Heriot-Watt University supports Union Chain Bridge's Conservation

At a recent Heriot-Watt University *School of Energy, Geoscience, Infrastructure and Society Seminar,* Professor Roland Paxton, our patron, and radar specialist Dr Colin Stove, of Adrok Ltd, outlined their joint University/Adrok research contribution to ***'Supporting conservation of Union Chain Bridge of 1820 near Berwick-upon-Tweed, including use of a new radar imaging spectrometer to locate its Scottish anchorages'.***

Their presentation concentrated on the bridge's historical engineering aspects from original research, its international significance, present state on the eve of a start on its £8m conservation. Also on the use of newly developed non-invasive maser scanning to locate its inaccessible anchorages for which no drawings are known and of which Prof Paxton showed a notional model he had made.

The audience was particularly fascinated by the detailed account of the maser scanning in May 2018 and its revelations of ballast plates and ground conditions. Prof Omar Lagrouche, Director of the School's *Institute for Infrastructure and Environment,* commented that the audience had enjoyed the talk and were impressed by all the authors' activities. He hoped this would lead to more interaction with Heriot-Watt colleagues and further research opportunities.

After an informal discussion, Dr Benny Suryanto, organiser of the seminar, showed the speakers samples from old reinforced concrete structures under laboratory examination in which the pre-stressed steel was corroding. Reinforcement and concrete deterioration, which is difficult to remedy, is now of universal concern as there are many structures of this type. Adrok's new spectroscopy technique may be capable of facilitating the non-destructive monitoring of the extent of internal damage (cracks/corrosion) in reinforced concrete.

Since the presentation, this application, and another relating to the passage of masers through water at the School's reinforced concrete wave tank, are now under active discussion.as possible joint research exercises.

Dr Colin Stove (left) and Prof Roland Paxton (r) at the Seminar with our leaflets!