

## Friday, 07 Jun 2019

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18:00 - 21:00

### *Registration*

**G1 theatre**

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18:00 - 21:00

### **Bee Shorts film screening**

**G6 theatre**

We will be screening a selection of the entries in our ABA Bee Shorts film competition. ABA Bee Shorts proudly accepts entries on FilmFreeway, the world's #1 way to enter film festivals and creative contests. Entry is open to everyone! Films must be less than 10 minutes long and have something to do with bees.

## Saturday, 08 Jun 2019

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08:00 - 09:00

**Registration  
desk**      *Registration*

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09:00 - 09:40

### **Hilary Kearney - Girl Next Door Honey, USA**

**G6 theatre**

Speakers

Hilary Kearney, Girl Next Door Honey

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09:45 - 10:30

### **The History and Mystery of Bees Through the Ages**

**G6 theatre**

Speakers

Laura Bee Ferguson, Presenter, College Of Melissae

With rich visuals, Laura will present a rousing anthropological romp through honeybee mythologies and mysteries, animal communication and history that are at the root of civilization and spiritual practices the world over. You will never see bees the same way again!

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10:30 - 11:00

### *Morning tea*

Complimentary tea, coffee and danish pastries

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11:00 - 11:55

## Medicinal Honey - not so alternative now

G6 theatre

### Speakers

Nural Cokcetin, Postdoctoral Research Fellow, University Of Technology Sydney

Daniel Bouzo, PhD Candidate, University Of Technology Sydney

The bioactive properties of honey – using honey to kill superbugs and promote gut health  
These talks will cover the antimicrobial properties of honey and its use as a topical treatment for wounds and skin infections, including those caused by antibiotic-resistant superbugs along with how honey works to kill these superbugs without them becoming resistant to the killing effects of the honey. It will also cover the buzz about Australian 'manuka' honey; and how honey acts as a 'prebiotic' food that can improve our gut health by changing the balance of bacteria living in our gut.

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12:00 - 12:30

## Who's your mummy: Towards breeding resistance to chalkbrood in Australia

G6 theatre

### Speakers

Jody Gerdts, Researcher And Educator, Bee Scientifics

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12:30 - 13:30

## *Lunch*

Complimentary lunch: hot soup, sandwich and bottled water

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13:30 - 13:55

## See like a bee: think like a bee

**G6 theatre**

### Speakers

Adrian Dyer, Research Fellow, RMIT University

With growing interest in how to best study plant-pollinator interactions it is of high value to understand how important pollinators like bees see their world, and how flowers have evolved signals to promote optimal forager visits. We will discuss how recent advances in photography enable the recording of flower UV, Blue and Green reflectances to map both the spatial and colour variability of signals. We will also show how innovative photographic techniques can be used to map the spatial resolution of flower shapes, and explain why foraging choices for flower visual signals are extremely difficult at distances greater than about half a metre. To solve the complexities of the limited resolution of the compound eye, we will finally discuss recent behavioural evidence that bees use cognitive-like solutions like counting to enable survival in a complex, changing environments.

14:00 - 14:25

## Research developments in support of Stingless beekeeping

**G6 theatre**

### Speakers

Tim Heard, Director, Sugarbag Bees

I review research activities that have supported the utilization of stingless bees. I review the research on taxonomy and systematics, which allows Australian researchers and beekeepers to identify their species. I introduce the extensive research in the effect of plant diversity on colony success. I also review natural enemies and our knowledge of their biology and impact. I discuss how stingless bees defend themselves against those enemies. The relationship between stingless bees and the cadaghi tree is now well understood and we now believe the resin of this plant is not a threat to the bees. Queenlessness can be a problem for keeping stingless bees, but our improved understanding of colony re-queening helps us to manage this issue. Fighting swarms which is the result of aggressive interactions between colonies of stingless bees, is now much better understood, and our ability to manage them is improved. We have measured the flight range which is crucial information for managing hives. The composition, microbiology and antimicrobial properties of the honey of stingless bees has been the target of a few studies which allows us to develop this product.

15:00 - 15:25

## Simon Turner, Uganda

G6 theatre

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15:00 - 15:30

## *Afternoon tea*

Complimentary tea, coffee and mini muffins

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15:30 - 16:00

## Australian Pollinator Week – Inspiring community awareness and participation

G6 theatre

### Speakers

Megan Halcroft , Science Communicator And Conservationist, Specialising In Native Bees , Bees Business

Community awareness of the importance of honey bees, for food security, has greatly increased over the past few years. However, many people are still unaware of the thousands of 'other' insect species that provide pollination services. These insects may help increase crop quality and yield, as honey bees do, but more importantly, they drive biodiversity. Native bees and insects have evolved with our native plants, and as such, are best adapted to perform their pollination services. By increasing public understanding of the importance of our tiny pollinators, we can help preserve and support existing insect populations. To help achieve this goal, in 2015 Australian Pollinator Week (APW) was created. The 2nd full week of November, during the Australian spring, is a time when schools, neighbours, retirement villages, garden clubs, landcare and bushcare groups can come together for APW. Not only can they learn about insect pollinators, they can actively support their natural populations. By participating in APW, and sharing our experiences, we can increase knowledge, participate in citizen science projects, create habitat, provide food resources and enhance our environment. As a group, it can be a lot of fun. Multiple resources have been developed to help inspire communities to participate. The "how to..." guides, colouring-in projects, videos and scripted presentations are available on the Australian Pollinator Week page at <https://beesbusiness.com.au/pollweekmain.html>

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18:00 - 22:00

## Conference Dinner

**Hawkesbury  
Race Club**

Three course dinner with soft drink, beer and wine included. Tickets \$95 per person. Book now! Entertainment will include the presentation of awards for: Colonel Pulling inter-club competition ABA Member Awards: Inventor of the Year Art/Craft Selfie Label/Packaging ABA Bee

Shorts film-making competition

## Sunday, 09 Jun 2019

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09:00 - 09:55

### **ABA Annual General Meeting**

**G6 theatre**

Open to all ABA members.No conference ticket required, but please bring your ABA membership card to speed up entry.

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10:00 - 10:30

### **An update on Australian Research on the Glycaemic Index and Prebiotic effects of Australian Honeys**

**G6 theatre**

Speakers

Rosie Stern

The presentation will briefly outline the presenter's contribution to Australian research on the health aspects of Australian honey from 1999 to 2019. In particular, the presenter will describe the results of research into the Glycaemic index(GI) of honey and the prebiotic effects of honey. The Glycaemic Index is a measure of how different carbohydrates (sugars) in foods effect blood sugar levels. Foods containing carbohydrates are ranked according to their effect on the blood glucose levels. Honey has been of interest as affecting blood sugar levels because of the high percent of sugars in honey and the health effects for persons with health disorders such as diabetes. A Prebiotic is a food ingredient that beneficially affects an individual by selectively stimulating the growth and activity of bacteria in the large bowel. Honey has been of interest as affecting the bacteria in the large bowel because of the oligosaccharides (long chain sugars) in honey and the health effects for persons with bowel disorders such as irritable bowel and constipation. The presentation will outline where Honeys were sourced from in Australia, methods of testing performed and results of the testing. The presentation will also outline which Australian honeys are permitted to have nutrition health claims on their labels. Nutrition health claims are voluntary statements made by food businesses on labels and in advertising about a food. The claim refers to a relationship between a food and health.

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10:30 - 11:00

### ***Morning tea***

Complimentary tea, coffee and danish pastries

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11:00 - 11:25

## Eric Tournernet: The Bee Photographer

**G6 theatre**

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11:30 - 12:30

## WSU Hawkesbury Institute of the Environment Projects

**G6 theatre**

### Speakers

Lea Hannah, PhD Candidate, Hawkesbury Institute For The Environment

Bronwen Roy

Scott Nacko, Western Sydney University

Olivia Bernauer, PhD Candidate, Hawkesbury Institute For The Environment

### Exploring the virosphere of honeybees and stingless bees

00:01 - 23:59

#### Presented by :

Bronwen Roy

Studying the virosphere of pollinating insects not only provides insights into what viruses are shared across pollinator species, but also what plant viruses they encounter. Despite many studies of honeybee viruses, the virosphere of another large group of social insects, the stingless bees (Tribe: Meliponini) is as yet unexplored territory. As stingless bees are of growing interest for pollination services and it is envisioned that they can work side by side with commercial honeybees, my study aimed to reveal what viruses they share. Hives of three different species of stingless bees *Austroplebeia australis* (n=10), *Tetragonula carbonaria* (n=20) and *Tetragonula hockingsi* (n=10), as well as honeybees (n=10), underwent RNA sequencing. While the data show that stingless bees are in contact with honeybee associated viruses (BQCV and LSV), they do not support significant replication of these viruses in stingless bees. Additionally, the partial genomes of potentially two new partite-like viruses were uncovered in the study, one in honeybees and one in *Austroplebeia australis*. Furthermore, the transcriptome data reveal in Eastern Australia plant viruses of horticultural importance. Two of these, Tomato ringspot virus in honeybees and Pelargonium Zonate Spot Virus in stingless bees, were previously reported only in Western Australia.

### Cucurbit pollination & small hive beetle infestation in the stingless bee, *Tetragonula carbonaria*

00:01 - 23:59

#### Presented by :

Scott Nacko, Western Sydney University

We will discuss the first detailed case of small hive beetle infestation in a living Australian stingless bee hive that was transported and deployed for use in Cucurbit crop pollination. Out of nine studied hives, one hive became infested. All life stages of the small hive beetle, with the exception of eggs, were discovered inside the hive, which contained a total of 14 adult beetles and 133 beetle larvae. Events leading up to infestation, and future work to be done with

cucurbit crops and stingless bees will be addressed.

## Understanding apple and cherry pollinators: comparing pollinator effectiveness

00:01 - 23:59

Presented by :

Olivia Bernauer, PhD Candidate, Hawkesbury Institute For The Environment

Pollinators facilitate the reproduction of many flowering plants, including a variety of crop plants. Apples and cherries are two economically-valuable, pollinator-dependent crops grown in NSW, meaning that the successful production of apple and cherry fruits depends on help from pollinators. Many of these important pollinators are insects like beetles, flies, moths, and wild and managed bees. To preserve apple and cherry production into the future, it is important to understand this pollination relationship. Examining pollination effectiveness can help us to better understand how different pollinator species are interacting with crop flowers and influencing fruit production. Pollination effectiveness is the average amount of pollen deposited per visit to the flower combined with the pollinator visitation rate. To study pollination effectiveness a single-visit study was conducted, and pollinator specimens were collected directly from crop flowers to evaluate the quantity and identity of the loose pollen grains on their bodies. From the results of this research, we can start to evaluate the quality of different pollinator species visiting apple and cherry flowers.

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12:30 - 13:30

### ***Lunch***

Complimentary hot soup, sandwich and bottled water.

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13:30 - 13:55

**G6 theatre**

### **Hilary Kearney - Girl Next Door Honey, USA**

14:00 - 14:25

## Revegetation for crop pollinators

**G6 theatre**

Speakers

Katja Hogendoorn, The University Of Adelaide

We live in an age of unprecedented loss of biodiversity. The main causes of local extinctions are habitat loss and pesticide use. Climate change is bound to exacerbate these losses in the future. Insects, in particular flying insects such as bees, struggle to find food in modified landscapes. While insects are important in themselves, they are also a crucial as food for many vertebrate species, such as birds, bats and several species of reptiles. This talk will explore how we could improve the biodiversity value of agricultural landscapes and prevent further degradation.

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14:30 - 14:55

## Amelie Vanderstock

**G6 theatre**

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15:00 - 15:30

## *Afternoon tea*

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15:30 - 15:55

## The life and times of native and managed bees: an art and science perspective

**G6 theatre**

Speakers

Mark Hall, Postdoctoral Research Fellow, Hawkesbury Institute For The Environment

Bees capture our imagination more than most other insect groups. This is evident by their presence in art, literature, science and economics. We rely on them for our nutrition and we value them for their beauty. But we don't actually know that much about them and their mysterious ways. In this presentation I am going to attempt to merge art and science, sharing some of my love and fascination with all bees (not just the humble honeybee) through poems and short stories. I will intersperse these with some important research we are conducting at Western Sydney University to understand their role in agricultural systems, in glasshouse food production and how we can ensure the health and survival of both managed and wild species' within these human-dominated environments.

16:00 - 16:25

## In Conversation with Gina Cranson

**G6 theatre**

Speakers

Gina Cranson, Artist

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16:31 - 16:55

## Conservation of Stingless bees

**G6 theatre**

Speakers

Tim Heard, Director, Sugarbag Bees

Keeping stingless bees is gaining popularity. Can we ensure that this movement has a positive impact on their conservation? Is it possible to utilize stingless bees sustainably? I first explore how stingless bees have recently travelled from obscurity to become ambassadors for nature. I show how popular they are becoming for recreation and education. I review the explosion of resources that have recently become available. This phenomenon is not confined to Australia but to many tropical parts of the world. I examine the conservation of stingless bees in the context of this increasing utilisation and disturbance. I address the following threats: 1) Harvesting of wild populations. 2) Destruction of colonies by land clearing. 3) Anthropogenic movements cause adverse genetic consequences for wild populations. 4) Spread of disease. 5) Competitive impacts on other species and 6) Loss of cryptic species. I conclude that there are areas that need to be better managed and monitored.