

**Report of March 2012 Meeting
Royal Society
Southern Highlands Branch**

Speaker: Dr Ken McCracken

Topic: A Controversial Theory Regarding Sunspots and Solar Activity.

Dr Ken McCracken was greeted by a large audience of 70 as he entered the Drama Hall at Frensham. He had delivered many exciting lectures to the Southern Highlands Branch over recent years, and people arriving from a wide area of Illawarra and the Southern Highlands were again anticipating a stimulating presentation of cutting edge science. Even so, few would have guessed how extraordinary that lecture would be.

Since 2000, McCracken has been a visiting research scientist with the University of Maryland, and has collaborated closely with the Swiss Department of the Environment. During this time, he and his colleagues have been using glaciological data to study the properties of the Sun and the solar system over the past 10000 years. He and Juerg Beer (a previous speaker at our meetings) have recently published a professional text entitled "The Cosmogenic Radionuclides".

Dr McCracken described how he and his Swiss colleagues are now challenging the very foundations of solar physics. The accepted theory is that the magnetic fields of the Sun, and the sunspots, are produced by a "solar dynamo" inside the Sun. Using 10000 years of information from tree rings, and ice-core data from the Arctic and Antarctic, they have studied the properties of the dynamo in a much more detailed manner than has been previously possible. The results have been nothing short of astounding.

They are astounding because they provide extremely strong support for a hypothesis that has been around for 150 years, and which is completely contrary to our present-day understanding of solar physics. Much of the material presented at the lecture is currently the subject of ground-breaking papers in the process of publication. Despite the complexity of the research and its mathematical analysis, Ken managed to clearly describe his findings, and their implications, to the intrigued members of the audience.

After the meeting, there was much excited discussion over dinner where Dr McCracken was our guest. People realized that there is a long process to go through before this extraordinary research appears in the leading scientific journals to which it has been presented. It was agreed by all that it was exciting to realize that they had attended the first public presentation of this work anywhere in the world, and that they hoped to see

the day when the hypothesis that had been presented to them had become the “perceived wisdom” of our culture.

Anne Wood