

JAMES FAWCETT

SCIENTIFIC COMMITTEE AT:

NEURO REGENERATION IS IT THE COMMON FRONTIER FOR BIOENGINEERING, NEUROSCIENCE, ROBOTICS AND NEUROREHABILITATION?



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James Fawcett, Chairman of the John van Geest Centre for Brain Repair at [Cambridge University](#), United Kingdom

James Fawcett trained in medicine at Oxford University and St. Thomas' Hospital London. After practicing in hospital medicine for a few years he studied for a PhD under Michael Gaze at the National Institute for Medical Research in London. He moved to the Salk Institute in the laboratory of Max Cowan as junior faculty, then he set up his own laboratory in the Physiology Department in Cambridge. Since 2001 he has been Chairman of the John van Geest Centre for Brain Repair at Cambridge University. His early research work was on the formation of connections during brain development and he then became interested in using developmental biology principles to promote repair in the adult nervous system. His main interest has been the part played by molecules of the extracellular matrix in the inhibition of nerve fibre regeneration and in the restriction of plasticity in the adult nervous system. He showed that chondroitin sulphate proteoglycans in scar tissue block axon regeneration after spinal cord injury, and that digesting these molecules could promote repair. Recent work has shown that plasticity is restricted after childhood critical periods by the formation of matrix structures known as perineuronal nets and that plasticity can be reactivated in the adult CNS by digestion of proteoglycans in these nets with chondroitinase. A recent focus has been working to increase the intrinsic ability of axons to regenerate. He has also been involved in the design of microchannel interfaces for electrical recording from regenerated axons. He has worked with Spinal Research, the Christopher Reeve Foundation and with the international organization of spinal injury charities, the ICCP, to develop guidelines for the conduct of clinical trials in spinal cord injury.

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