**NEWS**

**John Evans, FAA**

John Evans (PS) has been elected a Fellow of the Australian Academy of Science.

John’s work has involved analysing photosynthesis from the perspective of how much nitrogen needs to be invested by the plant to achieve a given rate of photosynthesis. Together, the protein complexes that bind pigments to capture sunlight, and the proteins in photosynthetic enzymes that fix carbon dioxide, account for the majority of nitrogen in leaves. As leaf nitrogen is relatively easy to measure, it can be used to predict photosynthetic capacity of leaves or vegetation. Photosynthesis also requires carbon dioxide. To investigate CO₂ diffusion into leaves, John developed a technique based on stable isotopes.

Now that John is the proud owner of a tuneable diode laser spectrometer, such measurements can be made much more easily than in the past when CO₂ had to be frozen out of the air and transferred to a mass spectrometer. Several areas of his expertise have now come together to contribute towards improving photosynthesis in order to raise crop yields to assist with world food security.

**Graham Farquhar awarded a Honorary Doctorate**

Graham Farquhar (PS) has been awarded an honorary doctorate by Wageningen University, in the Netherlands, as part of its 95th anniversary celebrations.

Graham’s award was made on the basis of his significant contribution to understanding water efficiency in plants, photosynthesis, and the role of plants in carbon and water cycles. Graham developed the ‘Farquhar formula’ on which many vegetation and carbon models are based, and he served on the UN’s Intergovernmental Panel on Climate Change.

**MEDIA**

**Malaria under the pump**

A recent [paper](#) based on the PhD work of Natalie Spillman (Kirk lab, BSB) and published in *Cell Host & Microbe* generated significant media publicity, including pieces in *The Canberra Times*, *The Age*, SMH and ABC News (online and radio) as well as numerous websites. The paper reported the presence on the surface of the intracellular malaria parasite of a molecular pump that extrudes Na⁺ ions, and showed that the pump is inhibited by ‘spiropindolones’, a new class of antimalarials now in Phase II clinical trials. In an accompanying press release the Na⁺ pumping protein was described as a salt pump, with the inhibitory spiropindolones causing a ‘salt overload’. Some media outlets had some interesting interpretations of the findings - being some way from what the authors had in mind. The finding was reported on the Arab Emirates ’website under the headline ‘Salt Overdose Enough to Kill Malaria, Claims Study’, going on to explain that malaria could “be defeated by the use of salt alone” and showing the accompanying picture of a salt shaker.

**CONGRATULATIONS**

Barbara van Leeuwen has been appointed to the position of Professor, and Director of Science Education in the Colleges of Science.

Farid Rahimi has been appointed the position of STO for BSB, after acting in the role for the last two months.

Laura Gunn (Whitney lab, PS) has been awarded the student poster prize for protein engineering at the 38th Lorne Conference on Protein Structure and Function, for her poster entitled ‘New tools for identifying nature’s solutions for improving CO₂ fixation’.

**WELCOME**

Staff

EEG - The Moritz lab is joined by Gaye Bourke as a Technical Officer and Charlotte Jennings as an occupational trainee. Xia Hua has joined the Bromham lab, having just finished her PhD in Stony Brook NY on theoretical modelling of ecological and evolutionary processes.

A [study](#) by Amanda Padovan and colleagues in the Foley Lab (EEG) has been featured in *ABC Science* and *LabSpaces*. The study describes how some Eucalyptus trees accumulate mutations, resulting in ‘mosaic’ foliage with chemotypes that are differentially favoured by insect and vertebrate herbivores, resulting in susceptible and resistant branches in the same canopy.
Lab Leader Profile
Spencer Whitney (PS)

Lab researching: Fundamental and applied research of the photosynthetic CO₂ fixing enzyme Rubisco.

Greatest achievement: Demonstrating the feasibility of transplanting alternative mutant Rubisco isoforms into plant chloroplasts and the correlative changes to leaf photosynthesis and plant growth.

Next big thing: Implementing newly developed bioengineering technologies to identify structural solutions for improving Rubisco catalysis in leaf chloroplasts.

Science hero: I have admiration for many scientists, but definitely no heroes. Worthy of mention is the impressive achievements by Professor Mo Cleland (University of Wisconsin) who championed the use of kinetic studies to decipher enzyme mechanisms (including Rubisco). Unfortunately Mo recently passed away on the 6th of March. His leading insights and understanding of enzyme kinetics will be sorely missed.

Visitors
BBB - Emma Hodges is visiting the Kirk lab, and Hamid Mahmooodian the Callaghan lab.

EEG - Matthew Brandley is visiting the Mortiz lab, and Kim Jaatinen the Kokko lab.

PS - Caroline Chong is visiting the Borevitz lab, John Liggins the Chow lab, and Katharina Siebke the Badger lab.

Farewell
BBB - Leon Lin has submitted his thesis and leaves the Tscharke lab to take up a postdoctoral position working on vaccines for tuberculosis at the Centenary Institute in Sydney, after a brief holiday with family in Taiwan. BBB has also farewelled Russell Graham, the Divisional Technical Officer.

EEG - Wendy Dimond, a research officer who worked on the co-evolution between cuckoos and their hosts, is leaving the Langmore lab.

Rim Kadi is leaving the role of IT Manager to take the position of CMBE/CPMS IT Manager. Alam Mansoor has left IT to take up a position in Melbourne.

Papers Accepted


Busch FA. Opinion: The red-light response of stomatal movement is sensed by the redox state of the photosynthetic electron transport chain. Photosynthesis Research.


Hayward DC, Doztzany Z & Clark-Walker GD. The N-terminal intrinsically disordered domain of Mgm101p is localized to the mitochondrial nucleolus. PLoS ONE.