

## How to register for this event

On line at The Royal Society of Tasmania website <https://rst.org.au/>

### WIN!

Register before 10th March for either a morning session, or for a full registration and be in the draw to win one of two copies of the book *DINOSAURS: The Most Complete, Up-to-Date Encyclopaedia for Dinosaur Lovers of All Ages* illustrated entirely by Luis Rey.

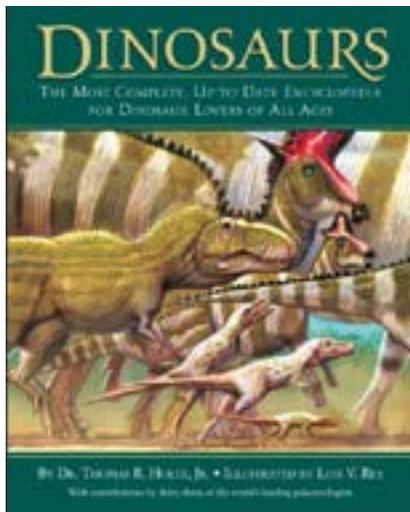
Or purchase your ticket at the event from 8:30am each day

### Registration Ticket Options

Full 2 day registration (inc lunches)	\$250
Full single day registration (inc lunches)	\$130
Saturday Morning Student	\$15
Sunday Morning Student	\$15
Saturday Morning Adult	\$25
Sunday Morning Adult	\$25
Saturday Morning Family Ticket (2A & up to 3C)	\$50
Sunday Morning Family Ticket (2A & up to 3C)	\$50

Note: Student/Child age 10 years to senior secondary, grade 12.

Further Information from <https://rst.org.au>, Convenor Professor Ross Large 0418352501 or Secretary David Wilson 0409854101.



Prize for early registration

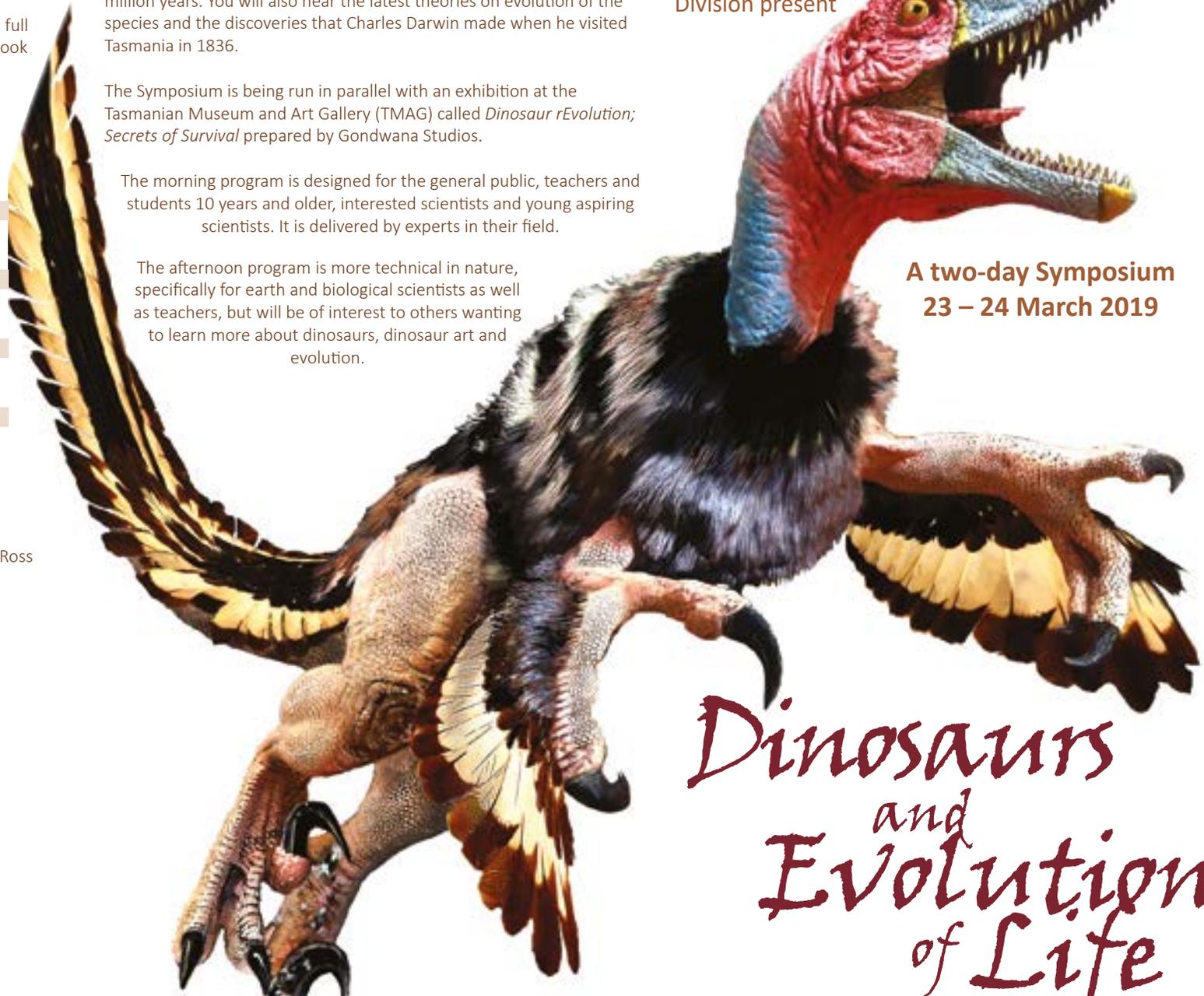
The Royal Society of Tasmania has put together a once-in-a-lifetime program of talks on the latest discoveries about dinosaurs and evolution. We have invited the top dinosaur experts from around Australia to present their recent research on these amazing animals that lived for 165 million years. You will also hear the latest theories on evolution of the species and the discoveries that Charles Darwin made when he visited Tasmania in 1836.

The Symposium is being run in parallel with an exhibition at the Tasmanian Museum and Art Gallery (TMAG) called *Dinosaur rEvolution; Secrets of Survival* prepared by Gondwana Studios.

The morning program is designed for the general public, teachers and students 10 years and older, interested scientists and young aspiring scientists. It is delivered by experts in their field.

The afternoon program is more technical in nature, specifically for earth and biological scientists as well as teachers, but will be of interest to others wanting to learn more about dinosaurs, dinosaur art and evolution.

The Royal Society of Tasmania and the Geological Society of Australia, Tasmanian Division present



**A two-day Symposium  
23 – 24 March 2019**

# Dinosaurs and Evolution of Life



Stanley Burbury Theatre, University of Tasmania

# Dinosaurs and Evolution of Life

## About Some of the Speakers and their Talks

**Dr Stephen Poropat**, from Swinburne University of Technology, will talk about Australian dinosaur discoveries and particularly the dinosaurs of the Winton Formation in Queensland. One recent discovery in Winton proved to be the most complete sauropod ever found in Australia. Sauropods include among their ranks the largest terrestrial animals that ever lived: some were more than 30 metres long, others more than 13 metres tall, and still others tipped the scales at more than 50 tonnes.

<https://stephenporopat.weebly.com/research.html>



*Savannasaurus is part of the sauropod family.*

*Image credit: Travis R. Tischler and Australian Age of Dinosaurs*

*Museum of Natural History*

**Dr Indrani Mukherjee**, from Earth Sciences at University of Tasmania, will talk about life on very early Earth, the Precambrian Era, spanning from 4500 million years ago to 540 million years ago. This period is known to record some of the most significant transitions and breakthroughs in evolution of life. What shaped the course of evolution has always fascinated humans. This talk focuses on some of the key biological events in the Precambrian, particularly between 3500 to 800 million years ago and provides a geological explanation for their causes. The talk ties the chemical conditions of the ocean and the atmosphere, with evolution and diversification of complex microscopic life, that facilitated macroscopic life on Earth, including dinosaurs!

<http://www.utas.edu.au/profiles/staff/codes/indrani-mukherjee>



*LHS: Pyrite in organic matter-rich shales: A glimpse into Earth's history. RHS: Dr Indrani Mukherjee inspecting drill cores of very ancient rocks.*

**Dr Steve Salisbury**, from The Queensland University Dinosaur Laboratory will talk about the discovery of spectacular dinosaur tracks in the Kimberley region of northwestern Australia. An unprecedented 21 different types of dinosaur tracks have been identified on a 25-kilometre stretch of the Dampier Peninsula coastline dubbed 'Australia's Jurassic Park'.

"The dinosaur track fauna of the Broome Sandstone is extremely significant, forming the primary record of non-avian dinosaurs in the western half of the continent and providing our only glimpse of Australia's dinosaur fauna during the first half of the Early Cretaceous Period," Dr Salisbury says.

<https://researchers.uq.edu.au/researcher/1135>



*Goolarabooloo Law Boss Richard Hunter (left) and Steve Salisbury (right) alongside tracks of a small theropod (3D track model and trackmaker silhouette inset, right), near Walmadany, on the Dampier Peninsula, WA. Photo Damian Kelly.*

**Dr Phil Bell**, from the University of New England will talk about the excitement of digging for dinosaurs and finding the amazing opalised dinosaur bones unearthed at Lightning Ridge in NSW, including the recent discovery of the jaw bone of a small ornithopod. The dinosaur has been named *Weewarrasaurus pobeni* – a name that recognises the fossil's unearthing in the Wee Warra opal field, and honours Mike Pobeni, an Adelaide-based opal buyer who donated the specimen for research. Like all fossils from the Lightning Ridge opal mines, the lower jaw—the only piece of the animal recovered—is preserved in opal. Precious opal gives off a rainbow of colours, in this case shimmering green and blue. Lightning Ridge is the only place in the world where dinosaur bones are commonly replaced by precious opal. <https://www.une.edu.au/staff-profiles/ers/pbell23>



*The Right Lower Jaw of Weewarrasaurus Showcases the Rainbow Hues of Opal in the Fossil.*

*Photograph by Robert A. Smith*

**Professor John Long**, from Flinders University, will give us the history of evolution of life on Earth, from single celled bacteria, to fishes, then dinosaurs, birds and finally humans. He is an internationally acclaimed exceptional speaker and has led fossil digs all over the Earth. He is currently in Antarctica on a dig, but will be back in time for our symposium.

<https://www.flinders.edu.au/people/john.long>



*The exquisitely preserved 3D skull of Onychodus, a bony fish predator on the ancient Devonian reef of the Kimberley (Gogo site). Such fossils help us understand the evolution of vertebrates before the dinosaurs.*

**Dr Brita Hansen** will talk about scientific illustration, what defines it, its history and role in science. How do scientific illustrators create visualisations of dinosaurs that, despite no one having seen one, are viewed as representing plausible, living creatures: what skills and knowledge are needed by the artist in order to create this plausibility? If most people cannot draw an accurate image of what they see clearly and in great detail in front of them, how is it possible for an artist? Do artists have innate abilities, or is it training and practice that allows them to accurately reproduce what they can see in three dimensions (and even what they can only imagine) as two-dimensional images?

A scientific illustrator needs not only the artistic skills but also an understanding of many scientific aspects, such as anatomy and muscle structure in order to create scientific illustrations.



*Late 19th century image of Iguanodon (by Josef Smit, left) compared with a modern reconstruction (by Brian Choo, right).*

**David Shering** will demonstrate how Augmented Reality (AR) has been used to make dinosaurs come to life. *Psittacosaurus* a small dinosaur, originally discovered in China, will be brought to life in front of your eyes by a revolution in technology.

<http://handbuiltcreative.com.au/>



# Dinosaurs<sup>and</sup> Evolution<sup>of</sup> Life

**Saturday 23rd March** Registration opens 8.15 am

## Morning Session

Chair: Professor Ross Large (President, The Royal Society of Tasmania)

- 9.00 – 9.15 Welcome & Introduction  
9.15 – 9.45 Why evolution matters – reflections on deep time and the history of life – Professor John Long  
9.45 – 10.15 The story of early complex life before dinosaurs – Dr Indrani Mukherjee  
10.15 – 10.45 Morning Tea – appearance of Rosie and Rex the dinosaurs  
10.45 – 11.15 Australia's dinosaurs and their world – Dr Stephen Poropat  
11.15 – 11.45 Exciting dinosaur trackway discoveries from the Kimberley region, WA – Dr Steve Salisbury  
11.45 – 12.15 Dinosaur expert panel Q & A  
12.15 – 1.30 Lunch (included for those with a full day or 2-day ticket)

## Afternoon session

Chair: Dr Karin Orth (Geological Society of Australia, Tasmanian Division)

- 1.30 – 2.00 Spectacular dinosaur trackways from South Korea – Andy Spate  
2.00 – 2.30 Beyond the mid Cretaceous: New insights into the nature and composition of Australia's dinosaurian fauna – Dr Steve Salisbury  
2.30 – 3.00 The Winton Formation, Queensland: A window into a lost dinosaur world – Dr Stephen Poropat  
3.00 – 3.30 Afternoon Tea  
3.30 – 4.00 The rise of vertebrates in Australia: Where the dinosaurs came from – Prof. John Long  
4.00 – 4.30 Darwin's visit to Hobart: Impact on his evolution theory – John Davidson  
4.30 – 5.00 Panel Q & A

Morning Session – general public, students 10 years and older and scientists  
Afternoon session – aspiring scientists, geoscientists and biologists

**Sunday 24th March** Registration opens 8.15 am

## Morning Session

Chair: John Long (President, Royal Society of South Australia)

- 9.00 – 9.15 Welcome & Introduction  
9.15 – 9.45 Can you dig it? Digging for dinosaurs through time – Dr Phil Bell  
9.45 – 10.15 What wiped out the dinosaurs: A story of mass extinctions – Dr Karin Orth  
10.15 – 10.45 Morning Tea – appearance of Rosie and Rex, the dinosaurs  
10.45 – 11.15 Tasmania's Triassic: Where are the dinosaurs? – Phil Sansom and Dr Clive Calver  
11.15 – 11.30 What dinosaurs looked like: A brief history of dinosaurs from the earliest illustrations to the present – Dr Brita Hansen  
11.30 – 12.00 Augmented Reality and rebuilding dinosaurs – David Shering  
12.00 – 12.15 Panel Q & A  
12.15 – 1.30 Lunch (included for those with a full day or 2-day ticket)

## Afternoon session

Chair: Dr Anita Hansen (Councillor: The Royal Society of Tasmania)

- 1.30 – 2.00 Ocean chemistry and mass extinction events – Prof. Ross Large  
2.00 – 2.30 Images of science: Constructing scientific and cultural visualisations of dinosaurs – Dr Brita Hansen  
2.30 – 3.00 Dinosaurs and opals from Lightning Ridge NSW – Dr Phil Bell  
3.00 – 3.30 Afternoon Tea  
3.30 – 4.00 The rise and fall of stromatolites: The influence of trace elements and temperature – Dr Ross Corkrey  
4.00 – 4.30 Atmosphere oxygen and evolution of Life – Prof. Ross Large  
4.30 – 5.00 Panel Q & A  
5.00 Close

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