

CITATION FOR JAMES ALEXANDER GREEN

The De Morgan Medal is awarded to Professor J.A. (Sandy) Green for his fundamental contributions to group representation theory. Green has been one of the most influential figures in representation theory of the last fifty years.

In a 1955 paper Green startled the world of representation theory by giving the complex character table of $GL(n, q)$ in all generality. This was completely unexpected in view of the very partial information available prior to his work. It was not until almost twenty years after this seminal achievement that the work of Deligne and Lusztig fully extended it to the general finite group of Lie type.

Green then turned to the modular representation theory of finite groups. In his 1964 paper, "A transfer theorem for modular representations", he established the now fundamental Green correspondence. Green was probably the first to realise the power of studying representation theory over complete discrete valuation rings and this work, together with that of two other papers in that period, provided the impetus for focussing attention on modules, in contrast to Brauer's original character theoretic approach. This provided the platform on which Dade gave a complete determination of the structure of blocks with cyclic defect group, and led to Green's own development of an axiomatic representation theory and to the categorical representation theory that has been at the centre of much of the most recent activity in this area.

After 1975 the emphasis of his work changed to algebraic groups and his 1981 Springer volume on polynomial representations of general linear groups where he exploited the Schur algebra has been enormously influential. More recently, he has made substantial contributions to the study of representations of quantum groups via a relationship with the Hall algebras that he had studied earlier in his 1955 paper.

Green has written key papers on many other topics, including the converse to Brauer's induction theorem and modular representations of finite groups of Lie type, and he introduced the concepts of Mackey functors, the Green ring, and G -algebras.

It is internationally agreed that Green is one of those who have most shaped modern representation theory, and he enjoys widespread respect and affection. It is especially fitting that this recognition of his work is given in the year that sees both the centenary of Brauer's birth and his own 75th birthday.