

2026 R-CCS International HPC Computational Science Internship Program

List of Hosting Teams and Units



Team/Unit			Research subject	Accept interns
Research Teams / Science of Computing				
1	Processor Research Team (Team Principal Kentaro Sano)		Data-flow architecture (CGRA) for HPC and AI Reconfigurable high-performance computing systems Error correction and control for Fault-Tolerant Quantum Computers	○
2	Large-scale Parallel Numerical Computing Technology Research Team (Team Principal Toshiyuki Imamura)		Developing Numerical Libraries for Fast and Reliable Computations towards emerging Supercomputer systems	○
3	Next Generation High Performance Architecture Research Team (Team Principal Masaaki Kondo)		Exploring Next Generation High Performance Computer Architectures for Post-Moore Era	-
4	High Performance Big Data Research Team (Team Principal Kento Sato)		Developing System Software and Performance Analysis for Large-Scale Simulations, Big Data Processing and Deep Learning	○
5	High Performance Artificial Intelligence Systems Research Team (Team Principal Mohamed Wahib)		High Performance Artificial Intelligence Systems, Intelligent Programming Systems, Performance Modeling of AI Systems e.g. Deep Learning Scalable Deep Learning Convergence of AI and Simulation	○
6	Supercomputing Performance Research Team (Team Principal Jens Domke)		Performance Modelling and Predictions, Hardware/Software Co-Design for HPC, Architecture and Application Evaluations, Instrumentation and Monitoring Tools, Auto-Tuning and Portability	○
7	Large-Scale Digital Twin Research Team (Team Principal Hirozumi Yamaguchi)		Digital Twin Platform, Cyber-Physical System Smart City, Sensing Technologies Real-time Intelligent Data Processing	○
8	High Performance Cloud Systems and Secure Software Research Team (Team Principal Atsuko Takefusa)		Cloud Computing, Virtualization and Container Technologies Trusted Computing, Secure System Software IoT (Internet of Things)	-
Research Teams / Science by Computing				
9	Field Theory Research Team (Team Principal Yasumichi Aoki)		Utilizing Large-scale Computations to Explore the Fundamental Laws of Elementary Particles	○
10	Discrete Event Simulation Research Team (Team Principal Nobuyasu Ito)		Developing technology for massively parallel supercomputers to simulate social phenomena and their applications	○
11	Computational Molecular Science Research Team (Team Principal Takahito Nakajima)		Development of Quantum Chemistry Theory and Software Materials Informatics for Energy Materials	○
12	Computational Materials Science Research Team (Team Principal Seiji Yunoki)		Simulating Quantum States of Matter by Classical and Quantum Computers, and Development of Quantum Algorithms for Quantum Computing	○
13	Computational Biophysics Research Team (Team Principal Yuji Sugita)		Depicting the Motion of a Biomolecule to Detail Its Function	○
14	Computational Climate Science Research Team (Team Principal Hirofumi Tomita)		Developing More Fundamental Climate Models for Improved Climate Simulation	○
15	Complex Phenomena Unified Simulation Research Team (Team Principal Makoto Tsubokura)		Programs to Enable the Unified Simulation of Complex Phenomena	○
16	Data Assimilation Research Team (Team Principal Takemasa Miyoshi)		Data Assimilation as a Bridge between Simulations and the Real World	○
17	Computational Structural Biology Research Team (Team Principal Florence Tama)		Structural Biology Integrating Computation and Experimental Data	○
18	Computational Disaster Mitigation and Reduction Research Team (Team Principal Hirofumi Tomita)		Development of Large-scale Numerical Simulations of Multi-hazard Natural Disasters	-
19	Digital Materials Science Research Team (Team Principal Shinji Tsuneyuki)		First-principles calculation Molecular dynamics method, Crystal structure exploration Dielectrics, Material properties under extreme conditions	-

Operations and Computer Technologies Division				
20	Facility Operations and Development Unit (Unit Leader Shin'ichi Miura)		Data center operations Carbon Neutrality PUE (Power Usage Effectiveness) Power Consumption Thermal load	-
21	System Operations and Development Unit (Unit Leader Yuji Iguchi)		High Performance Computing Power Efficiency Job Scheduling	○
22	Software Development Technology Unit (Unit Leader Hitoshi Murai)		HPC Programming Environment HPC application Parallel processing	○
23	Data Integration Technology Unit (Unit Leader Toshihiko Kai)		HPC (High Performance Computing) Data Utilization Storage System Wide Area Network	○
24	Advanced Operation Technologies Unit (Unit Leader Keiji Yamamoto)		Data center operations Big data processing Virtualization and containerization Cloud computing	○
HPC- and AI-driven Drug Development Platform Division				
25	HPC- and AI-driven Drug Development Platform Division (Division Director Yasushi Okuno)		Biomedical Computational Intelligence Medicinal Chemistry Applied AI Molecular Design Computational Intelligence I-driven Drug Discovery Collaborative	-
Quantum-HPC Hybrid Platform Division				
26	Quantum-HPC Hybrid Software Environment Unit (Unit Leader Miwako Tsuji)		Research and development of software stacks for quantum-HPC hybrid computing platform	○
27	Quantum Computing Simulation Unit (Unit Leader Nobuyasu Ito)		Development of simulation technology for quantum computers for the "Fugaku" and other HPC system, to accelerate quantum information technologies	○
28	Quantum-HPC Hybrid Platform Operations Unit (Unit Leader Shin'ichi Miura)		Operation and its technology development of quantum-HPC hybrid computing platform	-
AI for Science Platform Division				
29	AI for Science Foundation Model Research Team (Team Principal Rio Yokota)		AI for Science Foundation Model, Reasoning Model Scalable Deep Learning Agentic AI	○
30	Learning Optimization Platform Development Unit (Unit Leader Mohamed Wahib)		AI-based Science Infrastructure for Foundation Models (training inference) Generative AI in Science Integration of AI in Science	○
31	Data Management Platform Development Unit (Unit Leader Kento Sato)		Big Data Processing Platform, Deep Learning Platform Fault Tolerance, Performance evaluation/analysis HPC tools	○
32	Advanced AI Device Development Unit (Unit Leader Kentaro Sano)		Generative AI Next-generation foundation model Accelerator architecture for AI	○
33	AI Development Computing Environment Operation Technologies Unit (Unit Leader Shin'ichi Miura)		Operation and its technology development of quantum-HPC hybrid computing platform	-
34	Life and Medical Science Application Interface Platform Development Unit (Unit Leader Yasuhiro Matsunaga)		Integrated Modeling Data Assimilation Molecular Dynamics Simulation	○
35	Materials Science Application Interface Platform Development Unit (Unit Leader William Dawson)		Quantum Chemistry, High-Performance Computing Artificial Intelligence, Materials Science Numerical Methods, Agentic AI for Materials Science and Chemistry	○