CryoUsers 2019 Conference Summary

27-29th August

St Andrews University

Approximately 70 delegates attended St Andrews at the end of August 2019, having previously hosted in 1997 St Andrews did a first-class job, with great accommodation, excellent food and stunning scenery around the town. St Andrew's University pedigree in cryogenics goes back to 1947, when Jack Allen pioneered his hydrogen-helium liquefier. Recently the St Andrews Helium recovery system has had 400m of pipework installed, with dramatic reductions in fill times.

Delegates and Sponsors arrived on the Tuesday afternoon and shared coffee and an evening meal before the full meeting, which was started by an address by the organising committee. Talks on the first day included a welcome by Professor Ian Bonnell and topical talks by Juraj Bella and Kevin Bailey, Andreas Rueegge for Linde Kryotechnik and Professor Peter Wahl regarding St Andrews low temperature physics. Rob Done of the STFC delivered a much-welcomed double safety lecture, followed by an interesting talk and demonstration of non-destructive cylinder testing by Stephen Butler of Chesterfield Cylinders. The day's lectures were completed with talks by Chris Snelling of ICE Oxford and Paul Kemp Russell of Sheffield University.

A kilted Scottish Piper greeted attendees and sponsors alike in the evening and the first full day ended with a superb conference banquet at the grand College Halls.

The second day commenced with a very interesting talk by Dr Oleg Kirichek on solid Methane, followed by Stelios Flessas and Michael Cory of Leybold. Colin Middleton gave a topical talk on BOC's Helium Supply and the last talk of the day was by Will Jones from Sumitomo on the ECOSWING project.

The proceedings ended with discussions of the next venue and thanks to the thirteen sponsors for making up a comprehensive trade exhibition.

CryoUsers due to the Covid situation with miss a year and will next be hosted by Nottingham in 2022 and then Durham in 2024.

Programme

Program Itinerary

Tuesday 27th August

15:00 – Delegates, sponsors arrive, tea and coffee

19:00 – Evening meal

Wednesday 28th August

08:00 – Breakfast

09:00 – Sponsors area

09:35 – Opening Address

	Dave Bater, Richard Down, John Graham, Callum Smith, Martin Ward and Adam Woodgate
09:40 – Welcome	**Professor Ian Bonnell – St Andrews University**
09:50 – Talk	**Juraj Bella / Kevin Bailey – NMR / Mass Spectrometer**
10:20 – Talk	**Andreas Rueegge - Linde Kryotechnik - Cryogenic refrigeration project at the Paul Scherrer Institute**

10:40 – Coffee, Sponsors area

10:55 – Talk	**Professor Peter Wahl – St Andrews University - Low-temperature physics in St Andrews**
11:15 – Talk	**Rob Done - STFC ISIS – A general introduction to the principles of cryogenic safety Part 1**

12:00 – Lunch, sponsors area

13:20 – Talk	**Rob Done - STFC ISIS - A general introduction to the principles of cryogenic safety Part 2**
14:05 – Talk	**Stephen Butler - Chesterfield Cylinders - Acoustic emission testing of high-pressure cylinders**
14:35 – Coffee	**Practical demonstration by Chesterfield Cylinders**
15:25 – Talk	**Chris Snelling – ICE Oxford - Scaling cryogenics for quantum computing**
15:45 – Talk	**Paul Kemp Russell -University Sheffield - Sheffield's contribution to the ATLAS upgrade @ CERN, cooling and orbital welding**

18:00 – Pre dinner Reception

18:30 – Conference Dinner

Thursday 29th August

08:00 – Breakfast

09:00 – Sponsors area

09:30 – Talk	**Oleg Kirichek – STFC ISIS - Solid methane in neutron sources, comets and other celestial bodies**
09:50 – Talk	**Stelios Flessas – Sauer - Zero leakage, reducing helium losses during compression**
10:10 – Talk	**Michael Corey – Leybold Helium Leak Detection / Cryo pumping and its applications**

10:30 – Coffee, Sponsors area

11:00 – Talk	**Colin Middleton - BOC - Helium Supply Dynamics**
11:20 – Talk	**Will Jones – Sumitomo Cryogenics of Europe - ECOSWING project, the build and demonstration of a High Superconducting (HTS) generator on a wind turbine Temperature**

11:40 – Close of meeting, next venue

12:00 – Lunch

13:00 – Finish