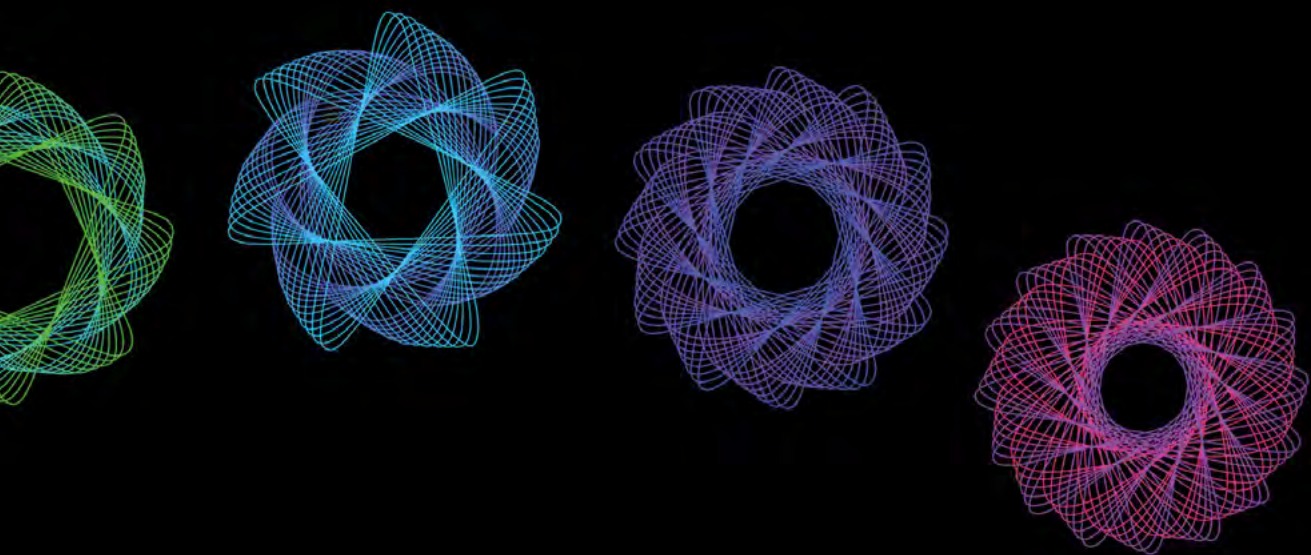
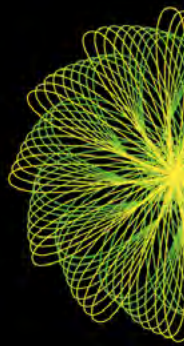
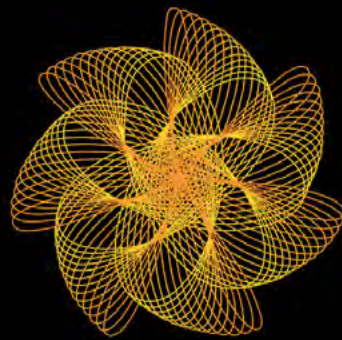
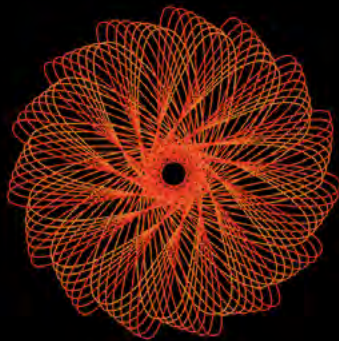
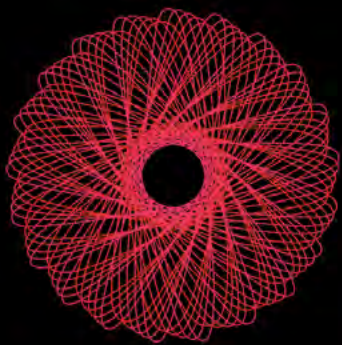


Mendel Lectures

2010—2011



2010 — 2011



Michael N. Hall

* 1953

Biozentrum, University of Basel, Switzerland

📅 October 21, 2010

Michael N. Hall is an American and Swiss molecular biologist and a world leader in the fields of TOR signalling and cell growth control.



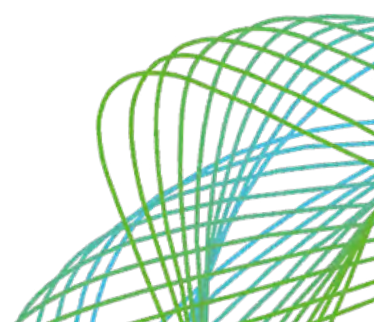
Michael N. Hall earned a Bachelor of Science in Zoology from the University of North Carolina at Chapel Hill in 1976, and a PhD in Molecular Genetics from Harvard University in 1981. Hall was a postdoctoral fellow at the Institut Pasteur in Paris and at the University of California, San Francisco. He joined the Biozentrum of the University of Basel, Switzerland, in 1987, and became a full professor in 1992. From 1995 to 1998 and from 2002 to 2009 he was head of the Division of Biochemistry, and from 2002 until 2009 was Deputy Director of the Biozentrum.

In 1991, Hall and colleagues discovered TOR (Target of Rapamycin) and subsequently elucidated its role as a central controller of cell growth and metabolism. TOR is a conserved, nutrient-, energy- and

insulin-activated protein kinase and plays a key role in aging and disease development (e.g. cancer, obesity, diabetes). The discovery of TOR led to a fundamental change in how we think of cell growth. It is not a spontaneous process that just happens when building blocks (nutrients) are available, but rather a highly regulated, plastic process controlled by TOR-dependent signalling pathways. The Hall group also discovered the two TOR complexes TORC1 and TORC2, and originally characterized both signalling branches mediated by these two complexes. Insights into TOR signalling pathways have led to new therapeutic strategies.

Hall is a member of the us National Academy of Sciences and the Swiss Academy of Medical Sciences, and has received numerous awards including the Louis-Jeantet Prize for Medicine (2009), the Marcel Benoist Prize for Sciences or Humanities (2012), the Breakthrough Prize in Life Sciences (2014), the Canada Gairdner International Award for Biomedical Research (2015), and the Albert Lasker Basic Medical Research Award (2017).

TOR Signalling in Growth and Metabolism





Iain Campbell

* 1953

University of Oxford, UK

📅 November 4, 2010

Iain Donald Campbell was a Scottish biophysicist and academic, Emeritus Research Fellow at the University of Oxford.



Professor Iain Campbell obtained both his BSc degree and PhD at the St. Andrews University. In 1992 he was appointed Professor of Structural Biology at the University of Oxford.

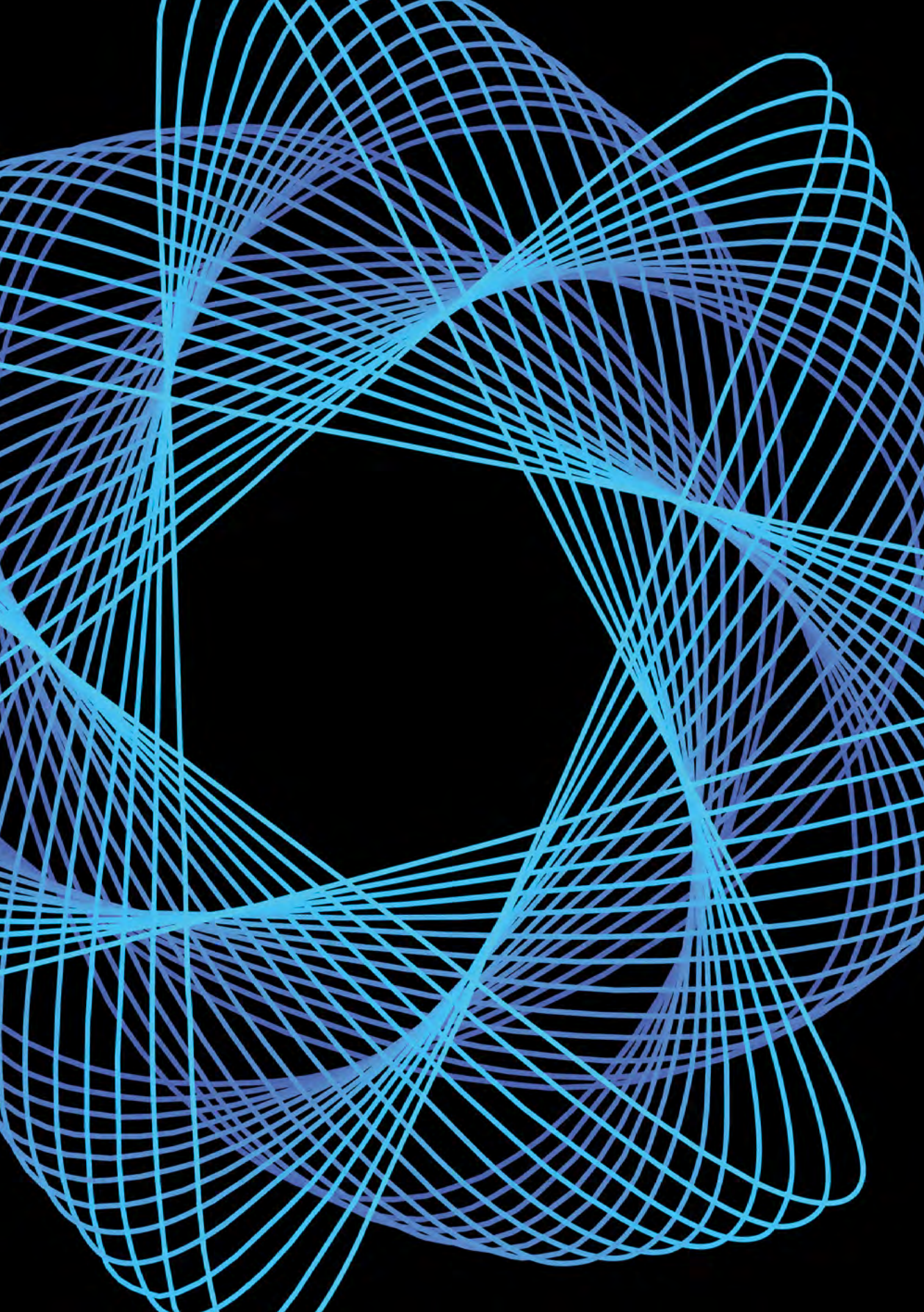
Dr. Campbell was interested in the structure and interactions of modular proteins that are involved in a variety of cell adhesion and signalling events. Of particular interest are the proteins involved in the formation of integrin adhesions - dynamic assemblies of modular proteins that form and dissolve as cells migrate.

Iain Campbell received many honours and awards, including the Novartis Medal and the Croonian Lecture by the Royal Society in 2006. He was elected a Fellow of the Royal Society (FRS) in 1995 and a member of the European Molecular Biology Organization (EMBO).

Iain Campbell died in 2014.

Cell Migration and Protein- Protein Interactions





Dame Linda Partridge

* 1950

University College London, UK

📅 April 7, 2011

Professor Dame Linda Partridge is a British geneticist who studies the biology and genetics of ageing and age-related diseases, such as Alzheimer's and Parkinson's disease.



Linda Partridge graduated from the University of Oxford and there also obtained her PhD. After three years of postdoctoral research at the University of York, she moved to the University of Edinburgh where she became professor of Evolutionary Biology. In 1994 she moved to University College London (UCL) as the Weldon Professor of Biometry. In 2007 she became a director of the Institute of Healthy Ageing at University College London and in 2008 a founding director at the new Max Planck Institute of the Biology of Ageing in Cologne, Germany.

Linda Partridge's research is directed to understanding both how the rate of ageing evolves in nature and the mechanisms by which healthy lifespan can be extended in laboratory model organisms. Her work has focused in particular on the role of nutrient-sensing pathways, such as the insulin/insulin-like growth factor signalling pathway, and on dietary

restriction. Her more recent work has been directed towards developing pharmacological treatments that ameliorate the human ageing process to produce a broad-spectrum improvement in health during ageing.

Partridge was awarded the Linnean Society of London's prestigious Darwin-Wallace Medal in 2008. In 2009 she was appointed Dame Commander of the Order of the British Empire for services to science and received the Croonian Lectureship from the Royal Society. In 2009 she was named a Woman of Outstanding Achievement 2009 by the UK Resource Centre for Women (UKRC) in Science, Engineering and Technology. She is a member of many important science and research organizations including EMBO and the American Academy of Arts and Sciences, and she is a Fellow of the Royal Society.



The New Biology of Ageing





My time in Brno with the scientists there is one of my fondest memories. I loved the town, the Mendel Museum and the events around the Mendel Lecture. It is an honour to be included in this celebration both of Mendel himself and 20 years of the Mendel Lectures.

David John Sherratt

* 1945

Department of Biochemistry, University of Oxford, UK

📅 April 14, 2011

David J. Sherratt is a British biochemist and geneticist distinguished for his work to elucidate aspects of bacterial genetics that are important for conferring potency and antibiotic resistance.



David J. Sherratt graduated from the University of Manchester in 1966 with a BSc in Biochemistry and was awarded a PhD by the University of Edinburgh in 1969. From Edinburgh he went for a postdoctoral position at the University of California for two years, working on the newly characterized plasmid ColE1. Sherratt returned to the UK in 1971 to become a lecturer at the University of Sussex. In 1980 he moved to Glasgow University to become Chair of Genetics and in 1993 he became the Iveagh Professor of Microbiology at the University of Oxford and a Fellow of Linacre College.

His research is aimed at understanding how DNA replication, recombination and chromosome segregation shape bacterial chromosome organization in the context of the living cell. Using quantitative and super-resolution live cell imaging he observes where genes and molecular machines are positioned as a cell proceeds through its growth and division cycles, and what happens when normal cellular behaviour is perturbed by different methods.

David J. Sherratt is a Fellow of the Royal Society, the Royal Society of Edinburgh, the American Academy for Microbiology, and the American Academy for the Advancement of Science. He is a past president of the UK Genetics Society. He was awarded many prizes, including the Royal Society Leeuwenhoek Medal and Lecture, and the Genetics Society Prize Medal.



A Passion for DNA



It was a privilege and pleasure to give the 2011 Mendel Lecture, as the work and scholarship of Mendel has inspired me over a >50 year research career.

Steven Henikoff

* 1946

Fred Hutchinson Cancer Research Center, Seattle, USA

📅 May 5, 2011

Dr. Steven Henikoff is a molecular biologist who studies the structure, function and evolution of our DNA molecules, or chromosomes.



Steven Henikoff obtained his BS in Chemistry in 1968 at the University of Chicago and PhD in biochemistry and molecular biology in 1977 at Harvard University. He did a postdoctoral fellowship at the Department of Zoology at the University of Washington. Henikoff is currently an Investigator of the Howard Hughes Medical Institute, a Member of the Basic Sciences Division of the Fred Hutchinson Cancer Research Center, and an affiliate professor of genome sciences at the University of Washington.

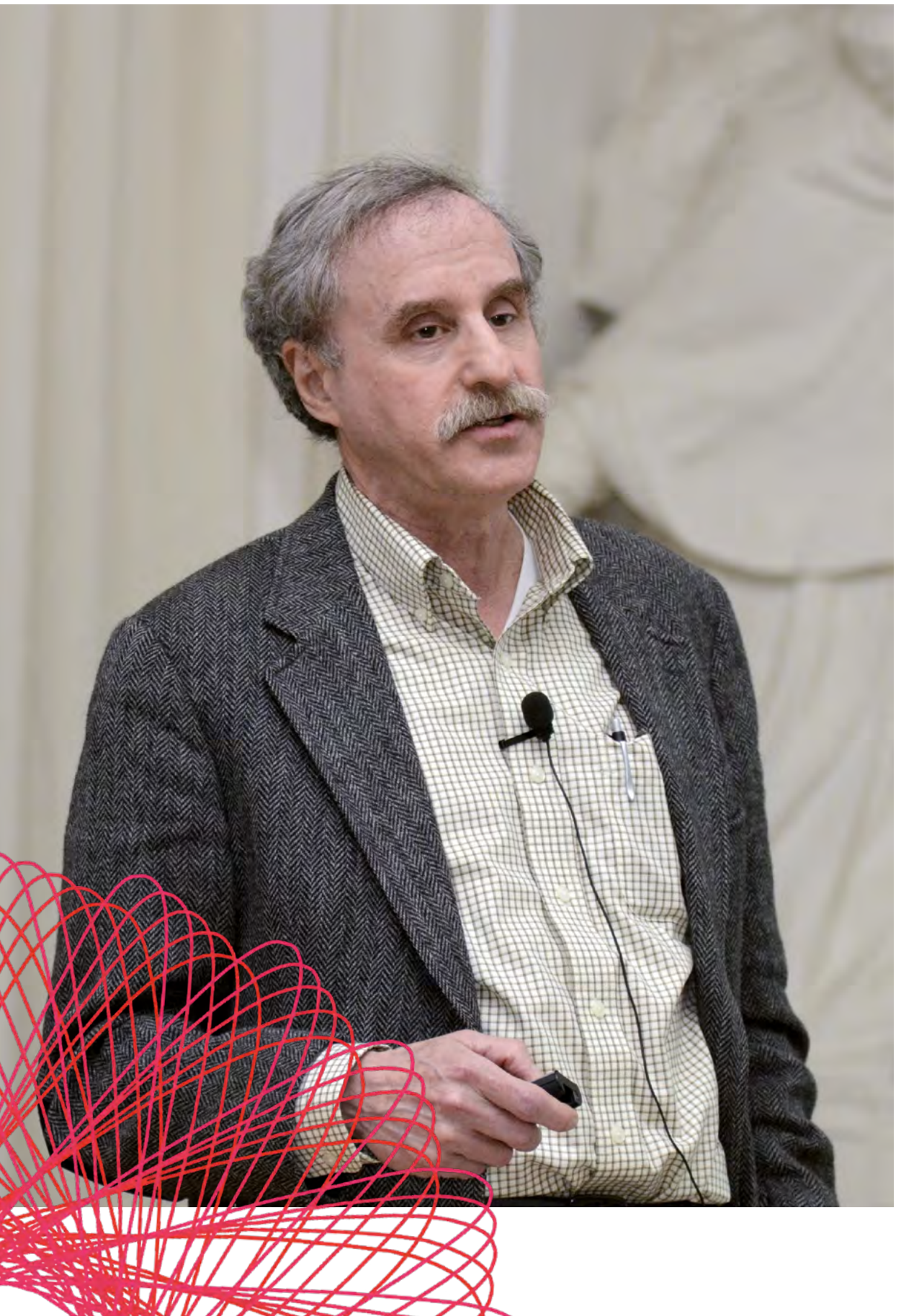
Henikoff's research interests lie in the inherited differences in gene expression between cells and tissues and how that differential expression is mediated by specialized proteins. To better understand such inheritance that does not rely on DNA sequence, Henikoff and his team are developing and applying genomic tools to the study of proteins of the epigenome: histones, transcription

factors, nucleosome remodelers, and RNA polymerase II. He is credited with helping build the infrastructure for analyzing the human genome. In 1992, he and his wife, Jorja Henikoff, developed a computational method (the BLOSUM substitution matrices) that researchers have used to compare relatedness among all living things, making it possible to uncover the roots of human diseases through the study of simpler organisms.

In 2005, Henikoff was elected to the National Academy of Sciences, and in 2015 was awarded the Genetics Society of America Medal.

Histone Variant Dynamics and Epigenetics





Hans Clevers

* 1957

Netherlands Institute of Developmental Biology, Utrecht, Netherlands

📅 May 12, 2011

Hans Clevers is a Dutch developmental biologist first to identify living stem cells in the intestine and is one of the world's leading researchers on adult stem cells, their role in cancer and their potential for regenerative therapy.

He obtained his MD in 1984 and his PhD in 1985 from the University of Utrecht, the Netherlands, studying signal transduction in T lymphocytes. After a four-year period at Harvard University, he returned to the Utrecht Medical Center where he became a professor in and chairman of the Department of Immunology at the Faculty of Medicine (1991-2002). In 2002 he became a professor of molecular genetics, and from 2002-2012 he was a director of the Hubrecht Institute in Utrecht. From 2012-2015 he was president of the Royal Netherlands Academy of Arts and Sciences (KNAW). From 2015-2019 he was director of research for the Princess Máxima Center for Pediatric Oncology. From 1981 to date he has run his research lab in Utrecht, since 2002 at the Hubrecht Institute.

Clevers' group was originally focused on T lymphocyte transcription factors. With the discovery that Tcf factors are the final effectors of Wnt signalling, they changed their interests to the biology of Wnt signalling in intestinal self-renewal and cancer. He discovered the stem cells of intestinal crypts and established them as a pre-eminent model to visualize and study adult stem cells in mammals. His research resulted in technologies to grow human stem cells into mini-organs (organoids) that behave cellularly and

molecularly like the organ the stem cell derived from. This has offered means to replace animal experimentation and generate disease models directly from patients, opening new avenues for regenerative medicine.

Professor Clevers is a member of the Royal Netherlands Academy of Sciences, EMBO, the National Academy of Sciences of the USA, the Royal Society (London), the Academie des Sciences (Paris), and the Academia Europaea. He is a recipient of multiple awards including the Dutch Spinoza Award in 2001, the Louis-Jeantet Prize in 2004, and the Breakthrough Prize in Life Sciences in 2013. He was made a Chevalier de la Legion d'Honneur in 2004. In 2012 he became Knight of the Order of the Netherlands Lion.

Wnt Signalling, Lgr5 Stem Cells and Cancer





Driving to Brno to give a seminar at the birthplace of genetics has been one of the most memorable moments of my scientific life.

Jeff Errington

* 1956

Newcastle University, UK

📅 May 26, 2011

Jeff Errington is an eminent British cell and molecular biologist with an interest in fundamental biological problems, especially the cell cycle and cell morphogenesis in bacteria.



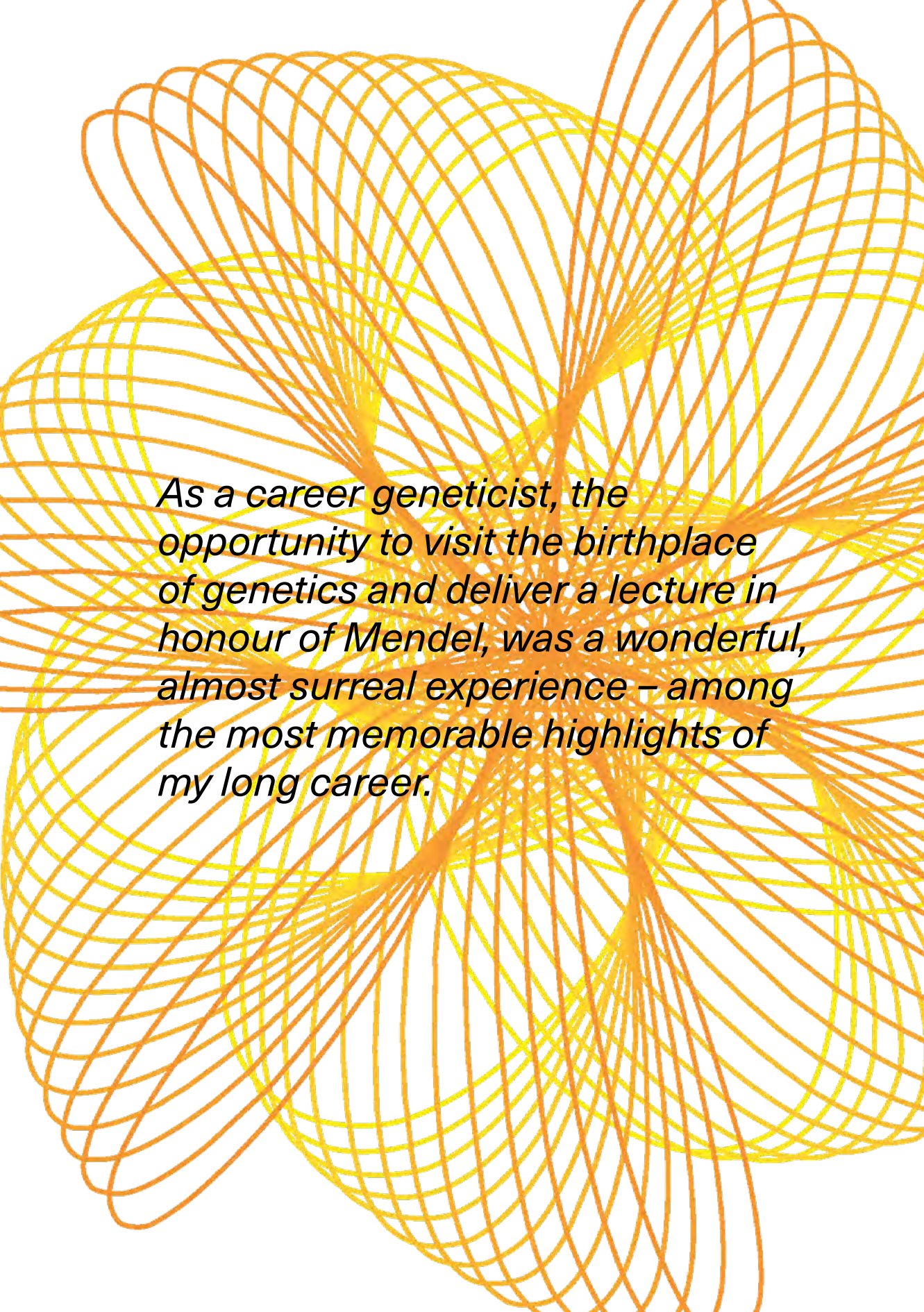
He graduated from the University of Newcastle-upon-Tyne in 1977 in genetics/zoology with a BSc and was awarded a PhD in bacterial genetics by the East Malling Research Station and Thames Polytechnic in 1981. In 1986 he was awarded an MA at the University of Oxford. Professor Errington spent 25 years at Oxford and in 2005 he moved to Newcastle University where he established the Centre for Bacterial Cell Biology.

Dr. Errington is an international authority on bacterial cell structure and proliferation. He has made important contributions to our understanding of the molecular biology of endospore formation in *Bacillus*

subtilis. The discovery that bacterial cells contain actin (MreB) and that MreB proteins orchestrate the cell wall's synthetic machinery and thereby govern cell shape, led to an explosion of interest in bacterial cell morphogenesis. Recently, he showed how bacteria can survive β -lactam killing by conversion into a cell wall deficient (L-form) state, highlighting the potential importance of L-forms in antibiotic evasion and recurrent infection. The unexpectedly simple mechanism his lab uncovered for L-form division provided a highly plausible model for the proliferation of primitive cells – a key step in the early evolution of cellular life.

Dr. Errington has been recognized as one of the UK's leading biomedical researchers by his election to Fellowship of the Royal Society and the Academy of Medical Sciences, as well as to EMBO and both the European and American Academies of Microbiology. In 2014, Errington was awarded the Novartis Medal and Prize from the UK Biochemical Society, and in 2017 the Lwoff Medal of the Federation of European Microbiology Societies. Professor Errington has a strong track record in the commercial exploitation of basic science, founding two companies devoted to the discovery and development of novel antibiotics.

L-form Bacteria and the Origins of Life



As a career geneticist, the opportunity to visit the birthplace of genetics and deliver a lecture in honour of Mendel, was a wonderful, almost surreal experience – among the most memorable highlights of my long career.