

The Royal Society of Tasmania
Northern Chapter



Northern Chapter Notes May 2014

Upcoming Launceston Lectures:

May 25th - *Vaccination: its Benefits, Risks and problems of Community Acceptance*,
Dr Katie Flanagan

June 22nd - *Viticulture and Climate Change* Dr Andrew Pirie

July 27th - **FORUM** - *The Current Diagnosis and Treatment of Bowel Cancer*

** Please let us know if you are coming - phone the Museum on 6362 3718, or email
bookings@qvmag.tas.gov.au

General News:

- The Royal Society of Tasmania's Northern Chapter was represented at the 2013 *Tasmanian Science Talent Search* Presentation Day on the 1st December, by our 2013 President, Dr John Paull. Organised by the Tasmanian Science Teachers Association,
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- Dr John Paull also attended the Royal Society's Christmas lecture in Hobart.....
- Our Northern Chapter Committee welcomed two new members, elected at the recent AGM on the 23rd March. They are Dr George Merridew, and Dr Gavin Earles, both long-term members of the Royal Society. Dr Eric Ratcliff is the new President for 2014, with Dr John Paull moving to the position of Immediate Past President. Mr Brian East remains as Honorary Treasurer, Ms Chel Bardell as Honorary Secretary, and Mrs Fran Davidson as Media Manager.

The Committee dealt with a number of routine matters and discussed the organisation of two field trips to the HIT Lab and to the Bisdee Tier telescope. The latter has had to be postponed indefinitely.

John Paull reported on the last Council meeting on 9 April at which the website re-design was discussed and a decision made to award the task to a successful tender. Members' comments on possible improvements to the website can be sent to John at jdpaul@intas.net.au and will be passed to the website design team.

A decision was made to support Dr Andrew Parsons' submission to the RST Council to

establish a curated Northern collection of the Society's library, holding materials relevant to the Northern Chapter of the Society at QVMAG. Andrew was formerly the Curator of the Society Library and Archives in Hobart.

Other matters discussed were a decision that the President and the Honorary Secretary prepare this Newsletter after each Committee meeting and an agreement that Fran Davidson investigate the feasibility of a small advertisement in *The Examiner* on the Saturday preceding each lecture. Feedback is welcome.

Field Trips:

Report of RST Northern Chapter Field Trip to AMC Towing Tank, Wave facility and Cavitation facility at AMC Newnham, 9 April 2013.

Ten members attended the AMC at Newnham and enjoyed a tour of three of the research and testing facilities at the college. Dr Gregor Macfarlane, Manager of the Towing Tank and Model Basin organised the tour and we are very grateful to him. We saw a number of students testing a model of the AMC vessel *Seafish* in the towing tank and received a lot of interesting information about the measuring techniques used and the sorts of ship behaviour which can be measured.

We then went with Dr Tim Lilienthal, Research Engineer in the same facility, to the Wave Tank where complex patterns of waves can be generated to allow testing of untethered vessels or fixed maritime structures. Multiple high speed infrared cameras are used to examine the behaviour of the vessel and the waves, by photographing the infrared light generated by the cameras, and reflected from small balls attached to the vessel or floating in the water. Strong winds can be simulated by large banks of powerful fans.

Finally we were taken by Dr Lilienthal to the Cavitation facility, an enormous structure comprising a three story donut of pipes with very powerful pumps and capable of being pressurised to several atmospheres. High velocity water flows can be generated in the test chamber and the quantity of dissolved gas in the water can be varied. An observation chamber, also equipped with very high speed movie cameras allows thousands of frames per second of images of test objects' cavitation behaviour to be captured. The factors causing or controlling cavitation can be examined. Uncontrolled cavitation destroys the surface of ship propellers and the moving components of high speed pumps. At the conclusion the group expressed their thanks to their hosts.

John Paull.

Report of RST Northern Chapter Field Trip to Beaconsfield Mines, 19 May 2013.

Ten members, a partner and an interested friend gathered at the Beaconsfield Mine and Heritage Centre car park on Sunday morning 19 May to embark on a conducted tour of old iron mining and refining sites in the area North of Beaconsfield led by mining historian Nigel Burch.

Initially Nigel talked about the distribution of the Tasmanian gold reef at Beaconsfield and its contribution to the large alluvial gold field which ran through the township and was panned and mined by a very large number of miners in the 1850's. Nigel then

demonstrated with a powerful rare earth magnet that on the outskirts of Beaconsfield much of the gravel beside the road is magnetite, one form of iron ore. We then drove to a farm north of the town where the spectacular remains of the Ilfracombe Blast Furnace were inspected and the owner of the property told us of the nearby mine, water mill and other structures long gone.

We then visited the long deserted town of Leonardsburgh where little remains but relics of a tramway and irises growing wild beside the road. Mt Vulcan was the next point visited where we saw the site where iron ore was discovered in 1805, by Colonel Patterson, and was mined systematically in the 1870's by the British and Tasmanian Charcoal Iron Company Ltd. We walked along the track of the railway constructed by that company and then followed that track by car to Redbill Point where a blast furnace had been constructed and where slag from the furnace can be found on the beach.

Our last site was Swift's Point on Middle Arm where another property owner allowed us to visit the site of a tramway, jetty, sandstone quarry and refinery built by the Tamar Hematite Iron Co. A number of the members ended the excursion at Tamar Cove for lunch. We are very grateful to Nigel for the information, time and access to so many interesting sites. His book, 'An Iron Will.' provides a comprehensive and fully referenced account of all of the places we visited.

John Paull

The Next Committee Meeting will be prior to the Lecture on Sunday 23 June.

Please feel free to contact any of the Committee members about matters related to our activities.

Committee Members are: Dr John Paull (President), Ms Chel Bardell, (Hon Sec). Mr Brian East, (Treasurer), Ms Jane Hall-Dadson, Mrs Fran Davidson, Ms Kaye Dowling, Mr Elvin Fist, Mr David Morris, Mr Andrew Parsons, Mr Stan Payne, Dr Eric Ratcliff and Mr Barry Waining,