

Conferences and Conclusions at the Year's Close

Guest Editorial

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As we head towards the end of the year, it is a good time to reflect back on the **most important stories** and developments of the last twelve months, particularly in the light of the recent conference held by the *Society for Neuroscience*, which clearly demonstrated some of the ways in which the field is changing and growing. At the same time, our thoughts may also turn towards the year ahead and the new questions and breakthroughs that it may bring.

The Year in Review

NeuroQuantology has generated some intriguing results in 2013, and it has also expanded into the public consciousness, with stories on quantum effects in nature being publicized by a number of **newspapers**. NeuroQuantology has itself published some interesting work over the course of the year, including the special supplement on *Everett's Quantum Mechanics*, and articles on **neurophilosophy**, **consciousness** and the quantum model of reality. The range of topics covered in NeuroQuantology has been vast, and with such diverse work going on, it is hardly surprising that quantum biology is becoming a term that a growing number of people are **learning to recognize**.

Neuroscience - 2013

The year 2013 has produced some interesting and important advances in the fields of neuroscience and quantum biology, many of which fell under discussion during the **Neuroscience 2013** conference, which was

held between November 9 and 13 in San Diego, California. The conference, which was organized by the *Society for Neuroscience*, attracted more than 30,000 attendees from across the globe, making it one of the largest neuroscience meetings in the world. Among the research stories from the conference that made the biggest impact, particularly in the mainstream media, was the work conducted on the neuroscience of drug addiction. Findings presented at the conference included work into the use of magnetic stimulation to enable people to quit smoking, and stimulation of the subthalamic nucleus of rats to reduce their appetite for heroin. Other researchers had focused on the motivation of addicts and **the long-term effects of vicodin use** and other addictive substances. Drug abuse was described as causing improper regulation of the stress response in the brain, potentially increasing the desire to continue taking drugs, while individuals who had experienced damage to the insula were found to be less prone to gambling addiction.

Other highlights of the conference included a lecture on the relationship between neuroscience and society, given by the president of Pixar, Ed Catmull, and the Symposium on Creativity, in which artists and scientists came together to discuss how neuroscience can help us to understand the creative process. The conference also gave attendees the chance to look forward and consider how the field of neuroscience is changing, with presentations on the new brain initiatives being created in both the United States and Europe, and a special



series of lectures on the idea of creating a map of the entire network of cells making up the brain.

Quantum Biology at Neuroscience - 2013

The broad focus of the conference enabled presenters to cover a wide range of topics in neuroscience, and although the majority of the work was dedicated to more traditional views of neuroscience, there were some presentations that explored quantum effects in the brain and in experimental methods, as well as other emerging approaches to neuroscience. The use of quantum dots was discussed by several research teams, indicating that this type of technology is becoming more widespread within neuroscience, although the study of quantum effects in the brain was not common among the studies presented at the meeting. As quantum neuroscience continues to produce the types of results that have been reported in NeuroQuantology and elsewhere during the last year, we may hope to see more presentations on quantum effects in the brain being made at

these mainstream neuroscience events, rather than being restricted to the more specialized meetings targeted at quantum biologists.

Neuroscience - 2014

Looking back over the last year, it is clear that some important advances have been made in neuroscience and quantum biology, many of which were presented at the *Society of Neuroscience's* conference, but there are still many more questions left unanswered for us to puzzle over in 2014 and beyond. The increasing familiarity of neuroscientists with quantum ideas, particularly in the form of the use of quantum dots and similar technologies, may help to increase interest in the field over the next year, and quantum biology could well be better represented at next year's *Society of Neuroscience* meeting, which will be held between November 15 and 19 in Washington DC.

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