

## REES, DAVID (1918 - 2013), mathematician

**Name:** David Rees  
**Date of birth:** 1918  
**Date of death:** 2013  
**Spouse:** Joan S. Rees (née Cushen)  
**Child:** Susan Mary Rees  
**Child:** Rebecca Rees  
**Child:** Sarah Elizabeth Rees  
**Child:** Deborah Rees  
**Parent:** David Rees  
**Parent:** Florence Gertrude Rees (née Powell)  
**Gender:** Male  
**Occupation:** mathematician  
**Area of activity:** Science and Mathematics  
**Author:** Lyn Owen

David Rees was born on 29 May 1918 in Abergavenny, Monmouthshire, the fourth of five children of David Rees, a corn merchant (b. 1881), and his wife Florence Gertrude (née Powell, 1884-1970). He was educated in the local Henry VIII Grammar School and at Sidney Sussex College, Cambridge, where he gained a first class degree in mathematics.

In 1939 he began postgraduate studies at Cambridge on semigroup theory, but had to stop because his services were needed for war work. He was recruited in December 1939 to join the core team based in Hut 6 at Bletchley Park working to break into the Enigma codes being used by the German High Command.

In May 1940, when German forces were invading France, there was a significant problem because nobody had solved the most important German Enigma cipher that was known as the 'red code'. David Rees worked on the problem and led the team which deciphered the red code, greatly helping the war effort. He was modest about his own achievement, and carried on working to decipher further codes as they were devised. Among the others he worked with were renowned code breakers Bill Tutte and Alan Turing. Later some of David Rees's work was used to help design Colossus, the first modern computer.

After the war he was appointed to an assistant lectureship at Manchester University as part of a brilliant mathematics department which made a major input to developing early computers. In 1948 he was appointed to a university lectureship in mathematics at Cambridge University and became a fellow of Downing College, where he carried out innovative work on semigroup theory and commutative algebra. In 1954 he produced a highly influential paper with Douglas Northcott on the concepts of reductions and integral closure. Several concepts and theories now carry his name, such as the 'Rees matrix semigroup', the 'Rees Valuation Theorem' and others. From 1958 until his retirement in 1983 he was Professor of Pure Mathematics and Head of Mathematics and Mathematical Sciences at Exeter University.

He married Joan Cushen, also a mathematician, in 1952. They had four daughters, two of whom also became professors of Mathematics - Mary Rees at Liverpool and Sarah Rees at Newcastle. David Rees was elected a Fellow of the Royal Society in 1968 and served on the Council of the Society from 1979 to 1981. For the only time ever, David Rees and one of his daughters were Fellows of The Royal Society at the same time when Mary was elected in 2002. In 1993 he was awarded the Polya prize by the London Mathematical Society for his significant achievements.

David Rees died on 16 August 2013. He was survived by his wife Joan by just twelve days.

### Author

Lyn Owen

### Sources

R. Y. Sharp, '[David Rees 29 May 1918-16 August 2013](#)', *Biographical Memoirs of Fellows of the Royal Society*

'[Professor David Rees](#)', *The Daily Telegraph*, obituary, 20 August 2013

'[David Rees obituary](#)', *The Guardian*, 29 August 2013

### Further reading


Wikipedia Article: [David Rees \(mathematician\)](#)

## Additional Links

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