

THE CAMBRIDGE STATISTICS DISCUSSION GROUP

Wednesday 24th November 2004 7:15 for 7:45

Department of Applied Mathematics and Theoretical Physics,
Centre for Mathematical Sciences,
Wilberforce Road,
Cambridge

Digital Audio Restoration, or how to remaster old sound recordings using Bayesian statistics

Simon Godsill

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Abstract: I will describe the work of over a decade in the Cambridge Signal Processing Group on digital restoration methods for old sound recordings. Problems such as cracked or broken records, uneven recording speeds, clipping, clicks, hiss and distortion can all be corrected using statistical methods, and we have mostly adopted a Bayesian time series approach to the problems. The methods have a serious mathematical heart, and results will be demonstrated for real sound recordings obtained from sound archives and record collections.

Speaker: Simon Godsill is Reader in Statistical Signal Processing at the University of Cambridge. He has research interests in audio and music processing, tracking, genomics and computational statistical methods. He is a director of the sound processing company CEDAR audio Ltd. and has published a book and many papers on the topic of sound processing and Bayesian methods in signal processing. For more information see <http://www-sigproc.eng.cam.ac.uk/~sjg/>

Directions: The main entrance is reached from Clarkson Road by going along the footpath to the right of the Newton Institute, and turning left through the gatehouse towards the main building (Pavilion A), which has a glass front and a curved grassed roof. The main entrance is in the middle of the glass front. Free Parking is available after 5pm on Clarkson and Wilberforce Roads and by entering the site off Wilberforce Road. Admittance may be difficult after 7:45.

Provisional Next Meetings:

2nd February – Lara Jamieson (Plant Sciences) on ‘A Bayesian analysis of the citrus canker epidemic in urban Miami’.
2nd March – Mary Garratt on ‘Dead Dutch Cats’.

Supper: Some members eat regularly in the University Centre before each meeting at 6pm. Feel free to join them.

Secretary: Peter Watson, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 2EF; telephone 01223 355294 Extension 801; E-mail peter.watson@mrc-cbu.cam.ac.uk

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Annual General Meeting

The annual general meeting will be followed immediately by Simon Godsill's talk 'Digital Audio Restoration, or how to remaster old sound recordings using Bayesian statistics'.

Agenda:

0. Approval of Minutes of previous A.G.M.
1. Treasurer's Report.
2. Secretary's Report.
3. Election of Chairman, Secretary, Treasurer, plus 3 other members of the Committee.
4. Any Other Business.

Rules for Election:

1. **FRANCISE:** All paid-up members may vote or stand for office.
2. **NOMINATIONS:** The offices to be filled are Chairman, Secretary and Treasurer and three other members of the Committee.

An outgoing Chairman will be a member of the Committee *ex officio*. At the end of each year the entire Committee will stand down, but may stand again for the same office as they are leaving without nomination. To be elected to a different office a candidate must be nominated by one person from the paid-up membership, not including himself. Nominations do not require a seconder to be valid, but do require the consent of the nominee. One person can be nominated for more than one office, but hold only one. If a person is elected to a higher office (according to the ordering given below) he or she automatically ceases to be a candidate for a lower office. A candidate for the post of Chairman, Secretary, Treasurer is automatically a candidate for the Committee if he or she fails to gain election to one of these three posts.

TURN OVER for the directions to DAMTP and the abstract of Simon's talk