



Australian Government

Australian Research Council

Examples of new *Discovery Projects* in 2010

Tasmania

The University of Tasmania (Contact: 03 6226 2124)

Molecular pathways controlling light-regulated development in legumes (DP1095478)

Summary: Light is an important determinant of plant architecture and productivity and we need to know more about how development is regulated by light in this important plant group. The natural light environment faced by plants is complex and varies with crop density, season and time of day. Understanding the interaction of photoreceptors and plant hormones in the control of growth is vital for manipulating crops to meet changing agronomic requirements. Training of students in state-of-the art techniques and the generation of new germplasm for use by other researchers and plant breeders will be other significant outcomes of the project.

Chief Investigator: Dr James Weller

ARC funding: \$490,000 over 4 years

The University of Tasmania (Contact: 03 6226 2124)

Climate change and ocean acidification: will southern ocean coccolithophorids be winners or losers? Implications for the global carbon pump (DP1093801)

Summary: This project brings skills on morphotaxonomy, microalgal culturing, physiology and biogeochemistry into the flurry of international activity focusing on consequences of ocean acidification. Increasing atmospheric carbon dioxide (CO₂) is predicted to reduce calcification in the phytoplankton *Emiliania huxleyi*, notably in the Southern Ocean. In contrast, higher CO₂ may stimulate photosynthesis and enhanced stratification may also select for *E. huxleyi*. These changes will affect foodwebs and the ability of the ocean to absorb CO₂. Predicting the future success of this key organism is vital to understand the consequences of global change in Australian and Southern Ocean waters and to set targets for carbon emissions.

Chief Investigator: Professor Gustaaf Hallegraef

ARC funding: \$280,000 over 3 years

The University of Tasmania (Contact: 03 6226 2124)

Interdependence, transnational institutions and the governance of international taxation in the 21st Century (DP1095946)

Summary: The global financial crisis is placing national tax systems under unprecedented competitive pressures. In such an environment the need for international tax cooperation has never been greater. Using comparative analysis this project will seek to establish which transnational institutions and governance systems best support international tax cooperation. By doing so it will enhance both the ability of state and non-state actors to develop and refine strategies for participating in such systems and the prospects for achieving cooperation.

Chief Investigator: Dr Richard Eccleston

ARC funding: \$66,000 over 3 years