



# QUBIC

The Australian Research Council Centre of  
Excellence in Quantum Biotechnology

## QUBIC ANNUAL SYMPOSIUM 2024 PROGRAM

**8-11 December, RACV Noosa, Qld**  
**94 Noosa Drive, 4567 Noosa Heads, Australia**

### SUNDAY 8<sup>TH</sup> DECEMBER

TIME	ACTIVITY	LOCATION	CHAIR
5PM onwards	Arrival, check-in & registration	Hotel Reception	
6:30pm - 8:30pm	Casual dinner - pizza & pasta buffet	Arcuri room	

### MONDAY 9<sup>TH</sup> DECEMBER

TIME	ACTIVITY	LOCATION	CHAIR
8:45am - 9am	Welcome to Country	Noosa Sound	Prof Warwick Bowen
9am - 9.10am	Director's Welcome Speaker: <b>Prof Warwick Bowen</b>		
9.10am - 9.55am	Plenary session (45 mins) Speaker: <b>Prof Reuven Gordon</b> Title: Nanoaperture Optical Tweezers for Single Unmodified Protein Dynamics		
9.55am - 10.25am	Keynote session (30 mins) Speaker: <b>Ivan Kassal</b> Title: Quantum simulations for chemistry, biology, and energy		
10.25 am- 10.55am	Morning tea	Function Terrace	

<b>10:55am - 12:25pm</b>	<b>MOLECULE Theme session</b> <b>Professor Alan Mark</b> Theme overview and updates of the year  <b>Prof Megan O'Mara</b> Simulation Toolkits to resolve biological noise  <b>Dr Daniel Creedon</b> TBC  <b>Dr Igor Marinkovic</b> Fast biosensing with hybrid plasmonic-photonic resonators	Noosa Sound	Dr Liam Hall / Prof Alan Mark
<b>12:30pm - 1:30pm</b>	Lunch	Arcuri room	
<b>1:30pm - 2.15pm</b>	Indigenous Academy Innovation Talk (45 mins) Speaker: <b>Dr Samarra Toby</b>	Noosa Sound	Dr Allison Fish
<b>2.15pm - 3pm</b>	Main Sequence: VC101: How does Venture Capital Work? (45 mins) Speaker: <b>Alex Romero</b>		Prof Halina Rubinsztein-Dunlop
<b>3pm - 3:30pm</b>	Afternoon tea	Function Terrace	
<b>3:30pm - 5pm</b>	Translation Activity (90 mins) Speakers: <b>Prof Halina Rubinsztein-Dunlop and Dr Michael Harvey</b>	Noosa Sound	Prof Halina Rubinsztein-Dunlop
<b>5pm - 6.30pm</b>	Free time		
<b>6.30pm - 9.30pm</b>	Symposium two course dinner w/ Trivia	Noosa Sound	Prof Halina Rubinsztein-Dunlop

## TUESDAY 10<sup>TH</sup> DECEMBER

TIME	ACTIVITY	LOCATION	CHAIR
<b>9am - 9.45am</b>	Plenary session (45 mins) <b>Speaker: Jennifer Dionne</b> Title: Exploring light and life: Nanophotonics and AI for scalable molecular sensing, sequencing, and synthesis	Noosa Sound	Prof Halina Rubinsztein-Dunlop

9.45am - 10.15am	Keynote session (30 mins) <b>Speaker: Prof Melissa Mather</b> Title: From Qubits to Cells: A Guide to Quantum Technologies in Biological Sensing & Imaging		
10:15am - 10:45am	Morning tea	Function Terrace	
10:45 - 12:15	<p><b>CELL Theme session</b> <b>A/Prof Irina Kabakova</b> Theme overview and updates of the year</p> <p><b>Elizabeth Hinde</b> Quantum enhanced fluorescence spectroscopy in a living cell</p> <p><b>Halina Rubinsztein-Dunlop</b> Improving optical probes measurements for viscosity and biomechanics – towards quantum limit</p> <p><b>Jenny Stow</b> Gaining entry into cells: the sneaky, delicious and alarming invaders</p> <p><b>Jiajia Zhou</b> Upconversion nanothermometry - temperature measurements in live cells</p> <p><b>Ella Walsh</b> Quantum sensing for identification of magnetoreception candidates in African mole rats</p>	Noosa Sound	A/Prof Irina Kabakova
12:15 - 12:30	Group photo	TBC	
12:30pm - 1:30pm	Lunch	Arcuri room	
1:30pm - 3:30pm	<p><b>Portfolio reports + Q&amp;A (50 mins)</b> Research Translation (Halina) Outreach &amp; Engagement (Jenny) Inclusion, Diversity, Ethics &amp; Access (Allison) Mentoring, Training &amp; Development (Haibo)</p> <p><b>Breakout activity (70 mins)</b> Two-way engagement and lab activity/demo ideation</p>	Noosa Sound	Prof Jenny Stow

<b>3:30pm - 3:45pm</b>	Break	Function Terrace	
<b>3:45pm - 4:30pm</b>	3MT Style Poster Pitch (45 mins)	Noosa Sound	Prof Haibo Yu
<b>4:30pm - 6pm</b>	Poster Session w/ canapes	Magellan room	
<b>6pm ONWARDS</b>	Free time (you will need to make your own dinner arrangements) A shuttle bus is available between RACV Noosa and Hastings St Noosa from 6:45pm - 10pm. Please make use of this service.		
<b>6:30pm - 8:30pm</b>	Dinner for AB, SAC, plenary/keynote speakers and CIs	Sails Noosa	

## WEDNESDAY 11<sup>TH</sup> DECEMBER

TIME	ACTIVITY	LOCATION	CHAIR
<b>9am - 9.45am</b>	Plenary session (45 mins) <b>Speaker: Prof Michael Roukes</b> Title: Nanosystems-enabled single molecule analysis in the classical and quantum regimes	Noosa Sound	Prof Dayong Jin
<b>9.45am - 10.15am</b>	Keynote session (30 mins) <b>Speaker: Prof Alan Finkel</b> Title: Neurotechnology		
<b>10:15am - 10:45am</b>	Morning tea	Function Terrace	
	SAC/AB Mixer (CIs + 1)	Noosa Sound	
<b>10:45 - 12:15</b>	<b>BRAIN Theme session</b> <b>Prof Lezanne Ooi</b> Theme overview and updates of the year  <b>Dan McCloskey</b> Quantum electrophysiology  <b>Dayong Jin &amp; Jiajia Zhou</b> Development of nanoscale optoelectrodes	Noosa Sound	Prof Lezanne Ooi

<b>12:15 - 12:30</b>	Awards - 3MT Pitch and Poster Session  Thank You & Farewells	Noosa Sound	Dr Alan Finkel / Prof Elisabeth Giacobino  Prof Warwick Bowen
<b>12:30pm - 1:30pm</b>	Lunch	Arcuri room	
<b>Conclusion of Symposium</b>			
<b>1pm - 2:30pm</b>	Advisory Board Meeting	Little Cove	Dr Alan Finkel
<b>2:00pm onwards</b>	Transit to Brisbane for Summer School + Airports	Reception	Operations Team
<b>2:30pm - 4pm</b>	Scientific Advisory Council meeting	Little Cove	Prof Elisabeth Giacobino
<b>3pm - 3:30pm</b>	Afternoon tea	Little Cove	
<b>4pm – 6pm</b>	Arrive Women's College UQ for Summer School attendees		