

Compute Projects Supported by NCI in 2021–2022

Thousands of scientists every year receive allocations of computing time on the Gadi supercomputer, allowing them to conduct their nationally significant research. The computing resource at NCI is allocated through several different schemes, notably the National Computational Merit Allocation Scheme (NCMAS), the primary merit-based scheme which allocates computing resources across the major Australian High-Performance Computing facilities; the Collaborator Share; the Australasian Leadership Computing Grants (ALCG), the leading scheme for the most ambitious Australian computational science; the Merit Flagship Allocations; and through individual contracts with commercial organisations. Researchers can access computing resources from multiple schemes, most frequently through a combination of NCMAS and Collaborator Share from their home institution. See the section Merit-based Access to NCI on page 24 of the <u>NCI 2021–2022 Annual Report</u> for more information on the allocation schemes.

This table outlines the total allocation per Lead Chief Investigator for the 2021-22 period, separated out by research project. The computing resource is measured in thousands of Service Units (kSU). One Service Unit is approximately equivalent to the work of one Gadi compute core for half an hour.

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS/ <u>ALCG</u> Allocation in kSU	Project Title
Dr Fei Ji, NSW Department of Planning and Environment	121,500	121,500	-	DPIE Production
Dr David Lee, Bureau of Meteorology	77,500	77,500	-	BoM ESM Numerical Weather Prediction research and development at NCI
		48,400	-	The Dynamics of the Southern Ocean
Prof Andrew Hogg,		18,660	-	Ocean Extremes
The Australian National University	76,560	9,500	9,500	The Ocean's role in the climate system: from kilometres to global scales, from weeks to centuries
A/Prof Christoph Federrath, The Australian National University	71,000	71,000	18,000	From Interstellar Turbulence to the Formation of Stars
Mr Anthony Rafter, CSIRO	60,775	60,775	-	Regional-Scale Seasonal Prediction Over Eastern Australia and the Coral Sea
Dr Andrew Dowdy, Bureau of Meteorology	53,000	53,000	-	Climate Hazards projection products
Dr Daohua Bi, CSIRO	52,667	52,667	-	ACCESS – AOGCM
A/Prof Yuan-Sen Ting, The Australian National	49,050	45,763	9,250	Modeling Spectra of Stars: 3D Magneto- Hydrodynamic Stellar Atmosphere, Non-Equilibrium Radiative Transfer, and Machine Learning Generative Models
University		1,287	-	Unraveling the Milky Way's Evolution via The Statistical Alignment of Stars
		2,000	-	ANU RSAA GPU project



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Prof Ben Corry, The Australian National 45,8 University	45.950	26,500	<u>26,500</u>	Predicting the next coronavirus outbreak
	45,850	19,350	750	Molecular simulation of membrane proteins and pores
Dr George Opletal, CSIRO	45,683	45,683	-	AI-Driven Materials Design
Dr Terry O'Kane, CSIRO	39,812	39,812	-	The Australian community ocean model ReAnalysis project (AURA)
Dr Richard Matear, CSIRO	39,276	39,276	-	Australia Climate Service - Research support
Prof Matthew England, University of NSW	38,395	38,395	13,000	Past, present and future climate variability and change in the Southern Hemisphere
		26,699	8,750	Direct Numerical Simulations of Turbulent Combustion
Professor Evatt Hawkes, University of NSW	3 6,817	8,000	8,000	Extreme scale simulations of combustion for low-emissions gas turbine systems
		2118	-	Direct Numerical Simulations of Turbulent Combustion
A/Prof Bernhard Mueller, Monash University	32,000	32,000	<u>32,000</u>	High-resolution Core-Collapse Supernova Simulations
Prof Ekaterina Pas, Monash University	29,043	26,500	<u>26,500</u>	Design of Phase Change Materials of the Future
		2,543	1,500	Large-scale calculations for selection and design of materials for applications in Catalysis, Renewable Energy and Medical Engineering
Prof Julio Soria, Monash University	28,885	20,000	<u>20,000</u>	High-fidelity direct numerical simulation of high Reynolds number turbulent thermal boundary layer flow with distributed high energy heat sources - an analog for high-fidelity simulations of bushfires
		8,885	6,500	Investigations of transitional and turbulent shear flows using direct numerical simulations and large eddy simulations
Brof Sean Smith		22,800	-	Materials for Sustainable Energy Applications
The Australian National University	25,050	2,250	2,250	Computational Nanomaterials Science and Engineering



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Prof Alan Mark,	21 901	20,000	<u>20,000</u>	Understanding organic semiconductor morphology at an atomic level: Simulating the formation of realistic devices.
Queensland	21,501	1,901	650	From molecules to cells: Understanding the structural and dynamic properties of cellular components at an atomic level.
Prof Megan O'Mara, The Australian National University	21,500	21,500	3,500	Modelling the dynamics of the cell membrane
Du Daudah dan Dahama		14,974	-	CO2 conversion in catalytic MOFs
Royal Melbourne Institute of Technology	21,164	6,190	750	In silico design of nanomaterials for energy and environmental sustainability applications
		19,700	-	Ensemble Ocean Forecasting
		1000	-	Next Generation HPC
Dr Justin Freeman,	21,010	208	-	BoM Data Science
Bureau of Meteorology		101	-	Data Deconstruction
		1	-	SuperResolution Data Science
Prof Derek Leinweber,	20,960	19,960	8,400	Electromagnetic Structure of Matter
The University of Adelaide		1,000	-	Electromagnetic Structure of Matter - e31 Ancillary Project
Dr Emlyn Jones		20,884	-	Coastal Ocean Data Assimilation
CSIRO	20,904	20	-	Coastal Numerical Modelling Collaboration Hub
Prof Mark Krumholz, The Australian National University	20,260	20,260	7,500	Star Formation and Feedback in a Turbulent Interstellar Medium
		12,604	-	ARC Centre of Excellence in Exciton Science
		6,000	-	CoE Exciton Science
Prof Salvy Russo, Royal Melbourne	19,147	539	-	Prediction of the Properties of Materials and Nanomaterials
Institute of Technology		4	-	An investigation on the interaction of heavy metal ions (As and Hg) with Surface Enhanced Raman Spectroscopy materials
Duck loses France		10,771	-	Regional climate modelling
Prot Jason Evans,	18,805	5,609	1,025	Regional Climate Modelling in Australia
		2,425	-	Droughts
Prof Christoph Arns, University of NSW	17,284	17,284	9,500	Multi-scale multi-physics modelling for geostorage applicatons



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		12,000	12,000	Antarctic systems and future change
		2,760	-	Research, development and production computing for the Australian Antarctic Division under the ACE-CRC/AGP/AAD- NCI partnership
Fenzi, Australian Antarctic Division	16,632	1,046	-	Research, development and production computing for Antarctic Climate & Ecosystems CRC under the ACE- CRC/AGP/AAD-NCI partnership
		826	-	Research, development and production computing for the Antarctic Gateway Project under the ACE-CRC/AGP/AAD- NCI partnership
Dr Piotr Koniusz, CSIRO	16,224	16,224	-	Robust spatio-temporal statistical learning in computer vision
Professor Michelle Coote,	16,200	10,200	-	Computer-aided Chemical Design of Catalysts and Control Agents
The Australian National University		6,000	6,000	Computer-aided Chemical Design of Catalysts and Control Agents
Dr Chun-Hsu Su, Bureau of Meteorology	16,150	16,150	-	Regional atmospheric reanalysis BARRA
A/Prof Rhodri Davies, The Australian National University	16,000	16,000	1,000	Revealing the 4-D Evolution of Earth's Engine
Dr Hardip Patel,	14,628	9,500	2,500	The National Centre for Indigenous Genomics
The Australian National University		2,640	-	AusARG - Australian Amphibians and Reptiles Genomics
		2,488	-	Biodev NCIG
Dr Gary Brassington, Bureau of Meteorology	14,500	14,500	-	BLUElink3 – Bureau
Prof Toby Allen, Royal Melbourne Institute of Technology	13,800	13,800	1,000	Mechanisms of ion channel function and modulation
A/Prof Rajib Rahman, University of NSW	13,229	13,229	5,000	Multiscale Multiphysics Simulations of Silicon Quantum Information Processing Units
Prof Yansong Shen, University of NSW	12,537	12,537	-	Multi-scale studies of gas-solid reactive flows
-		6,760	-	Coe fleet
A/Prof Nikhil Medhekar, Monash University	12,186	5,426	3,950	Enabling Functional Properties of Nanoscale Materials using Atomistic Simulations



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Dr Akshay Shanker,	11 (12	11,362	-	High dimensional economic dynamics and structural estimation
University of NSW	of NSW 11,612	250	-	Semi-structural estimation and behavioural economics
Mr Leon Majewski, Bureau of Meteorology	10,800	10,800	-	Remotely sensed observations for Earth system modelling
Dr Yuan Mei, CSIRO	10,403	10,403	-	Molecular simulation of critical minerals in ore-forming fluids
Dr Oliver Hofmann,		7,200	-	VCCC Pilot Project
The University of Melbourne	10,300	3,100	-	UMCCR Project - 2020Q3
Dr Wendy Sharples, Bureau of Meteorology	9,500	9,500	-	Water Information Services
A/Prof Ben Thornber, The University of Sydney	9,294	9,294	2,250	Compressible Turbulent Flows
Prof Dietmar Mueller, The University of Sydney	8,999	8,999	3,750	Earth dynamics and resources over the last billion years
Prof Irene Yarovsky, Royal Melbourne Institute of Technology	8,957	8,957	3,250	Theoretical Investigation of novel materials for industrial and biomedical applications
Prof Geoffrey Bicknell, The Australian National University	8,950	8,950	-	Astrophysical Jets and Winds and their Interactions with the Ambient Medium
Prof Simon Ringer, The University of Sydney	8,109	8,109	4,500	Exploring structure-property correlations in advanced materials: Nexus between computational simulation and atomic resolution microscopy
Prof Katrin Meissner, University of NSW	8,084	8,084	2,750	Abrupt climate change events in the past, present and future
Francois Delage, Bureau of Meteorology	8,000	8,000	-	Climate Change Science and Processes
Dr Martin Cope, CSIRO	7,934	7,934	-	Future Air Quality Projection
Jingming Duan,	7.840	4,000	-	Magnetotelluric inversions for AusLAMP
Geoscience Australia	.,	3,840	-	Magnetotelluric data inversion
Prof Richard Sandberg, The University of Melbourne	7,600	7,600	6,500	High-fidelity simulations of turbulent flows in power generation and transport
Prof Catherine Stampfl, The University of Sydney	7,568	7,568	3,800	First-Principles Investigations of Processes and Properties in Catalysis, Coatings, and Devices
Prof Alexander Heger, Monash University	7,534	7,534	3,450	3D Simulations of Core-Collapse Supernovae
Dr Bernadette Sloyan, CSIRO	7,507	7,507	250	CSHOR Indo-Pacific Interbasin Exchange



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Prof Matthew Hole, The Australian National University	7,150	7,150	2,750	Computational Applications in Equilibrium and Instabilities of Advanced Plasma Confinement Geometries
Dr Evelyne Deplazes, The University of Queensland	6,850	6,850	250	Towards realistic models of permeability and pore formation in biological membranes
Prof Chris Power, The University of Western Australia	6,800	6,800	-	GADGET3 Porting, Scalability and Production Computing on Raijin
SITOC Griffith Young,	6 605	6,680	-	Seasonal Prediction Systems and Science
Bureau of Meteorology	6,695	15	-	Data assimilation for seasonal prediction
Prof Malcolm Sambridge, The Australian National University	6,600	6,600	-	Unleashing the power of data: the next generation of geophysical inference
Dr Peter Steinle, Bureau of Meteorology	6,545	6,545	-	Strategic Radar Enhancement Project
A/Prof Fangbao Tian, UNSW Canberra	6,408	6,408	-	Numerical study of fast gait transitions in fish swimming using deep reinforcement learning
Prof Daniel Ortiz- Barrientos, The University of Queensland	6,244	6,200	-	Predicting adaptive trajectories in natural systems - Ortiz-Barrientos CoE Plant Success
		13	-	Genomic analysis of mechanisms of adaptive evolution - Henry CoE Plant Success
		13	-	Discovering new pathways to enhance breeding predictions by integrating genome to phenome (G2P) and hierarchical biological models - Cooper CoE Plant Success
		13	-	Homology detection, alignment and ancestral state reconstruction of genetic networks - Holland CoE Plant Success
		5	-	Andropogoneae focused grass pan- genome - Jordan CoE Plant Success
Prof Con Doolan, University of NSW	6,210	6,210	-	Aeroacoustics of low and high Mach number flows
Prof Balazs Csaba, Monash University	6,012	6,012	-	Cornering supersymmetry with GAMBIT
Dr Harvey Ye, Bureau of Meteorology	6,000	6,000	-	Weather and Environmental Prediction Specialised Forecasting Systems (WEPSFS)



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Prof Julian Gale, Curtin University of Technology	6,000	6,000	6000	Atomistic Simulation for Geochemistry and Nanoscience
Dr Babak Hejrani, Geoscience Australia	6,000	6,000	-	Tomography Data Processing
Dr Terry Frankcombe, UNSW Canberra	5,930	5,930	900	Efficient chemical dynamics in gas phase, solid phase and heterogeneous systems
Dr Alain Protat, Bureau of Meteorology	5,600	5,600	-	Radar Science and Nowcasting
		4,825	-	Low dimensional magnetism and superconductivity
Prof Rongkun Zheng, The University of Sydney	5,475	650	650	Understanding the growth-structure- property relationships in functional materials from density-functional theory calculations
Dr Matthew Woodhouse, CSIRO	5,420	5,420	-	Simulations of the Antarctic and Southern Ocean Environment Including the Atmosphere
Prof Brian Smith, La Trobe University	5,255	5,255	-	Biomolecular modelling
Dr Yuxiang Qin, The University of Melbourne	5,200	5,200	-	FENICE: the First galaxies and Environment In Cosmological simulations of Early universe
Prof Jared Cole, Royal Melbourne Institute of Technology	5,168	5,168	875	The materials science of next generation quantum devices
Dr Adrian Sheppard, The Australian National 5,050 University	5,050	4,350	-	Understanding petrophysical and multiphase flow properties of rock through experiment, 3D imaging and modelling
	700	700	X-ray micro-tomography to probe the structure and properties of complex and hierarchical materials	
Dr Patrick Burr, University of NSW	4,915	4,915	2,000	Hydrogen-induced materials degradation
Dr Pat Scott, The University of Queensland	4,810	4,810	1,000	Effective and simplified dark matter global fits with GAMBIT
Dr Kenji Shimizu, Commercial Organisation	4,800	4,800	-	RPS Group Computing
A/Prof Adrian Pudsey, Royal Melbourne Institute of Technology	4,780	4,780	3,375	Aerothermodynamics of High Speed Flight and Enabling Technologies



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		3,800	-	DHI-027
Mc Carolina Lai, DHI	4 740	700	-	DHI-035
Ms Caroline Lai, DHI	4,740	230	-	DHI-037
		10	-	DHI-032
Dr Rob Patterson, University of NSW	4,722	4,722	-	Materials discovery and theoretical development for advanced photovoltaic cells and nanomaterials in renewable energy
A/Prof John Young, UNSW Canberra	4,706	4,706	750	Fluid-Structure Interactions in Biological and Biomedical Systems
Dr Pavel Sakov, Bureau of Meteorology	4,650	4,650	-	EnKF/AOM2
Mr David Gavin,	4 640	3,340	-	DEA Operations and code repositories (Public and private)
Geoscience Australia	-1,040	1,300	-	DEA Development and Science (GA internal)
Mr Dan Sandiford, The University of Tasmania	4,568	4,568	-	Modelling the tectonic evolution of ocean gateways
Prof Vincent Wheatley, The University of Queensland	4,492	4,492	3000	Scramjet-based Access-to-Space and Planetary Entry
		3,480	-	VC Dunwoodie
		350	-	VC Graham
Mr Steven Wilson,		192	-	VC Fatkin
Victor Chang Cardiac	4,445	160	-	VC HO
Research Institute		160	-	VC Harvey
		100	-	VC Giannoulatou
		3	-	VC Vandenberg
Prof Michelle Spencer, Royal Melbourne Institute of Technology	4,368	4,368	1,500	Modelling Nanoscale Materials for Sensing and Device Applications
Dr Callum Shakespeare, The Australian National University	4,250	4,250	1,000	Parameterising unresolved ocean dynamics and thermodynamics
Prof Aijun Du, Queensland University of Technology	4,250	4,250	4,250	Nanomaterials for Energy, Nanoelectronics and Environmental Applications: Contribution from Modelling towards Rational Design
Dr Rey Cheng Chin, The University of Adelaide	4,178	4,178	2,500	Numerical simulations of rough wall turbulence: A control's approach
Dr Junming Ho, University of NSW	4,119	4,119	2,250	Accelerating the Design of Novel Catalysts and Drugs through Computational Chemistry



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Dr Oleg Tretiakov, University of NSW	4,114	4,114	500	Thermoelectric and Magnetic Properties of Topological Materials
A/Prof Haibo Yu, The University of Wollongong	4,109	4,109	1,150	Computer simulations of molecular systems and computer-aided molecular design
Dr Ming Zhao, The University of Western Sydney	3,978	3,978	-	Fundamental and applied studies of fluid-structure interaction through numerical simulations
		1,450	-	Computational identification and characterisation of RNA molecules
Prof Eduardo Eyras,	2 020	1,250	1,250	Comprehensive characterisation of the ribosomal DNA in brain cancer
University	3,920	1,200	-	Ribosomal DNA assembly and expression dynamics
		20	-	Profiling and optimisation of reference- free transcriptomics
Dr Claudio Cazorla.		2,400	-	Rational design of novel multiferroic materials for energy harvesting and energy efficiency
University of NSW	3,916	1,516	600	Nano-structured multifunctional materials for solid-state cooling (continuation project)
Mr Craig Arthur, Geoscience Australia	3,800	3,800	-	Severe Wind and Coastal Inundation Modelling
Prof Andrew Neely, UNSW Canberra	3,770	3,770	500	Fluid-thermal-structural interactions for high-speed flight and propulsion
Prof Debra Bernhardt, The University of Queensland	3,763	3,763	2,500	Exploring new materials, structures and fluids for catalysis, energy technologies and sensors at the molecular level
Dr Judy Hart, University of NSW	3,639	2,875	850	Design and development of photoactive and catalytic materials for efficient solar-to-fuel conversion
		764	-	Materials for batteries and refractories
Dr Thomas Nordlander, The Australian National University	3,500	3,500	-	3D radiative transfer and hydrodynamics
Prof Mark Thompson, Monash University	3,492	3,492	2,250	Transition, stability and control of bluff body flows
Dr Thi Ta, The University of Wollongong	3,478	3,478	-	Molecular Dynamics Simulation of Aqueous Triblock Copolymer Lubricants in Metal Forming Applications
Dr Cheong Xin Chan, The University of Queensland	3,470	3,470	2,750	Comparative and Evolutionary Genomics of Microbes from Diverse Environments



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Prof Michael Ford, University of Technology, Sydney	3,450	3,450	-	Designing and Building Novel 2D Hybrid Materials
Dr Andrew		2,792	-	Understanding the redox reaction mechanisms of E. coli nitroreductases
Christofferson, Royal Melbourne Institute of Technology	3,382	590	590	Multiscale computational investigation of materials and biomolecules for health, environmental, and commercial applications
Dr Daniel Chung, The University of Melbourne	3,350	3,350	2,750	Direct numerical simulation of wall- bounded and buoyancy-driven turbulent flows
		1,837	-	ZERO - Zero Childhood Cancer Consortium
		1,230	-	GAP - Genomics of Australian Plants
Dr Steven Manos,	2 2 2 2	100	-	ABLeS
Melbourne	3,332	90	-	OMG - OzMammals Genomics
		40	-	TSI - Threatened Species Initiative
		35	-	Australian BioCommons Tools and Workflows
Prof Tracie Barber, University of NSW	3,303	3,303	-	CFDMECH
Dr Bishakhdatta Gayen, The University of Melbourne	3,285	3,285	3,285	The role of convection and turbulent mixing in ocean circulation
A/Prof Yan Jiao, The University of Adelaide	3,216	3,216	1,200	Design Clean Energy Conversion and Storage Materials by Molecular Modelling
Prof Sean Li, University of NSW	3,127	3,127	250	Accelerate Functional Material Designs Using Artificial Inetelligence
		1,150	-	Garvan - Genomic Cancer Medicine - David Thomas
		1,150	-	Garvan Data Relocation
Mr Joseph Copty, Garvan Institute of	3,118	800	-	Garvan - Human Comparative and Prostate Cancer Genomics - Vanessa Hayes
Medical Research		13	-	MoST Molecular Screening Trial
		3	-	Garvan - Powell Group - Joseph Powell
		1	-	OneScreen Program
		1	-	Garvan - Tumour Progression - Alex Swarbrick
Prof Suresh Bhatia, The University of Queensland	3,115	3,115	1,350	Interfacial Barriers for the Transport of Nanoconfined Fluids
Dr Alireza Valizadeh, DHI	3,100	3,100	-	DHI-034



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Dr Hongtao Zhu,		2,919	600	Carbon Based Tribofilm to improve Engine Performance
The University of Wollongong	3,024	105	-	Polycrystal Plasticity FEM Simulation of Severe Plastic Deformation (SPD) Techniques
Prof Kiet Tieu, The University of Wollongong	3,008	3,008	250	Project title: Computational Study of the Tribological Properties of Layered Metal Hydroxides
Mr John Wilford, Geoscience Australia	3,000	3,000	-	Data mining and geostatistical modelling for geoscience applications
Dr Aman G. Kidanemariam, The University of Melbourne	3,000	3,000	2,000	Direct numerical simulation of turbulent shallow flows with deformable free-surface
Dr Mohsen Talei, The University of Melbourne	2,950	2,950	2,500	Developing predictive tools for cleaner combustion
A/Prof Serdar Kuyucak,	2 002	2,653	-	Molecular Dynamics Simulations of Ion Channels and Transporters
The University of Sydney	2,905	250	250	Free Energy Simulations of Ion Channels and Transporters
Prof Justin Borevitz, The Australian National University	2,900	2,900	-	Linking Genotype, Phenotype and Landscape to improve Plant Energy
Dr Gareth Vio, The University of Sydney	2,891	2,891	-	Fluid-Structure Interaction using higher Order CFD
Prof Federico Maggi, The University of Sydney	2,750	2,750	700	Global soil and water resource in a changing climate
Dr Seojeong Lee, University of NSW	2,735	2,735	-	A Lifetime Model of Labor Supply and Asset Allocation of Australians
Dr Marian-Andrei Rizoiu, University of Technology, Sydney	2,700	2,700	-	Tracking disinformation campaigns across social media
Dr Michael Breedon, CSIRO	2,661	2,661	-	The adsorption of molecules onto surfaces found in energy storage devices
Dr Md Anower Hossain, University of NSW	2,652	2,652	-	Modelling of Crystalline and Amorphous Transition Metal Oxides as Carrier- Selective Passivating Contacts for Crystalline Silicon Solar Cells
Dr Sebastien Allgeyer, Geoscience Australia	2,640	2,640	-	Earth deformation and mass transport
Prof Colin Jackson, The Australian National University	2,636	2,636	1,100	Computational Structural Biology and Protein Engineering



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Prof Elizabeth Ritchie- Tyo, Monash University	2,521	2,521	250	Tropical Cyclone Studies
Prof Aibing Yu, Monash University	2,400	2,400	1,750	Simulation and Modelling of Particulate Systems
A/Prof Zhe Liu, The University of Melbourne	2,400	2,400	2,050	Integrated Computational Materials Engineering for Energy Materials
Dr Nicholas Williamson,	2 275	1,750	-	Stratified boundary layers in riverine environments
The University of Sydney	2,375	625	625	Transition and Turbulence in Low and High Temperature Natural Convection
Mr Miguel Angel Gonzalez Bolivar, Macquarie University	2,360	2,360	-	Common envelope evolution during thermal pulsing AGB phase
Prof Orsola De Marco, Macquarie University	2,316	2,316	-	Common envelope interaction and stellar outbursts in the era of time- domain Astrophysics
Dr Janelle Simpson, Other Australian Government Department	2,300	2,300	-	Geological Survey of Queensland - Minerals Geoscience
A/Prof Yvonne Wong, University of NSW	2,255	2,255	-	High-resolution simulations of axion-like particles in the early Universe
Dr Amanda Barnard, The Australian National University	2,250	2,250	-	Computational Science and Applied Machine Learning
Dr Robert Womersley, University of NSW	2,213	2,213	-	Computation and optimization of energy, packing, covering and worst case error for point configurations on manifolds
Prof Hrvoje Tkalcic, The Australian National	2,160	1,500	1,500	Probing the Australian-Pacific plate boundary by computational seismology: Macquarie Ridge in 3D
University		660	-	Studying the Earth's interior using global correlation wavefield
Prof Gregory Sheard, Monash University	2,150	2,150	1,500	Two-dimensionalisation of MHD turbulence and ultimate horizontal convection regimes
Dr Wei Wen, University of NSW	2,129	2,129	250	Joint Analysis of Imaging and Genomic Data to Study the Structure and Function of Human Brain
Prof Damien Batstone, The University of	2,110	1,750	1,750	Computational Fluid Dynamics for Sewage and Wastewater Treatment Infrastructure
Queensland		360	-	Simulation of anaerobic wastewater lagoons



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A/Prof David Wilson,	2.000	1,490	490	Quantum Chemical Molecular Properties
La Trobe University	2,080	590	-	Computational Study of Novel Molecular Properties
Dr Manolo Per, CSIRO	2,056	2,056	-	Development and Application of Quantum Monte Carlo methods
Prof Erik Meijering, University of NSW	2,017	2,017	-	Deep Learning for Biomedical Image Analysis
Dr Mark Hoggard, The Australian National University	2,000	2,000	1,000	Next generation forecasts of 21st century ground motion and sea-level rise across the Indo-Pacific region driven by global climate change
Prof Lei Wang, The University of Wollongong	1,989	1,989	-	Exploring National Treasure: Automatic Photo Search for the Large Collection of National Archives of Australia
Prof Luming Shen, The University of Sydney	1,967	1,967	500	Modelling high strain rate responses of unsaturated porous media
Dr Martin Singh, Monash University	1,964	1,964	1,450	Understanding climate change and variability using idealised and comprehensive climate models
	1,960	920	-	Digital pathology through deep inference of spatial gene expression
		320	-	Statistical and machine learning for bioprediction from wide datasets
		200	-	Sequence-Structure-Function analysis of host-pathogen interactions
Prof Eric Stone, The Australian National		160	-	Computer vision and deep learning for digital agriculture
University		120	-	Genomic analysis of plant pathogens (application to oat crown rust)
		120	-	Pangenomics of non-model species (application to Helicoverpa)
		120	-	Statistical learning on compositional data (biological and physical applications)
Mr Andrew Driscoll. DHI	1.900	1,200	-	DHI-031
	2,500	700	-	DHI-022
Prof Barry Pogson, The Australian National University	1,900	1,900	-	A computational approach to enable precision control of drought resilience
Prof Andrew Greentree, Royal Melbourne Institute of Technology	1,885	1,885	-	Atom-photon interactions in biologically relevant media



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		1,318	-	A predictive, ab initio design of plasmonic-metal/semiconductor catalysts
Dr Priyank Vijaya Kumar, University of NSW	1,871	339	-	Ultrathin Hydroxide/Oxyhydroxide Catalysts for Biomass Electrolysis
		214	-	Insights into the interactions between post-transition metals and heavy metal ions using theoretical calculations
Prof Tiffany Walsh,	1 970	1,150	1,150	Development and application of nano interfacial simulations
Deakin University	1,870	720	-	Molecular simulation of carbon fibre composites
		1,194	-	Sea-level rise
Dr Xuebin Zhang, CSIRO	1,838	644	-	Downscaling future climate change from CMIP5 climate models with an eddy-resolving ocean model
Prof Maria Forsyth, Deakin University	1,820	1,820	1,425	Computational investigation of new selective transport materials
Prof Jozef Syktus, The University of Queensland	1,806	1,806	-	The capacity of forests to protect regional climate under global warming: science and policy implications
Prof Susan Clark, Garvan Institute of Medical Research	1,800	1,000	-	Generation of a Differential Human DNA Methylation and Gene Expression Database
		800	-	Computational analysis of Epigenome diversity and inheritance patterns
Dr Aaron Ludlow, University of Western Australia	1,800	1,800	-	Keeping galaxy formation simulations cool by suppressing numerical heating
Dr Simon Campbell, Monash University	1,770	1,770	1,750	3D Simulations of Stars: Turbulence Boundaries and Convective-Reactive Nuclear Burning
Prof Daniel Price, Monash University	1,766	1,766	-	Star and planet formation, black hole accretion and common envelope evolution
Prof Jian-Feng Nie, Monash University		934	500	Simulation of dislocation gliding and its interaction with solutes in hexagonal close-packed metals and alloys using potentials from deep learning
	1,760	750	750	Large-scale atomic simulations of chemical short-range ordered solute clusters and lattice defects in Mg and Zn alloys by DFT calculations and deep learning
		76	-	Structures and stability of solute aggregate and segregation in advanced Mg alloys



Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS/ <u>ALCG</u> Allocation in kSU	Project Title
Prof Timothy Barrows, The University of Wollongong	1,754	1,754	250	Downscaling of historical reanalysis over Alaska using the Weather Research and Forecasting model
Prof Steven Sherwood, University of NSW	1,751	1,751	1,125	Rethinking atmospheric physics to resolve climate enigmas
Dr Christian Wolf, The Australian National University	1,750	1,750	-	SkyMapper and the Southern Sky Survey
Dr Liangzhi Kou, Queensland University of Technology	1,749	1,749	1,250	2D functional materials for physical and chemical applications
Prof Dewei Chu, University of NSW	1,719	1,719	-	Probing Ion Transport in Oxide based Resistive Switching Materials for Advanced Memory Devices
A/Prof Ha Bui,	1 714	1,214	650	Micromechanics of internal soil erosions and field-scale applications
Monash University	1,714	500	500	Unravelling micro-macro links in predictions of granular failure
Dr Fabio Capitanio, Monash University	1,684	1,684	1,250	4-D Numerical Models of Plate Tectonics on Earth and other planets
A/Prof Yun Wang, Griffith University	1,600	1,600	1,500	A theoretical understanding of electrocatalytic reactions for hydrogen economy under industrial conditions
Dr Alpesh Malde, Griffith University	1,593	1,593	-	Development and Applications of Computational Methods in Drug Design
A/Prof Robyn Schofield, The University of Melbourne	1,590	1,590	1,500	Atmospheric composition & chemistry modelling on global, regional & local scales
Dr Duncan Sutherland, UNSW Canberra	1,558	1,558	-	Physics based simulations of wild fire behaviour
Dr Martin Jucker, University of NSW	1,548	1,548	-	Atmospheric and oceanic processes and dynamics
Dr Richmond Lee, The University of Wollongong	1,520	1,520	850	Computationally-Guided Catalysis & Molecular Design
Dr Anthony George, University of Technology, Sydney	1,500	1,500	-	Role of dominant motions in the catalytic mechanism of cathepsin L protease
Dr Shev Macnamara, University of Technology, Sydney	1,500	1,500	-	Severe Thunderstorms and Tornadic Events Over Australia: Climatology and Case Studies
Dr Alejandro Montoya, The University of Sydney	1,450	1,450	250	Advanced Computational Chemistry Research for Chemical Engineering Process Improvement
A/Prof Victoria Timchenko, University of NSW	1,448	1,448	-	Fluid dynamics and heat transfer enhancement for renewable and sustainable energy applications



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Prof Moninya Roughan, University of NSW	1,445	1,445	500	Advancing dynamical understanding in the East Australian Current Optimising the ocean observation and prediction effort
Dr Lars Goerigk, The University of Melbourne	1,440	1,440	1,200	Theoretical and Computational Quantum Chemistry Including Development of Computational Methods and Computational Materials Science
Prof Adam Trevitt, The University of Wollongong	1,433	1,433	250	Computational Investigation of the Chemistry of Reactive Intermediates
Prof Hugh Blackburn, Monash University	1,427	1,427	750	Simulation of Transitional and Turbulent Flows for Engineering Applications
Dr Andrew Hung,		1,392	500	Developing New Treatments for Pain
Royal Melbourne	1,412	20	-	RMIT-NCI CSA June 2022
Mrs Claire Carouge, The Australian National University	1,405	1,405	-	Terrestrial modelling within the Centre of Excellence regionalizing land surface processes
Dr Ross Brodie, Geoscience Australia	1,400	1,400	-	Airborne Electromagnetics (AEM) Inversion
Prof Cedric Simenel, The Australian National University	1,400	1,400	-	Microscopic Studies of Nuclear Structure and Dynamics
Dr Li Wang,		1,000	-	Numerical simulation of flapping-wing aerial vehicles in Martian atmosphere
UNSW Canberra	1,395	395	-	Numerical simulation of flapping-wing aerial vehicles in Martian atmosphere
Dr Dietmar Dommenget, Monash University	1,392	1,392	-	Global scale decadal climate variability in a ACCESS hierarchy of climate models
William Hibberd, DHI	1,365	1,365	-	New project request on GADI under the DHI account
Prof Ivan Cole, Royal Melbourne Institute of Technology	1,356	1,356	-	Study on the airflow phenomena on the respiratory system
A/Prof Elizabeth Krenske, The University of Queensland	1,343	1,343	1,000	Computational Investigations of Molecular Structure and Reactivity
Mr Asger Gronnow, Other International	1,327	1,327	-	The effect of the Galactic halo magnetic field on gas condensation and accretion
Dr Jong-Leng Liow, UNSW Canberra	1,322	1,322	-	Modelling of hydrocyclone behaviour



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Prof Graham Heinson, The University of Adelaide	1,310	1,310	250	Characterising mineral systems and understanding tectonic evolution of the Australian lithosphere using magnetotellurics
Dr Alberto Peruzzo, Royal Melbourne Institute of Technology	1,309	1,309	-	RMIT Node, ARC Centre of Excellence for Quantum Computation and Communication Technology
Dr Jade Powell, Swinburne University of Technology	1,300	1,300	-	Simulations of the explosion of an 18 solar mass star
Prof Andrew Ooi, The University of Melbourne	1,300	1,050	-	Understanding the Development of Cardiovascular Diseases Using Advanced Tools in Computational Fluid Dynamics and Artificial Intelligence
WEIDOUTTE		250	250	Gravity Current Driven Smoke Dispersion In a Stratified Ambient
Prof Amir Karton, The University of Western Australia	1,300	1,300	1,300	High-level quantum chemistry: From theory to thermochemical and biochemical application
Dr Christopher Leonardi, The University of Queensland	1,278	1,278	250	Direct numerical simulation of complex fracture flows for geoscientific applications
Prof Jiankun Hu,	1,258	1,256	-	Big Data Security
Prof Michael Richardson, Macquarie University	1,250	1,250	250	Human-AI: Developing Artificial Agents for Multiagent and Human-AI Teaming
Dr Claire Vincent, The University of Melbourne	1,250	1,250	1,250	Clouds, rain and Climate: Mapping a hierarchy of cloud and rainfall processes to our global climate system.
Prof Steven Armfield, The University of Sydney	1,250	1,250	-	Stability and Transition of Conjugate Natural Convection Boundary Lavers
Prof Jeffrey Reimers, University of Technology, Sydney	1,250	1,250	250	Understanding isomerism, nanophotonics, and molecular electronics
Dr Sascha Eisenträger, University of NSW	1,243	1,243	-	Transient Analysis using Explicit Time Integrators and the Scaled Boundary Finite Element Method
Mr Patrick Sunter, Bureau of Meteorology	1,200	1,200	-	Extended Hydrological Prediction modelling
Prof Sylvester Abanteriba, Royal Melbourne Institute of Technology	1,197	1,197	-	Study on Improved Large Eddy Simulation Methodologies for Predicting Trailing Edge Noise



Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS/ <u>ALCG</u> Allocation in kSU	Project Title
Dr David Cortie, The University of	1,191	1,000	-	Quantum design of advanced material concepts for heat management and thermoelectricity
Wollongong		191	-	Density functional theory for the next- generation of electronic materials
Prof Robert Kohn, University of NSW	1,182	1,182	-	Efficient Bayesian Inference for Intractable Likelihood Problems
Dr Gaatan Burgio		776	-	ANUMAS 2021 new project – Burgio
The Australian National University	1,181	405	305	Uncovering novel phage-bacteria interactions by mining metagenomics datasets
Prof George Zhao, The University of Queensland	1,166	1,166	500	Atomic-Scale Design of Electrode Materials for Sodium-Ion Batteries and Sodium-Sulfur Batteries
Ms Silvia Ceccacci, Macquarie University	1,165	1,165	-	Control of boundary-layer separation using surface roughness
Prof Ian Dance, University of NSW	1,155	1,155	-	The chemical mechanism of nitrogenase
Dr Sang Lee, The University of South Australia	1,145	1,145	1,145	Novel whole-genome approaches to capture the latent genetic architecture of complex traits
A/Prof Susanna Guatelli, The University of Wollongong	1,143	1,143	500	Development of Monte Carlo particle transport simulation tools for bio- medical applications
Dr Daniel Duke,	1,076	1,000	-	Simulating turbulent multiphase flows in pressurised metered-dose inhalers
Wonash University		76	-	HRMFoam scaling studies on Raijin
Prof Michael Banner, University of NSW	1,073	1,073	-	Direct 3D Numerical Simulation of the Air Sea Interface
Dr Timothy Duignan, The University of Queensland	1,060	1,060	750	Predicting electrolyte solution properties from first principles.
Prof Jason Sharples, University of NSW	1,056	1,056	-	Modelling and simulation of dynamic bushifre propagation
Dr Peter Oke, CSIRO	1,053	1,053	-	Bluelink developments
Prof Anatoli Kheifets,		1,000	250	Time-space resolved photoelectron emission
The Australian National University	1,050	50	-	Application of a TDDFT solver to analyse resonances in high harmonic generation in solids
Dr Abhnil Prasad,	1.010	950	-	The effects of tropical convection on Australia's climate
University of NSW	1,010	60	-	Benchmarking WRF for Dust and Fire Applications



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A/Prof Philip Nakashima, Monash University	1,002	1,002	-	Mapping Chemical Bonds in Nanostructured Alloys and Thermoelectric Ceramics using Quantitative Convergent-Beam Electron Diffraction
Mr Samuel Sauvage, Bureau of Meteorology	1,000	1,000	-	Australian Fire Danger Rating Prototype
Dr MengJun Qin, Other Australian Government Department	1,000	1,000	-	Atomistic Simulations of Nuclear Materials
Prof Joe Hope, The Australian National University	1,000	1,000	-	Deep Quantum: an exploration of many-body quantum mechanics at the lower limits of temperature and energy
Dr Zongyou Yin, The Australian National University	1,000	1,000	-	High-throughput screening of advanced catalysts based on first-principles calculations for CO2 Reduction
Prof Bram Hoex, University of NSW	1,000	1,000	1,000	Development of low-cost and earth- abundant oxygen reduction reaction catalysts for anion exchange membrane fuel cells
A/Prof Matthew Cleary.		875	-	Transitional reacting mixing layers
The University of Sydney	1,000	125	-	High-speed compressible reacting flows for propulsion and power
Prof Belinda Medlyn, The University of Western Sydney	1,000	1,000	-	Modelling Australian Vegetation Function
Dr Thomas Plantard, The University of Wollongong	998	998	-	Security Analysis of Lattice-based Cryptosystems
Dr Martina Lessio,	079	528	500	Computational Design of Metal-Organic Frameworks for Heavy Metal Removal from Water
University of NSW	450	-	Computational Design of Metal-Organic Frameworks for Heavy Metal Removal from Water	
Dr Difei Deng, UNSW Canberra	972	972	250	Rainfall Study Following the Landfall of Tropical Cyclones over Australia
Dr Nathaniel Butterworth, The University of Sydney	961	961	-	Sydney University Bioinformatics Testing and Development
Ms Chloe Burns, The Australian National University	960	960	-	Agent Based Microsimulation of Infectious Disease Outbreaks



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Mr Apastasios		620	-	Bushfire CRC PhD and MPhil Students
Eleftheriadis,	960	330	-	Development of a Short-range firebrand landing model
victoria orniversity		10	-	ACARA NAPLAN Benchmark Analysis
Dr Xi Li, The Australian National University	955	955	-	Canberra Clinical Genomics; translating the latest research findings into personalised medicine
Prof Rahman Sheik, University of NSW	951	951	-	Ion-tuned water flooding
A/Prof Michael Kirkpatrick,	949	849	500	Thermal Stratification and Destratification Processes in Meandering Rivers
The University of Sydney		100	-	Improved Models for Wake Steering in Wind Farms
Dr Yan Ding, Royal Melbourne Institute of Technology	930	930	-	Study on the Improved Large Eddy Simulations for Methodologies for Predicting Trailing Edge Noise
Dr Nicolas Flament, The University of Wollongong	920	920	500	4D relationships between supercontinents and mantle convection
Prof Ravi Jagadeeshan, Monash University	919	919	550	Sticky polymers in flow: Nexus between microscopic and macroscopic dynamics
A/Prof Ahmad Jabbarzadeh, The University of Sydney	914	914	-	Multiscale Simulations of Polymeric Systems
Prof Mark Knackstedt,	910	500	500	Training Centre for Multiscale 3D Imaging, Modelling and Manufacturing
The Australian National University		410	-	ARC ITTC for Multiscale 3D Imaging, Modelling and Manufacturing (M3D Innovation)
Prof Liang Chi Zhang, University of NSW	908	908	550	An integral approach for the defect-free fabrication of high-integrity systems
		419	-	Piloting Environment. Faculty of Science and Engineering, Macquarie University
Mr Richard Miller,	806	369	-	Enchanced Oil Recovery
Macquarie University	850	78	-	MRI Image Processing
		30	-	Deep Learning for BioMedical Image Processing
Dr Shane Keating, University of NSW	892	892	250	Consequences of ocean wave modulation on fundamental air-sea turbulent fluxes



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Prof Yuantong Gu, Queensland University	885	500	500	Large-scale atomistic simulations for the design of high-performance nanocomposites
of Technology	005	385	250	Atomistic investigation on the mechanical and thermal transport properties of nanocomposites
Prof Nicole Stanford, University of South Australia	850	850	850	A first principles approach to understanding real engineering materials
Prof Chengwang Lei, The University of Sydney	850	850	-	Vortex Induced Vibration of Cylindrical Structures and Interactions of Urban Heat Island and Heatwave
Dr Marcus Doherty,		442	-	Quantum Brilliance Pilot Project
The Australian National University	842	400	-	First principles innovation of solid-state quantum technologies
Dr Warren Jin, CSIRO	816	816	-	High resolution seasonal climate forecast
Dr Daniel Lester,	807	557	-	The Tensorial Rheology of Strong Colloidal Gels
Royal Melbourne Institute of Technology		250	250	Direct Numerical Simulation of non- Newtonian pipe flow in laminar, transition and turbulent regimes
Dr Gerald Pereira, CSIRO	806	806	-	Digital design of bespoke mixers
Prof Alexander Babanin, The University of Melbourne	801	801	_	Metocean projects, University of Melbourne
Dr Iwan Cornelius, Australian Commercial Organisation	800	800	-	Amentum Production Computing
Dr Siyuan Tian, The Australian National University	800	800	-	ANUMAS 2021 new project – Tian
Mr Neil Symington, Geoscience Australia	800	800	-	High-performance Computational Groundwater Science
A/Prof David Huang, The University of Adelaide	800	800	500	Multi-scale modelling of soft condensed matter in functional materials
Prof Martin Lambert, The University of Adelaide	800	800	500	Unveiling the physics of unsteady turbulent flows by using direct numerical simulation
Dr Thomas Balle, The University of Sydney	792	792	375	Analysis of ligand gated ion channels in realistic membranes by molecular dynamics simulations



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Dr Marta Yebra,		500	-	ANUMAS 2021 new project – Yebra
The Australian National University	775	275	250	Protecting Australia from catastrophic bushfires
Dr Neha Gandhi,				Computational simulations of
Queensland University	775	775	765	biomolecules involved in DNA repair
of Technology				pathways and the extracellular matrix
Dr Ashish Sharma, University of NSW	763	763	250	Dynamical downscaling hydro-climatic simulations for water resources planning and management in a
				changing climate
Prof Igor Bray, Curtin University of Technology	750	750	750	Atomic Collision Theory
Dr Serena Lee, Griffith University	750	750	-	Large-scale flexible mesh modelling (Australia, Pacific, Southern Ocean)
Dr Justin Leontini, Swinburne University of Technology	750	750	750	Oscillatory flows in complex geometries
Dr Kapil Chauhan, The University of Sydney	750	750	-	Natural convection in inclined shallow cavities
Prof Santiago Badia, Monash University	748	748	625	Towards large-scale inverse solvers for subsurface problems with stochastic interfaces
Dr Ryosuke Hirai, Monash University	746	746	-	Common-envelope evolution of massive stars
Nicholas Heath, Macquarie University	739	739	-	Optimisation of Numerically Modelling Rotating Wheel Geometries in CFD
Dr Raghvendra Sharma, Commercial Organisation	730	730	-	Loam Bio
		665	-	Architected Materials
Dr Raj Das, Royal Melbourne Institute of Technology	728	63	-	Understanding Cranial Injury- Developing bio-simulant human gunshot cranium model by using mesh free (SPH) method
Dr Reuben Kirkham, Monash University	716	716	500	Navigation-Documentation Simulations
Prof Xiao Hua Wang, UNSW Canberra	702	702	-	Oceanic Nepheloid Layers and Their Role in Coastal Oceanography
A/Prof Ting Liao, Queensland University of Technology	699	699	650	Computational Design of Two- Dimensional Hybrids Based Nanomaterials for Sustainable Energy Application



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		431	-	T4 Project for pregnant and baby gut microbiome
Dr Xiaotao Jiang, University of NSW	681	250	250	Establishing a global human gut microbiome catalog in health and disease
		430	-	Computation of advanced material properties for application in advanced solar energy harvesting
Prof Santosh Shrestha, University of NSW	678	248	-	Computation of electronic, optical and phonon properties of transition metal nitrides and oxynitrides to investigate hot carrier solar cell absorber properties
Dr Xue Feng Dong, The University of Wollongong	675	675	-	A fundamental understanding of processing limits in blast furnace ironmaking leading to optimisation of productivity through innovative management of raw material quality
Dr Elena Atroshchenko, University of NSW	673	673	-	Numerical methods in acoustics
Prof Wei Gao, University of NSW	666	666	-	Machine learning aided dynamic reliability analysis for large-scale complicated engineering structures
Prof Mark Humphrey, The Australian National University	660	660	-	DFT and TD-DFT Studies of Organometallic Systems
Prof Buyung Kosasih, The University of Wollongong	650	650	-	Fluid dynamic phenomena affecting the liquid coating quality in the jet stripping line
Dr Yingyan Zhang, Royal Melbourne Institute of Technology	649	649	-	High-performance polymer composites reinforced by carbon-based nanomaterials
Duct Flows Salim		569	-	Deep learning of time-series and spatio- temporal data
University of NSW	644	75	-	Data-efficient Learning with Multi- modal Sensor and Spatial-temporal Data
Prof Jie Yang, Royal Melbourne Institute of Technology	640	640	-	Buckling of Functionally Graded Multilayer Graphene Nanocomposites
Dr John Taylor, CSIRO	638	638	-	Scalability of convolutional encoder- decoders
Ms Ella Castillo, Commercial Organisation	630	630	-	Windlab Limited



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Dr Louis Moresi, The Australian National University	625	625	625	Evolution and dynamics of the Australian lithosphere
A/Prof Alister Page, University of Newcastle	625	625	625	Quantum Chemical Modelling of Nanoscale Chemical Processes
Dr Yuguang Wang, University of NSW	616	616	-	Cosmic Microwave Background Analysis
Dr Chris Escott, University of NSW	613	613	-	Silicon MOS quantum computation
A/Prof Tamar Greaves, Royal Melbourne Institute of Technology	610	610	-	A Molecular Dynamics exploration of ionic liquid properties and interactions with polymeric materials
Dr Negin Nazarian, University of NSW	607	607	300	Urban canopy parameterization in mesoscale modeling to represent urban overheating and air quality
Dr Carlos Velasco, Bureau of Meteorology	600	600	-	STEPS: Short-term high-resolution rainfall ensembles
Mr Guillaume Jolly, Commercial Organisation	600	600	-	Trampo CFD Pilot Project
Dr Jack McCubbine, Geoscience Australia	600	600	-	InSAR research to measure surface deformation of the Australian continent
A/Prof Matthew Field, James Cook University	600	600	400	Developing Bioinformatics Capability to Diagnose Infectious Diseases using Clinical Metagenomics
Mr Matthew Boarder, La Trobe University	600	600	-	Molecular Dynamics of Protein Targets Linked to Infectious, Diabetic and Age- Related Diseases
Dr Nevena Todorova, Royal Melbourne Institute of Technology	594	594	-	Theoretical studies of bimolecular interactions under non-equilibrium conditions
Dr John Pye, The Australian National University	592	592	-	Modelling of high-temperature concentrating solar thermal energy systems
Dr Paul Zulli, The University of Wollongong	585	585	-	Productivity and Campaign Life Improvements Through Development of Numerical Models of the Ironmaking Blast Furnace
Mx Claire Trenham,	580	359	-	Climate Resilient Enterprise mission
CSIRO	500	221	-	current and future climate
Dr Michael Groom, University of Sydney	577	577	-	Computational Fluid Dynamics Modelling of Aircraft Wakes
Mr Radoje Radovic, Macquarie University	570	570	-	Wheel spray modelling



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Dr Maryam Ghodrat,	570	560	500	CFD Simulation of fire-wind interaction and its effect on buildings in bushfire prone areas
onsw camberra		10	-	An improved numerical tool for bushfire modelling
Dr Merlinde Kay, University of NSW	569	569	500	Australian Solar Resource Assessment and Forecasting
Prof Ziqi Sun, Queensland University of Technology	559	559	500	Two-Dimensional Oxides Supported Non-noble Single-atom for Sustainable Fuel Generations
Prof Phil Cummins, The Australian National	550	300	-	Geohazard Modelling for the Asia- Pacific Region
University		250	-	ANUMAS 2021 new project – Cummins
Prof Quan Wang, The University of Melbourne	550	550	-	Statistical post-processing of ACCESS precipitation forecasts
Dr Asaph Widmer- Cooper, The University of Sydney	550	550	550	Computational Materials Design for Solar Energy Conversion
A/Prof Ivan Kassal, The University of Sydney	550	550	550	Charge and energy transport in disordered functional materials
Dr Ripon Chakrabortty, UNSW Canberra	549	549	-	Integrating Optimisation Approaches in Cyber Security
Dr Chris Menictas, University of NSW	546	546	375	Advancement of High Energy Density Storage Systems
Prof Khalid Moinuddin, Other Australian Research Institute	540	540	-	Bushfire CRC Project 01
Prof Tim Bedding, The University of Sydney	540	540	-	Asteroseismology of solar-like stars and red giants
Prof Lianzhou Wang, The University of Queensland	529	529	450	Computational Understanding of Semiconductor Nanomaterials for Clean Energy Conversion and Storage
Dr Sinead Keaveney,		302	-	Understanding nickel and palladium catalysed reaction mechanisms
The University of Wollongong	513	211	-	Development of a chemoselective C-F functionalisation procedure using palladium catalysis
Prof Francois Aguey- Zinsou, The University of Sydney	509	509	-	A multiscale resolution strategy for hydrogen storage and production applications
Dr Joseph Horvat, The University of Wollongong	508	508	250	Blue shift of terahertz absorption lines for molecular crystals
Dr Michael Pereira, Deakin University	500	500	-	Wear simulation using DEM and FEM



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Dr Tim Gould, Griffith University	500	500	500	HPC-enabled rational design of energy storage materials
Dr Jiayu Wen, The Australian National University	500	500	-	ANUMAS 2021 new project – Wen
Mr Johannes Pottas.		400	-	Timestep production computing
The Australian National University	500	100	-	Structural and thermal modelling of components in concentrating solar power systems
Prof Richard O'Hair, The University of Melbourne	500	500	500	Catalysis and Organometallic Chemistry
Prof Ian Young, The University of Melbourne	500	500	500	Global and regional projections of ocean wave climate over the 21st century
Prof Leo Radom, The University of Sydney	500	500	500	Structural and Mechanistic Chemistry
Prof Brian Yates, The University of Tasmania	500	500	500	Designing Better Catalysts
Mr Duc Dung Vu, Macquarie University	481	481	-	Hardware Implementation of Fast Particle Filter for Interference Source Tracking
Dr Yang Song. University of NSW	475	475	-	Deep Learning based Large-scale Microscopy Image Analysis in Biomedical Sciences
Mr Peter Briggs, CSIRO	471	471	-	The Australian Continental Carbon Budget
Dr Ivo Seitenzahl, UNSW Canberra	470	470	250	Hydrodynamical explosion simulations and radiative transfer for thermonuclear and core-collapse supernovae
Prof Kerry Hourigan. Monash University	466	466	250	Advanced Modelling of Fluid-Structure Interactions
Dr Laura McKemmish, University of NSW	465	465	-	Preliminary Calculations on Molecular Spectroscopy
Dr Elise Kenny, Queensland University of Technology	450	450	-	First-principles investigation of mechanical-magnetic coupling in bent 2D magnets
A/Prof Stuart Clark, University of NSW	444	444	-	Numerical modelling of the Formation of Pop-Up Structures in Frontier Exploration Regions
Professor Robert Stranger, The Australian National University	440	440	-	Computational studies of the Mn/Ca cluster in Photosystem II and its relevance to bio-mimetic Hydrogen generation catalysts



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Prof Brendan McKay, The Australian National University	440	440	-	Extremal graph theory and Ramsey theory
Dr Matthew Chamberlain, CSIRO	435	435	-	ACCSP Dynamical Ocean Downscaling of Climate Change Projections
Prof Lloyd Hollenberg, The University of Melbourne	430	430	250	Quantum Computer Device Simulations
Dr Andreas Klocker, The University of Tasmania	430	430	430	Turbulence and mixing in the Southern Ocean
Jacob Suhr, DHI	420	420	-	DHI-036
Prof Hanlin Shang, Macquarie University	417	417	-	Sieve bootstrap functional time series
Dr Jonathan Tran, Royal Melbourne Institute of Technology	413	413	-	Modelling and Design of Boron Carbide Based Superhard Materials
Mr Javad Mohammadpour, Macquarie University	409	409	-	(jm7) Simulation of nanofluids in microchannel heat sinks
Dr Peter Caccetta, CSIRO	404	404	-	Statistical Image Processing of Remotely Sensed Data
Dr Su Nguyen, La Trobe University	404	404	-	Evolutionary Learning for Decision Analytics (ELDA)
Dr Xiang Dai, CSIRO	401	401	-	Transfer learning from multiple domain- specific pretrained models
Dr Daniel Linton, The University of Sydney	401	401	-	Scalable Wind Turbine CFD for Real Time Simulation
Dr Danh-Tai Hoang, The Australian National	400	200	-	Deep transfer learning for cancer diagnosis
University		200	-	ANUMAS 2021 new project – Hoang
Dr Tim Pugh, Bureau of Meteorology	400	400	-	Unified Model porting
Dr Claire Spillman, Bureau of Meteorology	400	400	-	ACS Oceans/Coastal Hazards
Mr Chung-Han Tsai, The Australian National University	400	400	-	ANU Centre for Advanced Microscopy (CAM) Pilot Project for Data Transfer, Storage, Management and Processing
Prof John Miners, Flinders University	400	400	400	Structural dynamics of human drug metabolising UDP-glycosyltransferases: Characterisation of the molecular basis of substrate and inhibitor binding
Tracy Bailey, Other Australian Government Department	400	400	-	ARPANSA Pilot Project



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Dr Dipan Kundu, University of NSW	400	400	-	Theoretical Understanding of Degradation Pathways in All-Solid-sttate Lithium Battery Cathodes
Dr Ardeshir Baktash, The University of Queensland	400	400	-	Computational Study of CO2 Reduction
Prof Stephen Bartlett, The University of Sydney	400	400	400	Quantum error correction simulation
Dr Chang Xu, The University of Sydney	400	400	-	Honey Data Generation through Deep Learning
Dr Graham Wild, UNSW Canberra	398	398	-	Intelligent Aerospace Structures
Dr Fiacre Rougieux, University of NSW	397	397	-	High throughput materials design to accelerate the energy transition
A/Prof Sherman CP Cheung, Royal Melbourne Institute of Technology	391	391	-	Fundamental investigation of the radiant heat signature of fire whirls
Prof Sumeet Walia, Royal Melbourne Institute of Technology	390	390	-	2D materials based electronics and optoelectronics
Dr Kejun Dong, The University of Western Sydney	390	390	250	Particle-scale numerical study on screening processes (subproject from ARC Hub for Computational Particle Technology)
A/Prof Craig O'Neill,	385	250	250	Towards a geodynamics millenium run
Macquarie University	505	135	-	Dfss
Dr Mark Baldry, The University of Sydney	381	381	-	Modelling the dynamics of nonthermal plasma reactors for surface functionalisation and nanoparticle synthesis
Prof David Thomas, Garvan Institute of Medical Research	375	375	375	A whole genome study to map heritable risk in sarcoma
Dr Sara Polanco, The University of Sydney	375	375	-	Harnessing the power of the oceans to remove excess CO2 from the atmosphere
Dr Salman Durrani, The Australian National University	361	361	-	Machine Learning in wireless communication networks
Prof Chennupati Jagadish, The Australian National University	354	354	-	Nanostructured optoelectronic devices: new materials and applications
Dr Nicole Rijs, University of NSW	354	354	-	Computed electronic structure of molecules relevant to self assembly and catalysis



Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS/ <u>ALCG</u> Allocation in kSU	Project Title
Dr Kiao Inthavong, Royal Melbourne Institute of Technology	353	353	-	Detailed analysis of fluid particle flows in the respiratory airway
Prof Meredith Jordan, The University of Sydney	351	351	250	Theoretical Investigations of Novel Atmospheric Chemistry Reaction Mechanisms
Prof Kevin Walsh, The University of Melbourne	351	351	-	South Pacific High-resolution Climate Model Simulations
Dr Drew Parsons, Murdoch University	350	350	350	Design of new biodegradable surfactants for rare earth metal recovery
Dr Christina Adler, The University of Sydney	338	338	330	Oral microbiome and tooth decay in children
Prof Hussein Abbass, UNSW Canberra	337	337	-	Trusted Autonomy Group
Dr Emily Wong, Victor Chang Cardiac Research Institute	337	337	-	VC Wong - Gene regulation
Dr Clair Stark, UNSW Canberra	331	331	-	The Contribution of Tropical Cyclone induced Ocean Energy Changes to the Earth Energy Balance
Prof Naomi McClure- Griffiths, The Australian National University	330	330	-	Simulating the Build-up of Magnetic Fields in High Velocity Clouds
Dr Leo Lymburner, Geoscience Australia	330	330	-	AGDC Experimental (External)
Dr Thang Bui, The Australian National University	322	322	-	An evaluation of model evidence for deep learning models
Prof Cheng Lu, The University of Wollongong	320	320	-	Deformation mechanism of 'gradient' materials
Dr Xiuwen Zhou, The University of Queensland	318	318	-	Rational design of light-emitting plastics for next generation lighting and displays
Dr Ashley Ruiter, UNSW Canberra	308	308	250	Formation channels of thermonuclear supernova progenitors and white dwarf transients
Dr Hassaan Saadat. University of NSW	305	305	_	A generic high-level framework for energy-efficient deep learning training using approximate arithmetic
Dr Junfang Zhang, CSIRO	302	302	-	Surface reaction and diffusion controlled kinetic model of adsorption
Dr Stefan Zieger, Bureau of Meteorology	300	300	-	High-resolution wave modelling for Australia



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Dr Trevor Allen, Geoscience Australia	300	300	-	EQRM
Prof Gavin Huttley,		200	-	ANUMAS 2021 new project – Huttley
The Australian National University	300	100	-	Huttley lab compute
Prof Yun Liu, The Australian National University	300	300	-	Materials Design for Hydrogen Storage
Dr Balthasar Indermuehle, CSIRO	296	296	-	Using Himawari 8 realtime data for severe weather protection and tropospheric ducting prediction
Ms Shakila Tonni, Macquarie University	288	288	-	Adversarial Training-resistant Machine Learning models
Dr Benjamin Schwessinger, The Australian National University	280	280	-	Identify, characterise, detect factors causing wheat disease epidemics
Dr Yu Lin, The Australian National University	280	280	-	Large Graph Models and Analysis in Genome Assembly
Dr Tao Zou, The Australian National University	270	270	-	ANUMAS 2021 new project – Zou
Prof Qing-Hua Qin, The Australian National University	270	270	-	Topology Optimisation of Mechanical Metamaterials and Multifunctional Materials
Dr Mark Holzer, University of NSW	266	266	-	Decadal Changes in Southern Ocean Ventilation
Dr Jayasinghe	265	250	-	Training DNN using High Dynamic Range Approximate Multiplier
University of NSW	205	15	-	Higher order moments to attack random encryption countermeasures
Dr Tiziana Musso, University of NSW	263	263	-	BFO Magnetic order
Ms NA Liu, Macquarie University	256	256	-	Detecting Adversarial Samples in NLP
Dr Fabio Lucianim, University of NSW	256	256	-	Systems immunology at the single-cell level
A/Prof Jenny Fisher, The University of Wollongong	255	255	250	Unravelling the effects of atmospheric chemistry on climate using state-of-the- art 3-D chemical transport modelling
Dr Jack Evans, The University of Adelaide	254	254	250	Simulations of dynamic materials for heterogeneous catalysis



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Prof Bogdan Dlugogorski, Charles Darwin University	250	250	250	Insights from Molecular Dynamics Modelling of Fuel-Surfactant-Aqueous Solution Interfaces
Dr Vassili Kitsios, CSIRO	250	250	250	Ensemble Kalman filter estimation of turbulent mixing parameters in global climate models
Prof Gleb Beliakov, Deakin University	250	250	-	Modelling dependencies in decision sciences and optimisation
Dr Pramod Nair, Flinders University	250	250	250	Structure-based approaches to guide the discovery of novel anti-cancer agents for the treatment of myelofibrosis
Dr Fatemeh Salehi, Macquarie University	250	250	250	Turbulent spray flows
Dr Mitra Safavi-Naeini, Other Australian Government Department	250	250	250	Dose Quantification in Particle therapy
Prof Maziar Arjomandi, The University of Adelaide	250	250	250	Turbulent boundary-layer control strategies
Prof Joss Bland- Hawthorn, The University of Sydney	250	250	250	Galactic seismology: what triggered the disc-crossing waves in the Milky Way?
Dr Charlotte Petersen, The University of Sydney	250	250	250	Extracting the hidden structure of glass from particle vibrations
Prof Robert Park, The University of Sydney	250	250	250	Eliminating the burden of rust diseases in agriculture and forestry
Dr Ali Hadigheh, The University of Sydney	250	250	250	2D and 3D Vision-Based Structural Health Monitoring for Defect Detection
Prof Liang Cheng, The University of Western Australia	250	250	250	Advanced numerical modelling for developing safer and more efficient ocean infrastructure
Prof Sebastian Sardina, Royal Melbourne Institute of Technology	249	249	-	Plan De-Binding & Re-Binding in IPC domains
Dr Charles Gretton, The Australian National University	246	246	-	Startup
Dr Matthew Moores, The University of Wollongong	245	245	-	Sequential Monte Carlo algorithms for Bayesian inference in hyperspectral sensing
Prof Marc Wilkins, University of NSW	243	243	-	High Performance Computing Analysis of Genome Sequences



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Mr Michael Bertolacci, The University of Wollongong	241	241	-	Quantifying CO2 emissions using WOMBAT, the Wollongong Methodology for Bayesian Assimilation of Trace-gases
Dr Jingxian Yu, The University of Adelaide	240	240	-	Spin-selective Electron Transfer in Chiral Peptides
Dr Michael Kuiper, CSIRO	239	239	-	Computational modelling of virus - host interactions
D . //		123	-	Dlsn
Dr Jia wu, Macquarie University	238	115	-	Self-explainable Graph Neural Networks for Graph Classification
Dr Timothy Lynar, UNSW Canberra	238	238	-	Instance Segmentation based Visual Question Answering for Counting Common Objects in Images
Dr Feng Chen,	237	162	-	Inference for interval censored Hawkes processes;
University of NSVV		75	-	Point processes and their applications
Prof Maurice Pagnucco, University of NSW	232	232	-	Social Distance Monitoring with Deep Learning Methodologies
Mrs Gurpreet Kour, University of NSW	230	230	-	Studies on the NiOOH/Fe2O3 interface to bypass scaling relationship for Oxygen Evolution Reaction using first principal calculations
Dr Simon Watt, UNSW Canberra	228	228	-	Chaotic mixing in competitive reactions
Dr Cherry May Mateo, CSIRO	224	224	-	Murray-Darling Water and Environment Research Program: Hydrology RQ6 Low Flows
Prof Thomas Welberry, The Australian National University	220	220	-	Computation of X-Ray Diffraction Patterns for 3D Model Systems
Dr Ahmed Swidan, UNSW Canberra	217	217	-	Marine hydrodynamics of a group of floating cylinders in rough seas
Mr Md Palash Uddin, Deakin University	210	210	-	Federated Machine Learning
Prof Geraint Lewis, The University of Sydney	209	209	-	Cosmological Probes of Evolving Dark Energy
Dr Daryl Essam, University of NSW	207	207	-	Combining neural networks with evolutionary algorithms for medical image segmentation
Dr Mehrisadat Makki Alamdari, University of NSW	205	205	-	Design and Optimization of Piezoelectric Energy Harvester for Bridge Health Monitoring
Dr Paul Gregory, Bureau of Meteorology	200	200	-	ACCESS-S2 FFDI hindcasts



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Dr Robert Warren, Bureau of Meteorology	200	200	-	Calibrated Thunder: Improving the Bureau's thunderstorm and severe weather forecasting service through novel post-processing and model guidance
Prof Alyssa Barry, Deakin University	200	200	-	Pathogen genomic diversity analyses of Plasmodium falciparum
Prof Andrey Sukhorukov, The Australian National University	200	200	-	New project for ARC CoE TMOS
Researcher Michael Moore, Geoscience Australia	200	200	-	Mitigation of Site Specific Errors from Geodetic Time Series
Mr Tim Chard, Macquarie University	200	200	-	Training dependable deep learning models
Prof Craig Moritz, The Australian National University	200	200	-	ANUMAS 2021 new project – Moritz
Mr Nicholas Hannah, Other Australian Commercial Organisation	200	200	-	Double Precision Pty Ltd
Prof Derek Richard, Queensland University of Technology	200	200	-	Exploring molecular mechanisms of diseases and developing drugs using computational modelling
Prof Zhigang Chen, The University of Queensland	200	200	-	High-performance Thermoelectric Materials Assisted with High- throughput Quantum Chemistry Calculations
Dr Joel Pfeffer, The University of Western Australia	200	200	-	Cosmological simulations of globular cluster formation in galaxy groups
Dr Nam Tran, The University of Wollongong	200	200	-	Computational modeling of High- entropy Alloys for Fusion Energy Applications
		75	-	Identification of genetic pathogenesis of SAPHO Syndrome
Dr Dan Andrews, The Australian National	199	74	-	Identification of mouse genetic variation to investigate causes of sepsis
		50	-	Multi-Omics data analysis for the Phenomics Translation Initiative
Prof Karen Wilson, Royal Melbourne Institute of Technology	199	199	-	Nanostructured solid acid catalysts for sustainable chemical manufacturing



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Dr Marco Ernst,		150	-	Ray tracing for bifacial photovoltaic system simulation
The Australian National University	196	46	-	Rooftop Analysis for Estimation Bifacial Module Potential on Australian Rooftops
A/Prof Bruce Ashford, The University of Wollongong	195	195	-	Head & Neck Cancer Genomics
Dr Rippei Hayashi,	104	189	-	Deciphering splicing code during development
University	194	5	-	Interrogating the mechanism of rapid evolution of the RNAi machinery
Prof Guan Yeoh, University of NSW	191	191	-	Multiphysics simulations for interdisciplinary engineering applications
Dr Boris Beranger, University of NSW	191	191	-	Spatial Extremes
Dr Jodie Yuwono, The Australian National University	185	185	-	Modelling of High-entropy Alloys
Dr Yi Qin, CSIRO	184	184	-	Atmosphere remote sensing with new generation satellites
Prof Nathan Hart, Macquarie University	180	180	-	Sensory neurobiology
Prof Attila Mozer, The University of Wollongong	180	180	-	Geometry optimization of heteroleptic Cu complexes
Dr Rika Kobayashi, The Australian National	170	178	-	Ab initio calculations for large systems
University	175	1	-	Software testing
Dr Graham Ball, University of NSW	178	178	-	DFT and Ab Initio Studies of Inorganic and Organometallic Complexes and Drug DNA complexes
A/Prof Aaron Oakley, The University of Wollongong	177	177	-	Dynamics of DNA Clamps and Clamp Loaders
Dr Simon McClusky,		150	-	ANUMAS 2021 new project – McClusky
The Australian National University	175	25	-	Proposing a Deep Learning Approach for Extracting Earthquake Source Parameters from InSAR Observations
A/Prof Timothy Garoni, Monash University	170	170	-	Design, analysis and application of Monte Carlo methods in statistical mechanics
Dr Sara Vahaji, Royal Melbourne Institute of Technology	170	170	-	Nasal medicine delivery



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Dr Lin Liu, The University of South Australia	170	170	-	Robust machine learning
Dr Nick Wilson, CSIRO	166	166	-	Quantum Modelling of Photo-Electrode Materials
Dr Michael Barlow, UNSW Canberra	166	166	-	Multi-Agent Swarm Modelling
Mr Matt Paget, CSIRO	164	164	-	Data Cube Rangelands and Crop Mapping Applications
Dr Tu Le,	164	154	-	DFT-based machine learning models for efficient RAFT monomer selection
Institute of Technology	164	10	-	Simulations of Fmoc functionalized peptides
		92	-	Summarization of financial documents
Dr Diego Molla-Aliod,	163	60	-	Deep learning experiments for text summarisation
		11	-	COMP4093 - Summarisation of biomedical text
Dr Martin Peeks, University of NSW	163	163	-	Design and characterisation of advanced organic materials
Dr Sherif Abbas, Deakin University	160	160	-	Energy Materials for a Circular Economy: Modelling Disorder in Spent Batteries
	160	100	-	Machine Learning for Control System Development in a Multiple Input Artificial Pancreas System
A/Prof Hanna Suominen, The Australian National		50	-	Our Health in Our Hands: Big Data Program
University		10	-	Ontology Learning for Diabetes Management using Natural Language Processing & Machine Leaning Techniques
Dr Bin Lu, The Australian National University	160	160	-	The role of solar photovoltaics in a 100% renewable energy future
Dr Kei-Wai Kevin Cheung, NSW Research Institutions	159	159	-	Studies on High-impact Weather, Climate Variability and Systems Dynamics
Dr Alban de Vaucorbeil, Deakin University	155	155	-	Modelling the Additive Friction Stir Deposition process with the Material Point Method
Dr Loïc Thibaut, University of NSW	153	153	-	A theoretical basis for metrics of natural selection and intolerance scores to genetic variation



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Dr Haytham Fayek, Royal Melbourne	152	148	-	Deep Learning of Reusable Hierarchical Distributed Representations [GPU]
Institute of Technology	152	4	-	Deep Learning of Reusable Hierarchical Distributed Representations
Dr Mark Baird, CSIRO	151	151	-	eReefs Marine Modelling GBR1
Dr Mitchell Black, Bureau of Meteorology	150	150	-	ACS Project 2 Analysis (BoM)
Dr Tim Silk, Deakin University	150	150	-	Neuroimaging of the Children's Attention Project (NICAP)
Mr Ahsan Habib, Deakin University	150	150	-	Time series analysis using deep learning techniques
Prof Albert Van Dijk, The Australian National University	150	150	-	ANUMAS 2021 new project – Dijk
Dr Pablo Larraondo, The Australian National University	150	150	-	ANUMAS 2021 new project – Larraondo
Dr Tina Yang, Geoscience Australia	150	150	-	Location Index project
Dr Oleg Titov, Geoscience Australia	150	150	-	VLBI Correlator
Mrs Anne Bruestle,		100	-	ANU Startup Proposal: Bruestle Lab Cytometry and RNAseq Analysis
The Australian National University	150	50	-	Development of ML tools for autoimmune disease diagnosis and treatment.
Mr Nicholas McCarthy, Other Australian Research Institute	150	150	-	CFA Victoria Pilot Project
Dr. Juan Folino Torros		50	-	Mitigation of turbulent natural convective heat losses by an air curtain
The Australian National	150	50	-	Modelling of heat and mass transfer in multicomponent mixtures
onversity		50	-	Transition from steady to chaotic flows in natural convection
Mr Joshua Soderholm, Bureau of Meteorology	145	145	-	Radar Data Publication
Mr James Goodwin, Geoscience Australia	145	145	-	Geophysics
Prof David Spence, Macquarie University	144	144	-	Montecarlo simulations for temperature sensing of water
Dr Gregory Wilson, CSIRO	142	142	-	Electronic Structure of Organic/Inorganic Dyes for Photovoltaic Applications



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A/Prof Ruta Gupta, Other Australian Government Department	141	141	-	Bringing Head and Neck Cancer to the 21st Century
Dr Rex Zhe Li, The Australian National University	140	140	-	A Deep Learning Approach: Achieve Inverse Design of Nanostructured Solid- State Single-Photon Detector for Quantum Photonic Applications
Mr Esteve Mayolas, Garvan Institute of	140	80	-	Garvan - Immmunogenomics - Chris Goodnow
Medical Research		60	-	Garvan - KCCG MGRB
Dr Fei Zhang, Geoscience Australia	140	140	-	Magnetotellurics Data Processing Workflow Toolkit and Automation
Dr Sergiy Shelyag, Deakin University	135	135	-	Blue-Green-Red Lanchester-like model for three-component competitive relationships
A/Prof Mark Cowley, Children's Cancer	134	74	-	Comprehensive investigation of noncoding biology in high-risk paediatric cancers
Institute		60	-	Zero Childhood Cancer
Dr Amanda Parker, The Australian National University	134	134	-	Active learning driven multiscale materials modelling (interfaces, soft matter, complex nanostructures)
Dr Hamutal Mazrier, The University of Sydney	134	134		Developmental Neonatal Anomalies
A/Prof Gang Li, Deakin University	132	120	-	Tourism Demand Forecasting for Multi- Destinations
		12	-	Tourism demand forecasting: Predictivity and Modelling
Dr Eric Poon, The University of Melbourne	130	130	-	Predicting heart attack with computational biomechanics
Dr Kamyar Kildashti, The University of Western Sydney	130	130	-	Numerical investigation on structural performance of permanent formwork system
Dr Hyeuk Ryu, Geoscience Australia	125	125	-	Development of earthquake fragility model using OpenSees
Mr Kyle Drover, The Australian National University	125	125	-	Studying genetic contributors to embryonic development via automated phenotyping
Dr Vidhyasaharan Sethu, University of NSW	124	124	-	NN training – Speech
Dr Ashwin Unnikrishnan, University of NSW	124	124	_	RNA Splicing analyses in malignant and healthy cells



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Prof Vanessa Hayes, The University of Sydney	122	122	122	Resolving Prostate Cancer Health Disparities Through Population-scale Genomic Interrogation
Ms Hao Wu, CSIRO	121	121	-	Renewable Overbuild and Geographic Anticorrelation as Alternatives to Energy Storage
Dr Attila Horvath, The Australian National University	120	120	-	Characterising the 'closed-loop' model of translation initiation using high- throughput sequencing technologies
Mr Wenju Cai, CSIRO	120	120	-	Climate Change Impact on Southeast Queensland Water Supply
Dr Jorg Schluter, Deakin University	120	120	-	Computational Fluid Dynamics
Professor Duong Do, The University of Queensland	120	120	-	Novel Characterization of Porous Structure and Surface Chemistry of Carbon by means of Monte Carlo computer simulation
Dr Yuguo Yu, University of NSW	119	119	-	Reliability assessments for sustainable artificial reef structures involving uncertainty
Mr Zachary Chodat, Macquarie University	118	118	-	Optimisation of the pyrolysis process
Prof PG Ranjith, Monash University	116	116	-	Molecular dynamics simulation of surfactant behavior at gas/liquid interface
Dr Josh Milthorpe, The Australian National University	115	115	-	Dynamic and Distributed Task-Based Programming Model
Prof Timothy Baldwin, The University of Melbourne	115	115	-	Deep Language Understanding
Dr Lyndal Henden, Macquarie University	114	106	-	Detecting STRs in Australian Motor Neuron Disease patients
		8	-	Identifying relatives in neurodegenerative disease cohorts
Mr Gregory Baker, Macquarie University	114	114	-	P-adic machine learning for language data
Mr Mark Joseph Reyes, Macquarie University	112	112	-	Parametric CFD Study of Biomass Fast Pyrolysis in a Spouted Bed Reactor
Dr Giuseppe Barca, The Australian National University	110	110	-	Development of quantum chemistry algorithms exploiting heterogeneous computing
Dr Shamila Haddad, University of NSW	108	108	-	Using WRF for urban climate simulations and heat island mitigation in Australia



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A/Prof Gholamreza Haffari, Monash University	105	105	-	Deep Learning to Learn with Limited Supervision
Dr Chin Neng Leon, University of NSW	104	104	-	Transcatheter mitral valve implantation simulations for predicting left ventricular outflow tract obstruction
Dr Changlong Wang, Monash University	101	101	-	A geospatial model to assess regional economic-viability for mineral resource development and hydrogen production
Dr Chris Lidman, The Australian National University	100	100	-	ANUMAS 2021 new project – Lidman
A/Prof Nick Cox, The Australian National University	100	100	-	Accurate calculation of spin-flip transitions of multi-center manganese complexes and cofactors
Dr Daniel Preston, The Australian National University	100	100	-	Self-assembled metallo-supramolecular systems
Mr Jianwen Song, CSIRO	100	100	-	Self-adapting 3D vision based on active and passive vision
Mr Amir Javanshir, Deakin University	100	100	-	Spiking neural network optimization
Dr Asef Nazari, Deakin University	100	100	-	Predicting rainfall intensity in Australia
Dr Mojtaba Lotfaliany, Deakin University	100	100	-	Developing artificial intelligence- powered software: brain age estimation, detection of brain aging patterns, and prediction of future changes
Ms Stephanie Palmer, The Australian National University	100	100	-	Genomic Data Management and Analysis
Dr Maurits Evers, The Australian National University	100	100	-	Characterising changes in ribosomal DNA chromatin during malignant transformation
A/Prof Wenyi Yan, Monash University	100	100	-	Design optimisation, processing simulation and mechanical property prediction for additive manufacturing
Dr David Chalmers, Monash University	100	100	-	The dynamics of drug behaviour in the human body
Prof Emanuele Viterbo, Monash University	100	100	-	Performance Simulations for 5G Communication Systems
Dr George Olah, The Australian National University	100	100	-	Co-evolution between Australian cuckoos and their hosts



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Dr Haoyang Zhang, Queensland University of Technology	100	100	-	Developing More Accurate Object Detectors
Dr Artem Lenskiy, The Australian National University	100	100	-	End-to-end Named Entity Recognition and Processing for automatic Knowledge Graph construction
Dr Francis Hui, The Australian National University	100	100	-	Analysis of marginal versus conditional approaches to analysing correlated data
Dr Xuan Liang, The Australian National University	100	100	-	On the Subbagging Estimation for Massive Data
Prof Lexing Xie, The Australian National University	100	100	-	Promoting Fairness in Online Attention
Prof Tom Gedeon, The Australian National University	100	100	-	Deep learning from psychophysiological data
Dr Ziad Al Bkhetan, The University of Melbourne	100	100	-	Applied Genomics Initiative - Pest Genome
Prof Michael Ferry, University of NSW	100	100	-	Bulk metallic glasses
Xuhui Fan, University of NSW	100	100	-	Machine Learning project on Random Forest models
Prof Carola Vinuesa, The Australian National University	100	100	-	Computational identification of medically-relevant, personal genetic variation from the largest volumes of human genome sequences.
Various Researchers	9042	9042	-	343 Projects – Small Allocations Not Specified
Overseas Large Supercomputer Centres	288,607	288,607	-	NSCC and NEA Production Computing
NCI Internal (System, Training, Development)	105,455	105,455	-	NCI Internal Projects
Total Allocations	2,464,190	2,464,190	426,112	