## ■ Job Information

Department   Fixed Term Researcher	■ Job Information	
Advanced ICT Research Institute / Koganei Frontier Research Center, Quantum ICT Laboratory	Subject No.	2026R-47
Work Contents (Research theme)  Research and Development of Quantum Software through Intelligent Quantum Design and Its Applications  Research Theme Summary: This project is part of the Q-LEAP program. Research and Development of Quantum Software through Intelligent Quantum Design and its Applications.' The research will focus on optimal quantum control and quantum algorithms, with specific aims as follows:  1. Research and development of optimal quantum control methods (such as quantum circuit reduction techniques) that are useful for implementing quantum algorithms on NISQ devices.  2. Research and development of platforms (including concrete control procedures) that generate optimal quantum control on actual quantum computers, particularly in view of various quantum computing architectures expected to acquire error tolerance in the near future.  3. In parallel, research and development of quantum algorithms that contribute to the efficient use of computational resources for solving real-world problems.  The Article 15(2) of the Act on the activation of Science, Technology and Innovation will be applied to this work content.  Seployees to be hired through this recruitment may apply for external competitive research fundings such as Grant-tirafid for Scientific Research (MAENHI) and NICT's internal research fundings.  Qualifications  • Application requirement  Application  Frequirement  Application  Candidates are expected to have original ideas concerning quantum algorithms and quantum control dedicated to solving real-world problems.  • Knowledge of various quantum algorithms, such as Shor's algorithm, is desirable, but not mandatory.  • Experience in generating control pulses for actual quantum computing hardware is desirable, but not mandatory.  Recruiting  N.B. Contract could be renewed.  The employment period in case of fully  research and quantum control dedicated to solving real-world  The employment period in case of fully  visits, one — ¥534,000/month  Basic salary is changed after labor union and th	Job Title	Fixed Term Researcher
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Qualifications  Application such as doctoral degree and have a proven research record in the field of quantum information processing.  Candidates are expected to have original ideas concerning quantum algorithms and quantum control dedicated to solving real-world problems.  Knowledge of various quantum algorithms, such as Shor's algorithm, is desirable, but not mandatory.  Experience in generating control pulses for actual quantum computing hardware is desirable, but not mandatory.  Recruiting (Number of people)  Contract period  The employment period in case of fully renewing  Work Place  Competitive research fundings such as Grant-in-Aid for Scientific Research (KAKENHI) and NICT's internal research fundings.  Qualifications  Application in the field of quantum information processing.  Candidates are expected to have original ideas concerning quantum algorithms and quantum algorithms, such as Shor's algorithm, is desirable, but not mandatory.  Experience in generating control pulses for actual quantum computing hardware is desirable, but not mandatory.  Lontract period  Divining date  March 31,2027  N.B. Contract could be renewed.  Up to 5 years if certain conditions are fulfilled  Fig. 100  Fig		program, "Research and Development of Quantum Software through Intelligent Quantum Design and its Applications." The research will focus on optimal quantum control and quantum algorithms, with specific aims as follows:  1. Research and development of optimal quantum control methods (such as quantum circuit reduction techniques) that are useful for implementing quantum algorithms on NISQ devices.  2. Research and development of platforms (including concrete control procedures) that generate optimal quantum control on actual quantum computers, particularly in view of various quantum computing architectures expected to acquire error tolerance in the near future.  3. In parallel, research and development of quantum algorithms that contribute to the efficient use of computational resources for solving real-world problems.  The Article 15(2) of the Act on the activation of Science, Technology and
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Contract period   hiring date ~ March 31,2027     N.B. Contract could be renewed.	Application requirement	<ul> <li>Applicants must hold a doctoral degree and have a proven research record in the field of quantum information processing.</li> <li>Candidates are expected to have original ideas concerning quantum algorithms and quantum control dedicated to solving real-world problems.</li> <li>Knowledge of various quantum algorithms, such as Shor's algorithm, is desirable, but not mandatory.</li> <li>Experience in generating control pulses for actual quantum</li> </ul>
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Working frequency 5days/week (7.5hours/day)	Work Place	L.
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<sup>\*</sup> Scope of change in work and workplace: No changes are expected in general

\* The expressions used in "Work Contents (Research theme)" and "Detail of Work Contents" and the names of

<sup>&</sup>quot;Department" and "Work Place" may be subject to change due to organizational restructuring or other reasons.