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## **SIMoNET Structural Integrity Monitoring Network**

### **Report on 15<sup>th</sup> Simonet Meeting “Offshore, Sensors and Networks”**

**Held at UCL on April 25th 2007**

#### **Introduction**

Professor Bill Dover (UCL) welcomed the participants to the seminar and chaired the first session. Professor John Sharp (Cranfield) took the chair for the second session.

#### **1. Monitoring and Analysis of Structural dynamics**

**Peter Sharpe, Plant Asset Management, Petrofac**

Abstract not available

#### **2. Offshore Asset Integrity Management**

**John Sharp (Cranfield University)**

Professor Sharp described the model developed for managing asset integrity, as a joint industry funded project via the Energy Institute. Managing asset integrity is a means of ensuring people, systems, processes and resources which deliver integrity are in place and fit for purpose. He explained that performance measures are difficult to define. Measuring **organisational capability** in the several key processes which constitute the maintenance activity is the basis for this model, using the Capability Maturity Model (CMM) – from the software industry. An activity (e.g. maintenance) comprises a set of characteristic processes and with each process there is a progression through different levels of capability - called *maturity levels*. The model enables organisations to establish their current level of maturity for each of the characteristic processes and what steps are necessary to enable the organisation to progress to a higher level (called improvement steps).

The asset management activity has been divided into seven processes, starting with setting policy, resources and targets through effecting the maintenance to measuring performance and data management. A number of sub-processes and complementary processes had also been defined. He described the application of the model in practice, involving interviews with key personnel involved in each process. Several of the processes related to structural integrity monitoring, which were outlined.

#### **3. Structural Integrity Considerations for Floating Structures**

**Richard Snell, BP**

Abstract not available

#### **4. Monitoring of Inspection Data**

**Adrian Dier, Atkins**

Abstract not available

**5. Reliability and availability of monitoring systems for bridges**  
**Bohdan Luczynski, COWI**

Abstract not available

**6. KTNs – Bridging communities with sensing and location technologies**  
**Noel Brahma, Bob Cockshott, NPL**

Abstract not available

**7. European Framework 7 (Structural Health)**  
**Toula Onoufriou (Surrey University) & Brian Bell (Network Rail)**

Abstract not available

**8. NCN - Two years on**  
**Deborah Pullen TWI**

Abstract not available

**9. Structural health monitoring of large structures using guided Ultrasonic waves**  
**Paul Fromme, UCL**

Many technical structures contain large plate-like components, which can suffer from severe corrosion and the development of fatigue damage during their service life. Permanent monitoring of such structures can be achieved using guided ultrasonic waves, which can propagate over large distances and allow for efficient nondestructive testing of such structures with limited access. Damage often occurs at or close to structural features, e.g., stiffeners welded to the hull plates of a ship. The sensitivity for damage detection close to structural features has been investigated by studying the combined interaction of the guided ultrasonic wave with defects and structural features.

**10. Fibre Optic monitoring of bridges**  
**Willy Boyle, City University**

Abstract not available

**11. Application of Teletest – Long range inspection of oil and gas pipelines**  
**Alex Haig, TWI**

Abstract not available

**12. Research Centre in Non-destructive Evaluation**  
**Peter Thayer, University of Strathclyde**

Abstract not available

**Conclusion**

Bill Dover thanked the speakers and those attending an interesting meeting.