in bioactive molecules such as peptides. This method is an efficient alternative to X-ray structure analysis in conformation.

1985**Klaus Hahlbrock****Max-Planck-Institut für Pflanzenzüchtungsforschung,
Cologne, Germany***Plant Genetics*

For his outstanding achievements in the field of plant genetics, particularly for explaining the biochemical and molecular mechanisms with which plants are able to defend themselves against disease pathogens. This provided fundamental knowledge on resistance breeding in plants.

1985**Jozef Schell****Max-Planck-Institut für Pflanzenzüchtungsforschung,
Cologne, Germany***Plant Genetics*

For his outstanding achievements in the field of plant genetics, particularly for the development of a transfer and expression mechanism for new genetic information in plant cells.

This provided a vital basis for developmental biology, plant-molecular biology and plant breeding.

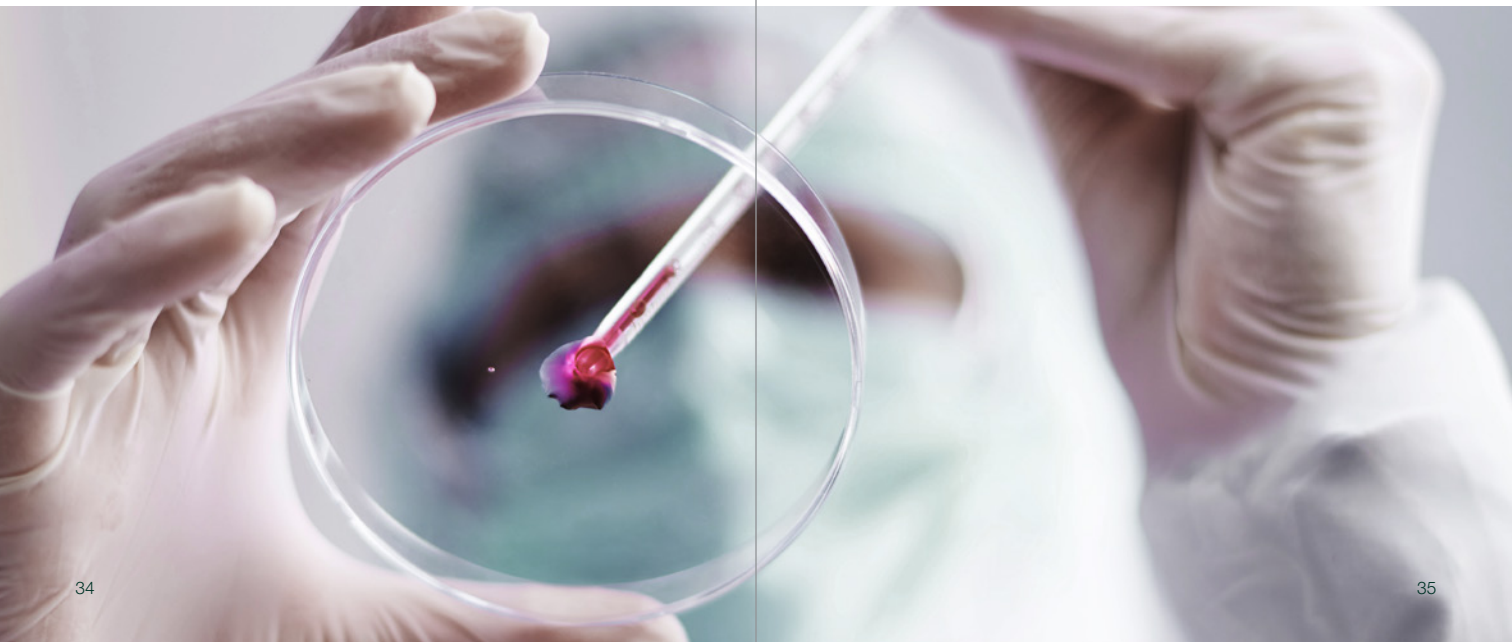
Heinz Saedler**Max-Planck-Institut für Pflanzenzüchtungsforschung,
Cologne, Germany***Plant Genetics*

For his outstanding achievements in the field of plant genetics, particularly for the isolation in plants of so-called “transposable elements” and the analysis of their behavior at the molecular level. The application of “transposable elements” in the isolation and regulation of genes is a fundamental prerequisite for genetic engineering in plants.

1984**Gerhard Wegner****Max-Planck-Institut für Polymerforschung,
Mainz, Germany***Material Science*

For his outstanding achievements in the field of polymer science and to support his future scientific research.

The award thus recognizes his internationally leading work on structural property relationships in polymers, and his findings with regard to the importance of interdisciplinary research for the further development of polymer science and techniques as well as the importance of cooperation between industry and universities.



Winners of the

Hansen Family Award for Medicine, Biological Sciences and Related Fields

2023

Claudia Höbartner
University of Würzburg,
Würzburg, Germany
Catalytic Nucleic Acids

For her pioneering research in biomolecular chemistry towards structural and mechanistic characterization and application of functional nucleic acids, with particular focus on catalytic RNA (ribozymes) and catalytic DNA (deoxyribozymes).

2021

Kai Johnsson
Max-Planck-Institut für medizinische Forschung
Heidelberg, Germany
Protein Labelling

For his seminal work establishing distinct approaches to protein labelling in living cells that have enabled broad advances in chemical and cell biology.

2019

Edith Heard
European Molecular Biology Laboratory (EMBL),
Heidelberg, Germany
Epigenetics

For groundbreaking insights and paradigm shifting discoveries in the area of epigenetics. She and her team contribute significantly to our understanding of the interplay between chromatin structure and gene activity, which is essential for the development of new drugs aimed at treating cancer and other diseases.

2017

Jens Claus Brüning
Max-Planck-Institut für Stoffwechselforschung,
Cologne, Germany
Diabetes/Obesity

For groundbreaking insights into the physiology of insulin action and the pathophysiology of insulin resistance. His fundamental discoveries about the role of insulin action in the CNS and his research on systemic feeding control signals and obesity-induced deregulation pathways paved the ground for novel treatment options in obesity and type-2-diabetes mellitus.

Matthias H. Tschöp
Helmholtz Zentrum,
Munich, Germany
Diabetes/Obesity

For paradigm shifting discoveries about gut-brain communication pathways related to hunger signals. His pioneering combination of physiology research with human biology and peptide-based pharmacology has led to breakthrough discoveries resulting in multiple novel drug candidates with unprecedented potential to stop the worldwide obesity and type-2-diabetes pandemic.

2015

Emmanuelle Charpentier
Max-Planck-Forschungsstelle
für die Wissenschaft der Pathogene,
Berlin, Germany
Genome Editing

For her pioneering contributions in harnessing the ancient immune defense system of bacteria – called CRISPR/Cas9 – into a powerful biotech tool which can cut any DNA at any desired position by designing the appropriate guide-RNA. This is an ingenious development with enormous impact on all life science areas.



2013

Hans-Georg Rammensee
The University Hospital Tübingen,
Tübingen, Germany
Cancer Immunology

For his pioneering contributions in cancer immunotherapy. Through active immunization of cancer patients with synthetic “tumor-associated” peptides, he was able to demonstrate the importance of personalized medicine, tailor-made to the specific genetic constellation of a tumor disease. This opens up new opportunities for the treatment of cancer patients by activating the body’s immune system – an important contribution to medical progress.

2011

Stefan Hell
Max-Planck-Institut für medizinische Forschung,
Heidelberg, Germany
Light Microscopy

For his breakthroughs in the field of light microscopy that provide insights into living cells and tissue that were inconceivable before. With his invention and development of Stimulated Emission Depletion (STED) microscopy, Hell revolutionized fluorescence microscopy and was the first person to find a way of radically overcoming the light microscope’s resolution barrier of 200 nanometers as established by Ernst Abbe in 1873 (Nobel Prize in chemistry 2014).

2009

Patrick Cramer
Ludwig-Maximilians-University Munich,
Munich, Germany
Genetic Research

For his outstanding research into the dynamic processes of gene transcription and regulation. His research has played a key role in explaining the structure and function of cellular RNA polymerase, thus opening up completely new methods for understanding the molecular mechanisms of gene regulation, the elementary process of life.

2007

Magdalena Götz
Helmholtz Zentrum,
Munich, Germany
Neurobiology

For her outstanding achievements in the field of neurobiology. Through her multifaceted and outstanding research, she found that radial gliacells are not fully mature supporting cells, but rather can themselves develop into highly differentiated neurons and display the self-regeneration characteristic of stem cells. These findings revolutionized the conventional wisdom and are of central importance for new approaches to treating brain injuries and diseases.

2005

Rüdiger Klein
Max-Planck-Institut für Neurobiologie,
Planegg, Germany
Nerve Growth

For his outstanding achievements in the field of neurobiology. His multifaceted and outstanding research into the development of the nervous system resulted in important findings on known and new nerve growth factors and their intracellular signal transduction paths. Understanding of these processes is of tremendous importance for the complex interaction between biological cells during the development of organisms, and thus serves as the basis for new therapeutic approaches.

2002**Christian Haass****Ludwig-Maximilians-University Munich,
Munich, Germany***Alzheimer's Mechanism***Ralf Baumeister****Ludwig-Maximilians-University Munich,
Munich, Germany***Alzheimer's Mechanism*

For their outstanding achievements in Alzheimer's disease research. The presenilin 1 and 2 genes were characterized and their function explained in cell culture models and transgenic mice, as well as with the help of the nematode *Caenorhabditis elegans*. These genes enable the proteolytic generation of the beta-amyloid peptide, which is responsible for the formation of amyloid plaques. This research revealed new approaches for the treatment of Alzheimer's disease.

2000**Thomas Jürgen Jentsch****Medical Center Hamburg-Eppendorf (UKE),
Hamburg, Germany***Ion Channels*

For his outstanding achievements in the field of molecular neurobiology. He was the first to clone the gene for a voltage-dependent chloride channel from the electric organ of the electric ray, thereafter, expanding his research to include human ion channels. Here he was able to demonstrate that certain hereditary diseases are caused by changes in ion channels. This in turn revealed new therapeutic approaches for these and other diseases.



Winners of the

Early Excellence in Science Awards in Data Science, Biology, Chemistry, Medical Science and formerly Materials (until 2013)

2024

Richard Liu
Harvard University,
Cambridge, USA
Chemistry

For his innovative research on catalytic reactions to enhance the drug discovery pipeline. His research group explores metal-based and redox-active organic structures that enable complex chemical reactions, including palladium-, copper-, and nickel-catalyzed cross-coupling reactions.

Ivana Winkler
German Cancer Research Center,
Heidelberg, Germany
Data Science

For her groundbreaking research in female reproductive biology. She employs single-cell RNA sequencing and transcriptome data to advance therapies for reproductive health and healthy aging.

Na Cai
Helmholtz Pioneer Campus,
Munich, Germany
Biology

For her impactful research on genetic factors in neuro-psychiatric diseases, particularly Major Depressive Disorder (MDD). Her work is essential for advancing our understanding of mental health.

2023

Jordan Squair
**.NeuroRestore, École Polytechnique Fédérale
de Lausanne (EPFL),**
Lausanne, Switzerland
Medical Science

For his pioneering discoveries and innovations in neuro-prosthetics and regenerative medicine, which open novel therapeutic options for patients with neurotraumatic and neurodegenerative disorders.

Michael Skinnider
Princeton University,
Princeton, NJ, USA
Data Science

For the development of a sophisticated computational platform and a novel artificial intelligence system enabling the discovery of new antibiotics in microbes or of new small therapeutic molecules within the human body or the human microbiome.

Gal Ofir
Max-Planck-Institut für Biologie,
Tübingen, Germany
Biology

For his groundbreaking discovery that mechanisms and biochemical actions of bacterial immune systems share a high degree of similarity with plant immune systems which is fundamental for our understanding of the (co) evolution of bacteria and plants.

Erin Stache
Cornell University,
Ithaca, NY, USA
Chemistry

For her multidisciplinary research combining the fields of synthetic organic chemistry with photochemistry and polymer chemistry and thereby paving the way for new applications in materials sciences and synthesis.

2023

Vivi Maketa
University of Kinshasa,
Kinshasa, DR Congo
Medical Science

For her exceptional contributions to the design and implementation of research projects on infectious and neglected diseases thereby providing essential proof for the safety, immunogenicity, and efficacy of novel drugs and vaccines.

2022

Mohammad Lotfollahi
Helmholtz Institute Munich,
Munich, Germany
Data Science

For his innovative development of machine learning algorithms in the context of computational biology. His work advances the understanding of large-scale single-cell omics data in health and disease and will ultimately facilitate the advancement of precision medicine and AI-assisted drug discovery.

Claudia Bonfio
University of Strasbourg,
Strasbourg, France
Biology

For her landmark achievements in origin of life studies demonstrating the viability of prebiotic iron-sulfur peptide catalysis. Her work on self-assembly of prebiotic biomolecules has the potential to enable a biochemical systems approach toward the in vitro assembly of advanced primitive cells such as stem cells.

Mark Levin
University of Chicago,
Chicago, IL, USA
Chemistry

For his breakthrough research on the highly selective skeletal editing of complex organic molecules using a wide range of chemical modalities. This technology enables facile modification of existing compound libraries, rapidly providing access to new chemical space and biologically active compounds.

Yanira Mendez Gomez
University of Cambridge,
Cambridge, UK
Medical Science

For her pioneering utilization of multicomponent reactions allowing the assembly of highly complex bioconjugates such as multivalent antibacterial vaccines or antibody-drug conjugates, constituting a great contribution to new ways of producing vaccines.



2021

Maria Zimmermann-Kogadeeva
**European Molecular Biology Laboratory (EMBL),
Heidelberg, Germany**
Data Science

For her groundbreaking insights into the metabolic interactions of gut bacteria with their human host, through the combination of computational modeling with transcriptomics and genetic engineering.

Marieke Oudelaar
**Max-Planck-Institut für multidisziplinäre
Naturwissenschaften,
Göttingen, Germany**
Biology

For her outstanding contributions in the development of methods to characterize the organization of the 3D genome, and her studies on the interaction between gene regulatory elements at a single gene loci.

Connor W. Coley
**Massachusetts Institute of Technology,
Cambridge, MA, USA**
Chemistry

For his pioneering work in applying machine learning to virtual screening, prediction, and automated synthesis of novel small organic molecules with therapeutical potential.

Dasha Nelidova
**Institute of Molecular and Clinical Ophthalmology,
Basel, Switzerland**
Medical Science

For the development of a revolutionary therapeutic approach to restore light sensitivity in the eye retina of patients suffering from age-related macular degeneration by combining gene therapy and nanotechnology.

2020

Marinka Zitnik
**Harvard University (Harvard Medical School),
Boston, MA, USA**
Data Science

For her innovative use of machine learning approaches to analyze multidimensional biomedical data.

Julia Mahamid
**European Molecular Biology Laboratory (EMBL),
Heidelberg, Germany**
Biology

For her important contributions to the development of in-cell structural studies by electron cryo-tomography.

Josep Cornella
**Max-Planck-Institut für Kohlenforschung,
Mülheim, Germany**
Chemistry

For his innovative research on the design, invention, and implementation of catalytic strategies for organic synthesis.

Nicolai Franzmeier
**Ludwig-Maximilians-University Munich,
Munich, Germany**
Medical Sciences

For the development of novel approaches in imaging to study the pathology of Alzheimer's disease.



2019

Julian Stinglee
Ludwig-Maximilians-University Munich,
Munich, Germany
Biology

For his discovery of an entirely unexpected DNA repair pathway, which is crucially important to prevent ageing and tumorigenesis.

Christina Woo
Harvard University,
Boston, MA, USA
Chemistry

For her pioneering research on the role of small molecules influencing protein function and biological signaling using large-scale chemical biology approaches.

Susanne van Veluw
Harvard University (Harvard Medical School),
Boston, MA, USA
Medical Sciences

For developing and applying cutting-edge imaging techniques to visualize hitherto undetectable micro infarct lesions in the human brain.

2017–2018

Christoph Engel
Max-Planck-Institut zur Erforschung
von Gemeinschaftsgütern,
Bonn, Germany
Biology

For outstanding research providing the molecular basis for ribosomal RNA synthesis by RNA polymerase in eukaryotic cells. By solving the first 3D crystal structure of the 14-subunit RNA polymerase I (Pol I) he concluded a decade long attempt to elucidate atomic structural details of 590 kDa enzyme complex.

Keary M. Engle
scripps Research,
La Jolla, CA, USA
Chemistry

For unparalleled contributions at the interface of organometallic chemistry, organic synthesis, and catalysis – particularly in the area of effective syntheses of small molecules by smart catalysis.

Kathryn Susan Hayward
Florey Institute of Neuroscience
and Mental Health,
Melbourne, Australia
Medical Sciences

For making a collective impact on the field of stroke rehabilitation and recovery focused on individuals with significant loss of arm and hand function in early post-stroke.

2016

Christopher Aylett
Imperial College London,
London, UK
Biology

For outstanding research on structural studies to understand the machinery of cellular signalling – his work contributes largely to explain the function of a protein complex implicated in cancer, obesity and neurodegeneration.

Bill Morandi
ETH Zürich,
Zürich, Switzerland
Chemistry

For outstanding contributions in green catalysis – particularly his work on novel methods for a sustainable transformation of hydrocarbons and polyols into high-value chemical building blocks of high relevance to biologically active small molecule and materials research.

Theresa Bunse
ETH Zürich,
Zürich, Switzerland
Medical Sciences

For outstanding work in the field of tumor immunotherapy – particularly for her contributions towards the development of mutation-specific vaccines for patients with gliomas.

2015

Cigall Kadoch
Harvard University (Harvard Medical School),
Boston, MA, USA
Biology

For outstanding contributions in understanding and targeting human cancers driven by aberrant chromatin regulators, including the discovery of the mechanism of human synovial sarcoma. One of her most significant findings is that high mutation frequency is present in genes involved in chromatin biology-based processes.

Tanja Gaich
Leibniz University Hannover,
Hannover, Germany
Chemistry

For the development of a novel method for efficient synthesis of polycyclic natural products from plants and microorganisms – which play an important role in novel drug development strategies.

Marie-Luise Berres
RWTH Aachen University,
Aachen, Germany
Medical Sciences

For outstanding contributions to a better understanding of the pathogenetic role of Langerhans Cell in Histiocytosis, a barely understood hematological disorder with incidence similar to acute myelogenous leukemia and a mortality rate of 20–40 % in high risk patients (mostly children).

2013

Steven Spoel
University of Edinburgh,
Edinburgh, UK
Biology

For outstanding contributions in gene function research. The work of Steven Spoel has led to a better understanding of how living cells translate environmental signals into changes in gene expression. This knowledge is of high relevance for the understanding of gene expression mechanisms in human, animal and plant cells, and thus likewise important for cancer research, animal health and crop breeding.

Abigail Doyle
Princeton University,
Princeton, NJ, USA
Chemistry

For the development of novel nickel-catalyzed cross-coupling reactions and the identification of new reagents and strategies for catalytic nucleophilic (radio) fluorination. The work of Abigail Doyle is of high relevance for the application in drug discovery, agro science and material research.

Javier Fernández
Singapore University of Technology and Design,
Singapore
Materials

For outstanding contributions in materials engineering. Javier Fernández has developed a new biologically inspired material, called "Shrilk", that replicates the exceptional capabilities of one of nature's most exceptional materials – insect cuticle. This is a milestone in material design and of high relevance in many applications, including biocompatible packaging and tissue engineering.

2012

Christiane Opitz
Deutsches Krebsforschungszentrum,
Heidelberg, Germany
Biology

For outstanding contributions to the understanding of the relevance of the tryptophan metabolism in cancer biology. Together with her team she discovered the first endogenous ligand for the aryl hydrocarbon receptor (AHR) which is involved in promoting tumor growth and suppressing anti-tumor immune responses. This discovery could enable the development of drugs which are expected to inhibit the malignant phenotype of cancer cells and restore anti-tumor immunity.

Nuno Maulide
Max-Planck-Institut für Kohlenforschung,
Mülheim, Germany
Chemistry

For developing new routes to synthesize highly functional small ring molecules. These molecules are excellent starting points for various active ingredients or natural products. By developing new synthetic methods beyond well-established chemical reactions, the Maulide group has discovered unprecedented new phenomena and introduced novel concepts in the field of asymmetric catalysis to be used in all Life Sciences.

Volker Presser
INM – Leibniz-Institut für Neue Materialien,
Saarbrücken, Germany
Materials

For outstanding research on novel nanomaterials that can be used in energy storage and transformation technologies. The work of his team focuses on the development of super- and pseudocapacitors using state-of-the-art methods like electrospinning and atomic layer deposition. Volker Presser's research contributes substantially to advancing the technologies urgently needed for efficient large-scale use of renewable energies and for energy storage.

2011

Cristobal Uauy
The John Innes Centre,
Norwich, UK
Biology

For outstanding research contributions in the area of crop genetics. Among a number of high-class achievements, Cristobal Uauy cloned the first QTL (Quantitative Trait Locus) in wheat, he identified a resistance gene against wheat yellow rust pathogen, and he is very active in the translation of basic research results into applied crop breeding. His scientific work provides the basis for a powerful new toolkit for improved crop productivity, and thus opens the horizon for new strategies in wheat breeding.

Andreas Bender
Ludwig-Maximilians-University Munich,
Munich, Germany
Chemistry

For outstanding research work in the field of cheminformatics and the development of new prediction models for drug properties. The work of Andreas Bender discloses new opportunities for a better prediction of modes of action of drugs with in-silico methods, and thus promotes the efficient development of pharmaceutical products on the road from the idea to an optimized drug candidate.

Arne Thomas
Technical University Berlin,
Berlin, Germany
Materials

For outstanding research contributions in the area of functional materials. The work of Arne Thomas discloses new pathways for the synthesis of highly porous materials. These materials provide new solutions for long unsolved technical challenges, because their properties can be adapted to a wide range of applications, e.g. for gas storage, catalysis support, purification and separation purposes, for column chromatography and ion exchange, and as insulation material.

2010

Oliver Daumke
Max-Delbrück-Center,
Berlin, Germany
Biology

For his contributions to the understanding of the structure and function of GTP-binding (G) proteins. G proteins can act as molecular switches that control growth signals in biological cells. Other G proteins function as molecular motors that deform cellular membranes. Prof. Daumke investigates the differences and similarities between these two classes of G proteins.

Nicolai Cramer
ETH Zurich,
Zurich, Switzerland
Chemistry

For the developments of new catalytic organometallic reactions for activation of carbon-hydrogen and carbon-carbon bonds. With his research he contributes to the field of production of complex active and natural substances.

Andreas Walther
Johannes-Gutenberg-University Mainz,
Mainz, Germany
Materials

For the development of innovative, pearlescent biomimetic materials that exhibit impressive properties in terms of their mechanical stability and flame retardance. This makes them very interesting for use in maritime, aviation and aerospace applications.

2009

Noriyuki Nishimura
Kobe University,
Kobe, Japan
Biology

For his outstanding contributions to the identification and characterization of specific stress hormone receptors in plants. These receptors ensure that plants are better able to survive stress conditions such as drought. The work of Dr. Nishimura greatly facilitates the ability to discover new ways to ensure food supplies for a growing world population.

Tobias Ritter
Max-Planck-Institut für Kohlenforschung,
Mülheim, Germany
Chemistry

For his detailed investigations into fluorination reactions. His new method of integrating fluorine highly selectively in aromatic substances by mild and simple means is a significant advance for active ingredient research in medicinal chemistry and crop protection.

Jürgen Groll
Julius-Maximilians-University Würzburg,
Würzburg, Germany
Materials

For his outstanding contributions to the development of new types of biocompatible polymeric hydrogels. The new hydrogels enable more targeted drug transport and controlled release in target tissues, thereby facilitating lower dosages of drugs and helping to reduce their side effects.



Winners of the

Bayer Thrombosis Research Award

for Basic and Clinical Thrombosis Research

2025

Annemieke ter Telgte
VASCage – Center on Stroke Research,
Medical University of Innsbruck,
Innsbruck, Austria

Understanding and managing cerebral small vessel disease

For her pioneering research on cerebral small vessel disease, which has significantly advanced the understanding of the disease pathophysiology, the diagnosis, and the implications for patients. Her innovative approaches and insights contribute to improving the treatment and management of this complex condition, enhancing the lives of those affected.

Kami Pekayvaz
LMU Klinikum Munich,
Munich, Germany

Role of thrombosis and inflammation in cardiovascular and infectious diseases

For his groundbreaking work in translational thrombosis research, focusing on the interplay between thrombosis and inflammation in cardiovascular and infectious diseases. His research has opened important new perspectives for understanding the mechanisms of thrombosis and could provide crucial insights for future therapeutic approaches.

2023

Linda Schönborn
Universitätsmedizin Greifswald,
Greifswald, Germany
Covid-19 vaccine-induced thrombocytopenia

For her groundbreaking work in the field of COVID-19 to identify the underlying mechanism of vaccine-induced immune thrombotic thrombocytopenia (ITT) that allowed her to provide guidance for the medical treatment of these patients worldwide.

Leo Nicolai
Ludwig-Maximilians-Universität Munich,
Munich, Germany
Role of immune-thrombosis in Covid-19 infection

For his outstanding research that laid the grounds to demonstrate that organ involvement and prothrombotic features in COVID-19 are linked by immune-thrombosis.

2021

Stefano Barco
University Medical Center Mainz,
Mainz, Germany
Epidemiology and risk-adjusted treatment of acute pulmonary embolism

For his research on the epidemiology and management of venous thromboembolism. Dr. Barco's work provided novel insights on the burden of venous thromboembolism and related mortality on a global scale, contributing to raising awareness on this condition and to the implementation of healthcare measures on a population level. Additionally, his work allowed the development or optimization of risk-adapted therapeutic approaches for acute pulmonary embolism and its sequelae. These results have been translated into clinical practice and serve to guide treatment decisions.

2019**Changjun Yin****Ludwig-Maximilians-University Munich,
Munich, Germany***Immunity of atherosclerosis-brain interfaces*

For outstanding innovative work for new treatment strategies in atherosclerosis and Alzheimer's diseases (AD) since both are prototypical unresolvable inflammatory diseases with high risks to develop thrombosis-related diseases and his work has shown that anti-complement C5 therapy can reduce thrombotic events in patients afflicted with complement-triggered diseases. Recent research indicates that oxidized lipids from diseased arteries or A β plaques in the brain trigger both the complement and coagulation cascades. A better understanding of such regulation of complement cascades in chronic inflammation may therefore facilitate the development of novel therapies for patients with thrombotic conditions, i.e. atherosclerosis and AD.

2017**David Seiffge****The University Hospital of Basel,
Basel, Switzerland***Clinical work on management of non-vitamin K
dependent oral anticoagulants in acute stroke patients*

For outstanding clinical research in the area of anti-coagulation risk management. David Seiffge's innovative studies provide pioneer evidence for the clinical relevance of novel oral anticoagulants (NOACs) in stroke patients. Particularly his research on the bleeding risk of acute stroke patients taking NOACs and rapid availability of NOAC plasma levels to assess anticoagulant effect have potential to open new treatment opportunities with improved benefit-risk ratio for stroke patients.

2015**Markus Bender****The University Hospital Würzburg,
Würzburg, Germany***Platelet receptor research*

For his work in the field of rare congenital blood platelet disorders in patients with Wiskott-Aldrich syndrome. Dr. Bender showed that the severe blood clotting and immune system disorders in patients suffering from this condition are attributable to a deficiency of the cytoskeleton-stabilizing protein profilin-1 in the precursor cells of blood platelets. This could open new opportunities for the early detection and treatment of this severe illness in future.

2013**Krystin Krauel****The University Heart Center Freiburg,
Bad Krozingen, Germany***Immune responses in cardiovascular diseases*

For her contributions to a better understanding of the interactions between thrombotic processes and immune defense mechanisms. Her work on the role of platelet factor 4 (PF4) in the antibacterial immune response system provided a new level of awareness about the pathophysiology of heparin-induced thrombocytopenia (HIT). Dr. Krauel was able to demonstrate that the binding capabilities of cytokine signaling molecule to bacteria is a significant cause for the immune-mediated adverse drug reaction HIT. This better understanding of HIT opens new horizons for patient treatment and prevention.

Winner of the

Ernst-Ludwig Winnacker Award

for enhancing the impact of science for the benefit of society —————

2024

Alena Buyx
**Technical University of Munich,
 Munich, Germany**

For her exceptional public engagement, policy advice, and science communication across a wide array of topics, particularly in the fields of biomedical and public health ethics.

2022

Antje Boetius
**Alfred Wegener Institute Helmholtz
 Center for Polar and Marine Research,
 Bremerhaven, Germany**

For her outstanding public engagement, policy advice and scientific communication across a broad range of topics, particularly including the impact of climate change, biodiversity losses and ocean health.





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