

The New Zealand Starlight Conference has laid out the path towards the world's first Dark Sky Nation

The New Zealand Starlight Conference, which concluded in Tekapo last week, brought together 112 experts on light pollution and the maintenance of dark skies from New Zealand and from 14 other countries around the world. The conference was highly multi-disciplinary with participants from multiple different backgrounds to discuss the inter-related themes of dark-sky protection, the effects of artificial light at night on star-gazing, the environment and on human health and all aspects of lighting technology and astro-tourism. Astro-photography and the beauty of a pristine unpolluted night sky were also discussed.

The main theme of the conference was to develop the concept of New Zealand as the world's first Dark Sky Nation. We did this by inviting representatives of over a dozen groups in Aotearoa who already have dark sky accreditation from the International Dark-Sky Association, or who aspire to do so in the near future. For the aspiring dark sky communities, a workshop on the path to the future was held as the final event of the Starlight Conference, and one-on-one discussions with representatives of the International Dark-Sky Association (IDA, based in Tucson, Arizona) were held with each individual concerned. A close-knit community of dark-sky activists has thus been formed and Steve Butler (Royal Astronomical Society of NZ) and Nalayini Davies (Auckland Astronomical Society and Astronz), both of whom were on the conference's organizing committee, will follow up the conference by liaising with these groups.

The Starlight Conference was opened in the Godley Hotel on the evening of Sunday October 20, with speeches by Professor John Hearnshaw, chair of the Aoraki Mackenzie International Dark Sky Reserve Board, and conference organizing committee chair, by Mayor Graham Smith, mayor of Mackenzie District, by Professor Rudi Marquez, Head of the School of Physical and Chemical Sciences at the University of Canterbury (which owns and runs nearby Mt John Observatory), by the Hon Jacqui Dean, MP for the Waitaki and by Hinerangi Curtis, a senior astronomy and Maori studies student at the University of Canterbury. The Hon Margaret Austin, who was also on our conference organizing committee, was master of ceremonies for the opening event. Te Wera King of Te Runanga o Arowhenua conducted the powhiri for the opening ceremony and his kapa haka group provided a performance.

The success of the Starlight Conference depended very much on the quality of our ten keynote speakers who contributed major talks over the three conference days. The keynote speakers included Ruskin Hartley, executive director of the IDA in Arizona, USA, Antonia Varela Pérez, director of the Starlight Foundation in Spain, and Richard Wainscoat, an expert on LED lighting from the Institute for Astronomy in Honolulu, Hawaii. On Monday evening Victoria Campbell from Ngai Tahu in Dunedin gave a public talk to conference participants and accompanying guests, on *Tātai whetū ki te raki* – the myriad of stars, our constant connection. This brought home the importance of the stars in tikanga Māori, as signposts for celestial navigation, and as markers in the calendar for the planting of crops. Fabio Falchi from the Light Pollution Institute in Thiene, Italy, was one keynote speaker who was unable



Starlight Conference participants at the Tekapo Community Hall, October 23, 2019

Photo by Babak Tafreshi

to travel to New Zealand, but he sent a video of his talk about the *New World Atlas of Artificial Light at Night*. Chris Kyba, the well-known dark skies activist from Potsdam, Germany, was another speaker who presented his talk by video.

One theme emphasized at the Starlight Conference was the impact of blue light at night on human health and on the environment. Sean Cain, a professor of sleep and circadian medicine at Monash University in Melbourne gave a keynote talk on light and human health, while Karen Arthur from the Australian Department of the Environment and Energy in Canberra presented on the national light pollution guidelines for wildlife in Australia. Karen Trevino, from the US National Park Service, Natural Sounds and Night Skies Division in Denver Colorado, USA, gave a stimulating talk on preserving night skies in U.S. national parks.

The aesthetics of the night sky was also covered at the conference. Babak Tafreshi from Boston, Mass., USA, the creator of the website The World at Night, gave a wonderful talk using his amazing night-sky images. Paul Bogard, a writer from James Madison University in Virginia, USA, and the author of his much-acclaimed book *The End of Night*, gave a keynote talk lamenting the dwindling number of truly dark places remaining on the planet.

There were 52 talks and ten posters presented at the conference, covering an amazing breadth of topics and range of expertise related to the over-arching themes of light pollution and dark skies.

We are very grateful for a large number of sponsors who supported the Starlight Conference financially. These included the Westpac Bank, the Dark Sky Project (Lake Tekapo), the Isaac Conservation Trust (Christchurch), Astronz (Auckland Astronomical Society), the International Dark-Sky Association (Tucson AZ), the Starlight Foundation (Canary Islands, Spain), Christchurch International Airport, the University of Canterbury's School of Physical and Chemical Sciences, Alpine Recreation (Lake Tekapo), the Fairlie Bakehouse (Fairlie), Sawdon Station (Lake Tekapo), Trust Aoraki (Timaru), ChristchurchNZ (Christchurch), Alpine Energy (Timaru), the Royal Astronomical Society of NZ (Wellington), Luna Estate Winery (Martinborough), the United States Embassy (Wellington), Air New Zealand, the Department of Conservation (Christchurch) and the Mackenzie District Council (Fairlie).

Other activities at the conference included Mt John Observatory visits on Sunday and Monday (October 20 and 21), a workshop conducted by Al Grauer (Cosmic Campground, New Mexico, USA) on how to take sky quality meter measurements, and a banquet at the Godley Hotel on Tuesday evening (October 22) where Graeme Murray, the founder of Earth & Sky Ltd (the forerunner of the Dark Sky Project), and the largest astro-tourism company in the Aoraki Mackenzie reserve, gave a heartfelt after-dinner talk on how astro-tourism was established in Tekapo.

This was a conference that we will all remember for many years to come. Over one hundred participants went home with a great feeling of stimulation and renewed energy to protect the night skies of Aotearoa. The predominant feedback was that the conference made the participants (local and international) feel part of a community, a feeling reinforced by short video messages from IDA and the 14th European Symposium for the Protection of the Night Sky, which emphasized that that we are all 'under one sky'.

We plan to publish the proceedings of the conference in the coming months.

John Hearnshaw

Chair of the Starlight Conference Organizing Committee

28 October 2019

Postscript

The conference was well covered in social media:

Twitter: StarlightConferenceNZ (@conference_nz)

#: #StarlightConferenceNZ

Facebook: New Zealand Starlight Conference, Tekapo 2019

Other Media coverage:

<https://www.stuff.co.nz/timaru-herald/news/116766923/new-zealand-needs-to-use-all-the-tools-in-its-toolbox-to-become-a-dark-sky-nation>

<https://www.stuff.co.nz/national/116756423/nz-starlight-conference-is-light-pollution-the-next-global-crisis>

<https://www.stuff.co.nz/timaru-herald/news/114750900/conference-focus-on-getting-new-zealand-to-national-dark-sky-status>

<https://www.stuff.co.nz/timaru-herald/news/116741441/new-zealand-could-be-global-dark-sky-ambassador-experts-say>