



## Blog

## Alan Coulson's Science of Collaboration

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BY JENNY SHAW

The Alan Coulson papers (**PP/COU**) have recently been made available online as part of **Codebreakers: Makers of Modern Genetics**. This means that the Coulson archive has the honour of being the first collection to be digitised straight from cataloguing and to be simultaneously accessible in its original form in the Wellcome Library and online to a much wider research audience.



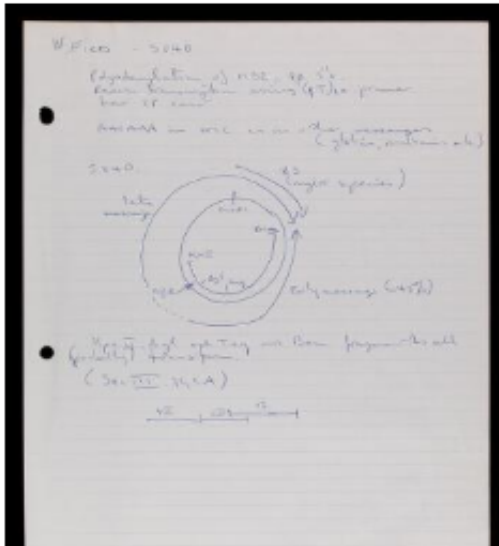
Alan Coulson standing beside the physical mapping of the *C.elegans* nematode. CSHL meeting, May 1989. Image Credit: Barry Honda.

The Coulson papers fit in well with those Fred Sanger and John Sulston, two of his main collaborators, whose papers are also held by the Wellcome Library. **Fred Sanger's notebooks**, part of the Biochemical Society collection (SA/BIO/P), were also digitised for Codebreakers, and the **John Sulston archive** (PP/SUL) is in the process of being catalogued.

Although Coulson might not be a household name, during his scientific career he made a significant contribution to the field of genome sequencing. In 1967 he applied for a job advertised in *New Scientist* to work as Fred Sanger's assistant at the Medical Research Council's Laboratory of Molecular Biology (LMB) in Cambridge. Sanger and Coulson worked together very closely with Sanger describing Coulson as: "my main collaborator in the lab".

The **dideoxy sequencing** technique that they developed, frequently referred to as 'Sanger sequencing', was essentially the same as that used by the early generations of automated sequencing machines that made the **Human Genome Project** possible. This sequencing development work forms Section A of the collection.

[Dideoxy nucleotide syntheses,...



When Sanger retired in 1983, it was suggested that Coulson might like to work on a new project with John Sulston in the Cell Biology division at the LMB. Coulson's initial view of the Cell Biology floor was that it was all "sandals and beards". After early conversations in the pub Coulson and Sulston became close collaborators. So much so that a technician in a US laboratory thought they were one person called John N. Allen! Correspondence in the archive is frequently addressed to both of them.

Coulson worked with Sulston at the LMB, and subsequently at the **Sanger Centre** in Hinxton, on the mapping and sequencing of the reference genome for the nematode *Caenorhabditis elegans* (*C. elegans*). It was the first animal to have its genome sequenced; the results were published in a special edition of **Science on 11 December 1998**.



Adult nematode – *Caenorhabditis elegans* (*C. elegans*). Wellcome Image no. B0002176.

It was while working with Sulston that Coulson completed his PhD entitled *The Physical Map of the C. elegans Genome* in 1994. This work on what became the C. elegans Genome Project forms Section B of the collection.

The final section of the catalogue, Section C, is much smaller than the other two and includes other sequencing projects that Coulson was involved in. In February 2003 Coulson left the Sanger Institute and returned to work at the LMB until his retirement in 2007. Unfortunately the collection does not contain any material from this final part of his career.

Author: Jenny Shaw is Project Manager for Collecting Genomics at the Wellcome Library.

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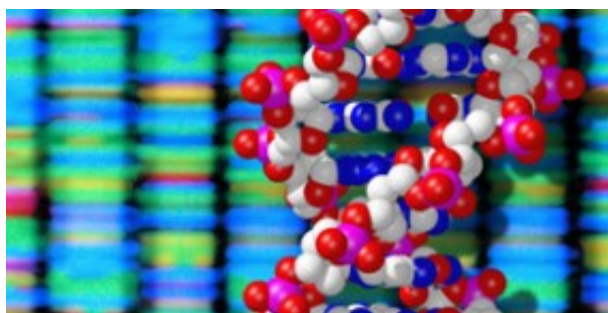


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