



THE ROYAL ASTRONOMICAL SOCIETY OF NEW ZEALAND

www.rasnz.org.nz



KEEPING IN TOUCH #38. Sun 11th October 2020

PLEASE pass on to all your local astronomical society members

Hi and welcome to 'Keeping in Touch' #38. This issue is mainly about the ONLINE RASNZ ZOOM conference later this month...

1. THE FORTHCOMING ONLINE RASNZ ZOOM AGM AND CONFERENCE –

As you will now be aware, the physical RASNZ conference in Wellington has been cancelled. Instead we will be having an online conference, Annual General Meeting, Affiliated Societies' meeting, etc. This will be an RASNZ first, so bear with us during the online conference as we may have some technical challenges at times. Here's President Nick Rattenbury's 7 Oct letter to RASNZ members -

Dear RASNZ Member and RASNZ 2020 Conference registrant,

The 2020 RASNZ Annual General Meeting will be held online, on Saturday 24th October from 3 p.m. to 6 p.m. The day prior to the AGM, I will circulate a link to a Zoom meeting, and a password that will allow you access. We will strive to run the AGM as usual, but I ask you to be patient with me and the Council as we try to adapt our practices to suit this unfamiliar mode of running an AGM.

The Affiliated Societies meeting will be held on Wednesday 21st October from 6 p.m. to 9 p.m.

You will need a computer and internet connection to join the meeting(s) and you will need a computer with audio output in order to hear what is being said during the meeting. You will not need a microphone or a webcam unless you wish to be seen and/or heard during the meeting. If you do not have a microphone, you will be able to send in questions or comments via the Zoom chat function.

If you have any questions or concerns about the 2020 AGM, please do not hesitate to get in touch with me - president@rasnz.org.nz.

Yours, Nicholas Rattenbury

The dates and times to connect for the online Zoom meetings are –

RASNZ Affiliated Societies' meeting - Wednesday 21st October from 6 p.m. to 9 p.m. A Zoom link will be sent later.

RASNZ AGM – Saturday 24th October, 3:00 – 6:00pm NZDT. As Nick states, a Zoom link will be sent out prior to the AGM.

Here's the [link](#) to the 2019 AGM minutes and the [link](#) to the 2019 Affiliated Societies' minutes.

If you wish anything to be added to the AGM agenda or the Affiliated Societies' agenda, please send it to me (John Drummond) ASAP (kiwiastronomer@gmail.com or John Drummond, PO Box 113, Patutahi 4045).

Regarding the online conference talks, Standing Conference Committee lead, Glen Rowe, has written this –

'The online presentation organisation is coming together. The presentations will be streamed via YouTube - only a browser is required to view - **each Tuesday commencing 3 November and ending 1 December starting at 7:30pm**. Each session will last about an hour and comprise of either two or three presentations. In addition, there will be two hour-long presentations recorded by two of the people who were invited to be overseas speakers at the cancelled in-person conference. Details of each session of the programme will be posted on the RASNZ website shortly and included in the October RASNZ eNewsletter (**& see below**).' RASNZ's website is - <https://www.rasnz.org.nz/>

In case you are wondering, this year's ten SWAPA winners will be attending next year's (2021) conference in Nelson, so there will be 20 SWAPA attendees there in total.

2. FORTHCOMING STAR PARTIES -

STARDATE MARS. Fri 16 to Sun 18 October 2020. Phoenix Astronomical Society. Talks and telescope viewing at Stonehenge Aotearoa (near Carterton) – with a focus on Mars! Contact The Phoenix Astronomical Society secretary - secretary@astronomynz.org.nz .

NZ ASTROPHOTOGRAPHY WEEKEND. Fri 13th – Sun 15th November 2020. Shed new light on your astrophotography with some of New Zealand's top astrophotographers! Foxton Beach Camp, Foxton Beach, Horowhenua. www.nzapw.org.nz .

CENTRAL STAR PARTY. Thu 14th – Mon 18th January 2021. Four days/nights of tenting/bunk rooms, excellent astronomy talks and telescope viewing! Tuki Tuki Camp site, 70 Moore Rd, Haumoana, Hawkes Bay. www.censtar.party .

STARDATE – SOUTH ISLAND. Waitangi weekend, Fri 5th -Mon 8th February 2021. Staveley. Keep an eye on <https://cas.org.nz/>

STARDATE. Fri 12 and Sat 13 February 2021, at Stonehenge. Phoenix Astronomical Society. Contact secretary@astronomynz.org.nz

3. SOUTHERN STARS - Got an interesting astronomical story, area of astronomical research or article to share? *Southern Stars* editor Bob Evans would love to hear from you! He's always keen to see more articles in *Southern Stars*. *Southern Stars* is the journal of the RASNZ and an excellent forum to publish within. Write to bevans@xtra.co.nz

Remember to visit our Affiliated Societies page – <http://rasnz.org.nz/rasnz/affiliated-societies-details>

Regards, John Drummond, FRASNZ, Executive Secretary
Email: kiwiastronomer@gmail.com . Phone: 0275 609 287



ASTRONZ is now the NZ supplier for Meade!

Proposed RASNZ Online Conference Speaker's Programme

DRAFT PROGRAMME – IT MAY CHANGE CLOSER TO THE ONLINE CONFERENCE DATES

Tuesday 27th October, 7:30 pm DRAFT

Katie Bouman (60 min, pre-recorded)

Imaging a Black hole with the Event Horizon Telescope

(a recording of 2019 public talk at Caltech, used with Katie Bouman's permission)

Thursday 29th October, 7:30 pm DRAFT

Rene Breton (60 min, pre-recorded)

Einstein's Relativity: Tested to the Limit with Pulsars

(a recording of 2018 public talk to the RAS London, used with Rene Breton's permission)

Tuesday 3rd November, 7:30 pm DRAFT

Nick Rattenbury (20 min)

Te Pūnaha Ātea Auckland Space Institute

I present Te Pūnaha Ātea Auckland Space Institute, a new Centre at The University of Auckland. I will give an overview of our research including in-orbit operations for space situational awareness, debris monitoring and removal, educational programmes, and our research in orbit planet detection via the NASA/GFSC RamJET project. I will give a summary of the satellite missions developed from the Auckland Programme for Space Systems. I'll also present Te Pūnaha Ātea Auckland Space Institute research supporting a mission to the Venus's upper atmosphere, with a goal of detecting extremophile life.

Tom Love (20 min)

Chasing rainbows: spectroscopy with small telescopes

Recent years have seen the emergence of off the shelf equipment and software that make it possible to carry out a range of useful spectroscopic observations with amateur scale telescopes. This paper briefly describes some of the available equipment and techniques, gives examples of spectroscopic observations being made by amateur astronomers around the world, and describes some of the resources available to support those who want to try such observations.

Shaun Hotchkiss (20 min) (pre-recorded)

The non-linear Schrodinger equation in cosmology

The non-linear Schrodinger equation shows up in many places in cosmology. This includes "fuzzy dark matter", "axion stars" and a potential period of early matter domination right after inflation.

I will talk about why this equation is so ubiquitous and the interesting new phenomena that arise when it is relevant. This includes the formation of solitonic structures and smoothing out of sharp cusps at the centre of gravitationally bound structures, and the formation of granular blobs in those structures' outskirts.

Tuesday 10th November, 7:30 pm DRAFT

Heloise Stevance (30 min)

How old is Matariki?

The age of Matariki (a.k.a the Pleiades), has previously been found to be around 100 million years old, but could it be older than that? In order to determine the age of a star cluster, astronomers rely on theoretical models of stellar evolution and compare those to current observations. In the past couple of decades, binary interactions have been shown to play a crucial role in how stars live and how they grow old. However, the age of most star clusters (including Matariki) has been inferred by using single stars only! Our team has set out to change that with a new tool called AgeWizard, and it seems that the Seven Sisters might be older than we previously thought.

Steve Butler (20 min)

Measuring the Night

Tuesday 17th November, 7:30 pm DRAFT

Nick Rattenbury (20 min)

The Kerr-Tinsley Centre of Research Excellence

I present here a summary of the application made by NZ academic astronomers for funding the Kerr-Tinsley Centre of Research Excellence. The CoRE application has five themes, extending from cosmological research, through stellar population, computational astrophysics to proposing New Zealand's first space telescope mission.

Ed Budding (20 min)

Collaborative Studies of Southern Close Binary Systems: A Progress Report

A programme of studies of southern eclipsing binary stars, underway during the last decade has involved spectroscopic observations at the University of Canterbury's Mt John Observatory, photometric data from the RASNZ-VSS and various other international resources available on internet, together with appropriate software development. Examples of facilities and materials used are shown, together with some recent results. Absolute stellar parameters derived from these studies allow insights into a number of topics in stellar formation and evolution

Petra Nianqi Tang (20 min, pre-recorded)

Estimating Spectral Density for the Stochastic Gravitational Wave Background for LISA

Tuesday 24th November, 7:30 pm DRAFT

JJ Eldridge (30 min)

Understanding the stars that create gravitational wave transients

Max Briel (20 min)

Observing supernovae and gravitational wave events in a synthetic Universe

Tuesday 1st Dec, 7:30 pm DRAFT

John Hearnshaw (30 min)

New Zealand's progress towards becoming a dark-sky nation

John Drummond (20 min)

Murray Geddes, an Assiduous NZ Observer of Meteors, Sunspots and Variable Stars - as Well as Aurora and Comets

Murray Geddes was described as 'an assiduous observer of meteors, sunspots and variable stars'. In addition, Geddes discovered a comet in 1932. He also developed a deep interest in aurora which led to an international collaboration with professional astronomers and significant contributions to the understanding of aurora. Unfortunately for the astronomical community (and others) his life was cut short when aged 35 during WW2. The RASNZ honours this New Zealand man's achievements with the lecture fund named after him.