

PROGRAM

15th March 2021

Registration Opens

2:00PM - 5:00PM

Coffee Bar

Opening Plenary

5:00PM - 6:00PM

Horizon Room 1&2

Chair: Paul Alewood

5:00PM **Irina Vetter**

Neurotoxic venom peptides from the giant Australian stinging tree

abs# 1

Welcome Reception

6:00PM - 8:00PM

Mermaids Beach & Main Poolside

16th March 2021

Breakfast

7:00AM - 8:00AM

Session 1

8:30AM - 10:30AM

Chair: Irina Vetter

8:30 AM **Richard J Lewis**

Evolution of predatory and defensive venom peptides in cone snails

abs# 2

9:00 AM **Vanessa Schendel**

Simple but complex: A simple gland architecture enables centipedes to adjust the composition of their venom secretion to different ecological purposes

abs# 3

9:20 AM **Kirsten L McMahon**

Discovery, pharmacological characterisation and NMR structure of the novel μ -conotoxin SxIIIC, a potent and irreversible Na_v channel inhibitor

abs# 4

9:40 AM **Mark A Jackson**

Co-expression of a cyclizing asparaginyl endopeptidase enables efficient production of cyclic peptides *in planta*

abs# 5

10:00 AM **Samantha A Nixon**

Discovery of a spider toxin with selective anthelmintic activity against human and veterinary parasites

abs# 6

Morning Tea

10:30AM - 11:00AM

Session 2

11:00AM - 1:00PM

Chair: David Craik

11:00 AM **Norelle Daly**

Identification and Characterization of a Peptide from the Stony Coral *Heliofungia actiniformis*

abs# 7

11:30 AM **Edward K Gilding**

No flight and all fight: diversity in plant disulfide-rich peptide toxins

abs# 8

11:45 AM **Nayara Braga Emidio**

Chemical synthesis of TFF peptides reveals novel mechanistic insights and a gut-stable metabolite

abs# 9

12:00 PM **Nisharnthi M Duggan**

Total Chemical Synthesis of Venom and Salivary Proteins *via* Ligation Technologies

abs# 10

12:15 PM **Richard M Kim**

Introducing cippis: building for scale and impact

abs# 11

12:30 PM **Himaya S.W.A.**

Biochemical diversity of worm hunting cone snails of genus *Virgiconus*: A case study with closely related species from One Tree Island, GBR

abs# 12

Lunch

1:00PM - 2:00PM

Horizon Room 1&2

Afternoon Tea

4:30PM - 5:00PM

Horizon Room 1&2

Session 3

5:00PM - 7:00PM

Chair: Rob Capon

5:00 PM **Nathan Palpant**

Human pluripotent stem cells for biological studies of venom

abs# 13

5:30 PM **Simon de Veer**

Engineering selective inhibitors for coagulation factor XIIa based on a cystine knot peptide framework

abs# 14

5:45 PM **Benjamin J Tombling**

To affinity and beyond: engineering sub-optimal peptide drugs leads using bioactive cyclisation

abs# 15

6:00 PM **Hue NT Tran**

Evaluation of efficient non-reducing enzymatic and chemical ligation-strategies for complex disulfide-rich peptides

abs# 16

6:15 PM **Thao TH Ho**

Loop size rigidity contributes to equipotency between globular and ribbon isomers of a-conotoxins AusIA

abs# 17

6:30 PM **Glenn F King**

Love bites: a cardioprotective drug candidate from Australian funnel-web spiders

abs# 18

Dinner at Leisure

**We recommend booking ahead at one of the restaurants or bars on the island to avoid disappointment

17th March 2021

Breakfast

7:00AM - 8:00AM

Session 4

8:30AM - 10:30AM

Chair: Norelle Daly

8:30 AM **Andrew A Walker**

Float like a butterfly, sting like a bee: Composition and mode of action of painful defensive venoms produced by limacodid caterpillars

abs# 19

9:00 AM **Daniel Dashevsky**

Surveying the diversity of Australian pompilid wasp venoms

abs# 20

9:15 AM **Shaodong Guo**

Discovery of orally active insecticidal spider venom components for novel bioinsecticide

abs# 21

9:30 AM **Charlotte Franck**

semi-synthesis of a tick salivary evasin protein reveals a critical role of tyrosine sulfation for activity

abs# 22

9:45 AM **Tianjiao Zhao**

Structure-function of the spider peptide ProTx-III

abs# 23

10:00 AM **Rob R Capon**

Cane toad challenge: resistance is not so futile

abs# 24

Morning Tea

10:30AM - 11:00AM

Horizon Room 1&2

Session 5

11:00AM - 1:00PM

Chair: David Adams

11:00 AM **Jennifer R Deuis**

Targeting nav1.8 with spider venom-derived peptides

abs# 25

11:30 AM **Elena-Laura Budusan**

Structure-activity relationships studies on the analgesic peptide mambalgin-3 at asic1 – can we improve it?

abs# 26

11:50 AM **Sina Jami**

Investigating the pharmacology of the 'Gympietides'

abs# 27

12:10 PM **Yashad Dongol**

Characterization and structure-function of a novel spider-venom toxin Phlo3a at hNav_v1.2, 1.3 and 1.7

abs# 28

12:30 PM **Fernanda Caldas Cardoso**

Rapid optimization of spider peptides using conserved structure-function traits

abs# 29

Lunch

1:00PM - 2:00PM

Horizon Room 1&2

Free afternoon

Dinner at Leisure

**We recommend booking ahead at one of the restaurants or bars on the island to avoid disappointment

Venoms at the Bar

9:00PM - 11:00PM

Tonic Bar

18th March 2021

Breakfast

7:00AM - 8:00AM

Session 6

8:30AM - 10:30AM

Chair: Richard Lewis

8:30 AM **Ed Nice**

The Omics Pipeline: A Pathway to Drug Discovery and Personalised/Precision Medicine

abs# 30

- 9:00 AM **Aymeric Rogalski**
Ontogeny of the venom system in conus magus abs# 31
- 9:20 AM **Fabian B. H. Rehm**
Improving transpeptidation reactions catalysed by an asparaginyl ligase abs# 32
- 9:40 AM **David T Wilson**
Arachnid venoms: Same but different abs# 33
- 10:05 AM **Brett Hamilton**
Mapping Venoms using Mass Spectrometry Imaging abs# 34

Morning Tea

10:30AM - 11:00AM

Horizon Room 1&2

Session 7

11:00AM - 1:00PM

Chair: Glenn King

- 11:00 AM **David J. Adams**
Analgesic α -conotoxins modulate $ca_v2.2$ and $girk1/2$ channels via $gaba_b$ receptor activation to reduce neuroexcitability abs# 35
- 11:30 AM **Chun Yuen Chow**
Venom peptides with dual modulatory activity on the voltage-gated sodium channel $na_v1.1$ provide novel leads for development of antiepileptic drugs abs# 36
- 11:50 AM **Stephen Huang**
Tying the knot between acidosis in the tumor microenvironment and asics abs# 37
- 12:10 PM **Md. Mahadhi Hasan**
Subcutaneous analgesic actions and mode of binding of ω -conotoxins at $Ca_v2.2$ abs# 38
- 12:30 PM **Samuel D Robinson**
Gain from Pain: Using Venomous Animals to Explore New Nociceptive Pathways abs# 39

Lunch

1:00PM - 2:00PM

Session 8

5:00PM - 7:00PM

Chair: Paul Alewood

- 5:00 PM **David J Craik**
Evaluation of the *in vivo* aphrodisiac activity of a cyclotide extract from *Hybanthus enneaspermus* abs# 40
- 5:30 PM **Juanita Rodriguez**
Genome-mining as a new tool for biodiscovery from natural history collections abs# 41

6:00 PM **Volker Herzig**

Collateral death—Australian funnel-web spiders evolved human-lethal δ -hexatoxins for defense against vertebrate predators

abs# 42

6:30 PM **Lachlan D Rash**

Developing venom-derived inhibitors of acid-sensing ion channels as therapeutic lead

abs# 43

Conference Dinner

7:00PM - 10:00PM

Infinity Restaurant

19th March 2021

Breakfast

8:00AM – 10:00AM

Checkout & Farewell

10:00AM