

Royal Society Te Apārangi

## New Fellows' Seminar

Wednesday 14 February 2018

Eleven new Fellows and one new Honorary Fellow will give presentations on their areas of research and scholarship.

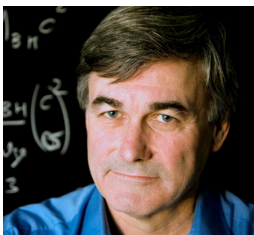
From 1:45pm in the Aronui Lecture Theatre  
Royal Society Te Apārangi  
11 Turnbull Street, Thorndon, Wellington

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### Timetable

1.45 pm	Professor Gerry Gilmore University of Cambridge <i>Taking the census of the Milky Way Galaxy</i>
2 pm	Professor Tony Ward University of Auckland <i>Correctional rehabilitation: beyond the Risk Paradigm</i>
2.15 pm	Professor Miriam Meyerhoff Victoria University of Wellington <i>Working to bridge the group and the individual</i>
2.30 pm	Professor Jadranka Travas-Sejdic University of Auckland <i>Plastic bioelectronics: from gene sensors to stretchable electronics</i>
2.45 pm	Dr Nick Mortimer GNS Science <i>Zealandia</i>
3 pm	Professor Michele Leggott University of Auckland <i>Emily and her sisters</i>
3.15 pm	Afternoon Tea
3.30 pm	Professor Mark Henaghan University of Otago <i>The unheard voices in family law</i>
3.45 pm	Professor Charlotte Macdonald Victoria University Wellington <i>Emily's Place: why the nineteenth century might enchant and torment us</i>
4 pm	Professor Paul Trebilco University of Otago <i>Issues of Identity in Judaism and Early Christianity in Asia Minor</i>
4.15 pm	Professor Richard McDowell Lincoln University <i>Water quality: why I think we can do it</i>
4.30 pm	Distinguished Professor Viviane Robinson University of Auckland <i>How do educational leaders make an impact on student outcomes?</i>
4.45 pm	Professor Mengjie Zhang Victoria University of Wellington <i>Artificial intelligence and machine learning at VUW</i>



### Professor Gerry Gilmore

*Taking the census of the Milky Way Galaxy*

The chemical elements of which we are made are ancient stardust. Stellar orbits in the Milky Way weigh Dark Matter, not seen or understood. From a stellar census we deduce what is reality, and how our Galaxy has evolved over the 13 billion years since the Big Bang.



### Professor Tony Ward

*Correctional rehabilitation: beyond the Risk Paradigm*

Correctional rehabilitation programs in prisons, forensic hospitals, and probation services have been overly focused on risk reduction and management. In this talk I introduce the Good Lives Model which both targets risk and helps individuals who have committed crimes to live more fulfilling lives



### Professor Miriam Meyerhoff

*Working to bridge the group and the individual*

The seeds of diachronic language change lie in the synchronic variation we hear around us. Explaining how synchronic patterns of language variation are transformed into differences between dialects and languages is less straightforward than you would think: partly because of a lack of data; partly because the nature of the data at the macro- and micro-levels is so different. Professor Meyerhoff will talk a little bit about current work she is doing as part of an international team to explicate with more precision how the micro-sociolinguistic patterns of variation become macro-level differences.



### Professor Jadranka Travas-Sejdic

*Plastic bioelectronics: from gene sensors to stretchable electronics*

Conductive plastics have been used for flexible thin-film electronic devices, such as flexible displays and solar cells. Professor Travas-Sejdic's research explores new frontier applications for this class of materials - the interface with biology. In the talk, she will describe two areas of her research: ultra-sensitive and portable biosensors; and smart materials for bioelectronics.



### Dr Nick Mortimer

*Zealandia*

Nick Mortimer is a geologist based at the Dunedin office of GNS Science. He uses the age, structure and mineral and chemical composition of rocks to solve tectonic problems. Most recently his research has helped build the case for Earth's eighth continent, Zealandia.



### Professor Michele Leggott

*Emily and her sisters*

Later she became a well-known botanical artist and the writer of lively diaries that showed how difficult it was to make a living teaching and painting in the 1880s and 90s. But Emily Cumming Harris (1837-1925) was a writer all her life, and it is the young woman of 1860, already a confident, archiving poet, whose trajectory Professor Leggott will trace here.



### Professor Mark Henaghan

*The unheard voices in family law*

Professor Mark Hanaghan will speak on his work in family law especially children's rights, parental disputes over children, relationship property, medical law relating to families, domestic violence, child abuse, maintenance, child support, and international family law. The primary focus of his work is to give voice to the most vulnerable within families.



### Professor Charlotte Macdonald

*Emily's Place: why the nineteenth century might enchant and torment us*

In central Auckland's Emily Place – also known as Te Rerenga-ora-iti – stands a memorial to Reverend John Frederick Churton (1799-1853). Churton was highly regarded by residents of colonial Auckland, the memorial stone marking in italics the esteem in which he was held by all classes. Churton was a lawyer, a clergyman and presided over the garrison church of St Paul's. In our midst is the nineteenth century making of contemporary Aotearoa New Zealand, a chapter in the dynamic, innovative, and often violent expansion of empire across the nineteenth century world. What has this History to tell us and who is the Emily whose name also marks this significant place?



### **Professor Paul Trebilco**

*Issues of identity in Judaism and early Christianity in Asia Minor*

Evidence for Jewish communities in Asia Minor and for early Christian communities in ancient Ephesus reveals key facets of the identity of both religious groups. Investigation of the self-designations early Christians used for each other and the designations used for outsiders are a window onto issues of early Christians identity.



### **Professor Richard McDowell**

*Water quality: why I think we can do it*

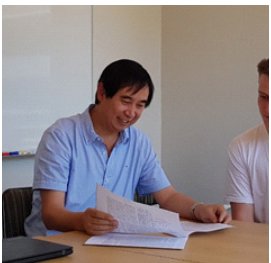
Despite a perception that water quality is declining, there is some good news. Professor McDowell will outline some of the measures that land owners have taken to improve water quality and their effectiveness at a farm scale. Professor McDowell will also explain where measures have translated into better water quality at the catchment scale and why it may take time for water quality to improve in some areas.



### **Distinguished Professor Viviane Robinson**

*How do educational leaders make an impact on student outcomes?*

In the first part of her research programme on educational leadership, Viviane Robinson developed a new, empirically-based model of the effects of different types of leadership practices on student outcomes. She then focused her descriptive and intervention research on the skills, knowledge and dispositions which enable educational leaders to achieve better student outcomes through improved teaching and learning.



### **Professor Mengjie Zhang**

*Artificial Intelligence and Machine Learning at VUW*

Professor Mengjie Zhang's research is focused on Artificial Intelligence, Machine Learning and Big Data at the Victoria University of Wellington, particularly in evolutionary computation/learning, feature selection/construction and big dimensionality reduction, image analysis, production scheduling and resource allocation, classification with unbalanced/missing data, and evolutionary deep learning and transfer learning.

