Workshop Session Overview

The workshop has been divided into four sessions as follows:

Session 1: Sensors and structural health monitoring systems

Session 2: Structural health monitoring strategies for bridge structures

Session 3: Geotechnical monitoring of civil infrastructure

Session 4: Challenges in practical application of SHM systems

Each presentation is allocated 15 minutes in total; the session chair will notify the presenter when they have 2 minutes remaining. An additional 5 minutes are allocated to allow for questions and discussion after each presentation (~20 minutes).

Presenting authors are kindly asked to prepare their presentation using MS PowerPoint and save it on a USB drive for uploading to the computer in the session room. Please upload your presentation at least 15 minutes before the start of the session.

All poster authors will have the opportunity to present a 2 minute 'elevator pitch' at the end of the sessions prior to lunch. Please ensure your presentation is uploaded to the computer in the session room.

All paper contributions and posters are available on the USB drive provided.

Workshop Session Overview

	MAY 26th (THURS)	MAY 27th (FRI)
08:00	**Registration**	**Registration**
08:30	*(Tea and coffee)*	*(Tea and coffee)*
09:00	**Keynote Lecture**	**Keynote Lecture**
09:30	**Session 1**	**Session 3**
09:50	(DKB/LG/024)	(DKB/LG/024)
10:10		
10:30		
10:50	*Coffee break*	*Coffee break*
11:20	**Session 1 *cont.***	**Session 3 *cont.***
11:40	(DKB/LG/024)	(DKB/LG/024)
12:00		
12:20		
12:40	**Elevator Pitch Session** (DKB/LG/024)	**Elevator Pitch Session** (DKB/LG/024)
13:00	*Lunch*	*Lunch*
14:00	**Keynote Lecture**	**Keynote Lecture**
14:30	**Session 2**	**Session 4**
14:50	(DKB/LG/024)	(DKB/LG/024)
15:10		
15:30	*Coffee break*	*Coffee break*
16:00	**Session 2 *cont.***	**Session 4 *cont.***
16:20	(DKB/LG/024)	(DKB/LG/024)
16:40		
17:00		
17:20		
17:40	**Closing Comments**	**Closing Comments**
18:00	**Workshop Dinner** (Great Hall, The Lanyon Building, Queen's University Belfast)	

Note: All keynote lectures and sessions will take place in room DKB/LG/024

08:00 Registration
(Tea and coffee)

KN1 **Keynote Lecture 1: Prof. Hui Li**
09:00 Data Science and Engineering in Structural Health Monitoring

Session 1: Sensors and structural health monitoring systems

S1-1 **Recent Contributions to Strain-Based Structural Health Monitoring**
09:30 **using Long-Gauge Fiber Optic Sensors – An Overview**
Glisic, B., Sigurdardottir, D.H., Abdel-Jaber, H., Kliewer, K., Li, X., Reilly, J.

S1-2 **Damage Detection of Concrete Elements Retrofitted With TRM or FRP**
09:50 **Jackets: A Comparison Between Equivalent Strengthening Systems**
Tzoura, E.A., Laory, I., Triantafillou, T.C., Choutopoulou, E., Kollia C., Basheer, P.A.M.

S1-3 **A Framework for Rail Integrity Assessment Based on Rolling Vertical**
10:10 **Deflection Measurements**
Nafari, S.F., Gül, M., Cheng, J.J.R.

S1-4 **Ambient Vibration Analysis of a Strategic Base Isolated Building**
10:30 *Bongiovanni, G., Buffarini, G., Clemente, P., Saitta, F., Serafini, S., Felici, P.*

10:50 Coffee Break

S1-5 **Monitoring Wooden Warren Truss Hangars to Extend their Design**
11:20 **Life**
Locklin, L., Orellana, J., Akhras G.

S1-6 **Dynamic Monitoring System for Utility-Scale Wind Turbines:**
11:40 **Damage Detection and Fatigue Assessment**
Oliveira, G., Magalhães, F., Cunha, Á., Caetano, E.

S1-7 12:00 **Large Scale Parallel Neural Network for Structural Damage Identification**
Park, K.T., Darsono, D., Torbol, M.

S1-8 12:20 **Compressive Sensing for Wireless Sensors and Sensor Networks in Structural Health Monitoring**
Bao, Y. and Li, H.

12:40 **Elevator Pitch Session**

13:00 Lunch

KN2 14:00 **Keynote Lecture 2: Prof. F. Necati Catbas**

Monitoring Strategies for the Evaluation of Structures Exceeding their Design Life

Session 2: Structural health monitoring strategies for bridge structures

S2-1 14:30 **Instantaneous Curvature in Bridge Damage Detection**
Sevillano, E., OBrien, E.J., Martinez, D.

S2-2 14:50 **Analysis of Load Test on Composite I-Girder Bridge**
Huseynov, F., Brownjohn J.M.W., OBrien E.J., Hester, D.

S2-3 15:10 **Sources of Errors Identified in Fatigue Assessment of Ageing Steel Bridge Integrating BWIM System**
Faraz, S., Helmi, K., Algohi, B., Bakht, B., Mufti, A.

15:30 Coffee Break

S2-4 16:00 **Monitoring and Evaluation of a Stayed Bridge During a Structural Failure**
Carrion, F.J., Quintana, J.A., Crespo, S.E.

S2-5 16:20 **Workshop on Bridge Health Monitoring for the 'End of Service Life' of Bridges**
Peelen, W.H.A., Klatter, L., Brownjohn, J.M.W.

S2-6 16:40 **The Influence of Varying Temperature on Measures of Bridge Health Monitoring - Problem Description and Possible Accounting Approaches**
Baessler, M. and Hille, F.

S2-7 17:00 **Field Testing of a Drive-By Monitoring System For Transport Infrastructure Utilising GPS**
McGetrick, P.J., Hester, D., Lydon, M., Amato, G., Taylor, S.E.

S2-8 17:20 **Ground Penetrating Radar in Built Structures (Bridges, Docks, Airport Runways, Railway Lines): Successes and Failures**
Ruffell, A., Taylor, S.E., Hughes, D.

17:40 Closing Comments

18:00 **Workshop Dinner**
(Great Hall, The Lanyon Building, Queen's University Belfast)

08:00 Registration
(Tea and coffee)

KN3 **Keynote Lecture 3: Dr Paolo Mazzanti**
09:00 Toward Transportation Asset Management: Which is the Role of Geotechnical Monitoring?

Session 3: Geotechnical monitoring of civil infrastructure

S3-1 **Critical Aspects when using Total Stations and Laser Scanners for**
09:30 **Geotechnical Monitoring**
Lienhart, W.

S3-2 **Photogrammetric and Conventional Deformation Monitoring of an**
09:50 **Existing Tunnel while a New Cross-Passage Tunnel is Excavated through its Concrete Lining for AWAKE Project at CERN**
Alhaddad, M., Di-Murro, V., Acikgoz, S., Soga, K., Morton, R.F., Weber, R.

S3-3 **Aged Embankment Characterisation using Non-Invasive Geophysics**
10:10 *Gunn, D., Dashwood, B., Chambers, J.E., Dijkstra, T., Uhlemann, S., Swift, R. Kirkham, M. & Donohue, S.*

S3-4 **Settlement-Induced Damage Monitoring of a Historical Building**
10:30 **Located in a Coal Mining Area using PS-Insar**
Bejarano-Urrego, L., Verstrynge, E., Van Balen, K., Wuyts, V., Declercq, P.Y.

10:50 Coffee Break

S3-5 **Non-Invasive Geophysics for the Water Content Monitoring of Earthen**
11:20 **Embankments**
Utili, S.

S3-6 **Geotechnical Monitoring - Case Studies**
11:40 *Doherty, P.*

S3-7 12:00 **Geotechnical Monitoring of Infrastructure using Distributed Fibre Optic Sensing: Project Examples, Results and Limitations**
Iten, M., Fischli, F. & Puzrin, A.M.

S3-8 12:20 **Geotechnical Investigation and Basement Reinforcement of BEIAN Covered Bridge**
Tang, Y.J.

12:40 **Elevator Pitch Session**

13:00 Lunch

KN4 14:00 **Keynote Lecture 4: Prof. Mohamed A. Zaki**

Lessons Learned from HBRC Infrastructure Testing Activities in Egypt

Session 4: Challenges in practical application of SHM systems

S4-1 14:30 **Statistical Hypothesis Test for Damage Detection of a Truss Bridge Utilizing a Damage Indicator from a Multivariate Autoregressive Model**
Goi, Y. and Kim, C.W.

S4-2 14:50 **Strategies for Assessing the Structural Performance of Electric Road Infrastructures**
Ceravolo, R., Miraglia, G., Surace C.

S4-3 15:10 **System Identification Analysis using Ambient Vibration Testing for a Reinforced Concrete Building**
Merino, Y. and Botero, J.C.

15:30 Coffee Break

S4-4 16:00 **Health Monitoring of Steel Structure in Oil Refinery Plant**
Hee, L.M. and Leong, M.S.

S4-5 16:20 **Monitoring Based Fatigue Damage Prognosis of Wind Turbine Composite Blades under Uncertain Wind Loads**
Zhang, C. and Chen, H.P.

S4-6 16:40 **Abercorn Bridge – An Innovative Approach for Bridge Remediation**
O'Higgins, C., McFarland, B., Callender, P., Taylor, S.E., Gilmore, D.

S4-7 17:00 **Challenges Associated with Integrating a Corrosion Monitoring System into a Facility Wide Structural Health Monitoring System**
Gooderham, T., John, G., Viles, S., Anderson, M.

S4-8 17:20 **Distributed Strain Monitoring of Tunnels**
Paris, J.B., Michelin, F., Maraval, D., Lamour, V. & Medrano, C.

17:40 Closing Comments