Okinawa Institute of Science and Technology

Scientific programmer (Research Technician), Model-based Evolutionary Genomics Unit

The Okinawa Institute of Science and Technology Graduate University (OIST; see www.oist.jp) is a dynamic new graduate university of science and technology in Okinawa Prefecture, Japan. The university is located on 85 hectares of protected forestland overlooking beautiful shoreline and coral reefs. The campus is striking architecturally, and the facilities are outstanding (OIST campus video tour). There are no academic departments, which facilitates multidisciplinary research. Outstanding resources and equipment are provided and managed to encourage easy access and collaboration. English is the official language of the University, and the university research community is fully international, with more than 50 countries represented. OIST is rapidly gaining recognition in the worldwide academic community as a model for excellence in education and research.

<u>**Position Summary**</u>**:**

Join the Model-Based Evolutionary Genomics Unit as a scientific programmer making fundamental contributions to research at the intersection of computational and evolutionary biology. Our unit works to decode the complex patterns and processes that underpin the evolution of life across its myriad forms with a significant focus on reconstructing the Tree of Life and modeling the dependency between different levels of organization in biological systems. By employing probabilistic models and leveraging the power of machine learning, we aim to unravel the co-evolutionary dynamics that have shaped the Tree of Life, from the enigmatic origins of early life forms to the sophisticated structures of modern biological systems.

As a scientific programmer, you have the opportunity to further develop phylogenetic software in C++ (e.g., ALE, ALErax, GeneRax) as well as other languages (e.g., MCMCdate in Haskell) in collaboration with researcher groups in both the Life Sciences and Computer Science, including the Stamatakis group at HITS. You will also have the opportunity to participate in projects that aim to adapt machine learning methods, including protein language models such as ESM, to genomic data work. As a Scientific programmer at OIST, you will work with the extensive HPC resources of the university and interact with the excellent Scientific Computing & Data Analysis team.

The position offers a platform for innovation and discovery in a unit that thrives on intellectual curiosity and interdisciplinary collaboration and includes funding, provided by the budget of the Model-based Evolutionary Genomics Unit, to travel to international conferences as well as extended research visits to international collaborators, including Tom Williams at the University of Bristol, Anja Spang at NIOZ in the Netherlands, Phil Hugenholtz at the University of Queensland, and others.

<u>**Position**</u>**:**

Scientific programmer (Research Technician)

Starting Date:

October 1st, 2024, or according to agreement.

Working Location:

OIST Main Campus

1919-1 Tancha, Onna-son, Kunigami-gun, Okinawa, Japan 904-0495

Responsibilities:

Work with members of the Model-based Evolutionary Genomics Unit as well as collaborators at the University of Bristol and the University of Queensland, NIOZ in the Netherlands, and the Institute of Evolution in Budapest. Publish to maintain and develop software, in particular AleRax (https://github.com/BenoitMorel/AleRax) and ALE (https://github.com/ssolo/ALE).

Qualifications:

(Required)

Demonstrated ability to develop C++ code.

(Preferred)

Demonstrated ability to develop scientific software. Knowledge of, or ambition to learn Haskell, as well as Machine Learning libraries and frameworks such as Pytorch. Ph.D. in Natural Science, including, but not restricted to, Life Sciences, Physics, Computer Science, and Mathematics and an interest in Evolutionary Biology.

Report to:

Professor Gergely Szöllősi

Compensation & Benefits:

In accordance with the OIST Employee Compensation Regulations

Benefits:

- Relocation, housing and commuting allowances
- Annual paid leave and summer holidays
- Health insurance (Private School Mutual Aid)
- Welfare pension insurance (kousei-nenkin)
- Worker's accident compensation insurance (roudousha-saigai-hoshou-hoken)
- Access to Child Development Center

- Access to [Schooling Options](#)
- [Language Education](#)
- [Resource Center](#) (Daily Life Support in Okinawa)

Term:

Full-time, fixed-term appointment for 2 years with a possibility of extension to 3 years. The contract is initially with a 3-month probationary period (inclusive). In exceptional cases, this contract may be renewed for up to 5 years or more.

Working hours

9:00-17:30 (Discretionary)

How to Apply:

Apply by emailing your Submission to: **gergely.szollosi@oist.jp**

Please ensure that you mention "*modevolgenom sciprogrammer 2024*" in the subject line of your email.

Submission Documents:

- Cover letter
- Curriculum vitae, including publications and if relevant
- Names and contact information of 2 referees, one of which should be a previous employer

* Prior to the start of employment all new hires are required to successfully complete a background check. Personal information including employment history and academic background should be submitted to third-party administrators after a conditional offer of employment.

Contact Address:

If you have any question, please contact: **gergely.szollosi@oist.jp**

Application Due Date:

Applications will be reviewed starting April 1st, 2024 until the position is filled.

Declaration:

*   OIST Graduate University is an equal opportunity, affirmative action educator and employer and is committed to increasing the diversity of its faculty, students and staff. The

University strongly encourages women and minority candidates to apply.

∗ Information provided by applicants or references will be kept confidential, documents will not be returned. All applicants will be notified regarding the status of their applications.

∗ Please view our policy for rules on external professional activities (https://groups.oist.jp/acd/information-disclosure/).

∗ Further details about the University can be viewed on our website (www.oist.jp).