

| Project ID | Chief Investigator(s) | Partner Organisation(s) | Primary FOR | Total | Summary |
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| LP150100249 | Cheng, Prof Liang; Draper, Dr Scott; An, Dr Hongwei; Zhao, Dr Ming; White, Prof David; Fogliani, Mr Nino | WOODSIDE ENERGY LTD. | 905 | \$532,862.00 | This project aims to improve predictions of hydrodynamic forces on small submarine cables and pipelines through comprehensive experimental modelling at 1:1 scale coupled with development of predictive numerical models. The focus will be on forces in unsteady flows. Present industry guidelines do not make allowance for potential reductions in forces for small diameter pipelines whose diameters are a similar length to the effective seabed boundary layer, thereby leading to overly conservative and costly stability design. Results from the experimental program and numerical model developed are expected to be used to improve the current industry design guidelines. |
| LP150100417 | Gagne, A/Prof Marylene; Cordery, Prof John; Dunlop, Dr Patrick | THE SCOUT ASSOCIATION OF AUSTRALIA/ WESTERN AUSTRALIAN BRANCH/THE SCOUT ASSOCIATION OF AUSTRALIA WESTERN AUSTRALIA; THE SCOUT ASSOCIATION OF AUSTRALIA VICTORIAN BRANCH/THE SCOUT ASSOCIATION OF AUSTRALIA VICTORIAN BRANCH SCOUTS VICTORIA; THE SCOUT ASSOCIATION OF AUSTRALIA TASMANIAN BRANCH/SCOUTS AUSTRALIA TASMANIAN BRANCH; SCOUT ASSOCIATION OF AUST SA BRANCH/SCOUT ASSOCIATION OF AUSTRALIA SA BRANCH | 1701 | \$589,847.00 | This project aims to examine the effects of human resources practices on the attraction and retention of high-quality volunteers. Volunteers provide essential health and educational services to the Australian population, which makes it important for non-profit organisations to develop effective human resource practices that attract and retain the best people. However, non-profit organisations often struggle to attract and retain a sufficient number of volunteers. This project will examine the effects of three human resource practices on the thriving and organisational attachment of volunteers using theories of motivation and retention. This knowledge is intended to help governments and non-profit organisations improve on policies and procedures to manage Australia's volunteer workforce sustainably. |
| LP150100598 | Gaudin, Prof Christophe; Draper, Dr Scott; Wolgamot, Dr Hugh; O'Loughlin, A/Prof Conleth; Rafiee, Dr Ashkan; Fievez, Mr Jonathan | CARNEGIE WAVE ENERGY LIMITED/CARNEGIE CORP LTD | 905 | \$460,000.00 | This project aims to develop an economic and efficient anchoring system for taut-moored wave energy converters to enable us to exploit sustainable wave energy resources. Australia's potential near-shore wave energy resource is four times larger than the current total capacity of our installed power generation. But the development of ocean wave energy is presently hampered by expensive, traditional anchoring systems. Using better estimation of extreme loads, the project will use multidisciplinary approaches to investigate unique anchoring concepts with the aim of developing novel strategies to avoid the most extreme loads and enabling optimum anchor design. The outcomes of the project are intended to help to deliver economically viable wave energy projects. |
| LP150100450 | Hopper, Prof Stephen; Coates, Dr David; Byrne, Dr Margaret; Krauss, Dr Siegfried | DEPARTMENT OF PARKS AND WILDLIFE/DEPARTMENT OF ENVIRONMENT AND CONSERVATION; BOTANIC GARDENS & PARKS AUTHORITY; GONDWANA LINK LTD | 604 | \$400,000.00 | This project aims to assess the success of restoration in terms of ecological and genetic viability for plant species in the Fitzgerald River–Stirling Range region of Western Australia, where significant investment is being made in restoring connectivity at a landscape scale. The project intends to compare reproductive output, pollinator behaviour, mating, genetic diversity and pollen dispersal in restored sites with those of undisturbed natural vegetation. The project moves measures of restoration success beyond that of population establishment and survival to incorporate the evolutionary processes that provide long-term resilience, persistence and functional integration of restored populations into broader landscapes. |
| LP150100434 | Lee, Prof Julie; Bardi, Dr Anat; VanHerk, Prof Dr Hesterina; Coote, A/Prof Leonard; Soutar, Prof Geoffrey | PUREPROFILE | 1505 | \$510,247.00 | This project aims to understand the complex relations between people's life goals and their consumption behaviour, exploring age, life-stage and cohort effects. The intended outcomes of the project include a state-of-the-art interactive values-based website, basic knowledge about Australian values, values change and value-related behaviour, and business insight into value-based marketing. This project aims to apply the knowledge gained from a large scale study into Australian values and value change across the adult life-span in order to understand how people's values influence their consumer and other decisions; providing information that will enable Australian organisations to improve their marketing activities and the nature of their promotional appeals. |
| LP150100785 | May, Prof Eric; Johns, Prof Michael; Aman, Asst Prof Zachary; Fogliani, Mr Nino; Pickering, Dr Paul | WOODSIDE ENERGY LTD. | 914 | \$420,000.00 | This project aims to investigate the plugging of hydrate slurries in pipelines to determine under what conditions they will flow satisfactorily without forming a blockage. Hydrate blockages are expensive and hazardous occurrences in oil and gas operations, so current prevention systems aim to avoid hydrate formation altogether through over-design. These over-designed hydrate prevention systems are extremely expensive to build and costly to run during the operations phase. The project intends to examine the behaviour of hydrate slurry flow as a function of the oil's properties, amount of water and degree of turbulence. Outcomes are intended to be a sophisticated approach to avoiding hydrate blockages that is safe but more efficient and less costly. |

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| LP150101052 | Mian, A/Prof Ajmal; Perumpanani, Dr Abbey; Arakkal, Dr Joan | MARIKA PTY LIMITED/MARIKA PTY LTD | 801 | \$250,000.00 | This project aims to develop a novel, reliable, low-cost system to detect poor bone health and assess fracture risk to help to prevent and manage osteoporosis-related fractures. Currently, osteoporosis-related fractures cost our health system millions of dollars annually and costs are increasing with our ageing population. Early detection of poor bone health will improve the effectiveness of preventive measures and ease this burden. Current methods include unreliable, crude clinical and visual guides that suggest osteoporosis screening. The project plans to develop a novel system by applying machine learning algorithms to radiology data which is commonly captured for diagnosing other conditions. |
| LP150100339 | Mucina, Prof Ladislav; Veneklaas, Prof Erik; Renton, A/Prof Michael; Laliberte, Asst Prof Etienne; Price, A/Prof Charles; Dobrowolski, Dr Mark; Chandler, Mr Joseph; Bartha, Prof Sandor; Laughlin, Dr Daniel | ILUKA RESOURCES LIMITED; TRONOX MANAGEMENT PTY LTD/TIWEST JOINT VENTURE; HUNGARIAN ACADEMY OF SCIENCES; THE UNIVERSITY OF WAIKATO, NZ | 602 | \$354,000.00 | The project aims to deliver management tools that will help mining companies to meet restoration targets and to improve the field of trait-based predictive restoration ecology. Species-rich kwongan shrublands of south-west Australia are a biodiversity treasure. Despite their global and national conservation value, little is known about which plant traits are most important for community assembly and diversity maintenance. This project plans to use plant functional traits related to nutrient and water acquisition to predict plant community assembly under different soil resource availabilities and thus assist in successful rehabilitation of this native vegetation after closure of sand-mining operations. |
| LP150100503 | Page, Prof Andrew; Hooke, Mr Geoffrey; Lutz, A/Prof Wolfgang; Barkham, A/Prof Michael | PERTH CLINIC | 1701 | \$150,000.00 | The project aims to improve risk management in mental health. Risk management in mental health is currently hampered because there is no nationally agreed set of markers of deterioration. One strand of the project aims to improve safety procedures by identifying the bases of decisions about adverse outcomes (i.e. symptom deterioration) and testing this knowledge to understand and predict other adverse events (e.g. non-suicidal self-injury). A second strand aims to improve prediction of clinical deterioration and non-suicidal self-injury. By identifying ways to inform and implement decisions about risk management, the project intends to lay a foundation for the development of a nationally agreed set of markers for mental health deterioration to be used in occupational safety and health processes. |
| LP150100161 | Powles, Prof Stephen; Wells, Mr Andrew | NUFARM AUSTRALIA LIMITED/NUFARM AUSTRALIA LTD | 607 | \$286,254.00 | This project aims to identify the membrane transporter protein(s) that endows resistance to the herbicide 2,4-D in wild radish (<i>Raphanus raphanistrum</i>). Wild radish is a particular problem in Australia due to its high competitiveness with crops and widespread resistance to other herbicides. 2,4-D resistance is rapidly increasing and threatening crop production in Australia and the United States. The anticipated outcome of the project is to identify strategies to minimise 2,4-D resistance in wild radish by interfering with the specific transporters that confer resistance and by taking advantage of the fitness cost associated with resistance in some populations. It is expected that this will help to improve crop yields and preserve 2,4-D as an effective herbicide. |
| LP150100490 | Veth, Prof Peter; David, Dr Bruno; Gleadow, Prof Andrew; Ouzman, A/Prof Sven; Porr, A/Prof Martin; Zubieta Calvert, Asst Prof Leslie | KIMBERLEY FOUNDATION AUSTRALIA; DEPARTMENT OF PARKS AND WILDLIFE/DEPARTMENT OF ENVIRONMENT AND CONSERVATION; DUNKELD PASTORAL CO. PTY. LTD./DUNKELD PASTORAL CO PTY LTD | 2101 | \$865,905.00 | This project aims to examine the role that art has played in managing social and environmental change over the past 50 000 years. The project seeks to carry out the first systematic comparative analysis of different rock art repertoires and associated archaeology from the Kimberley and Arnhem Land. It is intended that identifying continuities and changes in this archaeological signature will provide direct evidence of how people adapted and signalled their identity. Intended outcomes are new understanding to contribute to inter-regional rock art studies and inform Indigenous and government heritage management practices. |
| LP150101111 | Whiteley, Prof Andrew; Dixon, Prof Kingsley; Storer, Mr Paul | BOTANIC GARDENS & PARKS AUTHORITY; AUSTRALIAN MINERAL FERTILISERS PTY LTD/AUSTRALIAN MINERAL FERTILISERS | 502 | \$355,000.00 | This project will endeavour to improve restoration technologies aimed at reconstructing diverse and resilient new plant communities following disturbance. The factors which govern successful outcomes of restoration are not fully understood. Current restoration practices rely on the soil microbial community to generate key microbial ecosystem services but their function in novel post-mining substrates modified with soil ameliorants is limited. The project aims to use next-generation DNA sequencing to elucidate the structure and function of microbial ecosystem dynamics in modified substrates and apply this understanding to improve restoration outcomes for species and communities affected by the expansion of mining activities in the Pilbara and nationally. |