

**2004 UK Symposium on Medical Infrared Thermography, 3rd November 2004,
Bushy House, National Physical Laboratory**

Meeting report by Kevin Howell & Roy Smith, Royal Free Hospital

About 30 delegates attended this year's symposium in the picturesque surroundings of Bushy House, on the edge of Bushy Park at NPL in Teddington.

Drew Heusch (University of Glamorgan) opened the session on the clinical applications of thermography by presenting a study of the rate at which various parts of the human body acclimatise to room temperature in healthy subjects. **John Allen** (Freeman Hospital, Newcastle) reported his preliminary findings of the quiescent function of fistulae in renal dialysis patients using thermography and colour duplex ultrasound. **Kevin Howell** (Royal Free Hospital, London) described a new protocol for the assessment of localised scleroderma in children, combining dermal ultrasound, laser Doppler flowmetry, thermography and clinical photography. **James Mercer** (University of Tromso, Norway) outlined the utility of thermography in autologous breast reconstruction surgery. The technique was used pre-operatively to identify candidate vessels for anastomosis, and post operatively to visualise blood flow in the implanted flap.

As befitted the venue, much of the remainder of the programme focussed on the technical and quality assurance aspects of medical thermal imaging. **Peter Plassmann** and **Francis Ring** (University of Glamorgan) stressed the need for quality assurance and calibration if thermography is not to fall into disrepute again. Francis presented some interesting comparisons of camera performance and detector traits in his "Brian Chu Memorial Presentation." **Rob Simpson** (NPL) described some of the initiatives NPL is undertaking to bring accredited calibration to the medical thermography community: accurate and traceable temperature measurement will facilitate collaboration between centres. This talk led neatly into lunch, and a tour of the NPL temperature calibration facilities.

The tour complete, **Roderick Thomas** (Swansea Institute) gave a thorough review of infrared detector technology, and emphasised the possibility of imaging in several IR bands. He ended with a brief description of his own work using thermography to visualise laser-tissue interactions in skin. **David Land** (University of Glasgow) introduced the meeting to radiometric temperature measurements using microwave wavelengths. **Kurt Ammer** (Ludwig Boltzmann Institute, Vienna) reviewed a number of interesting recent European publications on medical thermography. Kurt is editor of "Thermology International," the journal dedicated to medical infrared temperature measurement.

The meeting closed with a session on infrared image processing and computing, with **Gerald Schaefer** (Nottingham Trent University) giving two papers, the first on JPEG2000 compression of thermograms, in which the ability to select regions of interest allowed improved useful image quality with high levels of compression. The second paper described content-based image retrieval as a means of archiving infrared medical images; this innovative work based on the use of invariant moment functions ties in closely with the construction of a database of standard thermographic views. **Carl Jones** (University of Glamorgan) discussed the registration of clinical photographs and infrared thermograms using a rigid transformation technique. This work was undertaken in support of Kevin Howell's project for the assessment of localised scleroderma.

Since its revival in 2002, the UK annual medical infrared symposium has gone from strength to strength. This was another meeting highlighting the innovative work being undertaken across Europe in medical thermography, and the excellent supporting technical resources that we have in the UK to ensure that clinicians and healthcare scientists gain the maximum

possible benefit from the improvements in infrared imaging technology that have now reached the market.

The 2004 Symposium was hosted by the NPL Thermal Properties Awareness Club, with the support of the UK Thermography Association (UKTA).

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