

RSB Training Programme: How the brain works

A one day course for students about the brain.

Who is the course aimed at?

This course is aimed at students interested in learning more about the brain.

What does the course cover?

Questions often asked by students about the brain:

1. How does one map the neural networks of the brain?
2. How are memories formed? Why do some people seem to have stronger memory formation than others?
3. What is the cellular basis of consciousness?
4. How does our brain solve problems?
5. What are the roles of plaques in neurodegenerative disorders?
6. What causes Alzheimer's?
7. What is the basis of neuroplasticity?
8. How is the development of the brain of a person with eidetic memory different from other people?
9. How does the brain grow?

This course will address some of these questions. In addition, students will learn about neuronal communication and the basis of the membrane potential, how sensory information is relayed to the brain (action potentials), and how the brain in turn generates behaviour (e.g. actions potentials, movement).

They should become familiar with the proteins and molecules involved (e.g. voltage-gated ion channels, ligand-gated ion channels, G-protein coupled receptors, neurotransmitters - acetylcholine, GABA, glutamate, dopamine) and neurotransmission (synapses), and the cellular structures of neurons and their supporting glial cells.

Further information

Course tutor and Society of Biology Fellow Professor William Wisden FSB graduated with a first class degree in Natural Sciences from the University of Cambridge in 1986. He developed his interest in neuroscience in a PhD at Cambridge awarded in 1990. From 2005-2009 he was Chair of Neuroscience at the University of Aberdeen. Since 2009, he has served as Chair of Molecular Neuroscience at Imperial College London. His current research interests include the mechanisms of sleep and genetic manipulations of sleep circuitry.

Contact

For more information and to register your interest, please [contact](#) our training officer.