

## **Introduction (special issue on biological robotics)**

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Biological Robotics covers the interface between robotics and behavioural biology. The first international conference in this area took place in Paris in 1990. This meeting led to the development of what is now called the Society for Adaptive Behaviour (SAB), which holds an international meeting every two years.

The growth of research in this area has been considerable, and a variety of approaches have been developed. This special issue of *Robotica* has been designed to bring examples of these developments to the attention of roboticists in general.

Historically, biological robotics can be traced back to the pioneering work of Grey Walter in the 1950s. An account of his contribution is given by Owen Holland, in this volume. Walter showed that an animal-like robot could exhibit many of the behavioural characteristics of animals, and in this way he introduced the idea that behaviour could be studied in its own right, and not just as a part of biology.

Biological inspiration for robotics is also represented by the 2 papers of David McFarland et al., and by the paper by Ian Kelly. Whereas McFarland draws upon biology to design robots for a specific purpose (ocean monitoring), Kelly is on his way to making an artificial animal, more in the tradition of Grey Walter.

Animal-like robots are increasingly being used to help solve problems in biology. This is well illustrated by the paper by Dimitrios Lambrinos, which shows how a long-standing biological problem (landmark recognition) can be approached through robotics. Similarly, Alcherio Martinoli and his colleagues show how robots can be used to unravel the complexities of odor localisation.

Finally, what of the impact of animal-like robots upon our own behaviour? This topic is addressed by Kerstin Dautenhahn in a paper which reveals the effects that robots are already having upon our society.