

Professor Sir David Baulcombe, FRS, Hon DSc

Thursday 20 July 2023, pm

Chancellor

I am delighted to introduce this morning's honorary graduand, the eminent plant scientist and geneticist: PROFESSOR SIR DAVID BAULCOMBE.

Formerly Regius Professor of Botany at Cambridge, Sir David is an expert on plant epigenetics – 'how nurture influences nature' - and plant development, whose research has been seminal for understanding how plants 'interact and remember' their environment. He is also an expert in plant disease resistance mechanisms, resulting in his initial pioneering discoveries on virus induced gene silencing – fundamental for our current understanding of epigenetics in plants and animals.

David was born and brought up in nearby Solihull. As a boy, he became fascinated in plants such as algae and mosses and studied for his first degree in Botany at Leeds. During his studies, he developed an interest in molecular biology and, in particular, how genes switch on and off, forming the subject of his PhD at Edinburgh (1977). After three years of postdoctoral research in North America, he returned to Britain to a research position at the Plant Breeding Institute, Cambridge, where he began to work on plant viruses. His groundbreaking research continued at the Sainsbury Laboratory in Norwich, 1988-2003, with a professorship at the University of East Anglia, 2002-2007 and from 2007 to 2022, as Regius Professor of Botany at Cambridge – Emeritus after 2019.

Professor Baulcombe's research covers a huge range of areas in plant biology, including molecular biology of disease resistance, plant-virus interactions and plant development. He co-discovered small, non-coding RNAs and defined their involvement in gene regulation and development. He uncovered the molecular mechanism by which plant viruses and other pathogens manipulate plant growth and development. The discovery of 'small interfering RNA' underpinning these biological processes has revolutionised our understanding of gene regulation in Eukaryotes; following from his work in plants, the same types of molecules were found in animals, including humans. Recently, he has been studying disease resistance in plants so as to develop improved crops via new breeding approaches, and how gene silencing affects natural variation in plants. David is also interested in the influence of small interfering RNA on heritable effects that do not involve changes to the sequence of the genome. This has led to an emerging interest in changing DNA 'modifiers' that do not alter the genome and thus enable non-genetically modified crop solutions. David himself has promoted the use of plant biotechnology for crop improvement; he is particularly interested

in addressing the problems of developing countries, ensuring the equitable use of technology as part of holistic innovation of agriculture and food production systems.

Professor Baulcombe is a Fellow of the Royal Society; a Foreign Member of the US National Academy of Sciences; a Fellow of the UK's Academy of Medical Sciences, and an elected member of the European Molecular Biology Organisation. He was knighted in 2009 for services to Plant Science. Among a host of other fellowships and awards, he holds the Royal Society's Royal Medal (2006); the Benjamin Franklin Medal in Life Science (2008); the Mendel Medal from the Genetics Society (2017), and the Sir Hans Krebs Medal from the Federation of European Biochemical Societies (2021). He holds honorary degrees from universities in the UK, Finland and The Netherlands. He has worked closely with our own School of Life Sciences, in research on gene silencing mechanisms and on plant immunity responses, and inaugurated our state-of-the-art Phytobiology Facility in 2013. David presents a rare combination of plant and microbial expertise with having transformed research across the spectrum of biological sciences. It is a pleasure to welcome him back to Warwick today.

Chancellor: in the name of the Senate, I present to you for admission to the degree of Doctor of Science, *honoris causa*, PROFESSOR SIR DAVID BAULCOMBE.