***Please note that program details are subject to change. The downloadable version of the program will be made available in due course. Additionally, once available, the program will be accessible through our event app for your convenience.**

Time / Date (in AEST)							
Workshop	Trillion Parameter Consortium Tutorial	Quantum Computing workshop + Quantum AI tutorial	AI in Imaging (AM) AI in Material Science (PM)	IBM storage scale user group	Programming Model and Applications for the Grace Hopper Superchip	Best Practices for HPC in the Cloud	Unleashing the Power of AI and Quantum Solutions with High-Performance Computing on Microsoft Azure
Time	9:00 - 17:00	9:00 - 17:00	9:00 - 17:00	9:00 - 17:00	9:00 - 17:00	9:00 - 17:00	9:00 - 16:00
Location	Meeting room C3.3	Meeting room C2.3	Meeting room C3.6	Meeting room C3.5	Meeting room C2.6	Meeting room C3.2	Meeting room C2.2
Organiser	Argonne National Lab/NCI	SCA2024 Organising Committee	UNSW/NCI	IBM	NVIDIA/XENON	AWS	Microsoft & AMD
Agenda in the Morning	**Introduction to AI for Science** 9:00 - 9:15 Registration and Welcome 9:15 - 9:45 Session 1 - Introduction to AI for Science 9:45 - 10:30 Session 2 - Foundation Models in AI 10:30 - 10:45 Morning Break 10:45 - 12:00 Session 3 - Using Pre-trained Models 12:00 - 13:00 Lunch Break	9:00-9:20 "Precision ground-state energy calculation for the water molecule on a superconducting quantum processor" by Michael Jones, Harish Vallury, Lloyd Hollenberg, University of Melbourne 9:20-9:40 "Applications of Genetic Algorithms for Quantum Circuit Compilation", by Floyd Creevey, The University of Melbourne 9:40-10:00 "Building a unified quantum - classical computing solution with NVIDIA and OQC hardware", by Jamie Friel, Oxford Quantum Circuits 10:00-10:20 "Solving spin models on a quantum computer using Hamiltonian moments", by Harish Vallury, University of Melbourne 10:20 - 10:40 "Integrated Quantum-Classical Applications with CUDA Quantum", by Jin-Sung Kim, NVIDIA Break 11:00 - 11:45 "Quantum-centric supercomputing part 1: an architecture vision" by Iskandar Sitdikov, IBM 11:50-12:35 "Quantum-centric supercomputing part 2: an applications vision" by Antonio Córcoles, IBM	**AI in Imaging** 9:00 - 9:30 Session 1: Introductory lecture to AI computer vision 9:30 - 9:40 Industry talk: MONAI - Nvidia-supported open source AI medical image analysis 9:40 - 10:45 Session 2: Hands-on AI imaging on the Australian Research Environment (NCI) 10:45 - 11:00 Break 11:00 - 12:00 Session 3: Hands-on AI imaging on the Australian Research Environment (NCI)	8:45-9:00 Coffee & Tea 9:00-9:05 Welcome & Housekeeping by Andrew Beattie 9:05-9:15 Introduction and welcome to speakers by Bill Adra / Damon Wynne 9:15-9:45 "Whats new in IBM Storage Scale / Storage Scale System (NDA Roadmap)" by Chris Maestas 9:45-10:15 "IBM Storage Insights for Unstructured Data" by Ranjith R1 10:15-10:45 "Nvidia Presentation" by Gabriel Noaje 10:45-11:00 Morning Break 11:00-11:30 "IBM Storage for Watsonx" by Kedar Karmakar 11:30-12:00 "IBM Fusion HCI Unleashed - Empowering Research with Container Based Computing at The University of Queensland" by Jake Carroll - UQ 12:00-12:30 "IBM Storage Fusion / Fusion HCI" by Andrew Beattie / Reg D'Souza 12:30-13:15 Lunch Break	9:00 - 9:15 Registration, Logistics and Welcome 9:15 - 9:45 Session 1: NVIDIA Grace Hopper (GH200) Superchip Hardware Deep Dive 9:45 - 10:15 Session 2: NVIDIA Grace Hopper (GH200) Superchip CPU Software Deep Dive 10:15 - 10:30 Morning Break 10:30 - 11:00 Session 3: NVIDIA Grace Hopper (GH200) Superchip GPU Programming Models Deep Dive 11:00 - 11:40 Session 4: NVIDIA Grace Hopper (GH200) Platforms and Products Deep Dive 11:30 - 12:00 Morning Wrap-up and Q&A 12:00 - 13:00 Lunch Break	9:00 - 9:05 Welcome and introduction 9:05 - 9:50 Cloud fundamentals 9:50 - 10:00 Getting started 10:00 - 10:30 Set up an HPC cluster using AWS ParallelCluster 10:30 - 11:00 Morning Break 11:00 - 11:30 Run HPC multi-node MPI application and visualize output 11:30 - 12:00 Identity, access controls, and cost management in the cloud 12:00 - 13:00 Lunch Break	9:00 - 9:15 Registration and Welcome 9:15 - 9:45 AMD + MSFT Session 1 with Mark Spargo from AMD 10:00 - 11:00 Supercomputing OnDemand with Azure by Mandar Gujrathi, Eyas Taifour, Asia HPC and AI GBB 11:00 - 11:30 Morning break 11:30 -12:00 Scaling ANSYS solutions on Azure HPC by Lewis Clark 12:00 - 13:00 Lunch break
Agenda in the Afternoon	**Adapting and Fine-Tuning Models for Science** 13:00 - 14:15 Session 4 - Adapting Models for Scientific Data 14:15 - 14:30 Afternoon Break 14:30 - 15:45 Session 5 - Hands-on Workshop 15:45 - 16:00 Wrap-up and Q&A 16:00 - 16:15 Closing Remarks 16:15 - 17:00 TPC Networking and Informal Discussion	13:30 - 17:00 **Quantum AI Tutorial** by Usman, Muhammad, Data61, CSIRO 13:30 - 14:30 Introduction to Quantum Computing 14.30 - 15.30 Introduction to Quantum Machine Learning 15:30 - 16:00 Afternoon Break 16:00 - 17:00 Applications of Quantum Machine Learning	**AI in Material Science** 13:00 - 13:05 Opening Remarks & Introduction The Nexus of AI and Material Science Prof. Bram Hoex, School of Photovoltaic and Renewable Energy Engineering, The University of New South Wales – Sydney 13:05 - 13:35 Prof. Ian T. Foster, Argonne Data Science and Learning Division, Professor of Computer Science – University of Chicago 13:35 - 14:00 Tong Xie, Green Dynamics, The University of New South Wales – Sydney 14:00 - 14:30 Dr. Santiago Miret, Intel Labs – Los Angeles 14:30 - 14:55 Asst. Prof. Usman Naseem, Macquarie University, Sydney 14:55 - 15:15 Afternoon tea break 15:15 - 15:45 Dr. Imran Razzak, The University of New South Wales – Sydney 15:45 - 16:15 Dr. Alicia Schuitemaker, The University of Sydney – Sydney 16:15 - 16:45 Dr. Dongzhan Zhou, Shanghai AI Lab – Shanghai	13:15-13:45 "IBM Scale System 6000" by Luis Bolinches 13:45-14:15 Client Presentation 14:15-14:45 Tuxera Presentation by Heinrich Von Keler 14:45-15:15 "IBM Storage Scale AFM Usecases" by Kedar Karmakar 15:15pm Afternoon Break (Sponsored by Tuxera) 15:30-16:00 "IBM Storage Scale CES-S3 Protocol Update" by Madhu Punjabi 16:00-16:30 "IBM Storage Scale System Performance Tuning" by Luis Bolinches	13:00 - 13:30 Session 5 - NVIDIA Grace Hopper (GH200) Superchip Live Demo 13:30 - 14:30 Session 6 - NVIDIA Grace Hopper (GH200) Superchip participants' hands-on (part 1) 14:30 - 14:45 Afternoon Break 14:45 - 16:00 Session 7 - NVIDIA Grace Hopper (GH200) Superchip participants' hands-on (part 2) 16:00 - 16:15 Afternoon Wrap-up and Q&A 16:15 - 16:30 Closing Remarks	13:00 - 13:30 Cost controls in the cloud 13:30 - 14:00 Storage in the cloud 14:00 - 14:45 Amazon FSx for Lustre and Amazon S3 14:45 - 15:15 Afternoon break 15:15 - 15:45 Automation and repeatability in the cloud / AWS Batch 15:45 - 16:45 AWS Batch 16:45 - 17:00 Summary and Q&A	13:00 - 13:30 AMD + MSFT Session 2 with Naoyuki Isogai 14:00 - 14:45 Microsoft Quantum Compute with Microsoft by Imogen Schifferle 14:45 - 15:00 Afternoon break 15:00 - 16:00 Strategies for running large-scale bioinformatics workleads on Azure with BizData by Felipe Ayora

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Time / Date (in AEST)		20 Feb 2024 (Tuesday)								
Location		**Pyrmont Theatre, 2nd floor, ICC**								
9:00	9:20	Welcome to Country by Uncle Allen Madden								
9:20	9:45	Opening Remarks, by Professor Attila Brungs Vice-Chancellor and President of UNSW Sydney Opening Remarks, by Professor Chennupati Jagadish, Presendent of Australian Academy of Science								
9:45	10:00	MOU Signing Ceremony Awards Ceremony								
10:00	10:30	Keynote Talk - The Decade Ahead: Building Frontier AI Systems for Science and the Path to Zettascale, by Professor Rick L. Stevens								
10:30	11:00	Morning tea break								
11:00	11:30	Plenary Talk - From HPC to CSP – Sustainable Supercomputing with Lenovo Neptune, by Martin Hiegl, Lenovo								
11:30	12:00	Plenary Talk - Unlock Innovation with Azure HPC/AI Infra, by Nidhi Chappell, Microsoft								
12:00	12:30	Plenary talk - Preparing for Exascale: Is Your Data Infrastructure Ready for an AI and Quantum World?, by Jonathan Martin, WEKA								
12:30	12:35	Lunch remarks - Building a sustainable future, by Sumir Bhatia, Lenovo								
12:35	13:30	Lunch break								
		Meeting room C2.2	Meeting room C2.3	Meeting room C2.4	Meeting room C2.5	Meeting room C2.6	Meeting room C3.2	Meeting room C3.3	Meeting room C3.4	Meeting room C3.5
13:30	15:00	**Revolutionizing Earth Sciences at scale 1** **Chair: Anandaroop Roy** 13:30-13:50 "Overcoming Challenges in Terabyte-Scale Geophysical Cross-Correlation Computations with A Physics-Informed Accelerations Algorithm" by Sheng Wang, Jinghe Wang, Gabriel Nunje*, Byungun Ryu* & Matthew Nicely*, Australian National University, *Nvidia Corporation 13:50-14:10 "Electromagnetic Subsurface Imaging of Continent-Scale Airborne Data Using Parallel Inference Algorithms" by Anandaroop Roy & Yaoan Lay-Cooper, Geoscience Australia; Department of Industry, Science and Research 14:10-14:30 "Effect of Threshold Velocity on Ember Accumulation at the Wildland-Urban Interface" by Tanvir Saurav, Duncan Sutherland & Jason Sharples, University of New South Wales, Canberra	**Pushing the boundaries of CFD with HPC 1** **Chair: Richard Sandberg** 13:30-13:50 "Australian Defence Supercomputer" by Kristina Johnson, Stuart Midgley & John Henderson, Defence Science Technology Group 13:50-14:10 "Direct Numerical Simulation of a Coupled Thermal Turbulent Boundary Layer: a Simulation Analog of Bushfires and a Test Bed for Artificial Intelligence Remote Sensing of Bushfire Propagation" by Julio Soria, Shahram Karami, Callum Atkinson & Mingzhang Li, Monash University 14:10-14:30 "Speed, power and cost implications for GPU acceleration of Computational Fluid Dynamics on HPC systems" by Zachary Liam Cooper-Baldock**, Brenda Vara Almirall*** & Frederick Fung**** ,**Flinders University, *National Computational Infrastructure, ***RMIT, ****Australian National University 14:30-14:50 "Large Scale Simulation and Modelling of Gravity Current Smoke Dispersion" by Andrew Ooi, Tony Zahtila*, Wu Kit Lam, Leon Chan, Wilson Lu, Richard Manasseh**, Khalid Moinuddin*** & Duncan Sutherland****, University of Melbourne, *Stanford University (US), **Swinburne University of Technology, ***Victoria University, ****University of New South Wales 14:50-15:10 "New insights into turbomachinery flows enabled by exascale systems" by Melissa Koral, Massimiliano Nardini, Thomas Jelly & Richard Sandberg, University of Melbourne	**Unveiling the Cosmos: HPC and AI Innovations in Astrophysics 1** **Chair: Kate Harborne** 13:30-13:50 "Galaxy Formation Modeling in the Exascale Era - Challenges & Opportunities" by Chris Power, ICRAR/University of Western Australia 13:50-14:10 "High Performance Pipeline Processing for the Australian Square Kilometre Array Pathfinder" by Matthew Whiting, Eric Bastholm & Wasim Raja, CSIRO 14:10-14:30 "Source finding with SoFiA and very large source files - Using Hadoop and Spark to deliver spectral line image data" by Geoff Daniam, Gordon German*, Slava Kitaeff & Abdreas Wicenec**, Monash University, *CSIRO, **ICRAR	**Sustainability on the Path to Exascale Infrastructure** **Chair: Maximilian Hoh** 13:30 - 13:45 Stuart Strickland, DUG Technology 13:45 - 14:00 Mark Gray, Pawsey Supercomputing Centre 14:00 - 14:15 Andrea Tabocchini, Quantum Brilliance 14:15 - 14:30 Dieter Kranzlmueller, Leibniz Supercomputing Centre 14:30 - 14:45 David Kelly, Hewlett Packard Enterprise 14:45 - 15:00 Sean Smith, National Computational Infrastructure	**HPC leadership forum 1** **Chair: Professor Chennupati Jagadish** **13:00-13:05** Introduction and Welcome by Professor Chennupati Jagadish, President of the Australian Academy of Science 13:05-13:25 NCI Australia – Now and moving forward by Prof Sean Smith, Director, NCI Australia, 13:25-13:45 NSCC Singapore Updates by A/Prof Tan Tin Wee 14:05-14:25 <Title> RIKEN by Prof Satoshi Matsuoka, Director, RIKEN Center for Computational Science (R-CCS) 14:25-14:45 CSC/LUMI update by Mr Kimmo Koski, Chief Executive Officer, CSC 14:45-15:05 The Challenges of Supporting AI in Academia - SDSC as a Case Study by Prof Frank Wuerthwein	**HPC Algorithm, Computational model and Application** **Chair: Jordi Blasco Pallares** 13:30-13:50 "Achieving Portability, Reproducibility, and also Performance of HPC and AI Applications Everywhere" by Jordi Blasco Pallares, Do IT Now, HPCNow! & Elisabeth Ortega 13:50-14:10 "ASKAP software deployment in HPC using container and package manager" by Paulus Lahur, CSIRO, Pascal Elahi & Eric Bastholm 14:10-14:30 "DevOps in NoSFs Flexible HPC and Research Developer Cloud" by Jun Hah, New Zealand eScience Infrastructure & Thomas Berger 14:50-14:50 "Handling C++ Exceptions in MPI Applications" by Jiri Jaros, Brno University of Technology 14:50-15:10 "A CUBLAS-CUDA Based Implementation of Multi- GPU Large Matrix Multiplication" by Xin Li, The Australian National University	**Industry track 1** **Chair: Anthony Vandewerdt** 13:30-14:00 "Workload Analysis for Generative AI" by Anthony Vandewerdt, WEKA 14:00-14:20 "Data, HPC and AI" by James Coomer, DDN Storage 14:20-14:40 "Challenges & Opportunities of Flash-native Solutions Around HPC, Compute, Storage and AI" by Koichi Fukuda, KIOXIA Japan 14:40-15:00 "Achieving Portability, Reproducibility, and also Performance of HPC and AI Applications Everywhere" by Jordi Blasco, Do It Now	**Industry track 2** **Chair: Andy Hock** 13:30-14:00 "AMD proves continued leadership in HPC Performance, Efficiency, and ROI" by Raghu Nambiar, AMD 14:00 - 14:20 "Supermicro Accelerate Everything - The Industry's Broadest Range of Workload-Optimized Systems" by Benedict Khoo, Supermicro 14:20-14:40 "Innovations with IBM Unstructured Storage for Data and AI workloads" by Chris Maestas, IBM 14:40-15:00 "Exascale readiness in AI, HPC, and Quantum" by Mahesh Krishnan, Fujitsu	**HPC and Data in Materials Design and Discovery 1** **Chair: Amanda Parker** 13:30-13:50 "Graph embedding structure-property predictions for nanoflakes with extreme size variation" by Amanda Parker, The Australian National University 13:50-14:10 "Interpreting M'Xenes in a set of well-performing models" by Sichao Li, The Australian National University 14:10-14:30 "Automatic Molecular Fragmentation by Evolutionary Optimisation" by Fiona Vu, The Australian National University, Giuseppe Barca 14:30-14:50 "Advancing Electron Microscopy using Deep Learning" by Kunpeng Chan, The Australian National University & Amanda Barnard
15:00	15:30	Afternoon tea break								
15:30	17:00	**Revolutionizing Earth Sciences at scale 2** **Chair: Sheng Wang** 15:30-15:50 "BARPA: Advancing the Australian regional climate simulations for decision making" (online) by Christian Stassen, Harvey Ye, *Andrew Dowdy, **Simon Tucker, Emma Howard, Charmaine Franklin, Chun-Hsu Su & Christian Stassen, Bureau of Meteorology, *University of Melbourne, **UK Met Office 15:50-16:10 "AUS2200 - Modelling Extreme Weather at 2.2km Resolution" by Dale Roberts, CLEX, University of Melbourne 16:10-16:30 "GAIANet: Accelerating Atmospheric Chemistry Modelling with Deep Learning and Fourier Neural Operators" by Jeff Adie**, Cheng Chin*, Jichun Li* & Simon See*, *Newcastle University (UK), **NVIDIA 16:30-16:50 "Enhancing Flash Flood Prediction through Advanced High-Performance Computing with the ANUGA Hydrodynamic Model" by Jayashri Pawar, Samir Shaikh, Shwetа Das & Sanjay Wandhekar, Centre for Development of Advanced Computing	**Pushing the boundaries of CFD with HPC 2** **Chair: Richard Sandberg** 15:30-15:50 "Bridging the Gap Between Academia and Industry via Multi-Fidelity Computational Fluid Dynamics" by Marco Rossinowsg, Melissa Kozul & Richard Sandberg, University of Melbourne 15:50-16:10 "Reduced order model of the global oceans learnt from an ensemble climate reanalysis" by Yassili Kitsios, Laurent Cordier* & Terence O'Kane, CSIRO, Universite de Poitiers (France) 16:10-16:30 "A Predictive Model for Turbulence Evolution and Mixing Using Machine Learning" by Yuhang Wang, Deakin University	**Unveiling the Cosmos: HPC and AI Innovations in Astrophysics 2** **Chair: Chris Power** 15:30-15:50 "Mocking the Universe: Lessons learned from the construction of mock observables" by Kate Harborne, University of Western Australia 15:50-16:10 "CASDA and the AusSRC: Making large radio datasets available to the world" by Minh Huynh, CSIRO 16:10-16:30 "Observing the Evolution of the Li-dip" by Ella Wang, The Australian National University	**The Think & Drink Tank: Innovation Fueled By Refreshments Hosted By WEKA** In this session, you'll engage in an open discussion on high-performance computing and sustainability with industry luminaries. Gain insights from University, Research, GPUaaS and Enterprise leaders on advancing AI, machine learning, and computing environments. Enjoy refreshments and a chance to win prizes while discovering groundbreaking strategies to foster innovation and navigate the modern business landscape. Don't miss this opportunity to revolutionize your approach and position your organization at the forefront of progress.	**HPC leadership forum 2** 15:15-15:20 Introduction and Welcome 15:20-15:35 Pawsey 2024: Path to Exascale, Quantum Computing and the Square Kilometre Array by Ms Mark Stickells, Chief Executive Officer, Pawsey Supercomputing Research Centre 15:35-15:50 <Title> ThaiSC by Dr Piyawat Srichaikul 15:50-16:05 <Title> Recent updates on e-infrastructures in Poland led by PSNC by Dr Krzysztof Kurowski 16:05-16:20 <Title> TACC by Mr Dan Stanzione 16:20-16:35 Collaborative Chip-based Exploration and Innovation for HPC By Dr Steven Shiau, Deputy Director General, National Center for High-Performance Computing, Taiwan 16:35-17:00 Panel Session	**Infrastructure challenges in the Exascale era** **Chair: Luc Betbeder-Matibet** 15:30-15:50 "Why we need a Reference Architecture for Research Data" by David Abramson, Luc Betbeder-Matibet*, Stephen Bird**, Jake Carroll, Rhys Francis*, Wojtek Goscinski***, Garry Swan****, Carmel Walsh, Glenn Wightwick*****, J. Max Wilkinson*, & An-Lin Sun*, University of Queensland, *UNSW, **QCIF, ^ University of Melbourne, ***National Imaging Facility, ****CSIRO, *****University of Technology Sydney, ^ARDC 15:50-16:10 "Sustainability through efficient HPC Data Access in Hybrid Cloud Environment" by Sandeep Patil, Vincent Hsu & Smita Raut, IBM (India) 16:10-16:30 "Automatic scheduling, execution and monitoring of computational workflows on distributed systems" by Marta Jaros & Jiri Jaros, Brno University of Technology 16:30-16:50 "Elbencho - Storage Benchmarking in the AI and Multi-Protocol Era" by Sven Breuner, VAST Data 16:50-17:10 "Scalable Distributed Training Using Resilient Cloud Native Architecture" by Mithil Shah, AWS	**Industry track 3** **Chair: Werner Scholz** 15:30-16:00 "Architecting the foundations for the future of scientific computing" by Bhavesh Patel, Andrew Underwood, Dell; Gabriel Noaje, NVIDIA 16:00-16:20 "Powering the next wave of AI for Science innovations in the era of generative AI" by Marshall Choy, SambaNova 16:20-16:40 "Building the Agile, Domain-agnostic, User Friendly Cluster" by Werner Scholz, Xenon 16:40-17:00 "Virtual Fugaku: Bringing Exascale Supercomputing to the Masses" by Yuji Iguchi, RIKEN	**Industry track 4** **Chair: Chris Maestas** 15:30-16:00 "Jumpstart your research with Google AI and Cloud HPC" by Injae Kwak, Google 16:00-16:20 "Going big: unlocking AI and HPC beyond exascale with Cerebras" by Andy Hock, Cerabras 16:20-16:40 "The Versity S3 Gateway: Transforming Data Accessibility" by Nathan Schumann, Versity Software Inc	**HPC and Data in Materials Design and Discovery 2** **Chair: Giuseppe Maria Junior Barca** 15:30-15:50 "Enhancing Material Science Research with HPC-Enabled AI: The Case of Darwin, a Specialized Language Model for Perovskite Solar Cells" by Tong Xie, Yixuan Liu, Gruen Dynamics 15:50-16:10 "Sphracta: Estimation of Surface Fractal Dimension of Atomistic Objects via Box-Counting Algorithm" by Jonathan Ting, Andrew Wood* & Amanda Barnard, Australian National University (School of Computing), Australian National University (Research School of Finance, Actuarial Studies & Statistics) 16:10-16:30 "Accelerating geometry optimizations in quantum chemistry using Graphics Processing Units" by Jorge Galvez Vallejo, Giuseppe Barca, Australian National University 16:30-16:50 "Workflow benchmarks for atomistic simulations" by Pablo Galaviz, ANSTO
17:00	19:00	Welcome Reception								

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Time / Date (in AEST)		21 Feb 2024 (Wednesday)							
Location		**Pyrmont Theatre, 2nd floor, ICC**							
9:00	9:30	Plenary Talk - Supercomputers Power AI, by Trish Damkroger, HPE							
9:30	10:00	Keynote - High-performance Climate Simulations and AI - from Earth Virtualization to Data Compression by Professor Torsten Hoefler							
10:00	10:30	Plenary Talk - Accelerating Discovery with AWS, by Simon Elisha, AWS							
10:30	11:00	Morning tea break							
11:00	11:30	Keynote - Professor/Director Dieter Kranzlmüller							
11:30	12:30	ED&I Panel - How can engagement with arts and popular culture help to overcome lack of diversity in the industry?							
12:30	13:30	Lunch break							
13:30	15:00	Meeting room C2.2	Meeting room C2.3	Meeting room C2.4	Meeting room C2.5	Meeting room C3.2	Meeting room C3.3	Meeting room C3.4	Meeting room C3.5
		Skills & Training 1 - Harnessing HPC skills **Chair: Dr Nisha Ghatak, NeSI** 13:30-13:50 "Artemis, the end of the hunt?" by Nathaniel Butterworth*^, Darya Vanichkina*^, Stephen Kolmann*^, Cali Willet*, Kristian Maras*, Georgina Samaha*, Nandan Deshpande*, Thomas Mauch*, Vanja Zecevic*, Peter Ceiley*, *University of Sydney, ^Sydney Informatics Hub, Information and Communications Technology, 13:50-14:10 "HPC Certification Forum & Skill Tree: An Update" by Lev Lafayette, University of Melbourne 14:10-14:30 (Panel) "Women in HPC: The Journey to Expert" by Emily Barker, Carina Kemp*, Melissa Kozul**, Louise Ord***, Nisha Ghatak****, University of Western Australia, *AWS, **University of Melbourne, ***CSIRO, ****NeSI 14:30-14:50 "The Challenges of Combining Andragogy and HPC in a Non-traditional Context" by Julie Faure-Lacroix, Université Laval Canada & Digital Alliance Of Canada 14:50-15:00 "HPC Carpentry: Scalably Democratizing Access to HPC Resources" by Andrew Reid, Annajiat Alim Rasel*, US National Institute of Standards and Technology, *Brac University (Bangladesh)	**AeRO forum** 1:30pm - 2:00pm Welcome and introduction 2:00pm - 2:30pm Presenting the Research Data Reference Architecture (RDRA) 2:30pm - 3:00pm Identifying additional features of an RDRA	**IoSC: International Workshop on Internet of SuperComputing 2024** **Chair: James Lin** 13:30-14:00 "System Software for Internet of SuperComputing" by Chun Fan, Peking University (PKU) 14:00-14:30 "Ten-year construction of the computing platform of Southern University of Science and Technology" by Jiahua Zhao, Southern University of Science and Technology (SUST) 14:30-15:00 "Internet of SuperComputing and its best practice at Shanghai Jiao Tong University" by James Lin, Shanghai Jiao Tong University (SJTU)	**Network and Data Movement (miniGRP) 1** **Chair: Andrew Howard** 13:30-13:50 "Introduction, Supporting Large Data Transfers and the International Data Mover Challenge" Andrew Howard, Associated Director Cloud Services, NCI Australia 13:50-14:15 "Copernicus Australasia: Australia's partnership to ensure European data for the Indo-Pacific" Michael Hope, Copernicus Australasia Regional Data Hub Manager, Geoscience Australia 14:15-14:40 "Object Storage for Advanced, Complex Scientific Research Data Holdings and Workflows" Chris Schlipalius, Team Lead - Senior Storage Systems Administrator, The Pawsey Supercomputing Centre 14:40-15:00 "Pathways to performant security controls for supercomputing" Julia Philips, Defence Science and Technology Group	**AI-driven Infrastructure 1** **Chairs: Dhabaleswar K (DK) Panda, Madhu Thorat** 13:30-14:00 "Creating Intelligent Cyberinfrastructure for Democratizing AI: Activities at the NSF-AI Institute ICICLE" by Dhabaleswar K (DK) Panda, The Ohio State University 14:00-14:20 "HPC Infra for AI MLOps" by Mark Azadpour, Lenovo 14:20-14:40 "Privacy Preserving Federated Learning as a Service - A key capability for building robust AI models for Science" (online) by Ravi Madduri, Argonne National Laboratory, University of Chicago 14:40-15:00 "Unlocking AI's potential: High-Performance, Hybrid Data Lakehouse Architectures for Today's AI Data Challenges" by Madhu Thorat, IBM	**Industry track 5** **Chair: Raghu Nambiar** 13:30-14:00 "HPC & AI Convergence – Solving the worlds biggest challenges along the way" by Wil Wellington, Lenovo 14:00-14:20 "Supercomputing in Singapore" by Tan Tin Wee, NSCC 14:20-14:40 "Introducing the first universal Data Platform for HPC & AI" by Sven Breuner, VAST Data 14:40-15:00 "Navigating HPC Horizons: The Indispensable Role of Cloud in Architectural Success" by Balamurugan Ramassamy, Altair	**HPC-AI competition 1** 13:30-13:40 "APAC HPC-AI Competition Session Opening" by Pengzhi Zhu, HPC-AI Advisory Council 13:40-14:00 "The New Data Center Architecture For The Generative AI Era" by Qingchun Song, HPC-AI Advisory Council 14:00-14:10 "HPC resources in Singapore" by Chung Shin Yee, NSCC Singapore 14:10-14:20 "Education efforts for transferable skills in AI and HPC" by Jingbo Wang, National Computational Infrastructure Australia 14:20-14:40 "Powering A New Class of Accelerated, Efficient AI Systems that Mark the Next Era of Supercomputing" by Gabriel Noaje, NVIDIA 14:40-15:00 "AI Transformation thru Azure AI Super Computer Infrastructure & Copilot" by David Feng, Microsoft Azure	**BoF - Trillion Parameter Consortium** The Trillion Parameter Consortium (TPC) –an emerging collective of national laboratories, universities, institutes, and companies– brings together individuals and groups who are responsibly developing, training, and harnessing large-scale models along with those operating the high-performance computing systems necessary for model training. TPC supports collaboration among innovators in the fields of artificial intelligence, supercomputing, and data science. To that end, we are excited to announce a new series of seminars featuring some of the most prominent figures in these domains. These seminars will explore the incredible potential of Large-Language Models (LLMs) and their synergy with High-Performance Computing (HPC) techniques and technologies.
15:00	15:30	Afternoon tea break							
15:30	17:00	**Skills and training 2 - Unlocking new possibilities through skills - integrating AI/ML & HPC** **Chair: Dr Anastasios Papaioannou, Intersect** 15:30-15:50 "Transformative Growth: Navigating the Evolution of NLP Workshops at NCI" by Wu Zhuochen, NCI 15:50-16:10 "Enhancing Material Science Research with HPC-Enabled AI: The Case of Durwin, a Specialized Language Model for Perovskite Solar Cells" by Tong Xie, Liu Yixuan, Green Dynamics 16:10-17:00 BoF: "ExaLearn AI Knowledge Hub: From Beginner to Advanced AI Skills" by Mike Laverick, University of Auckland Patrick Tung, UNSW Slava Kitaeff, Monash University Mitchell Hargreaves, Monash University Zhuochen Wu, NCI Matt Bixley, NeSI Gnana Bharathy, ARDC Anastasios Papaioannou, Intersect	**AeRO forum** 3:30pm - 4:30pm Validating the RDRA through implementation 4:30pm - 5:00pm Feedback and close	**Doctoral Showcase - 3MT thesis competition** **Organisor: Beatta Zarrabi, UNSW**	**Network and Data Movement (miniGRP) 2** **Chair: Andrew Howard** 15:30-15:50 "If Data is the new Gold, what are the prospects of the network?" Inder Monger, Director of Berkeley Lab's Scientific Networking Division and Executive Director of Energy Sciences Network (ESnet), 15:50-16:10 "Practical Advice for Creating Experimental Networks" Rodney Wilson, Ciena 16:10-16:30 "Fast, reliable, secure: designing the network to carry Australia's research data to the world" by David Wilde AARNet 16:30-16:50 "400G Challenge: Towards a Green HPC Future" Dr Marek Michalewicz 16:50-17:00 Data Mover Challenge presentation	**AI-driven Infrastructure 2** **Chair: Amir Aryani** 15:30-15:50 "Using RAG to extract Data from National Research Graph" by Amir Aryani, Swinburne University of Technology 15:50-16:10 "AI Agent for Technology Computer-Aided Design using High Performance Computing" by Shaozhou Wang, *Yuwei Wan,Green Dynamics, *UNSW 16:10-16:30 "Automated Technology Landscaping on Patents and Publications" by Luhan Cheng, Swinburne University of Technology 16:30-16:50 "Optimised Active Learning for Regression Tasks with Uniformity" by Chloe Lin, Amanda Parker & Haiqi Dong, Australian National University	**Industry track 6** **Chair: Wei Fang** 15:30-16:00 "How Purpose-built HPC in the Cloud Empowers Your Reseach & Development More" by Naoyuki Isogai, Microsoft 16:00-16:20 "Accelerate performance and innovation with cloud-like simplicity" by Matt Wood, Quantam 16:20-16:40 "New era of AI" by Gary Cheng, Giga Computing 16:40-17:00 "Demystifying GenAI: The Big AI Moment Is Now" by Gabriel Noaje, NVIDIA Asia Pacific	**HPC-AI competition 2** 15:30-15:50 "A High-Performance Design, Implementation, Deployment, and Evaluation of The Slim Fly Network" by Jens Domke, RIKEN 15:50-16:10 "Growth of SUSTech Supercomputing Team: Opportunities and Challenges in a Complex Environment" by Jiahua Zhao, Southern University of Science and Technology 16:10-16:25 "HPC-AI Competition Experience Sharing" by Zhanyi Lin, National Tsing Hua University 16:25-16:40 "Student Competitions: From Students to Future HPC Researchers" by Allister Lim, Yusuke Miyashita and Simon Michnowicz, Monash University 16:40-17:00 2023 APAC HPC-AI Competition Award 2024 APAC HPC-AI Competition Announcement by Richard Graham, HPC-AI Advisory Council, Tan Tin Wee, Sean Smith 17:00 "APAC HPC-AI Competition Session Closing"	**BoF - HPC, AI and Quantum Career** **Chair: Hayley Teasdale** **Panelists:** Kristina Johnson, Defence Science and Technology Group Ananda Bhattacharjee, Lenovo Sach Jayasinghe, QCIF Astrid Groves, Schneider Electric Ron Bosworth, XENON Kiowa Scott-Hurley, Defence Science and Technology Group
17:00	18:00				**Global Network Advancement Group (GNA-G) meeting**				**Career session attandees visit sponsor's booth**

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Time / Date (in AEST)		22 Feb 2024 (Thursday)						
Location		**Pyrmont Theatre, 2nd floor, ICC**						Meeting room C3.5
9:00	9:05	SCA2024 closing remarks and announcement of SCA2025 - NCI/ANU and NSCC						**ADAC14 Open Symposium**
9:05	9:35	Keynote - A digital twin of the Earth for climate change adaptation, Professor Francisco J. Doblas-Reyes						9:00 - 9:10 Welcome & Opening 9:10 - 10:10 Keynote "Scalable and Efficient AI: Federated Supercomputers and Smartphones" by Torsten Hoefler, ETH/CSCS
9:35	10:05	Keynote - Towards a National Indigenous genomics Ecosystem within Australia, Professor Alex Brown, The Australian National University						
10:05	10:30	Data Mover Challenge Awards - Andrew Howard, NCI Best paper and doctoral thesis awards - David Siroky, Dell Technologies					Meeting room C3.4	10:10 - 10:35 "Benchmarks for System Acceptance under the National Supercomputing Mission" by Shweta Das, C-DAC
10:30	11:00	Morning tea break						
11:00	11:30	Plenary talk - Accelerating Industrial Outcomes with Supercomputing – A joint discussion by CSIRO and Dell Technologies, by Angus Macoustra, CSIRO and Andrew Underwood, DELL					**Building the Foundation: Genomic Data Infrastructure for Precision Medicine and Beyond 1** 11:00-11:20 "Towards cross-border access to human genomes and affiliated data at scale for research and healthcare in Europe." by Juan Arenas Marquez, ELIXIR, Nikola Couts, Ruben Kok, Regina Becker, Jeroen Belien, Ivo Gut, Tommi Nyronen, Bengt Person, Andres Uiterlinden, ilkka Iappalainen, Dylan Spalding, Astrid Vicente, Ilse Custers, Andres Metspalu, Giovanni Tonon, Marco Tartaglia, Andreas Scherer, Olaf Riess, Troels Tvedegaard Rasmussen, Lene Cividanes, Alfonso Valencia, Salvador Capella-Gutierrez, Marc Van Den Bulcke, Emilie Cauet, Oliver Stegle, Luiz Gadelha, Giselle Kerry, Angela Ponce, Melissa Konopko, Laura Carletti & Serena Scollen. 11:20-11:40 "Human Genomics Uplift for Australia through Research Data Infrastructure At National Scale: an overview of the GUARDIANS project." Authors: Bernie Pope and Jess Holliday, Australian BioCommons&University of Melbourne 11:40-12:00 "The European Genomic Data Infrastructure: Standards, Components, and Lessons Learned" by Laura Portell Silva, Barcelona Supercomputing Center 12:00-13:00 Lunch	
11:30	12:00	Poster Session - display in the conference exhibition hall						**ADAC14 Open Symposium** 11:10 - 11:35 "Acceptance Testing at the Exascale Frontier: Challenges and Lessons Learned" by Verónica Melesse Vergara, ORNL 11:35 - 12:00 "Frontier: Benchmarking and Pre-Training of Large-Scale AI Models" by Feiyi Wang, ORNL
12:00	13:00	Lunch break						
		Meeting room C2.2	Meeting room C2.3	Meeting room C2.4	Meeting room C2.5	Meeting room C3.3	Meeting room C3.4	Meeting room C3.5
13:00	15:00	**Skills & Training 3 - A resilient research workforce: Scalable and sustainable skills development programs** **Chair: Dr Mark Crowe, QCIF** 13:00-13:25 (Panel) "Building Researcher Skills through Real-World Challenges" by Julie Isklander & Rowland Mosbergen, WEHI; Ann Backhaus, Pawsey; Justin Mabbutt, APR.Intern; Jarrod Hurley, Swinburne; Melissa Kozul, University of Melbourne; Julie Faure-Lacroix, Université Laval, Canada 13:25-14:00 (Panel) "Offering Researchers Diverse Opportunities: Bootcamps, Hackathons, Competitions, Exchanges & More" by Carina Kemp, AWS; Jeremy Cohen, Imperial College London; Pascal Elahi, Pawsey; Gilad Shainer & Qingchun Song, HPC-AI Advisory Council; Brian Wylie, Juelich Supercomputing Centre; Jordi Blasco, Do It Now; Andrea Tabacchini, Quantum Brilliance 14:00-15:00 (BoF) "Empowering Collaboration: Scaling Up with The Carpentries Community" by Liz Stokes, ARDC; Nisha Ghatak, NeSI; Mark Crowe, QCIF	**BoF - Sustainability of AI-scale digital research infrastructure** **Chair: Steve Quenette and Carmel Walsh, Innate Innovation** We will discuss the summary report from the Sustainability of AI-scale Digital Research Infrastructure workshop held at eResearch Australasia in October 2023. Themes discussed during the day included: environmental sustainability, AI DRI role in supply chain, scarcity & sovereignty, AI DRI role in industry, commercialisation, and new ecosystems, AI DRI role in transforming global disciplines to AI, FAIR in the context of AI and literacy/skills. Across all themes, we discussed matters across the hardware, services and research stack. For example, at the data centre level, the Australian DRI ecosystem has sufficient buying power to adopt cooling innovation progressively. An increased consciousness exists to tailor performance/watt and cooling efficiency to local concerns. The key gap, however, is the need for more attention given to software efficiency, given its dominant role in overall efficiency. With a baseline understanding set, community engagement & confidence in the format, and distinct themes with learnings, a series of workshops is proposed to further develop the questions and findings.	**13:00-13:30** **ED&I Keynote** "The Long and Short of Diversity and Inclusion at Pawsey: Turning Strategy into Action" by Mark Stickells, Pawsey 13:30-15:00 **Round table discussion: ED&I Practices. A Dialogue between Technology and the Arts**	**BoF - HPC Data, Filesystems and Object storage - Exploring the requirements and trends of complex scie ntific data pipelines and the storage services that underpin them** **Chair: Chris Schlipalius, Pawsey** This BoF seeks to serve the growing community of researchers, developers, vendors, and facility operators whom are directly involved with architecting, operating and using such HPC data services. Participants will share and discuss practical experiences, implementation examples, new features, trends and directions, as well as contemporary practices on the design, acquisition and deployment of data services for HPC as well as supporting data access and collaboration on large scale scientific data sets.	**Industry track 7** **Chair: Srinivas Tadepalli** 13:00-13:30 "How the convergence of HPC, Machine Learning, and the Cloud is accelerating productivity and innovation for organisations" by Srinivas Tadepalli, AWS 13:30-13:50 "Building cloud native solutions for HPC and AI" by Sandeep Lodha, Netweb 13:50-14:10 "Supercomputing: The true cost" by Miguel Lopez, Schneider Electric 14:10-14:30 "Preparing for the future of computing in the quantum era" by Raghunath Koduvayur, IQM Quantum Computers 14:30-14:50 "The Role of Fun in the Education Production Function: A Randomized Controlled Trial" by Akshay Shanker, UNSW 14:50-15:10 "Pioneering the enterprise-ready transformation: how multiple access applications will unlock quantum capabilities" by Jamie Friel, Oxford Quantum Circuits	**Building the Foundation: Genomic Data Infrastructure for Precision Medicine and Beyond 2** 13:00-13:20 Frank K Wuerthwein, UC San Diego Supercomputing Centre 13:20-13:40 "Enabling life science research at scale through the Australian BioCommons Leadership Share (ABLeS)" by Ziad Al Bkhetan, Ove Johan Ragnar Gustafsson, Rhys Francis, Steven Manos, Australian BioCommons 13:40-14:00 "Manual Curation of Genome Assemblies for Reptiles & Amphibians" by Kirat Alreja, J King Chang, Terry Bertozzi, Arthur Georges, Paul Waters & Hardip Patel, The Australian National University, 14:00-14:20 "The National Nextflow Platform for Australian researchers" by Steven Manos*, Ziad Al Bkhetan*, Audrey Stott**, Uwe Winter, Ove Johan Ragnar Gustafsson*, Lisa Phippard*, Georgina Samaha***, Sarah Beecroft**, Matthew Downton****,Mark Gray**, Nigel Ward*, *Australian BioCommons, **Pawsey, ***Sydney Informatics Hub,****NCI 14:20-15:00 "Enabling bioinformatics at scale: a panel discussion of the challenges and successes for Australian life science on peak systems" by Johan Gustafsson, Steven Manos, University of Melbourne&Australian BioCommons	**ADAC14 Open Symposium** 13:00 - 14:00 Keynote "From Generative AI to Interactive AI, Towards AGI: Pioneering Advances and Practical Experimentations" by Imed Magroune, CEA 14:00 - 14:25 "Dynamic Multi-GPU Load Balancing in a Task-Based Dataflow Programming Model" by Joseph John, NCI 14:25 - 14:50 "Integration of Simulation/Data/Learning and Beyond" by Kengo Nakajima, University of Tokyo 14:50 - 15:15 "Accelerating AI and Quantum Computing Research and Development on ABCI" by Yusuke Tanimura, Ryousei Takano, AIST
15:00	15:30	Afternoon tea break						
15:30	17:00	**Skills and training 4 - Supporting Computational Trainer Communities** **Chair: Kathryn Unsworth, ARDC** 15:30-15:50 "A Flexible Machine Learning Training Platform via the NeSI Research Developer Cloud" by Matt Bixley*, Maxime Rio*^, Kahu Anderson*^ , Chris Scott*^ , NeSI, ^NIWA, ^ University of Auckland 15:50-16:10 "Intersect training platform using Nectar Research Cloud" by Aidan Wilson, Intersect 16:10-16:30 "RLadies Sydney: Promoting Diversity and Inclusion in the R Community" by Giorgia Mori, University of Sydney 16:30-17:00 Are Your Researchers Prepared for the Future? Models for Training Success (Lightning talks) - Australian BioCommons training co-op - Melissa Burke, Australian BioCommons - Research Bazaars (ResBaz) - Mark Crowe, QCIF - ML4AU - Gnana Bharathy, ARDC Audience - what other training models are you aware of?	**BoF - Institutional Strategies for University HPC**		**BoF - Embrace Arm in the datacentre: hands-on experience with the NVIDIA Grace Superchip** **Chair: Gabriel Noaje, NVIDIA** Arm technology has become a compelling choice for HPC due to its promise of efficiency, density, scalability, and broad software ecosystem support. The datacentre have long been dominated by x86 CPUs. There is a growing interest in diversifying and exploring alternative compute architectures to re-create a vibrant and diverse ecosystem as it was more than a decade ago . To further advance datacentre and accelerated computing solutions, NVIDIA has built the Grace Hopper Superchip which brings together the groundbreaking performance of the NVIDIA Hopper GPU with the versatility of the NVIDIA Grace CPU, tightly connected with a high bandwidth and memory coherent chip-2-chip (C2C) link. The NVIDIA Grace CPU packs 72 high performance Armv9 cores on a single die to realize competitive FP64 TFlops of computing performance and up to 500GB/s of memory bandwidth at industry-leading power efficiency. In this interactive hands-on session, our experts will answer any questions you may have about fully unlocking the scientific computing potential of the Grace CPU. We will guide the attendee through compile, execute, profile and optimize codes for Arm to demystify those claims that changing CPU architecture is hard. Remote access to NVIDIA Grace will be provided.	**Industry track 8** **Chair: Wei Fang** 15:30-15:50 "QDX: scaling biotech with high-performance quantum mechanics and artificial intelligence" by Giuseppe Barca, QDX Technologies 15:50-16:10 "Object storage in HPC - where and why to utilise software-defined, distributed storage" by Oleg Kokotovic, Scality 16:10-16:30 "Revolutionising High-Performance Computing with Seagate and Panasas" By David Tran, Seagate 16:30 - 16:50 "Bringing HPC to the data: DUG's vision for the edge" by Stuart Strickland, DUG Technology	**Building the Foundation: Genomic Data Infrastructure for Precision Medicine and Beyond 3** 15:30-15:50 "Interpreting Deep Neural Networks Reveals Regulatory Mechanisms for Gene Expression" by Ke Ding*^, Gunjan Dixit*, Brian Parker* & Jiayu Wen*, *Australian National University, ^National Computational Infrastructure 15:50-16:10 "Transformative Impact of Deep Learning on Accelerating Molecular Research: A Focus on AlphaFold2 and its Implementation Challenges" by Katharine Michie, Ove Johan Ragnar Gustafsson*^ & Steven Manos*^, UNSW, *Australian BioCommons, ^University of Melbourne 16:10-16:30 "Running Bioinformatics workloads on Azure" by Mandar Gujrathi, Microsoft, Felipe Ayora 16:30 - 16:50 "Combining High Performance Computing, Genomics, and AI to enable Precision Medicine" by Ananda Bhattacharjee, Lenovo 16:50 - 17:00 Session closing remarks	**ADAC14 Open Symposium** 15:30-15:55 "AI for Science Activities at RIKEN-CCS" by Mohamed Wahib, RIKEN 15:55 - 16:00 Closing

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Time / Date (in AEST)		22 Feb 2024 (Thursday)
start	end	ADAC14 Open Symposium Meeting room C3.5
9:00	10:35	9:00 - 9:10 Welcome & Opening 9:10 - 10:10 Keynote "Scalable and Efficient AI: Federated Supercomputers and Smartphones" by Torsten Hoefler, ETH/CSCS 10:10 - 10:35 "Benchmarks for System Acceptance under the National Supercomputing Mission" by Shweta Das, C-DAC
10:35	11:10	Morning tea break
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Time / Date (in AEST)	**20 - 22 Feb 9:00 - 17:00**	
Location	**Exhibition Hall**	
	Title	**Authors**
Poster 1	Source finding with SoFiA and very large source files - Using Hadoop and Spark to deliver spectral line image data	Abdreas Wicenec, Slava Kitaeff, Gordon German, Geoff Duniam
Poster 2	Enhancing genomic prediction for digital agriculture applications using ensembles of models	Owen Powell, Shunichiro Tomura, Mark Cooper
Poster 3	Integrating Genomics and Geospatial Data through ML Models for Metal-Rich Ore Deposit Geolocation	Bianca Renee Palombi
Poster 4	k-Plan: From the Hospital to the Cluster and Back	Marta Jaros
Poster 5	Large-scale CFD simulations of the mouth-throat human airway	Brenda Vara Almirall, Hadrien Calmet, Kiao Inthavong
Poster 6	softSEM: Application and Performance Analysis of soft spectral element method in wave simulations	Heming Zhu
Poster 7	Computational Design of Single Site Immobilised Molecular Catalysts for CO2 Electroreduction	Catherine Stampfl
Poster 8	Training Generates Usage	Lev Lafayette
Poster 9	Mediaflux Livewire: Big Data Through The Eye Of A Needle	Jason Lohrey
Poster 10	A trial for energy efficient operaion in Fugaku --Incentivizing user cooperation for energy efficienct operations	Fumiyoshi Shoji, Keiji Yamamoto, Yuji Iguchi, Mitsuo Okamoto, Fumichika Sueyasu, Nobuo Ohgushi, Daisuke Kawae, Takahiro Kato
Poster 11	In overcoming the edge scenario of state-of-the-art cryo-genic electron microscopy (Cryo-EM) scientific instruments with the support of a hyperconverged supercomputing infrastructure – Early Preview Case study: NCI Australia and Centre for Advanced Microscopy	Chung-Han Tsai
Poster 12	Towards Efficient Stochastic Analysis of Subsurface Flows Using High-Fidelity Computational Modelling	Dmytro Sashko, Travis Mitchell, Lukasz Laniewski-Wollk, Christopher Leonardi
Poster 13	Mechanistic Insights into the Autocatalytic Esterification of Glycerol with Acetic Acid: A Combined Experimental and Computational Study	Victor Olet, Yun Yu, Hongwei Wu
Poster 14	High-Performance, Accurate Large-Scale Quantum Chemistry Calculations on GPU Supercomputers using Coulomb-Perturbed Fragmentation	Fazeleh Sadat Kazemian
Poster 15	Predicting the properties of electrolyte solutions: Integrating simulation and theory	Junji Zhang