



Join [e-MINET](#) for notifications of the latest newsletter and forthcoming Measuring the Impossible Network (MINET) events. Joining e-MINET will also allow access to the restricted hyperlinks within this newsletter. Registration is free and should take less than five minutes.

MINET Achievements



As the “[Measuring the Impossible Network](#)” project draws to a close, the achievements and successes of the project over the past 3 years have been reviewed:

- As a result of the project, **constructive interaction** between scientists from various disciplines, each with their own perspective on the measurement of phenomena that are dependent on human perception and/or interpretation, has taken place and developed. This includes the perceived attributes of products and services, such as quality and desirability, and societal parameters such as security and well-being.
- **Dialogue** between scholars and cooperation among research groups and experts from various disciplines - including biology, physics, chemistry, engineering, psychology, sociology, neuroscience and the creative arts - have been facilitated by the project. Although difficulties due to differences in language, concepts, methods and terminology still exist, there is now a **greater understanding of the approaches** that different groups take and a greater capability and desire to interact. Therefore the foundations for joint research have been laid.
- Work has aimed at consensus about how 'generic' metrological issues can be applied specifically to the 'Measurement of Persons' in terms of 'Man as a Measurement Instrument' and 'Measuring Man'. This includes:
 - Measurement concepts & terminology
 - Measurement techniques
 - Measurement uncertainty
 - Decision-making & impact assessment
- The [14 projects](#) funded under the “Measuring the Impossible” (Mtl) programme have benefited from **constant interaction** with the other projects, with findings from the different research groups being used to help guide and advance the research aims of others.
- **Further benefits** came from the [training opportunities](#), [workshops](#), [conferences sessions](#),

[study visits](#), [think-tanks](#), [repository](#), [newsletters](#) and website that MINET made available to the Mtl project teams and the wider Mtl community.

- The challenge of measuring complex phenomena is now on the agenda of both the **scientific community and policy makers**. The final plenary meeting in January in Brussels (see below) was an important occasion, allowing the Expert group to present their [report](#) to these stakeholders.
- Well beyond the immediate MINET partners, an **extended network** of researchers interested in “Measuring the Impossible” has been put in place, and many of its “members” met at the [MINET conference](#) held at the National Physical Laboratory, UK on 10th – 12th November 2009.

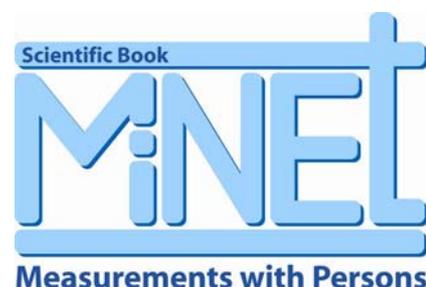
These dialogues, however, are in their embryonic stages and will continue beyond the end of the project. **The foundations of a joint research programme have been laid down**, and now it has to be taken forward. We have the network in place ([e-MINET](#)) and are identifying future directions for [research](#). What is needed now is an institutional framework, and we hope that European policy makers will provide their support in creating it.

MINET Book to be published in 2010

Measurement with Persons: Theory, Methods and Implementation Areas

Editors: B Berglund, G B Rossi, J Townsend & L Pendrill

The [MINET book](#), resulting from the heavily oversubscribed [training course](#) held in June 2008 for senior scientists, is scheduled to be published in 2010 by Taylor & Francis within their Psychological series. The book is divided into two sections. The first gives the reader a background into the **multidisciplinary** problems that have to be considered when dealing with Measuring the Impossible topics, and introduces both theoretical and methodological techniques that can be used in measurement. The latter half of the book presents several **implementation areas**, including sound, visual, skin and odour perception, functional brain imaging, body language and emotions, and the use of measurements in decision making.



MINET Conference: “Measurement, Sensation and Cognition”

The final MINET workshop entitled ‘[Measurement, Sensation and Cognition](#)’ was held at the National Physical Laboratory (NPL), Teddington, UK, on 10-12 November 2009. In total more than **90 delegates** from disciplines covering physics, biology, chemistry, engineering, psychology, sociology, neuroscience and the creative arts attended. These delegates, from Austria, France, Korea, Germany, Italy, the Netherlands, Slovenia, South Africa, Spain, Sweden, United States and the UK, represented **55 institutions**, covering manufacturing, design, industry, universities and National Measurement Institutes.

The conference was focussed on four main areas

- **Perception and Sensation**
- **Cognition and Neuropsychology**
- **Measuring the Impossible**
- **Analysis and Theories**

It included 19 oral paper presentations and 14 poster presentations, from both Mtl and non-Mtl projects and research groups.



Some of the conference delegates

Three keynote papers were presented:

- Steven P. Tipper - Bangor University, UK - on ‘Motor activation via action observation: effects on object and person attributes’
- Charles Spence - Oxford University, UK - on ‘Measuring the impossible’
- Susan Francis - Nottingham University, UK, - on ‘Challenges and opportunities of ultra-high field magnetic resonance imaging (MRI)’

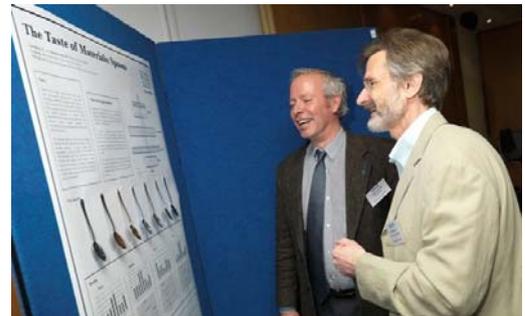
During the Measuring the Impossible session the first draft of the Expert Group Report was presented by Birgita Berglund (Stockholm University and MINET Coordinator), followed by



Steve Tipper, Bangor University, giving an Invited presentation

a stimulating **round table discussion**. The outputs of the discussion will be used to refine the draft of the **Expert Group Report**, to strengthen the case for future EU funding in this area. Kamal Hossain (NPL) chaired the discussion session, with the panel members being Birgitta Berglund, Charles Spence (University of Oxford), Francis McGlone (University of Nottingham and University of Liverpool), and Teresa Goodman (NPL). A lively discussion was based around 5 questions:

- What are the potential benefits of research in Mtl – for society, business, industry, the scientific community etc.?
- What are the barriers to achievement of these benefits?
- What should Mtl research be aiming to achieve within the next 10 years?
- Based on this, what are the major research objectives?
- What specific developments in measurement instrumentation, techniques, protocols etc. are required in order to achieve these research objectives?



Delegates enjoying the poster session

The presentations given at the conference are available, along with the conference digest, to e-MINET members on the [members area](#) of the MINET website. To join e-MINET please visit www.eminetnetwork.com.

A social dinner was held at the Twickenham Rugby Ground, photos of which can be viewed [here](#).



Delegates at the MINET conference. Click image to enlarge

Expert Group Report

The [Expert Group Report](#) is being drafted by a small group of researchers, representing the different scientific disciplines involved in 'Measuring the Impossible' (Mtl). The report will be used to **promote** the Measuring the Impossible field of research within the **European Commission** and raise awareness of its potential impacts and benefits. The Expert Group Report will scrutinise the future roadmap of the Measuring the Impossible theme, i.e. define, structure and inform the future for the emerging field of research knowledge on Mtl. Please see [Issue 5](#) of the Newsletter for the members of the Expert Group.

The report is currently in a draft form and will be finalised and published by the end of March 2010. The outline of the report is as follows:

Executive Summary

A summary of **conclusions** that will be suitable for use as briefing material for raising awareness about activities and for priority setting by governments, funding bodies, etc.

What is 'Measuring the Impossible'?

Outline of the **scope of the research** that should be covered under the Measuring the Impossible theme.

Current State-of-the-Art

A review of each scientific discipline of relevance for Mtl, covering current **state-of-the-art measurements**, protocols, methods, instrumentation, recent advances, research trends, opportunities, etc.

Vision and Roadmap for Mtl Research

Outline of the **potential benefits of research in Mtl** for society, business, industry and the scientific community and the barriers to achieving these benefits, establishing the Mtl research aims for the next 10 years?

Final Plenary Meeting

The final Plenary Meeting of the MINET project took place on 27th January 2010, in Brussels at the **Permanent Representation of Sweden to the European Union**. The meeting was well attended with representatives from the EC DG Research (including the original Mtl champion Carlos Saraiva Martins), MINET-project partners, the Expert Group and Advisory Board members, and other invited MINET stakeholders.

The purpose of the meeting was to raise awareness of the importance of the Measuring the Impossible research area to the EC. The opportunity was therefore taken to present the Expert Group Report and to discuss the importance of interdisciplinary research and the success of MINET in developing interaction between scientists from different disciplines. Six Mtl project leaders presented their projects.

Further information on the meeting will be available on the MINET website:

<http://minet.wordpress.com/membersarea/future/>

Good News Stories

IMEKO World Congress

The IMEKO World congress, a tri-annual, measurement science conference focussing predominantly on the physical sciences, was held in September 2009. Of the 250 presentations, 63 were involved with topics that fall under Measuring the Impossible. Andrew Wallard, the Director of BIPM, gave an invited talk about the future of metrology. During this talk he explicitly addressed "sensory metrology" and had a new message for traditional metrologists – that **Mtl studies are now a full part of the wider measuring community** (until now, at World congresses such themes were in sessions titled as "Others"). He also highlighted the work that the MINET project has been doing in this field.



*Janko Drnovšek, University of Ljubljana, and Andrew Wallard, BIPM
Director, modelling the MINET t-shirt*

MONAT and COBOL visit University of Groningen

As a result of the Study Visit Call 4, members of the Mtl MONAT and COBOL projects visited the University of Groningen on 13th January 2010 where the SynTex and PERCEPT project groups hosted a **symposium**. All four groups presented the results of their research to an audience of well over forty attendees, comprised of university employees, students and the general public.

A separate **MRI lab tour** also took place to demonstrate how an eye-tracking device was adapted for use during brain scanning to allow additional information about human visual perception to be measured. During the tour numerous discussions took place between the different research groups, such as uncertainty and variability in neuroscience measurements, experimental protocol consistency and areas of possible future multidisciplinary collaboration.



Mtl Projects

BioEMERGENCIES
Towards personalised health

Brain Tuning

Striking a tune: music and the brain



CLOSED

Exploring sound: the neglected design dimension

COBOL

Science revealing the mysteries of body language



EyewitMem

How to lie without trying



FEEL EUROPE

How deep is emotion?



FUGA

Time to measure games appeal



MEMORY

What makes holes in time?



Mind Bridge

Consciousness unravelled at last

MINET

Measuring the Impossible NETWORK



MONAT

Linking the physics and perception of natural materials



PERCEPT

In the eye of the beholder



SOMAPS

Understanding what your skin is saying

SynTex

The emotions of texture



SysPAQ

Improving indoor air and quality of life



For further details visit the official MINET website www.minet.wordpress.com/projects

The [European Commission document EUR2242](#) provides a full overview of each Measuring the Impossible project, including the aims of the research, and the organisations involved in each project.