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# Molecularising mammalian development: gene transfer, recombinant networks and the making of transgenic mice

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## Abstract

Session: Making Modern Developmental Biology (Dietrich and Crowe, Hopwood, Myelnikov, Brauckmann) Knowledge of development was increasingly molecularised in the 1980s, with specific genes, RNAs and proteins invoked to explain the progression from fertilized egg to complex organism. Though reconstructed in part for the *Drosophila* and *C. elegans* communities, this historical shift remains otherwise largely obscure. The case of genetically modified ('transgenic') mice, one of the earliest kinds of genetic engineering in higher organisms, illustrates the exchanges and boundary crossings by which molecular biologists expanded into higher organisms and developmental biologists increasingly exploited molecular tools. This talk will explore how in the late 1970s, scientists from five different laboratories in the USA and Europe, driven by different questions, independently combined the practices and agendas of mouse developmental biology and gene transfer research to produce a new kind of animal technology. The earliest attempts had relied on viruses and even the acknowledged successes were achieved before the techniques of recombinant DNA were widely disseminated or standardised; there was no 'bandwagon' yet. However, as I will argue, the infrastructure and research questions born out of this new set of tools made the required exchanges more straightforward and advantageous to all. The key players had access to a small network of academic centres where new genes were being purified, introduced into cells and exchanged. By analysing cross-disciplinary collaborations, the talk seeks a more nuanced account of the role of recombinant DNA in the 'molecularisation' of developmental biology'.

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