

PHYSICS & ASTRONOMY

WEEKLY NEWSLETTER

VOLUME 21, NO. 3

Thursday, 5 February 2004

IMPORTANT DATES

Royal Aeronautical Society -
Canterbury Branch
7:45 for 8:00 pm
Tuesday 10 February 2004
C3 Lecture Theatre
Professor Rubin Battino:
The Three who flew at Kitty Hawk

NEXT WEEK'S SEMINAR

11.00 Friday 13 February 2004
Room 701, Rutherford Building
Louis Lyons
Department of Particle & Nuclear Physics,
University of Oxford, UK

Bayes versus Frequentism: the return of an old controversy.

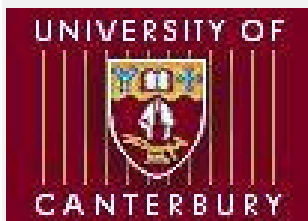
It is possible to spend a lifetime analysing data without realising that there are these two very contrasting approaches to the subject. This talk explains the differences, and gives examples from physics and from everyday life to illustrate situations where they yield different answers.

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The Newsletter is distributed every Friday.
If you have anything to contribute please contact Fiona O'Neill at the above number/email.



TE WHARE WANANGA O WAITAHA

FROM THE HOD

As I've written several times in these weekly comments, last year life in the Physics and Astronomy office was hectic.. Many times it got so hectic I was unable to write some comments. This year it seems even worse from busyness, but there is a feeling of great satisfaction that lots of things are being achieved.

Today's announcement is that Prof Ian Shaw is to be the Pro Vice Chancellor of the College of Science. All sorts of stuff will be written about him and circulated to many of the readers of this newsletter but from my perspective he's clearly a very competent scientist who has a real interest in public awareness of science, not only at the primary and high school level but also at the political levels. I expect he will be exceedingly good for the College of Science at the University of Canterbury and, indeed, for good science throughout New Zealand.

Today is the day for Marsden applications into the University research office. I note a great deal of scurrying this morning getting the final words and signatures across there. It seems that we will have lots of very strong applications in for the first round. Let's hope that we have our usual high success rate in later stages of the process.

Over the last two weeks people in the Teaching Committee and the office have been struggling with the new enrolment system. This new web enrolment system, with automatic checks by some new algorithms in the software, have made for horror stories in the Press because not everything has gone smoothly. However, I take the opposite view. Various student enrolment difficulties, such as enrolling in PHYS113 but having a poor bursary mark, has meant that there are hundreds of first year students that we need to advise.

This year Fiona is doing it from a computer on the desk instead of having to send letters to each and every one of them. Mike Reid as 200 coordinator is able to communicate with prospective 200-level students rather earlier than has been possible in the past. I expect that enrolment week will not be the bunfight of the past and that the total work load from us as a department and from our students will be considerably less this year than previously. And we can look forward to next year being smoother again.

Good news yesterday from the Mackenzie County Council. The Resource Consent to install the 1.8 metre Japanese MOA telescope on the mountain has come through. We've now also raised the funding for the building subject to the final signoff and so it all looks as if we may have the building up and ready for the telescope when it arrives in the spring of this year. Congratulations to Alan Gilmore, John Hearnshaw, Facilities Management and all others involved.

Another signed memorandum of understanding relating to the ring laser has come through. The parties are ourselves, Prof Bob Dunn's Hendrix College, Conway, Arkansas, USA and the Forschungsgruppe Satellitengeodäsie (FGS) represented by the Technical University of Munich (Prof Ulli Schreiber's institution).

I wish everybody a good long weekend.

Phil Butler

The Three Who Flew at Kitty Hawk

Royal Aeronautical Society - Canterbury Branch
Royal Society Meeting Notice

Tuesday 10 February 2004 Time: 7:45 for 8:00 pm

University of Canterbury - C3 Lecture Theatre

Professor Rubin Battino

The Three who flew at Kitty Hawk

Welcome to the 1st of the 2004 series of meetings. This month we will be joined by members of the Royal Society for the lecture.

We are indeed fortunate to have Professor Rubin Battino, from Wright State University talk with us. He is an authority on the Wright Brothers. Rubin is back in New Zealand and willing to give us an excellent talk about the era of early flight, but this time with the emphasis on Charles E Taylor, the Wright Brothers mechanic, who built their engines.

Synopsis.

This talk covers Charlie Taylor's life and family, and will last approximately 70 minutes giving many details of how he built the engine in 6 weeks, the Flight of the

Vin Fiz (first cross country flight by Cal Rodgers), Charlie's later life, and ends with a short film of Charlie talking, with another replica engine running.

There will be some film footage of interviews with significant people in Charlie Taylor's life. The talk will introduce a lot of new material not seen by us in earlier Wright Brothers talks.

The Comet and The Plague

Collision with comet may have hastened first plague epidemic

By Steve Connor, Science Editor, The Independent
http://news.independent.co.uk/world/science_medical/story.jsp?story=487550 4 February 2004

A collision between Earth and a passing comet in the 6th century AD may have caused the collapse of agriculture, mass famine and indirectly led to the bubonic plague in Europe, a study has suggested.

Scientists have calculated that a relatively small comet, or fragment of a comet, could have caused huge amounts of dust and debris to be ejected into the atmosphere, blocking the sun for months at a time.

The resulting crop failures and famine would have allowed bubonic plague to spread easily among a physically weakened population.

Studies of tree rings - from preserved oaks retrieved from Irish bogs to ancient American pine trees - have shown that plant growth around the world almost stopped between about 536AD to 545AD. Chinese records from this time refer to a "dust veil" obscuring the skies. Mediterranean historians record a "dry fog" that blocked out much of the sun's heat for more than a year.

Scientists have suggested two causes, both involving the ejection of dust or debris into the atmosphere to block the sun and so prevent photosynthesis.

One idea is that a super-volcano erupted, but neither the volcano nor its acidic deposits have been identified, Derek Ward-Thompson, who carried out the latest study at Cardiff University, said. The other proposal involved a collision with a big asteroid or comet, but there was no direct evidence such as a crater.

However, Dr Ward-Thompson and his colleagues Mel Symonds and Emma Rigby believe a much smaller comet which exploded in the atmosphere could easily have generated the dust and debris in the 6th century catastrophe. "The surprising result of these calculations is just how small a comet fragment we have estimated was needed to cause the observed effects," Dr Ward-Thompson said. . . .

They said that if such an event happened today, a large percentage of the population could face starvation. [Abridged]