Compute projects supported by NCI in 2019–20

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 four major Australian facilities; the Collaborator Share; 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 *Meritorious Access to NCI* on page 26 of the NCI 2019–20 Annual Report for more information on the allocation schemes.

This table outlines the total allocation per Lead Chief Investigator for the 2019–20 period, separated out by research project. The computing resource is measured in thousands of Service Units (kSU). A 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 Allocation in kSU	Project Title
Prof Andrew Hogg, Australian National University	61,560	36,950	-	The Dynamics of the Southern Ocean
		16,610	16,610	Extratropical Variability
		8,000	8,000	The Dynamics of the Southern Ocean
Dr George Opletal, CSIRO	52,558	52,558	-	AI-Driven Materials Design
Dr Daohua Bi, CSIRO	51,140	51,134	-	ACCESS - AOGCM
		6	-	ACCESS preparation for IPCC AR5
Dr Terry O'Kane, CSIRO	48,905	48,905	-	The AUStralian community ocean model ReAnalysis project (AURA)
Dr Yuan Mei, CSIRO	47,287	47,287	-	Deep Earth Imaging: molecular simulation of mineral and geological fluids
Prof Evatt Hawkes, University of NSW	44,390	23,685	4,500	Direct Numerical Simulations of Turbulent Combustion
		12,000	-	STRESS2020 – Hawkes
		8,705	-	Direct Numerical Simulations of Turbulent Combustion
A/Prof Christoph Federrath, Australian National University	42,750	42,750	6,250	Modelling Turbulence, the Formation of the First Stars, Magnetised Clouds, Supernova Explosions, and Binary Star Formation
Dr Wendy Sharples, Bureau of Meteorology	41,500	41,500	-	Water Information Services
Dr Yuan-Sen Ting, Australian National University	38,375	38,375	13,625	3D magneto-hydrodynamical stellar modelling and 3D non-equilibrium radiative transfer

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Matthew England, University of NSW	37,342	37,342	20,600	Past, present and future climate variability and change in the Southern Hemisphere
Mr Anthony Rafter, CSIRO	37,102	37,102	-	Regional-Scale Seasonal Prediction Over Eastern Australia and the Coral Sea
Dr Michael Naughton, Bureau of Meteorology	33,000	33,000	-	BoM ESM Numerical Weather Prediciton research and development at NCI
Prof Derek Leinweber, University of Adelaide	27,517	25,967	8,000	Electromagnetic Structure of Matter
		1,550	-	Electromagnetic Structure of Matter - Ancillary Project
Prof Dietmar Mueller, University of Sydney	20,490	20,490	3,525	Geodynamics and evolution of sedimentary systems
Prof Sean Smith, Australian National University	20,150	17,000	-	Materials for Sustainable Energy Applications
		3,150	3,150	Computational Nanomaterials Science and Engineering
Prof Jason Evans, University of NSW	19,134	11,236	-	Regional climate modelling
		4,828	3,250	Regional Climate Modelling in Australia
		1,730	-	Wind, hail and lightning over Sydney
		1,340	1,340	Heatwaves
A/Prof Megan O'Mara, Australian National University	18,738	13,738	1,738	Biomolecular recognition, self-assembly and dynamics
		5,000	-	Using large-scale molecular dynamics for rational drug design
Prof Salvy Russo, Royal Melbourne Institute of Technology	18,607	9,000	-	ARC Centre of Excellence in Exciton Science
		5,700	-	CoE Exciton Science
		2,663	663	Prediction of the Properties of Materials and Nanomaterials
		1,170	-	RMIT Discretionary and Startup Allocations
		74	-	Quantum Modelling of Photo-Electrode Materials
Dr Manolo Per, CSIRO	18,155	18,155	-	Development and Application of Quantum Monte Carlo methods
A/Prof Chris Power, University of Western Australia	17,500	12,000	-	STRESS2020 - Power
		5,000	-	GADGET3 Porting, Scalability and Production Computing on Raijin
		500	500	Low-Mass Galaxies as Testbeds of Dark Matter and Galaxy Formation
Mr Francois Delage, Bureau of Meteorology	17,500	17,500	-	Climate Change Science and Processes
Prof Mark Krumholz, Australian National University	16,850	16,850	7,250	Star Formation and Feedback in a Turbulent Interstellar Medium
A/Prof Ben Corry, Australian National University	16,350	16,350	1,550	Simulation studies of biological and synthetic channels

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Angus Gray-Weale, Bureau of Meteorology	15,000	15,000	-	Data assimilation for seasonal prediction
Dr Gary Brassington, Bureau of Meteorology	15,000	15,000	-	BLUElink3 - Bureau
Prof Michelle Coote, Australian National University	15,000	9,750	-	Computer-aided Chemical Design of Catalysts and Control Agents
		5,250	5,250	Computer-aided Chemical Design of Catalysts and Control Agents
Prof Alan Mark, University of Queensland	13,725	6,000	-	STRESS2020 - Mark
		5,725	3,500	From molecules to cells Understanding the structural and dynamic properties of cellular components at an atomic level.
		2,000	-	Targeting structural transitions in the COVID fusion protein
Dr Ravichandar Babarao, CSIRO	13,264	12,464	-	CO_2 conversion in catalytic MOFs
		800	-	Porous materials for the capture and release of oxygen
Prof Catherine Stampfl, University of Sydney	12,437	10,667	4,100	First-Principles Investigations of Processes and Properties in Catalysis, Coatings, and Devices
		1,770	-	First-Principles Investigations of Processes and Properties in Catalysis, Coatings, and Devices
Dr Rhodri Davies, Australian National University	12,225	12,225	1,875	Revealing the 4-D Evolution of Earth's Engine
Prof Richard Sandberg, University of Melbourne	11,712	8,000	-	STRESS2020 - Sandberg
		3,712	2,488	High-fidelity simulations of turbomachinery applications
Dr Claudio Cazorla, University of NSW	11,182	6,620	-	Rational design of novel multiferroic materials for energy harvesting and energy efficiency
		4,562	438	Nano-structured multifunctional materials for solid-state cooling (continuation project)
Dr Peter Steinle, Bureau of Meteorology	11,120	11,120	-	Strategic Radar Enhancement Project
Prof Toby Allen, Royal Melbourne Institute of Technology	9,625	9,625	875	Mechanisms of ion channel function and modulation.
Dr Stefan Zieger, Bureau of Meteorology	9,005	9,000	-	BoM-Industry Project
		5	-	High-resolution wave modelling for Australia
Dr Oliver Hofmann, University of Melbourne	9,000	9,000	-	VCCC Pilot Project
Dr Fei Ji, Other Australian Government Department	8,635	8,610	-	DPIE Production
		25	-	DPIE Data

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Christoph Arns, University of NSW	8,593	8,439	2,391	Integration of conventional and digital core analysis
		154	-	Multi-scale multi-physics analysis of porous media
A/Prof Ben Thornber, University of Sydney	8,564	8,564	2,625	Variable Density Compressible Turbulent Mixing
Dr Justin Freeman, Bureau of Meteorology	8,503	8,500	-	Ensemble Ocean Forecasting
		3	-	Project for Bureau affiliated users accessing Bureau managed Data Collection projects
Prof Irene Yarovsky, Royal Melbourne Institute of Technology	8,060	8,060	3,500	Theoretical Investigation of novel materials for industrial and biomedical applications
Prof Christian Jakob, Monash University	8,000	8,000	-	STRESS2020 - CLEX
Dr Timothy Trudgian, UNSW Canberra	7,561	7,561	438	Verifying the Riemann hypothesis to a new record height
DR Harvey Ye, Bureau of Meteorology	7,500	7,500	-	Weather and Environmental Prediction Specialised Forecasting Systems (WEPSFS)
Dr Benjamin Galton-Fenzi, Australian Antarctic Division	7,455	2,614	-	Research, development and production computing for Antarctic Climate & Ecosystems CRC under the ACE-CRC/AGP/AAD-NCI partnership
		2,400	-	Research, development and production computing for the Australian Antarctic Division under the ACE-CRC/AGP/AAD-NCI partnership
		2,066	-	Research, development and production computing for the Antarctic Gateway Project under the ACE-CRC/AGP/AAD-NCI partnership
		375	-	Modelling of the interaction between Antarctica and the Southern Ocean
A/Prof Vincent Wheatley, University of Queensland	7,445	7,445	5,025	Scramjet-based Access-to-Space and Planetary Entry
Prof Brian Smith, La Trobe University	7,320	7,320	-	Biomolecular modelling
A/Prof Ekaterina Pas, Monash University	7,254	7,254	3,150	Fully ab initio large-scale calculations for the prediction of physiochemical properties of condensed systems, polymers and proteins.
Prof Sean Li, University of NSW	7,095	7,095	-	Accelerate Functional Material Designs Using Artificial Inetelligence
Prof Michael Ford, University of Technology, Sydney	6,850	6,075	-	Designing and Building Novel 2D Hybrid Materials
		775	775	Nanostructured Materials for Energy Efficiency Applications

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Robin Wedd, Bureau of Meteorology	6,700	6,700	-	ACCESS-Seasonal
A/Prof Nikhil Medhekar, Monash University	6,622	5,000	-	CoE FLEET
		1,622	950	Enabling Functional Properties of Nanoscale Materials using Atomistic Simulations
Dr Judy Hart, University of NSW	6,400	4,660	438	Design and development of new inexpensive photoactive materials for efficient hydrogen production and biomedical applications
		1,548	-	Materials for energy conversion and storage
		192	-	DFT study of doping effects in Tetragonal Zirconia Polycrystalline (TZP)
Dr Patrick Burr, University of NSW	6,226	6,226	188	Energy materials degradation
Prof Katrin Meissner, University of NSW	6,181	6,181	3,582	Abrupt climate change events in the past, present and future
NCI Internal (System, Training, Development)	6,098	6,098	-	NCI Internal Projects
Emeritus Prof Ross Griffiths, Australian National University	6,000	6,000	-	The role of convection and turbulence in ocean circulation
Dr Simon Marsland, CSIRO	6,000	6,000	-	STRESS2020 - Marsland
Prof Julio Soria, Monash University	5,964	5,964	2,625	Investigations of transitional and turbulent shear flows using direct numerical simulations and large eddy simulations
Mr Simon Oliver, Geoscience Australia	5,946	4,050	-	DEA Operations and code repositories (Public and private)
		1,250	-	DEA Development and Science (GA internal)
		500	-	Copernicus Partners Testing and Development
		140	-	Marine Operations and Processing
		2	-	Geoscience Australia Bathymetry and Backscatter Processing
		2	-	Australian Marine Video and Imagery Processing
		1	-	Copernicus VDI Development and Testing
		1	-	Copernicus Analysis-ready
Dr Michael Breedon, CSIRO	5,433	5,433	-	The adsorption of molecules onto surfaces found in energy storage devices
Prof Con Doolan, University of NSW	5,296	5,296	-	Aeroacoustics of low and high Mach number flows
Dr Emlyn Jones, CSIRO	5,158	5,158	-	Coastal Ocean Data Assimilation

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Malcolm Sambridge, Australian National University	5,100	5,100	300	Unleashing the power of data: the next generation of geophysical inference
Dr Ming Zhao, University of Western Sydney	5,100	5,100	-	Investigation of fluid-structure interaction in offshore engineering using computational fluid dynamics
Prof Geoffrey Bicknell, Australian National University	4,800	4,800	-	Astrophysical Jets and Winds and their Interactions with the Ambient Medium
Dr Xuebin Zhang, CSIRO	4,725	3,888	-	Downscaling future climate change from CMIP5 climate models with an eddy-resolving ocean model
		834	-	sea-level rise
		3	-	Modeling of sea level change and variability in the Pacific
Prof Jared Cole, Royal Melbourne Institute of Technology	4,670	4,670	670	The materials science of transport and decoherence in quantum devices.
Dr Adrian Pudsey, Royal Melbourne Institute of Technology	4,650	4,650	1,600	Aerothermodynamics of High Speed Flight and Enabling Technologies
A/Prof Alister Page, University of Newcastle	4,420	3,720	-	Quantum Chemical Simulation of Interfacial Chemical Phenomena
		700	700	Quantum Chemical Modelling of Nanoscale Chemical Processes
A/Prof Serdar Kuyucak, University of Sydney	4,341	3,300	-	Molecular Dynamics Simulations of Ion Channels and Transporters
		1,041	250	Free Energy Simulations of Ion Channels and Transporters
Prof Simon Ringer, University of Sydney	4,280	4,280	1,750	Exploring structure-property correlations in advanced materials: Nexus between computational simulation and atomic resolution microscopy
Mr Joseph Copty, Garvan Institute of Medical Research	4,210	4,210	-	NCI and Garvan collaboration to develop a Genomics Pipeline
Dr Adrian Sheppard, Australian National University	4,205	3,550	-	Understanding petrophysical and multiphase flow properties of rock through experiment, 3D imaging and modelling
		655	655	X-ray micro-tomography to probe the structure and properties of complex and hierarchical materials
Prof Julian Gale, Curtin University of Technology	4,200	4,200	4,200	Atomistic Simulation for Geochemistry and Nanoscience
Prof Debra Bernhardt, University of Queensland	4,150	4,150	2,400	New materials, structures and fluids for catalysis, battery technologies and sensors.

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Alexander Heger, Monash University	3,941	3,941	2,100	3D Simulations of Core-Collapse Supernovae and their Progenitors
Prof Simon Easteal, Australian National University	3,838	3,838	1,063	The National Centre for Indigenous Genomics
Prof Hugh Blackburn, Monash University	3,821	3,821	2,150	Simulation of Transitional and Turbulent Flows for Engineering Applications
Dr Daniel Chung, University of Melbourne	3,775	3,775	2,275	Direct numerical simulation of wall-bounded and buoyancy-driven turbulent flows
Dr Haibo Yu, University of Wollongong	3,755	3,755	1,313	Molecular Simulations of Enzymatic Catalysis and Computer-Aided Molecular Design
Dr Junming Ho, University of NSW	3,746	2,766	1,375	Accelerating the Design of Novel Catalysts and Drugs through Computational Chemistry
		980	-	Accelerating the Design of Novel Catalysts and Drugs through Computational Chemistry
Dr Callum Shakespeare, Australian National University	3,725	3,725	1,175	Wave-eddy-mean flow dynamics
A/Prof Yansong Shen, University of NSW	3,602	3,602	-	Multi-scale studies of gas-solid reactive flows
Dr Alain Protat, Bureau of Meteorology	3,500	3,500	-	Radar Science and Nowcasting
Dr Babak Hejrani, Geoscience Australia	3,500	3,500	-	Tomography Data Processing
		2	-	Geophysical Data Not for Release
Dr Kenji Shimizu, Commercial organisations	3,500	3,500	-	RPS Group Computing
Dr Rajib Rahman, University of NSW	3,498	3,134	1,000	Multiscale Multiphysics Simulations of Silicon Quantum Information Processing Units
		364	-	HPC guided design of two-qubit gates with dopant atoms in silicon
Prof Justin Borevitz, Australian National University	3,400	3,400	-	Linking Genotype, Phenotype and Landscape to improve Plant Energy
Dr Daryl Essam, University of NSW	3,394	3,394	-	Combining neural networks with evolutionary algorithms for medical image segmentation
Dr Andrew Neely, UNSW Canberra	3,381	3,381	610	Fluid-thermal-structural interactions for high-speed flight and propulsion
Prof Leo Radom, University of Sydney	3,353	2,928	2,363	Structural and Mechanistic Chemistry
		425	-	Structural and Mechanistic Chemistry
Dr Bishakhdatta Gayen, University of Melbourne	3,350	3,350	3,350	The role of convection and turbulent mixing in ocean circulation

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
A/Prof Michelle Spencer, Royal Melbourne Institute of Technology	3,300	3,300	700	Modelling Nanoscale Materials for Sensing and Device Applications
Dr Jingming Duan, Geoscience Australia	3,272	3,270	-	Magnetotelluric data inversion
		2	-	GA Workshop
Ms Claire Trenham, CSIRO	3,193	3,193	-	Coastal and ocean modelling for a current and future climate
Dr Sebastien Allgeyer, Australian National University	3,160	2,660	-	Earth deformation and mass transport
Dr Sebastien Allgeyer, Geodynamics	-	500	500	Earth deformation and mass transport
Prof Suresh Bhatia, University of Queensland	3,150	3,150	1,840	Interfacial Barriers for the Transport of Nanoconfined Fluids
Prof Tiffany Walsh, Deakin University	3,150	2,250	2,250	Development and application of soft-matter/nano interfacial simulations
		900	-	Molecular simulation of carbon fibre composites
Prof Mark Thompson, Monash University	3,095	3,095	1,750	Transition, stability and control of bluff body flows
Mr Griffith Young, Bureau of Meteorology	3,000	3,000	-	Seasonal Prediction Systems and Science
Dr Milton Woods, Bureau of Meteorology	3,000	3,000	-	STRESS2020 - Woods
Prof Nathan Bindoff, University of Tasmania	3,000	3,000	3,000	Turbulence and mixing in the Southern Ocean
Dr Terry Frankcombe, UNSW Canberra	2,889	2,889	-	Efficient chemical dynamics in gas phase, solid phase and heterogeneous systems
Dr Warren Kaplan, Garvan Institute of Medical Research	2,863	1,950	-	Garvan - Genomic Cancer Medicine - David Thomas
		630	-	Garvan Genome Pilot
		140	-	Garvan - KCCG MGRB
		100	-	Garvan - Immmunogenomics - Chris Goodnow
		22	-	Garvan - Powell Group - Joseph Powell
		20	-	Garvan - RNA Biology and Plasticity - John Mattick
		1	-	Garvan-Weizmann Centre for Cellular Genomics
		0	-	Garvan - KCCG Research
Dr Rob Patterson, University of NSW	2,825	2,805	-	Materials discovery and theoretical development for advanced photovoltaic cells and nanomaterials in renewable energy
		20	-	Materials discovery and theoretical development for advanced photovoltaic cells and nanomaterials in renewable energy

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Aijun Du, Queensland University of Technology	2,700	2,700	2,700	Nanomaterials for Energy, Nanoelectronics and Environmental Applications: Contribution from Modelling towards Rational Design
Dr Yan Jiao, University of Adelaide	2,621	2,621	1,263	Design Electrocatalysts Materials for Clean Energy Conversion by DFT
Dr Shayne McGregor, Monash University	2,604	2,604	1,525	Predicting and understanding Australia's regional rainfall distribution in a changing climate
Prof Geraint Lewis, University of Sydney	2,530	2,530	-	Cosmological Probes of Evolving Dark Energy
Ms Mun Hua Tan, Deakin University	2,490	2,490	-	Fish/Invertebrate Genomics
Dr Hardip Patel, Australian National University	2,488	2,488	-	Biodev NCIG
A/Prof Amir Karton, University of Western Australia	2,475	2,475	2,475	High-level quantum chemistry: From theory to thermochemical and biochemical application
Dr Thomas Plantard, University of Wollongong	2,447	2,447	-	Security Analysis of Lattice-based Cryptosystems
Dr Hongtao Zhu, University of Wollongong	2,385	2,385	188	Polycrystal Plasticity FEM Simulation of Severe Plastic Deformation (SPD) Techniques
Dr Alison Kirkby, Geoscience Australia	2,380	2,380	-	Magnetotelluric inversions for AusLAMP
Mr Asger Gronnow, Other International	2,328	2,328	-	The effect of the Galactic halo magnetic field on gas condensation and accretion
Prof Kerry Hourigan, Monash University	2,324	2,324	1,313	Advanced Modelling of Fluid-Structure Interactions
Mr Steven Wilson, Victor Chang Cardiac Research Institute	2,311	1,600	-	VC Dunwoodie
		250	-	VC Graham
		200	-	VC HO
		100	-	VC Stocker
		60	-	VC Giannoulatou
		60	-	VC Fatkin
		40	-	VC Harvey
		1	-	VC - Vandenberg
Dr Nicholas Williamson, University of Sydney	2,300	1,800	-	Stratified boundary layers in riverine environments
		500	500	Transition and turbulence in low and high temperature natural convection
Dr Fangbao Tian, UNSW Canberra	2,285	2,285	213	Dynamics, learning and control of fast gait transitions in fish swimming using deep reinforcement learning
A/Prof Zhe Liu, University of Melbourne	2,229	2,229	1,513	Integrated Computational Materials Engineering for Alloy Design

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Ivo Seitenzahl, UNSW Canberra	2,203	2,203	1,575	Hydrodynamical explosion simulations and radiative transfer for thermonuclear and core-collapse supernovae
Prof Nicole Stanford, University of South Australia	2,188	2,188	2,188	A first principles approach to understanding real engineering materials
Dr Rob Womersley, University of NSW	2,170	2,170	-	Computation and optimization of energy, packing, covering and worst case error for point configurations on manifolds
Dr Mohsen Talei, University of Melbourne	2,154	2,154	438	Developing predictive tools for cleaner combustion
Prof Kiet Tieu, University of Wollongong	2,142	2,142	-	Multiscale Computational Simulations of Alkali Glass Lubricant Performance under Harsh Tribological Conditions
Prof Steven Sherwood, University of NSW	2,123	2,123	1,650	Rethinking atmospheric physics to resolve climate enigmas
Mr Leon Majewski, Bureau of Meteorology	2,100	2,100	-	Remotely sensed observations for Earth system modelling
Dr Ashley Ruiter, UNSW Canberra	2,051	2,051	1,620	Formation channels of thermonuclear supernova progenitors and white dwarf transients
		-	-	Understanding the origin of thermonuclear supernovae through simulating populations of interacting binary stars
Prof Eduardo Eyras, Australian National University	2050	1,650	-	Unveiling the complexity of genomes and transcriptomes with nanopore sequencing
		250	250	Large-scale multi-cohort discovery of clinical markers in childhood acute leukaemia
		75	-	Unveiling the complexity of transcriptomes with long-read sequencing
		75	-	Identification of new therapeutic targets and molecular determinants of therapy failure in paediatric acute leukaemia
Dr Evelyne Deplazes, University of Technology, Sydney	1,985	1,985	460	Tapping into nature's pharmacy cabinet - molecular simulations to facilitate peptide-derived pharmaceuticals
Dr Thi Ta, University of Wollongong	1,977	1,977	250	Molecular Dynamics Simulation of Aqueous Triblock Copolymer Lubricants in Metal Forming Applications
Dr Aman G. Kidanemariam, University of Melbourne	1,900	1,900	500	Direct numerical simulation of turbulent shallow flows with deformable free-surface
Prof Ian Dance, University of NSW	1,900	1,900	250	Computational Bio-inorganic and Supramolecular Chemistry
Dr Khandis Blake, University of Melbourne	1,900	1,100	250	Using Big Twitter Data to Understand Global Patterns in Men's Rights Activism and Misogyny Online

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
		800	-	Using Big Twitter Data to Understand Global Patterns in Eating Disorders and Gendered Hate Speech Online
A/Prof Jason Sharples, University of NSW	1,891	1,891	1,260	Modelling and simulation of dynamic bushfire propagation
Prof Kevin Walsh, University of Melbourne	1,855	1,855	1,850	South Pacific High-resolution Climate Model Simulations
Prof Graham Heinson, University of Adelaide	1,823	1,823	885	3D Geophysical Imaging for the Australian Lithospheric Architecture Magnetotelluric Project (AusLAMP)
Dr Rey Cheng Chin, University of Adelaide	1,813	1,813	875	Numerical simulations of rough wall turbulence: A control's approach
Dr Gareth Vio, University of Sydney	1,790	1,790	-	Fluid-Structure Interaction using higher Order CFD
Dr Cheong Xin Chan, University of Queensland	1,785	1,785	1,100	Comparative and Evolutionary Genomics of Microbes from Diverse Environments
Dr Seojeong Lee, University of NSW	1,759	1,759	-	Joint Labour Supply and Retirement of Australian Couples
Prof Xiao Hua Wang, UNSW Canberra	1,745	1,745	-	Oceanic Nepheloid Layers and Their Role in Coastal Oceanography
Dr Fabio Capitanio, Monash University	1,702	1,702	963	4-D Numerical Models of Plate Tectonics Subduction with an Upper Plate
Dr Yi Du, University of Wollongong	1,687	1,187	-	Fundamental understanding of water splitting on TiO_2 surface
		500	500	Simulation on atomic and electronic structures of 2D materials
Mr Richard Miller, Macquarie University	1,685	700	-	Pilot Environment
		300	-	Machine Translation
		280	-	Enchanced Oil Recovery
		207	-	Deep Learning for BioMedical Image Processing
		198	-	MRI Image Processing
A/Prof John Young, UNSW Canberra	1,650	1,520	1,075	Fluid-Structure Interactions in Biological and Biomedical Systems
		130	-	Fluid-Structure Interactions in Biological and Biomedical Flows
Mr Neil Symington, Geoscience Australia	1,650	1,650	-	High-performance Computational Groundwater Science
Prof Ivan Cole, Royal Melbourne Institute of Technology	1,580	1,580	-	Study on the airflow phenomena on the respiratory system
Dr Louis Moresi, Australian National University	1,563	1,563	1,563	Instabilities in the convecting mantle and lithosphere
Prof Elizabeth Ritchie-Tyo, UNSW Canberra	1,555	1,555	438	Tropical Cyclone Studies
Prof Barry Pogson, Australian National University	1,550	1,550	-	A computational approach to enable precision control of drought resilience

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Joe Hope, Australian National University	1,550	1,550	-	Deep Quantum: an exploration of many-body quantum mechanics at the lower limits of temperature and energy
Prof Gregory Sheard, Monash University	1,540	1,540	813	Two-dimensionalisation of MHD turbulence and ultimate horizontal convection regimes
Prof Tracie Barber, University of NSW	1,510	1,510	-	CFDMECH
Prof Allen Rodrigo, Australian National University	1,500	1,500	-	Evolutionary analyses using short-read sequences from pooled samples of anonymous, genetically-variable individuals.
A/Prof Michael Kirkpatrick, University of Sydney	1,500	1,300	-	Surface driven mixing of thermally stratified riverine flows
		200	-	Surface driven mixing of thermally stratified riverine flows
Mr Patrick Sunter, Bureau of Meteorology	1,500	1,500	-	Extended Hydrological Prediction modelling
Prof Vanessa Hayes, University of Sydney	1,490	1,010	-	Garvan - Human Comparative and Prostate Cancer Genomics - Vanessa Hayes
		480	480	Establishing a Genomic Signature for High-Risk Prostate Cancer
Dr Melrose Brown, UNSW Canberra	1,480	1,480	875	Physics of the interactions between high-speed craft and their environment
Ms Caroline Lai, DHI	1,460	900	-	DHI-029
		380	-	DHI-027
		180	-	DHI-028
Dr Dietmar Dommenget, Monash University	1,450	1,450	1,450	Global scale decadal climate variability in a ACCESS hierarchy of climate models
A/Prof Craig O'Neill, Macquarie University	1,417	917	-	dfss
		500	500	Towards a geodynamics millenium run
Prof Orsola De Marco, Macquarie University	1,380	1,380	-	Common envelope interaction and stellar outbursts in the era of time-domain Astrophysics
Dr Md Anower Hossain, University of NSW	1,373	1,373	-	Modelling of Crystalline and Amorphous Transition Metal Oxides as Carrier-Selective Passivating Contacts for Crystalline Silicon Solar Cells
Dr Diego Molla-Aliod, Macquarie University	1,324	1,324	-	Deep learning experiments for text summarisation
Prof Jiankun Hu, University of NSW	1,303	1,303	-	Big Data Security
Prof Jeffrey Reimers, University of Technology, Sydney	1,302	810	-	Application of quantum electronic-structure methods to protein crystallography and photosynthetic function

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
		492	438	Modelling of Chemical Systems Including Molecular Excited States, Photosynthesis, and Molecular Electronics Applications
A/Prof Elizabeth Krenske, University of Queensland	1,293	1,293	438	Computational Modelling of Molecular Structure and Reactivity
A/Prof HA BUI, Monash University	1,292	1,292	790	Understanding the micromechanical origin of liquefaction in silty soils using advanced computational approach
Prof LiangChi Zhang, University of NSW	1,258	1,258	438	An integral approach for the defect-free fabrication of high-integrity systems
Dr Lars Goerigk, University of Melbourne	1,247	1,247	907	Theoretical and Computational Quantum Chemistry Including Development of Computational Methods and Computational Materials Science
Dr Martin Jucker, University of NSW	1,230	1,230	1,230	Atmospheric and oceanic processes and dynamics
Mr James Goodwin, Geoscience Australia	1,211	1,210	-	Geophysics
		1	-	External Geophysics Users
Dr Nicolas Flament, University of Wollongong	1,208	1,208	875	4D relationships between supercontinents and mantle convection
Dr Robyn Schofield, University of Melbourne	1,207	1,207	775	Atmosphere-Ocean Coupled Chemistry Climate Modelling of Ozone and Aerosols
Prof Michael Ferry, University of NSW	1,182	1,182	-	bulk metallic glasses
Mr Anastasios Eleftheriadis, Victoria University	1,180	551	-	Mahdi Ghiji Project 01
		280	-	Bushfire CRC PhD and MPhil Students
		200	-	ACARA NAPLAN Benchmark Analysis
		60	-	Optimising Distributed and End-of-pipe Water Sensitive Urban Design Approaches for Implementation in Existing Developments
		50	-	The Effect of the Block: Investigating the Effect of Introducing Block Mode on Student Satisfaction
		14	-	Student PhD Project
		10	-	Molecular dynamic simulation of liposomal nano-particle: a structural and stability study
		10	-	Research Services
		3	-	BBALL IHES
		1	-	Student PhD Project
		1	-	Student PhD Project
Mr John Wilford, Geoscience Australia	1,150	1,150	-	Data mining and geostatistical modelling for geoscience applications
Mrs Claire Carouge, University of NSW	1,125	1,125	660	Terrestrial modelling within the Centre of Excellence regionalizing land surface processes

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
A/Prof Susanna Guatelli, University of Wollongong	1,116	935	500	Development of Monte Carlo simulation tools for medical physics applications
		181	-	Monte Carlo based studies for medical physics: UOW partner share scheme
Prof Susan Clark, Garvan Institute of Medical Research	1,114	570	210	Setting up 3D Epigenomes of endocrine resistance breast cancer
		500	500	Computational analysis of Epigenome diversity and inheritance patterns
		30	-	Creating and Mapping Personal Epigenomes
		14	-	Garvan - Epigenetics Research - Susan Clark
Dr Alejandro Montoya, University of Sydney	1,110	1,110	-	Molecular Modelling of Reactive Materials
Dr Christian Wolf, Australian National University	1,110	1,110	-	SkyMapper and the Southern Sky Survey
Prof Stephen Bartlett, University of Sydney	1,110	1,110	-	Quantum error correction simulation
Dr Anthony George, University of Technology, Sydney	1,102	552	-	Role of dominant motions in the catalytic mechanism of cathepsin L protease.
		550	-	Role of dominant motions in the catalytic mechanism of cathepsin L protease.
Mr Craig Arthur, Geoscience Australia	1,100	1,100	-	Severe Wind and Coastal Inundation Modelling
Dr Bernadette Sloyan, CSIRO	1,099	1,099	-	CSHOR Indo-Pacific Interbasin Exchange
Dr Shane Keating, University of NSW	1,094	774	250	Consequences of ocean wave modulation on fundamental air-sea turbulent fluxes
		320	-	Consequences of ocean wave modulation on fundamental air-sea turbulent fluxes
Dr Daniel Lester, Royal Melbourne Institute of Technology	1,050	1,050	-	The Tensorial Rheology of Strong Colloidal Gels
Prof Klaus Regenauer-Lieb, University of NSW	1,023	1,023	438	Tyree X-Ray Facility
Dr Jade Powell, Swinburne University of Technology	1,000	1,000	-	Simulations of the explosion of an 18 solar mass star
Prof Michael Inouye, Other Australian Research Institute	1,000	1,000	-	Structure-based Drug Discovery
Dr Trevor Allen, Geoscience Australia	1,000	1,000	-	EQRM
Mr William Hibberd, DHI	1,000	1,000	-	DHI-030
Dr Yun Wang, Griffith University	988	988	188	Understanding the properties of the electrode/solution interface in the electrochemical cell

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Xiaoke YI, University of Sydney	980	980	-	Integrated photonic simulation based on COMSOL and Lumerical
Prof Hrvoje Tkalcic, Australian National University	967	525	-	Earth structure and seismic sources using seismology and mathematical geophysics
		440	-	Studying the Earth's interior using global correlation wavefield
		2	-	Secure storage of seismic data
Dr Josephine Brown, University of Melbourne	931	931	-	ACCESS ESM1.5 simulation of mid-Holocene for PMIP4 and CMIP6
Dr Colin Jackson, Australian National University	925	925	-	Computational Structural Biology and Protein Engineering
Prof Anthony Weiss, University of Sydney	912	681	-	Unravelling tropoelastin-integrin interactions
		231	231	Mechanisms of tropoelastin-integrin interactions
A/Prof David Huang, University of Adelaide	907	907	438	Multi-scale modelling of soft condensed matter in functional materials
A/Prof David Wilson, La Trobe University	903	463	463	Quantum Chemical Molecular Properties
		440	-	Computational Study of Novel Molecular Properties
Prof Mark Johnson, Macquarie University	901	901	-	Deep Learning for Natural Language Processing
Dr Sang Lee, University of South Australia	895	895	895	Novel whole-genome approaches to capture the latent genetic architecture of complex traits
Dr Alberto Peruzzo, Royal Melbourne Institute of Technology	890	890	-	RMIT Node, ARC Centre of Excellence for Quantum Computation and Communication Technology
Prof Maria Forsyth, Deakin University	888	888	438	Computational investigation of new selective transport materials
Dr Andrew Hung, Royal Melbourne Institute of Technology	883	883	438	Developing New Treatments for Pain
Dr Xue Feng Dong, University of Wollongong	878	587	-	A fundamental understanding of processing limits in blast furnace ironmaking leading to optimisation of productivity through innovative management of raw material quality
		291	-	Productivity and Campaign Life Improvements Through Development of Numerical Models of the Ironmaking Blast Furnace
Dr Liangzhi Kou, Queensland University of Technology	875	875	525	Two-dimensional multiferroics and coupling with topological insulators for next generation electronics
Dr Jingxian Yu, University of Adelaide	870	870	250	Spin-selective Electron Transfer in Chiral Peptides

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Prof Albert Van Dijk, Australian National University	855	580	250	National biodiversity trends and accounts
		225	-	ANU Centre for Water and Landscape Dynamics - data storage and Tenjin allocation
		50	-	OzEWEX Australian Climate and Water Summer Institute
Prof Richard Yang, University of Western Sydney	840	840	-	Multiscale modelling of Advanced Engineering Materials and Structures
Dr Marcus Thatcher, CSIRO	819	819	-	High-resolution Downscaled Climate Runs
Prof Ravi Jagadeeshan, Monash University	807	807	438	Sticky polymers in flow: Nexus between microscopic and macroscopic dynamics
Mr Haijun Mo, University of NSW	806	806	-	spray modelling of Multiple-injection in gasoline compression ignition
A/Prof Matthew Hole, Australian National University	805	805	-	Computational Applications in Equilibrium and Instabilities of Advanced Plasma Confinement Geometries
Ms Nicholas Hannah, Other Australian	800	800	-	Double Precision Pty Ltd
Dr Marcus Doherty, Australian National University	790	790	-	First principles innovation of solid-state quantum technologies
Dr Robert Salomone, University of NSW	771	771	-	Efficient Bayesian Inference for Intractable Likelihood Problems
Dr Zhengbiao Peng, University of Newcastle	765	765	-	Ice Nucleation Induced by External Alternate Pressure Field
Dr Peter Oke, CSIRO	762	762	-	Bluelink developments
Dr Abhnil Prasad, University of NSW	760	760	760	The effects of tropical convection on Australia's climate
Dr Alpeshkumar Malde, Griffith University	760	650	250	Development and Applications of Computational Methods in Drug Design
		110	-	Development and Applications of Computational Methods in Drug Design
Dr Fiona Beck, Australian National University	750	750	-	Low-cost, high-efficiency solar hydrogen generation technologies
Mr Patrick Yates, University of Tasmania	750	750	-	Radio jets in asymmetric environments
Prof Robert Stranger, Australian National University	740	515	-	Computational studies of the Mn/Ca cluster in Photosystem II and its relevance to bio-mimetic Hydrogen generation catalysts
		225	-	DFT and TD-DFT Studies of Organometallic and Metal Cluster Systems
Dr Martina Lessio, University of NSW	739	485	-	Computational Design of Metal-Organic Frameworks for Heavy Metal Removal from Water

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
		250	250	Computational Design of Metal-Organic Frameworks for Heavy Metal Removal from Water
		4	-	Testing code performance on Raijin for NCMAS application
Dr Duncan Sutherland, UNSW Canberra	733	733	-	Physics based simulations of wild fire behaviour
A/Prof Adam Trevitt, University of Wollongong	710	710	250	Computational Investigation of the Chemistry of Reactive Intermediates
Mr Dan Sandiford, University of Tasmania	700	700	-	Modelling the tectonic evolution of ocean gateways
Prof Steven Armfield, University of Sydney	700	700	-	Direct simulation of transition for natural convection flow in inclined differentially heated cavities
Dr Tim Pugh, Bureau of Meteorology	700	700	-	Unified Model porting
A/Prof Ting Liao, Queensland University of Technology	700	700	700	Theoretical Design of Oxides Based Materials for Energy Application
A/Prof Peter Strazdins, Australian National University	675	500	-	Parallel Systems Course COMP4300
		175	-	Performance Analysis and Optimization of Large-scale Scientific Simulations
Prof Phil Cummins, Australian National University	675	675	-	Geohazard Modelling for the Asia-Pacific Region
Dr John Pye, Australian National University	671	671	-	Modelling of high-temperature concentrating solar thermal energy systems
Dr Meredith Jordan, University of Sydney	660	620	450	Molecular Interactions
		40	-	Atmospheric Chemistry
A/Prof Mark Cowley, Children's Cancer Institute	654	654	500	Comprehensive investigation of noncoding biology in high-risk paediatric cancers
Dr Christina Magill, Macquarie University	650	650	-	Volcano loss modelling - agriculture
Prof Peter Rayner, University of Melbourne	645	645	505	Multi-scale atmospheric composition: climate and chemistry (MSAC-CAC)
Dr Joseph Horvat, University of Wollongong	643	643	438	Blue shift of terahertz absorption lines for molecular crystals
Dr Chenghua Sun, Swinburne University of Technology	625	625	625	Computer-Aided Materials Design for Clean Energy
Dr Daniel Price, Monash University	625	625	-	Star and planet formation, black hole accretion and common envelope evolution
Dr Leo Lymburner, Geoscience Australia	620	620	-	AGDC Experimental (External)
	603	315	-	3D Medical Image Segmentation

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Dr Leonard Hamey, Macquarie University		177	-	Affect Recognition from Video
		96	-	Malware Detection in an Adversarial Environment
		10	-	Data Analytics for Malware Using Machine Learning
		5	-	Multi-modal machine learning for clinical decision support
Prof David Thomas, Garvan Institute of Medical Research	600	600	-	A whole genome study to map heritable risk in sarcoma
Prof Alexander Babanin, University of Melbourne	588	588	188	Metocean projects, University of Melbourne
Prof Katherine Belov, University of Sydney	580	580	450	Establishing an immunogenetic ark for Australian threatened species
Dr Subhasish Mitra, University of Newcastle	580	580	-	Multi-scale simulation of flotation process for mineral separation
Dr Luming Shen, University of Sydney	554	554	438	Modelling high strain rate responses of unsaturated porous media
Dr Peter Caccetta, CSIRO	553	553	-	Statistical Image Processing of Remotely Sensed Data
Dr Matthew Garthwaite, Geoscience Australia	525	525	-	InSAR research to measure surface deformation of the Australian continent
Dr Wei Wen, University of NSW	522	519	-	Joint Analysis of Imaging and Genomic Data to Study the Structure and Function of Human Brain
		3	-	Image Processing for An International Consortium on Cerebral White Matter Lesions
Prof Igor Bray, Curtin University of Technology	518	518	438	Atomic Collision Theory
Prof Cheng Lu, University of Wollongong	500	500	-	Deformation mechanism of 'gradient' materials
Dr Simon Illingworth, University of Melbourne	500	500	500	Reduced-order models of wall-bounded turbulence
Dr Tamar Greaves, Royal Melbourne Institute of Technology	500	500	-	A Molecular Dynamics exploration of ionic liquid properties and interactions with polymeric materials
Ms Tracy Bailey, Other Australian Government Department	500	500	-	ARPANSA Pilot Project
A/Prof Timothy Garoni, Monash University	498	498	250	Design, analysis and application of Monte Carlo methods in statistical mechanics
Dr Hamid Valipour, University of NSW	485	485	-	Atomistic Simulations of Materials in Various Environmental Conditions
Dr Sebastian Kurscheid, Australian National University	477	400	-	biodev queue: Critical Assessment of Massive Data Analysis (CAMDA 2019) - contest participation - "Investigating

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				transcriptomic changes at the level of individual breast cancer tumours"
		40	-	Critical Assessment of Massive Data Analysis (CAMDA 2020) - contest participation - "Investigating transcriptomic changes at the level of individual breast cancer tumours"
		25	-	Elucidating the organisational principals of genome architecture: the role of histone variants and architectural chromatin binding proteins
		12	-	Critical Assessment of Massive Data Analysis (CAMDA 2019) - contest participation - "Investigating transcriptomic changes at the level of individual breast cancer tumours"
Dr Neha Gandhi, Queensland University of Technology	475	475	250	Molecular dynamics simulations of protein folding in solution and at surfaces/interfaces
Dr Rosemarie Sadsad, University of Sydney	468	453	-	Sydney University Bioinformatics Testing and Development
		15	-	University of Sydney Pilot Project
Dr Justin Tzou, Macquarie University	463	463	-	Accurate computation of Green's functions on curved surfaces
Dr Matthew McGee, Monash University	454	454	250	Comparative lifespan genomics in fishes
Dr Oleg Tretiakov, University of NSW	451	451	-	Thermoelectric Figure of Merit of Dirty Topological Insulators
Dr Matthew Chamberlain, CSIRO	446	446	-	ACCSP Dynamical Ocean Downscaling of Climate Change Projections
Dr Jonathan Tran, Royal Melbourne Institute of Technology	440	440	-	Modelling and Design of Boron Carbide Based Superhard Materials
Prof Allan Canty, University of Tasmania	438	438	438	Catalysis and Organometallic Chemistry
Prof Brian Yates, University of Tasmania	438	438	438	Designing Better Catalysts
Dr Jatin Kala, Murdoch University	438	438	438	Can land surface radiation management reduce the intensity of heat waves?
Prof John Miners, Flinders University	438	438	438	The structural basis for selective and cooperative ligand binding by human drug and chemical metabolising cytochrome P450 enzymes: Application of molecular dynamics
A/Prof Ziqi Sun, Queensland University of Technology	438	438	438	Computational Design of Two-Dimensional Hybrids Based Nanomaterials for Sustainable Energy Application
Dr Jeremy Davis, University of Wollongong	425	425	-	Geant4 Imaging and Medical Beam Line

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Prof Santiago Badia, Monash University	422	422	300	Scalability assessment of the parallel h-adaptive aggregated unfitted FE method with complex domains and multiple scale problems
Prof Timothy Baldwin, University of Melbourne	422	422	-	Deep Language Understanding
Ms Chloe Burns, Australian National University	420	420	-	Agent Based Microsimulation of Infectious Disease Outbreaks
Dr Marian-Andrei Rizoiu, University of Technology, Sydney	420	420	-	Tracking disinformation campaigns across social media
Prof Emanuele Viterbo, Monash University	420	420	188	Performance Simulations for 5G Communication Systems
Dr Chris Escott, University of NSW	411	411	-	Silicon MOS quantum computation
Dr Nicole Kessissoglou, University of NSW	411	411	-	Aeroacoustic analysis of a finite wall-mounted airfoil
Dr Jenny Fisher, University of Wollongong	405	405	400	The use of state-of-the-art 3-D chemical transport modelling to unravel the effects of atmospheric chemistry on climate
Prof Tom Gedeon, Australian National University	405	405	-	Deep learning from psychophysiological data
A/Prof Balazs Csaba, Monash University	403	403	250	Cornering supersymmetry with GAMBIT
Dr Xuefei Liu, University of NSW	403	403	-	Optimisation of membrane module and separation processes in water/wastewater treatment process using numerical simulation approaches
Dr Yan Ding, Royal Melbourne Institute of Technology	402	202	-	Study on Atherosclerosis Progression – Computational Modelling of Atherosclerotic Lesion Formation, Growth and Rupture
		200	-	Study on the Improved Large Eddy Simulations for Methodologies for Predicting Trailing Edge Noise
A/Prof Matthew Cleary, University of Sydney	401	400	-	High-speed compressible reacting flows for propulsion and power
		1	-	Start-up Scheme for soot formation modelling validation in 3D turbulent flame
Prof Anatoli Kheifets, Australian National University	400	350	250	Time-space resolved photoelectron emission
		50	-	Application of a TDDFT solver to analyse resonances in high harmonic generation in solids.
Mr Andrew Driscoll, Australian Commercial Organisation	400	400	-	DHI-031

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Dr Fabio Luciani, University of NSW	400	400	-	Systems immunology at the single-cell level
Dr Iwan Jensen, Flinders University	400	400	400	Exact Enumerations in Statistical Mechanics and Combinatorics
Dr Xiuwen Zhou, University of Queensland	400	310	250	Rational design of light-emitting plastics for next generation lighting and displays
		90	-	Rational design of light-emitting plastics for next generation lighting and displays
Dr Christopher Leonardi, University of Queensland	399	395	250	Direct numerical simulation of multiphase and multicomponent flows relevant to unconventional gas production
		4	-	High-fidelity multiphase and multicomponent lattice Boltzmann modelling for enhanced efficiency of unconventional gas production
Dr Di Wu, University of Technology, Sydney	393	393	-	Stochastic nonlinear analysis of topology composite structures
Prof Mark Hoffman, University of NSW	392	392	-	Design using genetic algorithms
Prof Joseph Lai, UNSW Canberra	385	385	-	Disc Brake Squeal
Dr Xiong Liu, University of Wollongong	379	379	-	Molecular dynamics simulation of fracture behaviour in nanocrystalline fcc structures
Dr Aaron Ludlow, University of Western Australia	375	375	375	What is the Most Viable Solution to the Small Scale Crisis Facing Cold Dark Matter?
Dr Jimmy Philip, University of Melbourne	375	375	375	Numerical simulation of swirling flows with particles
Prof Lexing Xie, Australian National University	370	370	-	Promoting Fairness in Online Attention
Prof Thomas Welberry, Australian National University	370	370	-	Computation of X-Ray Diffraction Patterns for 3D Model Systems
Prof Shanqing Zhang, Griffith University	363	363	188	Design and Synthesis of Nanostructured materials for high performance batteries
Dr Serena Lee, Griffith University	360	360	-	Large-scale flexible mesh modelling (Australia, Pacific, Southern Ocean)
Dr Jong-Leng Liow, UNSW Canberra	357	282	188	Modelling of hydrocyclone behaviour
		75	-	Study of xanthan gum behaviour through computational fluid dynamics and molecular simulation
Dr Vanessa Robins, Australian National University	350	350	-	Persistent homology analysis of structural phase transitions
Dr Ming Feng, CSIRO	348	348	-	CSHOR Coupled dynamics of the warm pool
Dr Michael Kuiper, CSIRO	346	346	-	Computational modelling of virus - host interactions.

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Vigleik Angeltveit, Australian National University	345	220	-	Ramsey number upper bounds
		125	-	Improved upper bounds on Ramsey numbers
Dr Nicholas Deutscher, University of Wollongong	343	343	-	Trace gas retrievals from solar FTIR
Prof Quan Wang, University of Melbourne	342	342	-	Statistical post-processing of ACCESS precipitation forecasts
Dr Catia Domingues, University of Tasmania	338	338	338	Ocean heat uptake processes: implications for global and regional sea level change in the ACCESS model
Dr Justin Leontini, Swinburne University of Technology	338	338	338	Oscillatory flows in complex geometries
Dr Stuart Clark, University of NSW	337	337	-	Numerical modelling of the Formation of Pop-Up Structures in Frontier Exploration Regions
Dr Xuhui Fan, University of NSW	331	331	-	Machine Learning project on Random Forest models
Dr Martin Singh, Monash University	331	331	188	Understanding the behaviour of the tropical atmosphere in a changing climate using idealised atmospheric models
Prof Mark Humphrey, Australian National University	330	330	-	DFT and TD-DFT Studies of Organometallic Systems
Prof Naomi McClure-Griffiths, Australian National University	330	330	-	Simulating the Build-up of Magnetic Fields in High Velocity Clouds
Dr Wen Jiayu, Australian National University	330	330	-	Single-cell RNA-seq for discovering cell-type-specific gene expression patterns and gene regulatory landscape
Prof Yun Liu, Australian National University	330	330	-	Materials Design for Hydrogen Storage
Mr Paul Ryan, CSIRO	330	325	-	General Share for User Code Development and Testing
		5	-	Housekeeping (and Testing) Purposes on the NCI Facilities
Dr Petra Heil, University of Tasmania	329	329	329	Tracking changes in Arctic and Antarctic sea-ice motion
Prof Eric Kennedy, University of Newcastle	325	290	-	Catalytic combustion of methane
		35	-	thermal decomposition of halogenated compounds
Prof Peter Gill, University of Sydney	325	325	250	Development and application of new quantum chemistry algorithms
Dr Callum Atkinson, Monash University	320	320	188	Extending numerical simulation of turbulent flows via assimilation with experimental data
Dr Daniel Duke, Monash University	320	320	188	Simulating turbulent multiphase flows in pressurised metered-dose inhalers

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Dr Junfang Zhang, CSIRO	317	311	-	Surface reaction and diffusion controlled kinetic model of adsorption
		3	-	Nanoscale Elastic Properties of Dry and Wet Illite
		3	-	Adsorption Behavior of Hydrocarbon on Illite
Dr Asaph Widmer-Cooper, University of Sydney	316	188	188	Interactions and self-assembly of colloidal nanoparticles: Establishing design rules for creating new nano-structured materials
		128	-	Interactions and self-assembly of colloidal nanoparticles: Establishing design rules for creating new nano-structured materials
Prof Mark Knackstedt, Australian National University	313	313	-	Training Centre for Multiscale 3D Imaging, Modelling and Manufacturing
A/Prof Khalid Moinuddin, Other Australian	311	311	-	Bush fire CRC Project 01
Dr Ross Brodie, Geoscience Australia	307	305	-	Airborne Electromagnetics (AEM) Inversion
		1	-	Potential Field Modelling in Cartesian Coordinates
		1	-	Potential Field Modelling in Spherical Coordinates
Dr Hanna Suominen, Australian National University	305	100	-	Our Health in Our Hands: Big Data Program
		75	-	Clinical Information Extraction and Language Modeling
		30	-	Natural Language Processing to Support Language Learning
		25	-	Early Detection of Diabetes through Big Data, Machine Learning and Wearable Sensors
		25	-	Ontology Learning for Diabetes Management using Natural Language Processing & Machine Leaning Techniques
		25	-	Machine Learning for Control System Development in a Multiple Input Artificial Pancreas System
		25	-	Improving methods of diagnosis and prognostication in Multiple Sclerosis and Parkinson's Disease through objective testing and machine learning
Mr Ray Seikel, Swinburne University of Technology	305	305	-	TAO development
Mr Wenju Cai, CSIRO	304	304	-	Climate Change Impact on Southeast Queensland Water Supply

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Dr Akshay Shanker, University of NSW	300	130	-	Retirement eggs and retirement baskets
		95	-	Zero carbon electricity market dynamics with storage
		75	-	Zero carbon electricity market dynamics with storage
Prof Craig Moritz, Australian National University	300	300	-	Inferring phylogeny and explaining diversity using genome-scale data: methods and applications
Prof Qing-Hua Qin, Australian National University	295	295	-	Topology Optimisation of Mechanical Metamaterials and Multifunctional Materials
Dr Michael Barlow, UNSW Canberra	290	290	-	Multi-Agent Swarm Modelling
Dr Claire Vincent, University of Melbourne	280	280	250	Clouds, rain and Climate: Mapping a hierarchy of cloud and rainfall processes to our global climate system.
A/Prof Rongkun Zheng, University of Sydney	270	270	-	Low dimensional magnetism and supercondcutivity
Dr Nevena Todorova, Royal Melbourne Institute of Technology	268	268	188	Theoretical studies of bimolecular interactions under non-equilibrium conditions
Dr Alejandro Di Luca, University of NSW	267	267	263	The future intensity of extreme East Coast Lows
Prof Vitali Sintchenko, University of Sydney	266	266	-	Metatranscriptomic sequencing to enable precision public health
Dr Hua Ying, Australian National University	265	200	-	Sea anemone genomics, transcriptomics and epigenetic
		40	-	Coral genomics
		25	-	Coral genomics
A/Prof Ruta Gupta, Other Australian Government Department	265	265	265	Bringing Head and Neck Cancer to the 21st Century
Prof Chennupati Jagadish, Australian National University	264	264	-	Nanostructured optoelectronic devices: new materials and applications
Prof Cedric Simenel, Australian National University	260	260	-	Microscopic and Macroscopic Studies for Nuclear Reactions
Dr Tu Le, Royal Melbourne Institute of Technology	255	255	-	DFT-based machine learning models for efficient RAFT monomer selection
Dr Yu Lin, Australian National University	255	230	-	Large Graph Models and Analysis in Genome Assembly
		25	-	Metagenome Sequence Assembly and Analysis
Dr Anna Herring, Australian National University	250	250	250	Understanding pore-scale displacement mechanisms relevant to geologic CO_2 sequestration using multiphase lattice-Boltzmann models

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Bram Hoex, University of NSW	250	250	250	Modelling of Transition Metal Oxide Materials for Energy Harvesting and Conversion
Dr Chloe Leach, University of Melbourne	250	250	250	Victorian Coastal Monitoring Program (VCMP)
Dr Daniel Harrison, Southern Cross University	250	250	250	Modelling solar radiation interventions for coral bleaching mitigation
Dr Fatemeh Salehi, Macquarie University	250	250	250	Spray droplet characterisation
A/Prof Ivan Kassal, University of Sydney	250	250	250	Charge and energy transport in disordered functional materials
Prof Liang Cheng, University of Western Australia	250	250	250	Optimising design and operation of offshore oil and gas facilities using numerical modelling
Prof Marc Parlange, Monash University	250	250	250	Turbulence structure of extreme winds in hurricanes
Dr Matthew Field, Australian National University	250	250	-	Developing Bioinformatics Capability to Diagnose Infectious Diseases using Clinical Metagenomics
Prof Ricardo Mancera, Curtin University of Technology	250	250	250	Large scale molecular dynamics simulations of biomolecular systems
Dr Sudha Mokkapati, Monash University	250	250	250	A flexible platform: Nanotechnology enabled compound semiconductor solar cells
Dr Vassili Kitsios, CSIRO	250	250	250	Ensemble Kalman filter state and parameter estimation of CMIP resolution global climate models
Prof Ian Porter, University of Wollongong	246	246	-	Numerical modelling if thin spray on liners for mining applications
Dr Robert Luke, Macquarie University	240	240	-	Binaural Listening
Prof Marc Wilkins, University of NSW	237	237	-	High Performance Computing Analysis of Genome Sequences
Dr Hamish Clarke, University of Wollongong	236	236	-	Modelling wildfire risk
Dr Martin Cope, CSIRO	232	232	-	Future Air Quality Projection
Dr Wei Fang, Intersect	232	225	-	Intersect Partnershare Management
		7	-	Intersect commercial 01
Dr Rippei Hayashi, Australian National University	230	230	-	deciphering splicing code during development
Mr Samuel Sauvage, Bureau of Meteorology	230	230	-	Australian Fire Danger Rating Prototype
Dr Xiaotao Jiang, University of NSW	226	226	-	T4 Project for pregnant and baby gut microbiome
A/Prof Aaron Oakley, University of Wollongong	225	225	-	Dynamics of DNA Clamps and Clamp Loaders

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Dr Julian Berengut, University of NSW	223	223	-	Electronic spectra of superheavy elements and highly-charged ions
Dr Mark Baird, CSIRO	221	221	-	eReefs Marine Modelling GBR1
Prof Brendan McKay, Australian National University	220	220	-	Extremal graph theory and Ramsey theory
Dr Janice Fullerton, University of NSW	220	220	188	Neuroscience Research Australia Neurogenetics
Dr Marlies Hankel, University of Queensland	213	200	-	Nanoporous membranes for energy applications
		13	-	QCIF BoM access project
Dr Michael Walker, University of NSW	211	211	-	Modelling the impact of PrEP rollout on STI prevalence and incidence in NSW
Dr Alexander Mikheyev, Australian National University	210	110	-	Evolution of asexuality in stick insects
		75	-	Community structure of the honey bee microbiome (Honours Project)
		25	-	From trillions to extinction: using museum genomics to uncover the fate of the Rocky Mountain locust
Prof Andrea Morello, University of NSW	210	210	-	Full configuration interaction simulations of exchange coupled donors in silicon in an effective mass theory framework
Dr Tim Gould, Griffith University	210	210	-	A roadmap for the inclusion of weak forces in structural prediction
Dr Ryan Armstrong, University of NSW	207	207	-	MUTRIS: Unconventional Rescources
Dr Reza Mahjoub, University of South Australia	203	203	-	First Principles Modelling of Sulphide Mineral Fracture Surface Reactivity Differences â€" Trends for Selectivity in Flotation Separation.
Dr Torsten Thomas, University of NSW	203	203	188	Assembly of next-generation sequencing data for microbial metagenomes
Dr Gaetan Burgio, Australian National University	200	100	-	Correlation of host and parasite gene expression as a tool to identify new antimalarial targets
		50	-	Using computational pipelines to uncover novel CRISPR proteins
		50	-	Inferring core gene co-expression network modules in Plasmodium-infected tissues
Prof Guan Yeoh, University of NSW	200	200	-	Multiphysics simulations for interdisciplinary engineering applications
Mr Hilbert Pelt, University of NSW	200	200	-	Windlab Limited
Dr Kiao Inthavong, Royal Melbourne Institute of Technology	200	200	-	Detailed analysis of fluid particle flows in the respiratory airway
Dr Philip Taylor, Australian National University	200	200	-	The COCKATOO Simulations

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Shibo Wang, Monash University	200	200	-	Aerodynamics of a Running Person
Mr Guillaume Jolly, Commercial organisations	190	190	-	Trampo CFD Pilot Project
Mr Marcus Tree, DHI	190	190	-	DHI-025
Prof David Edwards, University of Western Australia	188	188	188	Analysis of complex genomes
Dr Elena Pasternak, University of Western Australia	188	188	188	Instability and chaos in fault sliding due to asymmetric friction and negative stiffness
Dr Mitra Safavi-Naeini, Other Australian Government Department	188	188	188	Dose Quantification in Particle Therapy
A/Prof Mohammednoor Altarawneh, Murdoch University	188	188	188	Fundamental Understanding of the Role of Singlet Molecular Oxygen in Spontaneous fires
Prof Nikolai Petrovsky, Flinders University	188	188	188	Molecular modelling for design of more effective vaccine adjuvants
Dr Xingyong Wang, Intersect	188	188	188	Computational study on the molecular mechanisms of UV-induced DNA photodamage and photolyase-catalysed DNA photorepair
Dr Dan Andrews, Australian National University	185	165	-	Canberra Clinical Genomics; translating the latest research findings into personalised medicine
		20	-	Computational pangenomics to curb pesticide resistance in Helicoverpa armigera
Prof Gavin Huttley, Australian National University	185	125	-	Statistical modelling of genetic variation
		60	-	Huttley lab compute
Dr Simon Watt, UNSW Canberra	182	182	-	Modelling and simulation of overdominance in genetic variation
Dr Erica Smith, University of New England	180	180	-	Anomalous Polymerization Rates of Moderately Hydrophilic Monomers in Water
Dr Andrew Piggott, Macquarie University	177	177	-	DFT calculations to predict NMR spectra of natural products
Dr Yuguo Yu, University of NSW	177	177	-	Reliability assessments for sustainable artificial reef structures involving uncertainty
Dr Sammy Diasinos, Macquarie University	176	176	-	Automotive Aerodynamics
Dr Sinead Keaveney, Macquarie University	176	112	-	Development of a chemoselective C-F functionalisation procedure using palladium catalysis

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
		60	-	Development of a chemoselective C-F functionalisation procedure using palladium catalysis
		4	-	Development of a chemoselective C-F functionalisation procedure using palladium catalysis
Prof Buyung Kosasih, University of Wollongong	175	175	-	Fluid dynamic phenomena affecting the liquid coating quality in the jet stripping line
Prof Malin Premaratne, Monash University	175	175	-	Computational framework for an Ab-initio Computer Model of an ultrafast SPASER
Dr Megan McDonald, Australian National University	175	120	-	Resequencing fungal plant pathogen genomes with the Oxford Nanopore MinIon
		55	-	GWAS of Zymoseptoria tritici
Dr Philip Nakashima, Monash University	175	175	-	Revealing the Electronic Structure of Metals, Alloys, Functional Ceramics and Thermoelectric Materials using Quantitative Convergent-Beam Electron Diffraction
Dr Fiacre Rougieux, University of NSW	173	173	-	Overcoming the impact of defects for high-efficiency solar cells
Prof Robert Brooks, University of NSW	173	173	-	Inequality and attitudes on social media
Mr Yiheng Hu, Australian National University	170	170	-	Metagenomic analysis of next generation sequencing data for pathogen detection and microbiome analysis
Dr Jeffrey Chan, Royal Melbourne Institute of Technology	165	165	-	Developing robust, distributed and efficient optimisation approaches using machine learning
Dr Seher Ata, University of NSW	162	162	-	Computational study of bubble coalescence of two capillary-held air bubbles using Volume of Fluid (VOF) method
Dr Erdinc Saygin, CSIRO	156	156	-	Seismic Imaging of Earth-ST
Dr David Cortie, University of Wollongong	154	154	-	Density functional theory for the next-generation of electronic materials
Dr Ashley Farlow, University of Melbourne	150	150	-	Analysis of previously consented, collected and published DNA sequences from worldwide populations including Australian Aboriginals.
Dr Daniel Rosauer, Australian National University	150	150	-	Why are biodiversity hotspots found where they are?
A/Prof Gholamreza Haffari, Monash University	150	150	-	Deep Learning to Learn with Limited Supervision

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Prof Jie Yang, Royal Melbourne Institute of Technology	150	150	-	Buckling of Functionally Graded Multilayer Graphene Nanocomposites
Dr Jorg Schluter, Deakin University	150	150	-	Computational Fluid Dynamics
Dr Lawrence Lee, University of NSW	150	150	-	Artificial synthesis of multi-subunit protein machines using synthetic DNA templates
Mr Othmar Korn, University of Queensland	150	150	-	Stemformatics Pilot Project
Dr Stephen Roberts, Australian National University	150	75	-	Numerical Study of Gauge Methods for the Solution of the Navier Stokes Equation
		75	-	Investigation of techniques to improve the prediction of flood events
Dr Susan Wei, University of Melbourne	150	150	-	Augmenting Batch Reinforcement Learning with a Virtual World
Dr Mona Esmaeili Mahani, Australian National University	147	114	-	Global Frost Paradox: novel methods to examine extreme minimum temperature variability and trends
		33	-	A consensus approach to Seasonal Climate Forecasting (SCF)
Dr Su Nguyen, La Trobe University	147	147	-	Evolutionary Learning for Decision Analytics (ELDA)
Dr Benjamin Schwessinger, Australian National University	145	125	-	Identify, characterise, detect factors causing wheat disease epidemics
		20	-	Bioinformatic analysis for wheat disease
Dr Chris Bradly, University of Melbourne	144	144	-	Low temperature polymer phases
Dr Iwan Cornelius, Australian Commercial Organisation	140	140	-	Amentum Production Computing
Prof Aibing Yu, Monash University	139	139	-	Simulation and Modelling of Particulate Systems
Dr Ben Hui, University of NSW	139	105	-	Model-based evaluation of STI testing strategy for remote Indigenous population
		34	-	Model the potential impact of different gonococcal vaccine formulations and different target populations
Dr Merlinde Kay, University of NSW	139	139	-	Australian Solar Resource Assessment and Forecasting
Dr Shahram Karami, Monash University	139	139	-	Direct numerical simulation of particle-laden flows in a coaxial-jet
A/Prof Ahmad Jabbarzadeh, University of Sydney	137	117	-	Multiscale Simulations of Polymeric Systems
		20	-	Multiscale Simulations of Materials and Flow

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Dr Juan Felipe Torres, Australian National University	135	75	-	Modelling of heat and mass transfer in multicomponent mixtures
		35	-	Transition from steady to chaotic flows in natural convection
		25	-	Mitigation of turbulent natural convective heat losses by an air curtain
Prof Terry Bossomaier, Charles Sturt University	135	135	-	Information flow in Vicsek Models
A/Prof Matthew Arnold, University of Technology, Sydney	133	133	-	Optimization of plasmonic nanoantennas and metamaterials
Dr Christina Adler, University of Sydney	132	132	-	Oral microbiome and tooth decay in children
Dr Kei-Wai Kevin Cheung, Macquarie University	132	132	-	Studies on High-impact Weather, Climate Variability and Systems Dynamics
Dr Jodie Yuwono, University of NSW	130	130	-	Modelling Silicon Anode for Lithium Ion Batteries
Dr Kejun Dong, University of Western Sydney	130	130	-	Particle-scale numerical study on screening processes (subproject from ARC Hub for Computational Particle Technology)
Dr Alice Johnstone, Royal Melbourne Institute of Technology	127	127	-	Analysis of coding-non-coding co-expression networks in plants
Dr John Taylor, CSIRO	127	127	-	Scalability of convolutional encoder-decoders
Prof PG Ranjith, Monash University	127	127	-	Molecular dynamics simulation of surfactant behavior at gas/liquid interface
Mr Matt Paget, CSIRO	126	123	-	Data Cube Rangelands and Crop Mapping Applications
		3	-	Airborne hyperspectal and lidar data for TERN AusCover
Dr Hyeuk Ryu, Geoscience Australia	125	125	-	Development of earthquake fragility model using OpenSees
Mr Johannes Pottas, Australian National University	125	125	-	Structural and thermal modelling of components in concentrating solar power systems
Dr Kenneth Duru, Australian National University	125	125	-	WaveQLab3D: A peta-scale wave propagation and dynamic earthquake rupture solver
Dr Thalaiyasingam Ajanthan, Australian National University	125	125	-	Learning Lightweight Neural Networks: Pruning and Quantization
A/Prof Kaveh Khalilpour, University of Technology, Sydney	122	122	-	Modelling national electricity network with renewables
Dr Stephen Hall, University of Queensland	120	120	-	Advanced Aerodynamic Simulation and Optimisation for High Performance Vehicles – Development

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Dr Sascha Eisenträger, University of NSW	118	118	-	Transient Analysis using Explicit Time Integrators and the Scaled Boundary Finite Element Method
Dr Antonio Tricoli, Australian National University	115	75	-	Cerium doped manganese oxide
		20	-	Molecular Dynamic investigation of gaseous interaction with a dual layer gas sensor based on metal oxide–metal-organic framework
		20	-	Quantum Chemical Simulation of Biosensors for the detection of Diabetes and pneumonia via breath analysis
Dr Josh Milthorpe, Australian National University	115	115	-	Chapel on accelerators
Dr Raj Das, Royal Melbourne Institute of Technology	114	68	-	Architected Materials
		46	-	Understanding Cranial Injury- Developing bio-simulant human gunshot cranium model by using mesh free (SPH) method
Prof Zhengyi Jiang, University of Wollongong	111	111	-	Control Strategies of Surface Quality of Stainless Steels
Dr Bin Lu, Australian National University	110	110	-	The role of solar photovoltaics in a 100% renewable energy future
Prof Jean Yang, University of Sydney	110	110	-	Bringing Head and Neck Cancer to the 21st Century
Dr Md Zakir Hossain, Australian National University	110	110	-	Deep learning for facial expression and/or emotion recognition
Dr Prabhakar Ranganathan, Monash University	110	110	-	Biology needs rheology.
Dr Stephan Chalup, University of Newcastle	110	65	-	Deep learning for improved real world object detection using synthetic image data that has been rendered using computer graphics techniques
		45	-	High-dimensional high-resolution data analysis
Dr Ali Ahrari, UNSW Canberra	109	109	-	A Critical Analysis of Variation Operators for Dynamic Multi-objective Optimization
Dr Fatemeh Vafaee, University of NSW	107	107	-	Deep learning Genomics
Dr Damian Moran, University of Sydney	106	106	-	Innovative Molecular Scaffolds by Design
Dr John Smith, Royal Melbourne Institute of Technology	105	105	-	Numerical analysis of slope stabilization in South Gippsland
Dr Imtiaz Dharssi, Bureau of Meteorology	104	104	-	Soil moisture forecasting and analysis

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Dr Flora Salim, Royal Melbourne Institute of Technology	102	102	-	Deep learning of time-series and spatio-temporal data
Dr Alessandra Malaroda, University of Wollongong	100	100	-	Personalised dosimetry for molecular radiation therapy
Prof Chris McConville, Royal Melbourne Institute of Technology	100	100	-	Understanding the redox reaction mechanisms of E. coli nitroreductases
Dr Eric Treml, Deakin University	100	100	-	Understanding climate impacts on marine population connectivity
Dr Haifei Zhan, Queensland University of Technology	100	100	-	Statistical Learning Framework for the Carbon Nanofiber Design
Dr Haytham Fayek, Royal Melbourne Institute of Technology	100	100	-	Deep Learning of Reusable Hierarchical Distributed Representations
Prof Hussein Abbass, UNSW Canberra	100	100	-	Trusted Autonomy Group
Dr Kamyar Kildashti, University of Western Sydney	100	100	-	Numerical investigation on structural performance of permanent formwork system
Prof Murray Batchelor, Australian National University	100	100	-	DMRG Calculations on Zn-Symmetric and Non-Hermitian Spin Chains
Dr Richmond Lee, University of Wollongong	100	100	-	Computationally-Guided Catalysis & Molecular Design
Ms Somasundhari Shanmuganandam, Australian National University	100	100	-	Uncovering the microbiome of sympatric European brown hares and European rabbits
Prof Suresh Bhargava, Royal Melbourne Institute of Technology	100	100	-	An investigation on the interaction of heavy metal ions (As and Hg) with Surface Enhanced Raman Spectroscopy materials
Prof Thushara Abhayapala, Australian National University	100	100	-	Computer Audition for Fourth Industry Revolution
A/Prof Torsten Seemann, University of Melbourne	100	100	-	Austrakka: a national genomics pathogen surveillance system
Dr Vidhyasaharan Sethu, University of NSW	97	97	-	NN training - Speech
Dr Hongjun Chen, Australian National University	96	75	-	DFT calculation on NaxWO3
		21	-	Bifunctional Electrocatalyst W, Mo, and Co-doped Co3O4 Fractal for High-Performance Electrochemical Water Splitting
Dr Jarny Choi, University of Melbourne	96	96	-	Wells CSCS

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Prof Marina Kennerson, University of Sydney	95	95	-	Investigating the role of structural variation (SV) for inherited peripheral neuropathies
Dr Shankar Kalyanasundaram, Australian National University	95	95	-	Finite Element Modelling of Engineering Systems
Dr Timothy Duignan, University of Queensland	95	95	-	Predicting electrolyte solution properties through ion pairing calculations.
Prof Duong Do, University of Queensland	90	90	-	Novel Characterization of Porous Structure and Surface Chemistry of Carbon by means of Monte Carlo computer simulation
Dr Fabian Zander, University of Southern Queensland	90	90	-	TUSQ Hypersonic Facility Modelling
Dr Tina Yang, Geoscience Australia	90	90	-	Location Index project
Mr Pawan Parajuli, Australian National University	88	88	-	Study of Bacteriophage acquired virulence in Shigella flexneri strains
Dr Benjamin Kaehler, UNSW Canberra	86	86	-	Microbiome Analysis for Pathogen Detection
Dr Alan Blair, University of NSW	85	80	-	Spiking Networks and Deep Learning for Speech, Language, Images and Games
		5	-	Neuroevolution, Deep Learning and Reinforcement Learning
Prof Gordon Lister, Australian National University	85	75	-	Numerical investigations in reconstructing subducted slab geometry
		10	-	Quantitative argon thermochronology
Dr Varghese Swamy, Monash University	84	84	-	First-Principles Modeling of Functional Titanium Dioxides and Hybrid Metalorganic Perovskites
Dr Steffen Bollmann, University of Queensland	80	80	-	Quantiative Susceptibility Mapping Inversion using Deep Learning
Dr Emily Wong, Victor Chang Cardiac Research Institute	80	80	-	VC Wong - Gene regulation
Dr Jed Burns, University of Queensland	80	80	-	Investigation of pathway bifurcations in organic reactions
Dr Kausala Mylvaganam, Macquarie University	80	72	-	Computational detection of Adenosine via Surface-Enhanced Raman Spectra
		5	-	Computational investigation of optical and photochemical properties of (i) biologically important systems and (ii) organo metallic systems.
		3	-	Post-Translational modification (PTM) analyses on clinically relevant samples such as plasma and other body fluids

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Dr Liqi Han, University of Queensland	80	80	-	Parallel QuasiMC - a High Performance Light Simulator for Virtual Agriculture
Prof Thomas Haselhorst, Griffith University	80	80	-	Structural Biology of Glycointeractions and High-Throughput Glycomics Tools
Dr Yun Shi, Griffith University	80	80	-	Molecular dynamics simulations of neuraminidase-inhibitor interactions
Dr Vanessa Haverd, CSIRO	78	78	-	The Australian Continental Carbon Budget
Dr Elena Atroshchenko, University of NSW	77	77	-	Numerical methods in acoustics
Mr Alexander Bray, Australian National University	75	75	-	Application of an optimised TDSE solver to resolve the quantum tunnelling time discrepancy
Dr Charles Foster, University of Sydney	75	75	-	Mechanisms of placental nutrient tranport using transcriptomics
Prof Curt Wentrup, University of Queensland	75	75	-	Theoretical calculations on reactive molecules, intermediates and prebiotic chemistry pathways
Dr Dylan Campbell, Australian National University	75	75	-	Deep Learning for Understanding Human-Object Interactions Using Computer Vision
Mr Esteve Mayolas, Garvan Institute of Medical Research	75	75	-	The role of the non-coding DNA and the oral microbiome in oral cavity squamous cell carcinoma
Ms Josephine Plested, Australian National University	75	75	-	Factors Affecting Transferability in Deep Neural Networks
Dr Marnie Shaw, Australian National University	75	75	-	Deep learning applied to MRI-based maps of the human cerebral cortex
Dr Miaomiao Liu, Australian National University	75	75	-	Understanding and Predicting Human Pose in 3D in the Wild
Dr Minh Bui, Australian National University	75	75	-	Phylogenetic inference for genome-scale data
Dr Stephen Dale, Australian National University	75	75	-	Dielectric tuning of the PCM model for linear HOMO-LUMO gaps in DFT.
Dr Stephen Gibson, Australian National University	75	75	-	Vibronic coupling in the ground state of vinylidene
Prof Steven Siems, Monash University	75	75	-	Simulations of wintertime storms across Southeast Australia, Tasmania and the Southern Ocean
Prof Ted Maddess, Australian National University	75	75	-	Validating complex nonlinear system ID methods
Dr Thomas Wong, Australian National University	75	75	-	Efficient phylogenetic methods: managing the curse of genomic complexity

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Dr Anastasios Polyzos, CSIRO	74	74	-	Calculation of Reaction Co-ordinate for New Catalytic C-H Activation
Dr Laura McKemmish, University of NSW	74	74	-	Preliminary Calculations on Molecular Spectroscopy
Dr Martin Helmer, Australian National University	74	74	-	Novel Algorithmic Methods in Algebraic Geometry and Applications
Dr Stephen Gould, Australian National University	74	74	-	Deep Declarative Networks Student Projects
Dr Yi Qin, CSIRO	74	74	-	Atmosphere remote sensing with new generation satellites
Dr Belinda Wright, University of Sydney	73	73	-	Identifying devil facial tumour strains in vaccinated released Tasmanian devils
Mr Cameron Jack, Australian National University	73	25	-	ABC Jack
		25	-	ANU Bioinformatics Consultancy Playground
		20	-	DNA sequencing facility
		3	-	Large-scale data storage for the Genome Discovery Unit (JCSMR/ANU)
Dr Edward King, CSIRO	72	69	-	National Remote Sensing Processing Facility
		3	-	WIRADA 2.2 - Gridded Foundation Data Sets
Prof Adam Lee, Royal Melbourne Institute of Technology	70	70	-	Gold catalysed selective aerobic oxidation
Dr Jayasinghe Jayasinghe, University of NSW	70	70	-	Higher order moments to attack random encryption countermeasures
Dr Dario Strbenac, University of Sydney	69	69	-	Comprehensive Genomic Profiling of Head and Neck Malignancies: In Search of Prevention and Treatment
Dr Matthew Moores, University of Wollongong	66	66	-	Sequential Monte Carlo algorithms for Bayesian inference in hyperspectral sensing
Dr Citsabehsan Devendran, Monash University	66	66	-	Piezoelectric-Acoustic Interactions within Acoustofluidic systems
Ms Farzaneh Boroumand, Macquarie University	66	66	-	Tiltied nonparametric regression
A/Prof Wenyi Yan, Monash University	66	66	-	Optimization and structural analysis for additive manufacturing and maintenance
Dr George Bacskay, University of Sydney	65	65	-	Spectroscopic and Thermochemical Properties of Small Molecules
Ms Stephanie Palmer, Australian National University	65	65	-	Genomic Data Management and Analysis

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Dr Timothy Lynar, UNSW Canberra	65	43	-	Simulation for the epidemiological approach to cyber security
		22	-	Instance Segmentation based Visual Question Answering for Counting Common Objects in Images
Dr Colette Kerry, University of NSW	64	64	-	Advancing dynamical understanding in the East Australian Current Optimising the ocean observation and prediction effort
Dr Ripon Chakrabortty, UNSW Canberra	62	62	-	Integrating Optimisation Approaches in Cyber Security
Dr Arathi Arakala, Royal Melbourne Institute of Technology	60	60	-	Fast matching and privacy evaluation in biometric spatial graphs
Ms Cassidy Gallagher, Macquarie University	60	60	-	MRes: Simulation of Pulmonary Drugs
Dr Teng Lu, Australian National University	60	60	-	Designing Ferroelectric Materials for Energy Applications
Dr Xiaoming Zheng, Charles Sturt University	60	60	-	Morphological studies of normal brain MRI images using "FreeSurfer" software
Prof Sebastian Sardina, Royal Melbourne Institute of Technology	57	57	-	Plan De-Binding & Re-Binding in IPC domains
Mr Samitha Herath, Monash University	56	56	-	Spatio-temporal knowledge transfer for human-action recognition
Dr Graham Ball, University of NSW	55	55	-	DFT and Ab Initio Studies of Inorganic and Organometallic Complexes and Drug DNA complexes
Prof Rick Franich, Royal Melbourne Institute of Technology	55	55	-	Medical Physics monte carlo Radiation Transport Simulation
Dr Sam Mallinson, University of NSW	55	55	-	Simulating bubbles in inkjet printer systems
A/Prof Melih Ozlen, Royal Melbourne Institute of Technology	54	54	-	Fuel treatment planning maintaining habitat availability and connectivity for endangered species conservation
Prof Jian-Feng Nie, Monash University	53	53	-	Structures and stability of solute aggregate and segregation in advanced Mg alloys
Dr Murat Tahtali, UNSW Canberra	53	53	-	Imaging Through the Atmosphere, L-SPECT simulation and reconstruction
Dr Boris Beranger, University of NSW	52	52	-	Spatial Extremes
Dr Subir Sarker, La Trobe University	52	52	-	Virome analysis of a critically endangered Australian parrot
Dr Moeava Tehei, University of Wollongong	51	51	-	Investigations into the density of states in Lanthanum Manganite Nanoparticles

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Mr Prabod Rathnayaka, La Trobe University	51	51	-	Development of reliable kidney and kidney tumor semantic segmentation methodologies
Prof Babak Abbasi, Royal Melbourne Institute of Technology	50	50	-	Simulation - Optimisation
Dr Baihua Fu, Australian National University	50	50	-	Uncertainty Quantificaiton for the GBR Catchment Water Quality Model
Dr Carlos Velasco, Bureau of Meteorology	50	50	-	STEPS: Short-term high-resolution rainfall ensembles
Dr Craig Harrison, Geoscience Australia	50	50	-	Least-squares adjustment of the national geodetic network
Dr Francis Hui, Australian National University	50	50	-	Innovative statistical methods for the analysis of multivariate longitudinal data
Prof Martin Lambert, University of Adelaide	50	50	-	Turbulent pipe flow at high Reynolds numbers
Prof Michael Hutchinson, Australian National University	50	50	-	Analysis and High Resolution Gridding of National Surface Climate Data
Mr Michael Kelly, Macquarie University	50	50	-	Ant Mimicry Project
Mr Michael Moore, Geoscience Australia	50	50	-	Mitigation of Site Specific Errors from Geodetic Time Series
Dr Robert Warren, Bureau of Meteorology	50	50	-	Calibrated Thunder: Improving the Bureau's thunderstorm and severe weather forecasting service through novel post-processing and model guidance
Dr Chris Medcraft, University of NSW	49	49	-	Quantum chemical calculations to support microwave spectroscopy
Dr Tao Zou, Australian National University	49	49	-	Covariance-Mean Regression Analysis with Heterogeneous Similarity Matrices
Dr Francisco Trujillo, University of NSW	48	25	-	CFD Modelling Fluid Dynamics for Photoinduced Macromolecular Synthesis
		23	-	Radio frequency electric fields (RFEF) processing modelling
Dr Qing Wang, Australian National University	48	25	-	Shortest Path Distance Queries over Large-Scale Networks
		23	-	Representation Learning for Large-Scale Networks
Dr Richard Edwards, University of NSW	47	45	-	Conservation genomics for Australian plants
		2	-	Diploid genome assembly
Dr Erdahl Teber, Other Australian Research Institute	42	42	-	Childhood Rhabdomyosarcoma NGS variant and differential expression analysis
Dr Yizhak Ben-Shabat, Australian National University	41	41	-	Assembly Action recognition

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Dr Andrew Ritchie, Australian National University	40	40	-	Putting more "bio" into "bioinformatics" using biology to inform new models for DNA analysis
Dr Feng Chen, University of NSW	40	40	-	Point processes and their applications
Dr Kun Li, Australian National University	40	40	-	Privatization, Distortions, and Productivity
Mr Paul Hendy, Australian Commercial Organisation	40	40	-	Conflux Technology Pilot Project
Mr Sean Crosby, University of Melbourne	40	40	-	Unimelb HPC testing
Dr Tianfang Wang, University of the Sunshine Coast	40	40	-	Bioinformatics, molecular dynamic simulation of biofunctional peptides and study of post-translantional modifications of peptides using mass spectrometry
Dr Tony Vo, Monash University	39	39	-	Influence of Thermal and Shear destabilisation in Duct Flows Subject to a Strong Transverse Magnetic Fields
Dr Zongyan Zhou, Monash University	39	39	-	Multiscale modellng of Flow and Heat Transfer in Particulate Systems
Emeritus Prof Brian Kennett, Australian National University	38	38	-	Ground motion from 3-D seismic structure in SW Australia
Dr Callie Little, University of New England	38	38	-	Exploring gene by environment interactions using a whole-genome approach
Dr Martin Peeks, University of NSW	38	38	-	Design and characterisation of advanced organic materials
Dr Timothee Bonnet, Australian National University	38	38	-	Quantitative genetics of evolutionary-demographic dynamics.
Prof Federico Maggi, University of Sydney	36	36	-	Global soil and water resource in a changing climate
Dr Alban de Vaucorbeil, Monash University	36	36	-	Simulation of the wear resistance of ductile materials.
Mr Aaron Chuah, Australian National University	35	35	-	Biodev GIL
Dr Maurits Evers, Australian National University	35	35	-	Characterising changes in ribosomal DNA chromatin during malignant transformation
Dr Alireza Abbasi, University of NSW	34	34	-	Dynamics of Science
Dr Daniel Prole, Macquarie University	34	34	-	Quiescent ultra-diffuse galaxies in the field: Observational properties from the HSC-SSP survey
Dr Gregory Wilson, CSIRO	34	34	-	Electronic Structure of Organic/Inorganic Dyes for Photovoltaic Applications

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Dr Rose Andrew, University of New England	34	34	-	Woodland Eucalyptus Genomics
Dr Garth Pearce, University of NSW	33	33	-	Modelling of Textile Composite Structures
Dr Hanieh Poostchi, University of Sydney	33	33	-	Slippery Slope Project
Mr Daniel Eggler, University of NSW	32	32	-	Future Vehicles
Dr Daniel Falster, University of NSW	32	32	-	Evolutionary assembly of forest communities
Dr Feng Li, University of Western Sydney	32	32	-	Metal Directed Assembly of Discrete Supramolecular Systems
Dr Ranjith Unnithan, University of Melbourne	32	32	-	Design and optimisation of far infra-red multispectral sensors
Prof Michael Collins, Australian National University	31	31	-	Molecular Potential Energy Surfaces and Properties of Large Molecules
Dr Jana Sperschneider, Australian National University	31	31	-	Uncovering how rust fungi cause devastating plant diseases
Dr Matloob Khushi, University of Sydney	31	31	-	AI-Guided Financial Trading
Dr Mehrtash Harandi, Monash University	31	31	-	Large-Scale Visual Recognition Using Riemannian Geometry
Dr Shamila Haddad, University of NSW	31	31	-	Using WRF for urban climate simulations and heat island mitigation in Australia
Dr Alice Richardson, Australian National University	30	30	-	Multiple imputation in multilevel models
Dr Bethany Melville, Other Australian	30	30	-	Astron
Dr Maryam Ghodrat, UNSW Canberra	30	30	-	CFD Simulation of fire-wind interaction and its effect on buildings in bushfire prone areas
Dr Mohammad Saadatfar, Australian National University	30	30	-	Advanced Composites
Mr Robert Middleton, Australian National University	30	30	-	CTLab Processing and Delivery
Dr Sebastian Galindo Lopez, University of Sydney	30	30	-	Simulations of 3D structure of detonations in rotating detonation engines
Dr Sofia Oliveira, Charles Darwin University	30	30	-	Understanding and mitigating the impacts of global environmental change on the biodiversity of tropical savannas
Prof Phoebe Chen, La Trobe University	29	29	-	LTU0014 - Bioinfomatics Management for Genome Data

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Tim Kahlke, University of Technology, Sydney	28	28	-	Bioinformatics
Dr Lan Du, Monash University	27	27	-	Deep learning Methods for Text/Image analysis
Dr Zhiguang Qiu, University of Western Sydney	27	27	-	Increasing global crop productivities by harnessing microbes in agricultural practices
Dr Dawei Su, University of Technology, Sydney	26	26	-	Materials architecture design for low-cost energy storage application
Dr Harish Vangala, Monash University	26	26	-	Polar Codes for NAND flash memory using parallelization techniques
Dr Marcel Boehme, Monash University	26	26	-	Fuzzing
Dr Qibin Duan, University of NSW	26	26	-	Model-based evaluation of intervention of resistant Gonorrhoea for men who has sex with mem
Dr Amanda Barnard, Australian National University	25	25	-	Computational Science and Applied Machine Learning
Prof Andy Pitman, University of NSW	25	25	-	Land Surface Science
Prof Ehsan Arabzadeh, Australian National University	25	25	-	Neural Coding in Sensory Cortex
Mrs Fatemehsadat Saleh, Australian National University	25	25	-	Video Action Anticipation
Mr Felipe Barboza da Silva, Macquarie University	25	25	-	Passive Radio Frequency Interference Detection and Geo-location
Dr Hamid Roshan, University of NSW	25	25	-	Multi-scale poromechanics
Dr Melissa Skidmore, CSIRO	25	25	-	Small molecules for OLEDS (organic light emitting diodes).
Prof Neshev Dragomir, Australian National University	25	25	-	Nonlinear and tunable dielectric metasurfaces
Dr Salman Durrani, Australian National University	25	25	-	Machine Learning in wireless communication networks
Dr Venkata Chevali, University of Southern Queensland	25	25	-	Design of Biocomposites: Molecular Dynamics-assisted Interfacial Study
Dr Vincent Daria, Australian National University	25	25	-	Modelling biosensors based on metasurfaces
Mr Zelio Fusco, Australian National University	25	25	-	Plasmon dynamics at Atomistic scale
Dr Matt Baker, University of NSW	23	23	-	Engineering Ancestral Molecular Motors

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Priyank Vijaya Kumar, University of NSW	23	23	-	A predictive, ab initio design of plasmonic-metal/semiconductor catalysts
Dr Jason Bragg, Other Australian	22	22	-	Plant biodiversity genomics: evolution and prediction
Dr Loic Thibaut, University of NSW	22	22	-	A theoretical basis for metrics of natural selection and intolerance scores to genetic variation
Dr Neda Aboutorab, University of NSW	22	22	-	Netwrok and Index Coding for Wireless Communications
Mr Simon Mortensen, DHI	22	22	-	DHI-026
Dr Sophie Lewis, UNSW Canberra	22	22	-	Understanding Australia's future temperature extremes
Prof Wei Gao, University of NSW	22	22	-	Computational uncertainty mechanics and structural safety
Dr Chandana bandara Herath, University of NSW	21	21	-	Screening and optimization of MrgD inhibitors
Dr Chris Wang, University of Western Sydney	21	21	-	Investigating inhibitory control and the ways that it can be enhanced
Mr Christopher Poulton, University of NSW	21	21	-	The Ross Study
Dr Mark Broich, University of NSW	21	21	-	Deep learning of clouds in satellite images
Dr Yuguang Wang, University of NSW	21	21	-	Cosmic Microwave Background Analysis
Dr Brendan Burns, University of NSW	20	20	-	Shark Bay Metagenomics
Dr David Tsai, University of NSW	20	20	-	Computational simulation of biophysically and morphologically detailed neurons
Dr Duk Yong Choi, Australian National University	20	20	-	Simulation of Photonic Nanostructures
Mr Erfan Keshavarzian, University of Western Sydney	20	20	-	CFD simulation of Pollutant dispersion
Dr Giuseppe Barca, Australian National University	20	20	-	Development of quantum chemistry algorithms exploiting heterogeneous computing
Dr Hamid Alinejad Rokny, University of NSW	20	20	-	Integrative analysis of chromosome conformation capture data and genomics/epigenetics variations to better understanding of genetic diseases and disorders
Dr Leigh Johnston, University of Melbourne	20	20	-	Melbourne Brain Centre 7T MRI Protocol Development
Dr Lex Leong, Other Australian Government Department	20	20	-	SA Pathology Pilot Project

Lead CI, Institution	Total Allocation in kSU	Project Allocation in kSU	NCMAS Allocation in kSU	Project Title
Dr Lyndal Henden, Macquarie University	20	20	-	Detecting STRs in Australian Motor Neuron Disease patients
Dr Paulina Cetina Heredia, University of NSW	20	20	-	Lagrangian trajectories under climate scenarios
Dr Stephen Davis, Royal Melbourne Institute of Technology	20	20	-	Evaluating the effectiveness of Cyprinid herpesvirus 3 as a biocontrol agent for common carp in Australian rivers
Mrs Zahra Rahimpour, University of Sydney	20	20	-	Using thermal inertia of the buildings for demand response
Various Researchers	722	722	-	129 Projects – Small Allocations Not Specified
Total Allocations	**1,512,368**	**1,512,368**	**255,148**	