

## From the Director



Prof. Nigel Shadbolt

WELCOME to Re:AKT. I hope you find this and future newsletters interesting and useful. We want to communicate our excitement about the AKT project – to describe its goals and ambitions, results and achievements, the challenges and opportunities that lie ahead.

AKT represents a new way of funding research in the UK. It is the result of a national competition – five projects were funded out of a field of some 120 bids. Selected projects had to demonstrate that they were world-class, innovative, important and timely. They had to be multi-site, interdisciplinary and collaborative. In return AKT received six years of substantial, unfettered funding.

Why is AKT important? We all recognise that we are drowning in a deluge of data. We are suffering from a new kind of technological pollution – infomog – too much information to make timely or effective decisions.

### Knowledge

AKT is all about getting the right content to the right place, at the right time and in the right form. Content managed in this way is practical knowledge.

AKT is about making this vision of knowledge management a reality. It is about understanding why this is hard. It is about integrating where we can, and inventing where we must, the methods and techniques to realise the vision.

AKT is using the World Wide Web as its primary source of content. Tim Berners-Lee, the web's inventor, outlined his vision for a Semantic Web close to AKT's original aspirations. This newsletter articulates the assumptions behind the Semantic Web. AKT is tackling one of the great challenges of the 21st Century – realising the potential of the extraordinary information repository that humankind is building.

■ **To find out how you or your organisation might become AKTively involved, please contact us at [info@aktors.org](mailto:info@aktors.org).**

# Helping the fight against cancer

**I**N an average year in the United Kingdom, 118 women out of every 100,000 will be diagnosed with breast cancer.

The Government's breast screening programme has been effective, but it is massive – in 1999–2000, almost 1.5 million women were screened.

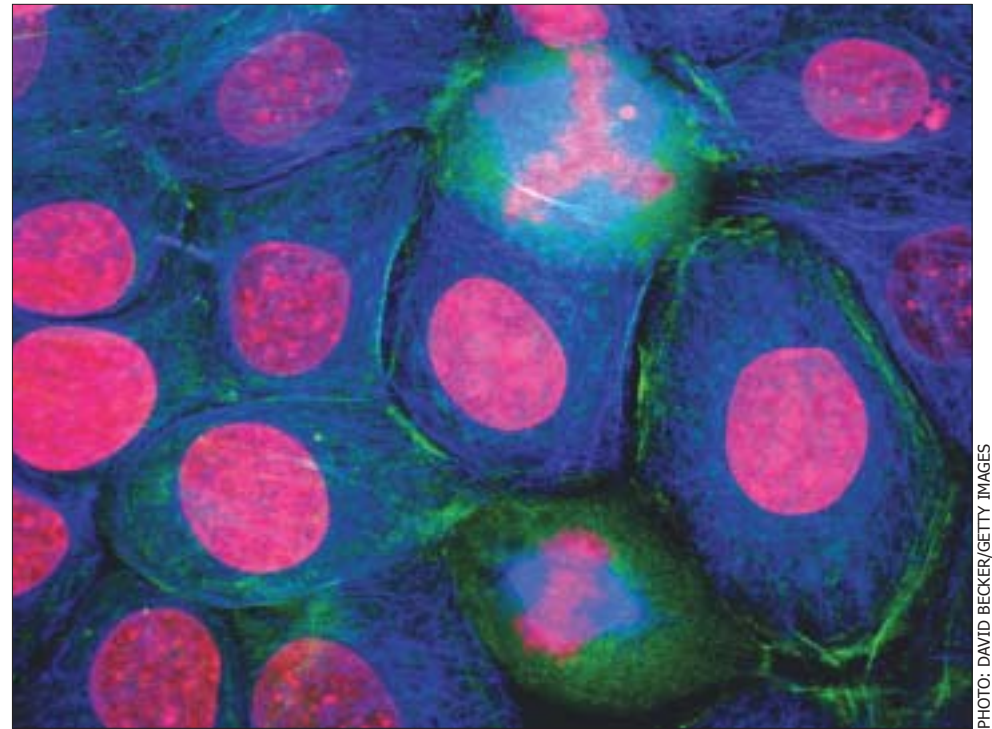
This produces a huge quantity of information; the difficulty is how to process it quickly and accurately.

### Expertise

AKT has joined with another British IRC (Medical Imaging and Signals) to help tackle this problem, setting up project MIAKT (Medical Imaging and Knowledge Technologies).

Currently, breast screening pools the expertise of clinical, mammographic and histopathological experts and MIAKT will support and record this complex process.

Researchers from the two groups met at Guy's Hospital on May Day 2002, with teams from Sheffield, Southampton, the Open University (OU), Oxford University and King's College informally exchanging ideas.



Danger signs: Cancer cells from human breast.

Challenges MIAKT hopes to meet include developing ontologies and process models that can show the complex diagnostic processes,

and adapting knowledge technologies for what is primarily a visual task involving processing images.

## Empowering meeting attenders near and far

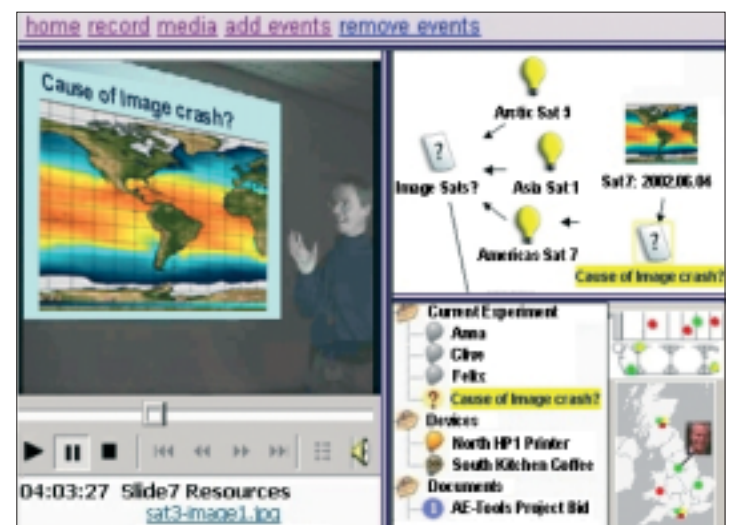
FACE-TO-FACE meetings offer many challenges to both attenders and organisers: everyone knows how hard it is to keep meetings in focus and on time.

The challenges escalate considerably when remote participation is involved, particularly with scientists of international stature who may have detailed technical points to convey, debate and possibly reanalyse with multiple participants. Facilitating such meetings is the goal of CoAKTinG (Collaborative Advanced Knowledge Technologies in the Grid), a sub-project of AKT funded by the EPSRC as part of the UK's e-Science Initiative on Grid computing.

### Collaboration

CoAKTinG will provide tools to assist scientific collaboration by integrating 'intelligent meeting spaces' (which help understand when key events happen at a meeting) with techniques for taking live video and audio streams from internet-hosted meetings.

Southampton's HyStream tools can annotate the video/audio with semantic tags to assist retrieval and analysis later on. The Open



**CoAKTinG scenario:** This is how it might look to replay the key segment from a missed meeting, following a BuddySpace alert and schematic Compendium network overview of the ebb and flow of the discussion.

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