

Professor Jonathan Rees FMedSci
Emeritus Professor of Dermatology, University of Edinburgh

1981 BMedSci (1st Class Hons, epidemiology and medical statistics), University of Newcastle
1982 MB,BS (Hons), University of Newcastle
1993 FRCP (London)
2000 FRCP (Edinburgh)

JLR qualified in Medicine with honours (1982) after having taking a BMedSci(first class hons, 1981) in epidemiology and medical statistics from the University of Newcastle. He trained in dermatology in Vienna (Prof Klaus Wolff) and Newcastle (Prof Sam Shuster), before MRC funded research training in Newcastle and Strasbourg (Prof Pierre Chambon). He was appointed Professor of Dermatology in Newcastle in 1992 and moved to Edinburgh to take up the Grant Chair of Dermatology in 2000. He became Emeritus Professor of Dermatology in 2020.

His research has largely focussed on the relation between ultraviolet radiation, pigmentation and skin cancer. Following several highly cited publications on the somatic genetics of skin cancer in the 1990s, his laboratory (in collaboration with Tony Thody (also in Newcastle), and Ian Jackson (Edinburgh, MRC HGU) identified the melanocortin 1 receptor (MC1R) as a key determinant of sensitivity to ultraviolet radiation ('ginger gene'). In collaboration with colleagues in Oxford, Ireland, Sweden, Africa, Japan and elsewhere his laboratory studied the evolution of hair pigmentation in man, providing estimates of when the first redheads walked the earth, described the relation between the highly variable MC1R and skin cancer, and developed quantitative models of how skin reacts to UVR involving pigmentation and non-pigmentary photoadaptation. The early work is summarised in a single author review in the *Annual Review of Genetics* (37 | 67 | 2003), and later work in a review paper on the evolution of skin colour *J Invest Dermatol*, 2012 vol. 132(3 Pt 2) pp. 846-53. His final contribution on this topic was within the group of Ian Jackson and Albert Tenesa (MRC HGU/Roslin) on the genetics of blond (and red hair) published in *Nature Communications* in 2018.

Shortly after arriving in Edinburgh — spurred on by his experiences in teaching medical students — he developed a research interest in clinical expertise, particularly in relation to skin cancer diagnosis. In collaboration with Prof Bob Fisher (Edinburgh Informatics) he explored 3D image capture of skin lesions coupled with automated computer vision approaches to diagnosis. The aim was to produce a cognitive prosthesis that would meld and human machine capabilities. The work whilst scientifically successful — their algorithms out perform non experts — was not commercially successful. The annotated database they created was however released to other researchers and has been widely used.

The research on computer vision did however feed back into Professor Rees' teaching of medical students and the acquisition of clinical expertise, an area that he continues to be active in. His open access textbook of skin cancer ([skincancer909](https://www.skincancer909.com)) which includes an atlas, and numerous videos and animations, is one of the most accessed resources on this topic on the WWW.

JLR has also published in several other areas: the measurement of itch using accelerometers (in man and mouse); skin imaging; the relation between statistics and medicine; the nature of clinical discovery; and the industrialisation of medical practice.

JLR's research contributions have been widely recognised. He was a Founder Fellow of the Academy of Medical Sciences; was awarded the CERIES research award; and the David Anderson medal of the Royal Society of Edinburgh. He had given numerous named lectures including the Parkes-Weber lecture of the Royal College of Physicians of London, the Darwin Lecture of the University of Cape Town, the Rudi Cormane lecture of the European Society for Dermatological Research, the President's Council Guest Lecture at Cold Spring Harbour laboratory, the Dowling Oration, and invited talks at the AAAS and NIH on clinical discovery. He was elected an honorary member of the American Dermatological Association, a corresponding member of the Swedish society of Dermatology and has been a visiting professor at Yale and Shinsu universities. He has supervised 15 doctoral students.

JLR is a former president of the British Society of Investigative Dermatology and President of the European Society for Dermatological research (ESDR). He was a section editor for ten years of the premier investigative dermatology journal, on the editorial board of PloS Medicine and on the boards of various other journals. He has served as a member of the Specialist Advisory Committee (dermatology) and RCP(L) liaison committees. He was a professional advisor to the Skin Care Campaign and the All Parliamentary Group on Skin (Westminster).

Professor Rees has been active in outreach. He estimates he has given over 250 interviews on national TV and radio in the UK and elsewhere. He has contributed on numerous occasions to the Edinburgh and Cheltenham science festivals, delivered lectures targeted at children at the Royal Institution and also delivered the "Friday Evening Discourse" at the Royal Institution, as well as numerous informal talks aimed at the general public, including the IgNoble awards (when hosted in Edinburgh). He and his research work has been referred to in several 'popular' books on genetics aimed at the non-expert. Members of his lab featured in the Royal Institution Christmas lectures.

Professor Rees has been active in undergraduate teaching through all of his career. For the last five years he has Chaired the Medical Finals Exam Board, has been a long time module lead, and over the last three years the Director of Quality for the Edinburgh Medical School.