

# BULLETIN

July 2008

Volume 15, Number 5

## AFAS FEAST-France Fellowship Presentations

Friday 15<sup>th</sup> August 2008

### About the Fellowships

#### AFAS Feast- France Fellowships

Winners of the Victoria Fellowships who are planning a study mission in France will be eligible for a \$5,000 AFAS Feast-France Fellowship as a supplement to their Victoria Fellowship.

This award from the Australian French Association for Science and Technology (AFAS) and the Embassy of France aims to facilitate science and technology to mutually benefit Victoria and France.

**This year marks the 5th anniversary of the AFAS FEAST-France Fellowships**

#### Victoria Fellowships

The Victorian Government annually awards up to six Victoria Fellowships to emerging leaders in engineering, science or technology. Each Fellow receives a travel grant of up to \$18,000 to undertake a short-term overseas study mission to assist in developing a commercial idea, in undertaking specialist training or in career development.

#### Agenda for the Evening

7:30 pm Welcome glass and refreshments  
8:00 pm Presentation Ceremony  
8:30 pm Reception  
9:30 pm Close

### 2007 AFAS FEAST-France Fellows

#### Dr Bryony Coleman

##### *Auditory neuroscience and stem cell biology*

Dr Coleman will develop techniques to restore the function of the auditory nerve, which transmits sound information to the brain, by replacing the specialised cells, called auditory neurons, that comprise it. Although related to cochlear implants, Dr Coleman's study has broad implications for the emerging field of neural transplantation – including for Parkinson's Disease and spinal cord injury – as transplanted cells must function in a normal manner if they are to benefit patients.

#### Mr Simon Craig

##### *Fluid Fertilisers*

Over the past 10 years, the use of fluid fertilizers in Australia has increased dramatically, especially in Western Australia and South Australia. In Victoria, fluid fertilizer use is limited. Research into its use for broad acre cropping began in Victoria in 2001, but this research has been hindered by the drought. Mr Craig will gather knowledge on the compatibility of fluid fertilizers with added fungicides and micronutrients. This knowledge will be passed on to Victorian farmers and inform their uptake of fluid fertilizers.

#### Mr Andrew Walter

##### *Spintronics and quantum computing*

In response to consumer demand for ever-smaller and faster devices, the electronics industry has identified the emerging fields of spintronics and quantum computing as the next step in the manufacturing of electronics. Mr Walter will investigate the electronic and magnetic properties of nanometre thin metallic films to see if they are suitable for data storage applications. His investigation will include manufacturing the films as well as designing and constructing equipment to analyse them.

**WHEN:** Friday 15<sup>th</sup> August 2008

**TIME:** 7:30 pm

**WHERE:** Centre for Innovation & Technology  
Commercialisation,  
Level 1, Emirates House  
257 Collins Street  
Melbourne, 3000

RSVP before Friday 8<sup>th</sup> August 2008 to

Peter Tolé, Ph 03 9810 5700 (BH)  
[president.vic@afas.org.au](mailto:president.vic@afas.org.au)

George Bolz, Ph 03 9818 1834 (AH)  
[treasurer.vic@afas.org.au](mailto:treasurer.vic@afas.org.au)

## AFAS FEAST-France Fellows

2006

### **Dr Bryan Fry**

#### *Therapeutic potential of bioactive natural products*

Dr Fry will investigate the evolution of the biochemical, molecular, structural and functional properties of animal venom proteins, with a particular emphasis on harnessing the natural power of potentially active molecules. Bryan will strengthen his links with his colleagues from the Muséum National d'Histoire Naturelle (Paris) with whom he jointly published a paper in Nature last February (*Early evolution of the venom system in lizards and snakes*, Nature, 439, 544-588, 2006).

### **Mr Hadi Lioe**

#### *Ion Mass Mobility Spectrometers*

Mr Lioe will study the fundamentals of different types of ion mobility mass spectrometers. These instruments are extremely useful in the characterisation of peptides and proteins in biological samples. Hadi intends to visit the Laboratoire de Spectrométrie Ionique et Moléculaire, in Lyon where he will be investigating the mechanism of protein misfolding, the main cause of neurodegenerative diseases (e.g. Alzheimer).

### **Dr Paul Stoddart**

#### *Laser based methods to measure chemical concentrations*

Dr Stoddart will investigate the manufacturing possibilities of a patented laser based method to provide immediate chemical concentration measurements such as those needed for glucose testing for diabetics, and water quality testing. Paul's plan is to visit the Institut des Matériaux Jean Rouxel to explore the potential for fabricating arrays of oriented carbon nanotubes on optical fibres.

2005

**Ms Thanh Tam Chau** is a PhD candidate at the University of Melbourne where she is investigating the behaviour of emulsions at nanoscale within the Particulate Fluid Processing Centre in the Department of Chemical and Biomolecular Engineering. Emulsions are key components in the manufacture of many foods, paints resins, pharmaceuticals and even explosives. Ms Chau's research is exploring the effect of stabilisers on the interaction between droplets in emulsions with a view to understanding the structure-function relationships between stabilisers and oils in emulsions.

**Ms Hayley Newton** is a PhD candidate with the Department of Microbiology, Monash University. She is investigating *Legionella pneumophila*, the bacteria that cause Legionnaire's disease, a rare and often life-threatening form of pneumonia. *L. pneumophila* is found in water ways, potting mix and artificial systems that use water for cooling, heating and industrial processes. Through comparisons with other species of *Legionella*, Ms Newton has identified three genes that appear to be involved in *L. pneumophila*'s ability to cause disease in human cells

### **Mr John Papandriopoulos**

is a PhD candidate with the ARC Special Research Centre for Ultra-Broadband Information Networks (CUBIN), University of Melbourne. He is developing clever new ways to improve the performance of wireless sensor networks which will have a significant impact on many activities such as industrial automation, security monitoring and traffic control. Physically tiny and cheap to deploy, sensors will soon find their way into a wide range of machines and devices. They communicate through a wireless network – a new kind of “internet for machines – to create a system that is more powerful than individual parts.

2004

Three fellowships have been awarded to this year's Victoria Fellows:

### **Mr Micah Atkins, Dr Serryn Eagleson and Mr Rick Barber.**

Micah and Rick, both researching in micro-nanotechnology, will be visiting one of the world leaders in micro-fabrication, L&T in Grenoble, and, amongst other planned visit, will be introduced to the French micro-nanotechnology network (RMNT).

For her work in urbanisation with the help of GIS, Serryn will be put into contact with the French Government Agency DATAR responsible for urbanisation and regional planning, as well as a couple of companies involved in space applications.

### **Melbourne French Theatre**

AFAS members are now eligible for a Concession when booking for MFT plays. Refer to the web site for details:  
<http://www.mftinc.org>

### **Welcome to new Corporate members**

AREVA NC Australia

### **Welcome to new Individual members**

Mr Ian Butterworth  
Dr Bryony Coleman  
Mr Simon Craig  
A/Prof John Davy  
Mr David Dreadon  
Mr Robert Hamilton  
Dr Audrey Koitka  
Mr Andrew Walter

### **Welcome to new Student members**

Ms Camilla Bachet  
Ms Jenny Chow  
Ms Mandy Gook  
Ms Susan Patrick  
Ms Melissa Sgaroto

### **les Emissions en Français à radio SBS**

1224 AM  
mardi : 11h  
vendredi : 11h  
dimanche : 16h

### **CALENDAR FOR 2008**

31<sup>st</sup> January-1<sup>st</sup> February  
Pasteur – WEHI Workshop

25-29<sup>th</sup> February  
International Conference on Nanoscience & Nanotechnology

Friday 4<sup>th</sup> April  
Annual Reception & AGM  
Networking Opportunity

Wednesday 7<sup>th</sup> May  
Public transport in the 21<sup>st</sup> century

Friday 20<sup>th</sup> June  
Annual Dinner  
Aux Batifolles

Thursday 24<sup>th</sup> July  
Virtual Reality AstroTour  
Swinburne University

### **Friday 15<sup>th</sup> August Presentation of AFAS FEAST-France Fellowships**

November  
Water & Energy Conference