



## **MINING & PETROLEUM GATEWAY PANEL – MEMBERS' BIOGRAPHIES**

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### **Professor Neal Menzies, Chair of the Mining and Petroleum Gateway Panel**

Professor Neal Menzies is currently Dean of Agriculture and leads the School of Agriculture and Food Science at the University of Queensland.

Neal has a passion for agriculture and the environment and has used his role as a teacher and research leader to bring others into this highly rewarding field. He believes that environmental scientists must go further than identifying where human activity is harming the environment, they must also deliver workable solutions to the problems.

While his research spans a range of agricultural and environmental chemistry issues, he considers himself primarily a soil scientist, and sees soil science as a central discipline in the solution of a broad range of problems.

Neal's main research interests are phyto-toxicity of metals, particularly aluminium; surface charge chemistry; and the management of nutrients in tropical farming systems.

Neal is a past President of the Australian Society of Soil Science and past Vice-President of the International Union of Soil Science.

### **Professor Ian Anderson**

Professor Ian Anderson is a soil biologist whose research expertise centres on the intricate relationships between plants and fungi, including those that co-exist to help plants survive and thrive. Known as mycorrhizae, these unique fungal-plant relationships are essential to the ecology and health of forests, heaths and managed ecosystems.

Ian has an accomplished record of achievement in research, education and leadership as Director of the Western Sydney University's first research institute, the Hawkesbury Institute for the Environment (HIE). He also leads the National Vegetable Protected Cropping Centre at WSU.

Ian leads the HIE's research program which spans across three themes: Soil Biology and Genomics; Ecosystem Function and Integration; and Plants, Animals and Interactions. A significant portion of HIE's research program has an over-arching focus on the rapidly-emerging impacts from elevated carbon dioxide and climate change on the world's forest and agricultural production systems.

### **Emeritus Professor Joan Esterle**

Emeritus Professor Joan Esterle is the Chair of the Vale-University of Queensland Coal Geoscience Program. Her research interests are varied but focussed on how geological history impacts on coal measures behaviour during mining, processing and utilisation. She also develops 3D models for the distribution of sedimentary strata that can be used to predict geohazards in coal mines or reservoir behaviour in conventional and non-conventional gas resources, and for geosequestration.

In addition to working with Vale and other industry partners, Joan conducts multi-client studies through the Australian Coal Research Program, the Australian National Low Emissions Coal Research, and the University of Queensland's Centre for Coal Seam Gas.

Joan received her PhD from The University of Kentucky, USA, in 1990. She worked for 17 years with CSIRO, followed by GeoGAS-Runge Group before joining the UQ full time in 2010. Between 2016 and 2019, she was a member on the Commonwealth's Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development.

### **Dr Clinton Foster PSM**

Dr Clinton Foster PSM was Chief Scientist of Geoscience Australia (GA) from 2011 to June 2016; from 2003-2011, he was Chief of the Petroleum and Marine Division at GA. He has been studying geology and fluid histories of onshore and offshore sedimentary basins for 40 years.

A palynologist by training, Clinton specialised in the integration of palynology with organic geochemistry, particularly in hydrocarbon source rock studies; these skills were developed within WMC Exploration Division – Petroleum (1982-1990).

Clinton has had extensive science management and governance experience both at GA, and as a former Director on Boards of several Cooperative Research Centres, including CO2CRC Limited.

Currently Clinton is a principal consultant and an Honorary Professor at The Australian National University. He has been an Adjunct Professor at The University of Western Australia and at Deakin University and is a member of the Geological Societies of London and Australia.

### **Hugh Middlemis**

Hugh Middlemis is a groundwater modeller, hydrogeologist, engineer and independent reviewer, with 40 years' experience. Hugh has a degree in civil engineering and a masters in hydrology and hydrogeology, and specialises in groundwater flow and solute models, stream-aquifer interactions, groundwater dependent ecosystems and uncertainty analysis.

He was principal author of the 2001 best practice guidelines that formed the basis for the 2012 Australian Groundwater Modelling Guidelines and was awarded a Churchill Fellowship in 2004 on modelling best practice.

Hugh established the HydroGeoLogic independent consultancy in 2013, working in natural resources, mining/energy and the built environment sectors.

**Dr Catherine Moore**

Dr Catherine Moore is a senior groundwater scientist and modeller with more than 28 years' experience in local government, groundwater consultancies and research organisations. Her work on theory and methodologies contributes to pragmatic tools for developing robust groundwater models, including quantification of model predictive uncertainty, and optimising cost-effective data acquisition and model design strategies.

Catherine recently resigned from the Commonwealth's Independent Expert Science Committee (IESC) on Coal Seam Gas and Large Coal Mining Development. She currently is the science leader in the groundwater modelling team at GNS Science in New Zealand.

**Dr Glen Walker**

Dr Glen Walker has more than 30 years' hydrology, groundwater and salinity research experience.

Glen is author of over 70 scientific papers in the international literature and was involved in preliminary coal seam gas studies for the Office of Water Science in the Commonwealth Department of the Environment in 2012. He served on the Independent Expert Science Committee (IESC) on Coal Seam Gas and Large Coal Mining Development from March 2016 to June 2018.

Dr Walker currently operates his own consultancy, having retired from the CSIRO, and over the past several years he has been involved in projects with a focus on surface water-groundwater interactions. These include international projects in India, Bangladesh and Peru in addition to projects in the Murray-Darling Basin.