

A TWO-DAY RESEARCH SYMPOSIUM

Ripples Through Time
Past Triumphs, Mapping the Future

Research symposium celebrating 50 years of David Blair's contribution to Gravitational Wave Research, Science Education and Future Innovation

26–27 NOVEMBER

THE UNIVERSITY OF WESTERN AUSTRALIA

For over five decades, Emeritus Professor David Blair has shaped Western Australia's scientific identity on the global stage. Long before the historic 2015 detection of gravitational waves, his pioneering work in precision measurement, sapphire clock technology, and the NIOBE detector positioned Western Australia at the forefront of international physics.

As a visionary leader, Professor Blair established the world-class Gingin Gravity Precinct, mentored hundreds of researchers, and founded both the Gravity Discovery Centre and the national Einstein-First education project.

Ripples Through Time: Past Triumphs, Future Directions brings together global science leaders, innovators, and collaborators. Celebrating fifty years of research excellence, this event serves as a springboard to map, inspire, and strengthen the future of physics and science education.

Prior to the symposium there will be a public lecture series.

Program

25th Nov.

Public Lecture: Mysteries of the Quantum Universe

18.00-21:30 Wesfarmers Lecture Theatre and Foyer, UWA

Opening by the Representatives of the Premier of Western Australia and University of Western Australia

Navigating the Quantum Wonderland from the Big Bang to AI, Professor **Paul Davies,** Arizona State University

Prof. Davies is a renowned theoretical physicist, Director of the Beyond Center for Fundamental Concepts in Science at Arizona State University and best selling author with the recent book, Quantum 2.0. Professor Paul Davies is a UWA Institute of Advanced Studies Visiting Fellow.

Einstein's Mouse**, Schrödinger's Cat and the Mysteries of Quantum Reality**, Professor **Thibault Damour**, Institut des Hautes Etudes Scientifiques (Paris-Saclay)

Prof. Damour is a world leading theoretical Physicist. He is anEinstein medal winner and author of the prize-winning graphic novel *Mysteries of the Quantum Universe*. Professor Thibault Damour's visit to UWA is supported by a UWA Gledden Mobility Award.

Life in the Universe - Joining the Galactic Internet. Professor **David Blair**, University of Western Australia

Prof. Blair is a gravitational wave physicist, founder of the Gravity Discovery Centre and the Einstein-First Project and the author of *Where is Everybody*?

Talks, debates and questions. Music and refreshment during the interval.

Symposium

26th of Nov

Day 1- GRAVITATIONAL-WAVES, BLACK HOLES AND THE COSMOS

OPENING SESSION
Chair : Ian McArthur (TBC)

09:00 Ian McArthur + David Blair - Welcome and Opening Remarks

09:15 Thibault Damour - Gravity and the Quantum: The Legacy of Einstein's Visions

09:45 Matthew Bailes – Exploring Einstein's Universe with Radio-Pulsars

10:15 Gabriela Gonzalez - The Future of Gravitational Wave Astronomy

10:45 Morning Tea

SESSION 1: INTERNATIONAL DEVELOPMENTS IN GRAVITATIONAL WAVE SCIENCE
Chair: Mark Reynolds (TBC)

11:15 Susan Scott – The New Era of Gravitational Wave Astronomy

11:35 Haixing Miao - New Concepts in Gravitational Wave Astronomy

11:55 Yiqiu Ma - Quantum Opto-mechanics (tentative)

12:15 Robert Ward - The Challenging Birth of Gravitational-Wave Detectors

LUNCHTIME LECTURE

12:35 Yanbei Chen - Overcoming Fundamental Limits of Quantum Measurement Processes

SESSION 2: AUSTRALIA AND THE DEVELOPMENT OF GRAVITATIONAL WAVE SCIENCE
Chair: Kentaro Somiya

13:45 Peter Veitch - The Struggle to Complete Australia's First Gravitational Wave Detector

14:15 Michael Tobar - From Sapphire Clocks to Dark Matter: What We May Discover in the Next 50 Years

14:45 afternoon tea

15:15 Slawek Gras – The Technology Required for Future Gravitational Wave Detectors

15:45 Michael Page - Quantum Information and Gravitational-Wave Detection

16:30 Bus leaves - Tour of the Gravity Discovery Center – Dinner and Observatory Night

18:00 **Conference Dinner**
with presentation David Nicolson - Building the Gravity Discovery Centre,

21:00 Moonrise Gazing

21:40 Bus leaves for city ~22:30 City

DAY 2 - FUTURE TECHNOLOGY and SCIENCE EDUCATION

9:30 Paul Davies - Physics Beyond the Horizon

SESSION 3: INTERNATIONAL COLLABORATIONS
Chair: Peter Rossdeutscher

10:05 Cathey Foley How Physics Creates New Industries: From Discovery to National Impact (TBC)

10:30 Zhou Zebin - Gravitational Wave Detector in Space

10:50 Kentaro Somiya – Australia / Japan Collaboration in Gravitational Wave Research

11:10 Morning Tea

SESSION 4: FUTURE DIRECTIONS IN ASTRONOMY AND TECHNOLOGY
Chair: Danail Obreschkow

11:30 Zhu Xingjiang - Pulsar Observatories for Gravitational Waves

11:50 Carl Blair Third - Generation Gravitational Wave Observatories

12:10 Jingbo Wang - Quantum Computing: Why It Matters and Why Now?

12:40 Mark Dransfield -The Future of Airborne Gravity Gradiometry: New Technologies for a Changing World.

1:00 Lunch

SESSION 5: EDUCATION AND INDUSTRY ENGAGEMENT
Chair: Jackie Bondell (TBC)

14:00 Lyn Beazley- Frontier Science: An Engine for Innovation and Education

14:25 — Panel Discussion: Education and the AI Challenge (Panel Chair: Mark Reynolds(TBC) . Panel members: Magdalena Kersting, Lachlan McGinness, Agostinho Serrano de Andrade Neto, Julia Woithe)

15:10 Anastasia Lonshakova -Maths for Einstein's Universe: Building Mathematical Thinking for Modern Physics and Modern world

15:35 Jyoti Kaur- Australian Education: What Do Current Trends Tell Us About the Next Decade

16:00 — Panel Discussion: Combating Fake Science, Anti-Science and Algorithms. (Panel Chair: (TBC) . Panel members: David Treagust, Zdenka Koupilova, Maria Parapilli (TBC), Martina Angela Rau (TBC)

16:45 David Blair Closing Remarks

17:00 Teachers ForumSundowner : *Science Education in the Age of AI* (Forrest Hall)