

**Postdoctoral Researcher (Full-time)**  
**(Nano Life Science Institute, Kanazawa University)**

[Institution] Kanazawa University

[URL] <https://nanolsi.kanazawa-u.ac.jp/en/>

[Department] Nano Life Science Institute (WPI-NanoLSI)

[Institution Type] National University

[Position Description]

The Nano Life Science Institute (NanoLSI) at Kanazawa University was established in 2017 as a world-leading research center under the World Premier International Research Center Initiative (WPI) of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). The institute is engaged in the development of state-of-the-art bio-scanning probe microscopy (bio-SPM) technologies, such as atomic force microscopy (AFM) and scanning ion conductance microscopy (SICM), as well as in nano-life science research utilizing these advanced techniques.

To achieve these objectives, the institute promotes interdisciplinary research that integrates four key fields: nanometrology centered on bio-SPM, life sciences, supramolecular chemistry, and computational science. Within this framework, researchers in supramolecular chemistry are engaged in the development of molecular sensors, the creation of nanoprobe sensors by incorporating these sensors into the tips of AFM and SICM probes, and the development of surface modification techniques for substrates used in AFM and SICM measurements. Meanwhile, researchers in computational science utilize advanced data science techniques—including simulations, machine learning, and statistical analysis—to verify the principles of SPM measurement methods, analyze SPM measurement data, and conduct mathematical modeling and simulations to understand biological phenomena in comparison with experimental results obtained by SPM.

Since its establishment in 2017, the institute has, over a period of ten years, focused on the development of nanoendoscopic SPM technology capable of directly observing, analyzing, and manipulating intracellular nanodynamics in living cells, as well as on research into fundamental cellular functions and cancer-specific abnormalities using advanced SPM techniques. Over the subsequent five years from 2027 onward, the institute aims to further advance these research efforts while also developing local sampling SPM technologies. These technologies involve extracting portions of cells or tissues using nanopipettes and analyzing them with a variety of single-molecule and single-cell analytical techniques, including SPM. In addition, the institute seeks to expand the application of SPM technologies to a wide range of diseases beyond cancer.

We are seeking postdoctoral researchers who will play central roles in promoting research activities in the four fields described above. For details regarding positions, fields, duties, and application requirements, please refer to the appendix.

[Work Location]

Nano Life Science Institute, Kanazawa University,  
Kakuma-machi, Kanazawa, Ishikawa 920-1192, Japan

[Number of Positions] See appendix for details

[Starting Date] April 1, 2027, or as soon as possible thereafter (negotiable)

[Position] Postdoctoral Researcher (Fixed-term)

[Main Duties]

- Research activities (see appendix)
- Dissemination of research results to society and outreach activities

[Job Type] Postdoctoral Researcher (equivalent)

[Employment Status] Full-time (non-tenured)

[Qualifications]

Applicants must satisfy all of the following qualifications.

- 1) Demonstrated high research capabilities and the ability to conduct research in English
- 2) Possess adequate communication skills, knowledge of research presentations, and the ability to write research papers
- 3) Ability to conduct research as a member of the research group
- 4) A doctoral degree (including equivalent degrees such as a PhD from overseas universities) must have been awarded or is expected to be awarded by the time of appointment
- 5) Experience in international collaborative research is desirable

Terms and Conditions [Details of salary, Working Hours, Holidays, Period of Employment and Insurance, etc.]

[Job Title]

Postdoctoral Researcher (Full-time, fixed-term employee)

[Period of Employment]

From April 1, 2027 (or as soon as possible thereafter) to March 31, 2028

\*Possibility of renewal after the end of the employment period.

\*The total employment period is a maximum of three years.

\*The start date of employment is negotiable.

#### [Working Hours]

8:30 AM – 5:00 PM (45-minute break), 38 hours and 45 minutes per week

Holidays: Saturdays, Sundays, national holidays, and New Year's holidays (December 29 – January 3)

#### [Salary]

\*Salary will be determined in accordance with the National University Corporation Kanazawa University Part-time Employee Employment Regulations and the Part-time Employee Salary Regulations and will vary depending on the individual's experience and abilities.

\*Leave and various allowances will be provided in accordance with the relevant regulations.

\*Social insurance: Health insurance and employee pension

\*Employment insurance: Yes

For working conditions other than those listed above, please refer to the National University Corporation Kanazawa University Part-time Employee Employment Regulations (see the URL below).

URL: <https://www.kanazawa-u.ac.jp/university/administration/regulation/rules>

#### [Application Period]

Application deadline: August 31, 2026

Evaluation will be performed upon receipt of each application. If an appropriate candidate is found, this call may be closed approximately a month after the application period has opened.

#### [Application, Selection, Notification of Result, Contact Details]

##### [Application Documents]

- 1) Curriculum vitae including a recent photograph, present address, phone number, email address, academic background, research experience, professional experience, and other relevant information, as well as ORCID iD and ResearcherID
- 2) List of research activities (classified into dissertations, peer-reviewed papers, conference presentations, reviews/commentaries, books, patents, etc., including co-author names, publishing institutions, volume (issue), first and last pages, publication year, and DOI)
- 3) PDF copies of up to five major publications
- 4) List of external research funding (including Grants-in-Aid for Scientific Research (KAKENHI), commissioned research, joint research, donations, etc., and their amounts)

- 5) Summary of past research and teaching activities (approximately one A4 page)
- 6) Statement of the applicant's research interests, achievements, and future plans (approximately one A4 page)
- 7) Names, affiliations, and contact details of two referees

\*All documents must be prepared in English. However, if it is not appropriate to provide certain items (such as a curriculum vitae or information on external funding) in English, those items may be written in Japanese.

- Please submit the application documents by email.

Email: [nanolsi-jobs@adm.kanazawa-u.ac.jp](mailto:nanolsi-jobs@adm.kanazawa-u.ac.jp)

- If the file size exceeds 5 MB, please use a file transfer service. Please include "Application Documents for Postdoctoral Researcher (Recruitment No.)" in the subject line.

#### [Selection Process and Notification of Results]

Document screening and interview

\*Travel expenses for the interview will not be covered.

#### [Contact Information]

For details regarding job duties, please contact the person listed in the appendix.

For inquiries regarding employment regulations or administrative procedures, please contact the following address:

Nano Life Science Institute, Kanazawa University

Tel: +81-76-234-4550

Email: [nanolsi-jobs@adm.kanazawa-u.ac.jp](mailto:nanolsi-jobs@adm.kanazawa-u.ac.jp)

#### [Additional Information]

- 1) The website below provides information about employment regulations.

<https://nanolsi.kanazawa-u.ac.jp/en/staff/rules/>

- 2) Kanazawa University actively promotes gender equality in the workplace. For details, see the following URL: <https://cdl.w3.kanazawa-u.ac.jp/en/>

- 3) At NanoLSI, many female researchers are actively engaged in research activities. For details, see the following URL: <https://nanolsi.kanazawa-u.ac.jp/en/research/diversity/>

**[Appendix] List of Recruitment Details for Postdoctoral Researchers by Field**

**\* Number of Positions**

One individual will be recruited, either as a postdoctoral researcher under this call or as a specially appointed assistant professor under a separate recruitment.

Recruitment No.	Position	Number of Positions	Field (Details)	Laboratory	Research Field	Research Content	Application Requirements (Field-Specific)	Contact Information for Inquiries
1	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Nanometrology field: Engaged in the development of SPM technologies such as AFM and SICM, and in nanoscience research utilizing these techniques.</li> <li>Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale.</li> </ul>	Takeshi Fukuma	Area: Nano- and Micro-Science and Related Fields Discipline: Nanobioscience-related fields	<ul style="list-style-type: none"> <li>Development of nanoendoscopic AFM techniques that enable direct observation inside living cells, and research on intracellular measurements of nanodynamics and nanomechanics using these techniques.</li> </ul>	<ul style="list-style-type: none"> <li>Prior experience in the development of SPM technologies such as AFM and SICM, or experimental research using SPM, is desirable.</li> <li>Research experience related to biomolecules or cells is desirable, but not required.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel: 076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
2	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Measurement of molecular dynamics using high-speed AFM</li> <li>Development of advanced application techniques for high-speed AFM</li> <li>Collaborative research with life science researchers within the institute</li> </ul>	Noriyuki Kodera	Area: Life Sciences or Nanotechnology and Materials Discipline: Biophysics or Nanobioscience	<ul style="list-style-type: none"> <li>Research and development aimed at enhancing the performance and functionalities of high-speed AFM technologies to enable nanoscale understanding of biological phenomena.</li> <li>Bioimaging research using existing high-speed AFM techniques applied to purified biomolecules, cellular organelles, and living cells.</li> <li>In addition to the above, participation in diverse life science research through collaboration with researchers both within and outside the institute, utilizing a wide range of knowledge and techniques.</li> </ul>	<ul style="list-style-type: none"> <li>A record of presentations and publications in at least one of the following research fields: biophysics, biochemistry, molecular biology, cell biology, structural biology, or applied physics.</li> <li>The ability to conduct independent research activities, as well as to collaborate effectively within a team.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Noriyuki Kodera Tel: 076-264-5662 Email: nkodera@staff.kanazawa-u.ac.jp
3	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Nano-life science, cell biology, molecular biology, bioimaging, biomolecular dynamics analysis, intracellular transport, nuclear pore complex (NPC), chromatin dynamics, membrane trafficking, cytoskeletal dynamics, virus-host interactions, extracellular vesicles (EVs), high-speed atomic force microscopy (HS-AFM), scanning probe microscopy (SPM), and life science analysis using AI and machine learning.</li> </ul>	WONG WING CHUEN RICHARD	Area: Cell Biology Discipline: Biomolecular science, molecular and cellular biology, and molecular pathophysiological science	<ul style="list-style-type: none"> <li>This laboratory aims to elucidate intracellular transport and nanoscale molecular dynamics that integrate the cytoskeleton, membrane trafficking, nuclear pore complex (NPC), and chromatin regulation, and promotes research on biological phenomena related to cancer, viral infection, and immune responses. By integrating cell biology, molecular biology, advanced bioimaging, and computational analysis, we conduct comprehensive research utilizing confocal and live-cell imaging, molecular biochemical experiments, cell culture, flow cytometry, and quantitative image analysis.</li> <li>In particular, the laboratory's strength lies in real-time visualization of nano-scale biological dynamics using high-speed atomic force microscopy (HS-AFM). We analyze the spatiotemporal dynamics of membrane trafficking and intracellular transport systems, including NPCs, chromatin-associated structures, DNA structural transitions, extracellular vesicles (EVs), cytoskeletal reorganization, and DOCK-related signaling. We also investigate virus-host interactions and EV-mediated immune regulation. Furthermore, by integrating AI and machine learning, we are developing quantitative analysis platforms for HS-AFM image analysis, molecular state classification, and spatiotemporal dynamics prediction. Through the integration of nano-measurement technologies and life science, we aim to advance from fundamental understanding of intracellular transport mechanisms to future diagnostic and therapeutic applications.</li> <li>In collaborative research, we promote life science studies using existing SPM technologies (e.g., HS-AFM, nanoendoscopic AFM, FM-/3D-AFM, and SICM), while also exploring applications of emerging sampling SPM technologies. In particular, we are advancing collaborative research on nanoendoscopic AFM observations within the cell nucleus, aiming to establish novel visualization techniques for nuclear ultrastructures and molecular dynamics.</li> </ul>	No specific requirements.	Kanazawa University Nano Life Science Institute Professor WONG WING CHUEN RICHARD Tel: 076-264-6250 Email: rwong@staff.kanazawa-u.ac.jp
4	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>This research area focuses on the innate immune system that promotes cancer heterogeneity (evolution), and aims to elucidate the molecular mechanisms underlying tumorigenesis and drug resistance through the integration of multi-omics analysis and nanoscale measurement techniques. Through these efforts, we seek to identify novel therapeutic targets for the prevention of cancer development and recurrence.</li> </ul>	Hideko Isozaki	Area: Cancer Genomics Biology Discipline: Lung cancer	<ul style="list-style-type: none"> <li>We are seeking individuals who possess strong expertise in molecular and cellular biology techniques and are capable of independently advancing fundamental research aimed at elucidating the mechanisms underlying cancer initiation, progression, and metastasis. Such research will involve the use of patient-derived tissues, mouse models, and cell lines, combined with advanced technologies including multiomics analyses and nanoscale measurement.</li> </ul>	<ul style="list-style-type: none"> <li>Candidates who are well-versed in cancer molecular biology and cell biological experiments, with experience in or interest in patient-derived model systems (e.g., organoids, cell lines, and mouse models), as well as multiomics analysis and nanoscale measurement, are encouraged to apply.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Hideko Isozaki Tel: 076-264-6745 Email: isozaki@staff.kanazawa-u.ac.jp
5	Postdoctoral Researcher	1	<ul style="list-style-type: none"> <li>We are seeking outstanding researchers specializing in polymer and supramolecular chemistry who are capable of conducting interdisciplinary research in collaboration with the field of nanometrology.</li> </ul>	Katsuhiko Maeda	Area: Chemistry Discipline: Complex chemistry (interdisciplinary chemistry)	<ul style="list-style-type: none"> <li>As a Postdoctoral Researcher in the Maeda Laboratory at the Nano Life Science Institute, the successful candidate will engage in the synthesis and application of polymers with molecular recognition capabilities, as well as in the development of substrate and probe functionalization techniques for SPM measurements, and will promote collaborative bio-SPM research utilizing these technologies.</li> </ul>	<ul style="list-style-type: none"> <li>Applicants must have research experience in either supramolecular chemistry or polymer chemistry.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Katsuhiko Maeda Tel: 076-234-4783 Email: maeda@se.kanazawa-u.ac.jp
6	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Research field of multicellular systems, including mechanics, morphogenesis, and biomedical engineering.</li> <li>In particular, the focus is on the mechanical properties, morphogenesis, and functional expression of multicellular tissues in development, evolutionary development, aging, and disease.</li> <li>Related fields include developmental biology, evolutionary developmental biology, cell and tissue mechanics, biophysics, mathematical biology, biomedical engineering, computational biology, mechanobiology, tissue engineering, and fields related to medicine and neuroscience.</li> </ul>	Satoru Okuda	Area: Life Sciences Discipline: Biophysics	<ul style="list-style-type: none"> <li>This laboratory focuses on the mechanics of multicellular tissues, aiming to understand, predict, and control biological phenomena related to development, evolutionary development, aging, and disease. The primary targets include the development of the brain, eye, inner ear, and skin; functional expression and aging changes in the brain and skin; and multicellular phenomena involved in cancer, Alzheimer's disease, and other neurodegenerative disorders. To achieve this, the laboratory utilizes observation, measurement, and manipulation techniques such as AFM and multiphoton microscopy, as well as computational approaches including numerical modeling (e.g., 3D vertex models), to elucidate and apply the underlying mechanical principles. In this recruitment, we seek researchers who specialize in one of the following areas: biological experimentation, mechanical measurement and imaging, or mathematical and computational modeling.</li> </ul>	No specific requirements.	Kanazawa University Nano Life Science Institute Associate Professor Satoru Okuda Tel: 076-234-4579 Email: satokuda@staff.kanazawa-u.ac.jp

**[Appendix] List of Recruitment Details for Postdoctoral Researchers by Field**

**\* Number of Positions**

One individual will be recruited, either as a postdoctoral researcher under this call or as a specially appointed assistant professor under a separate recruitment.

Recruitment No.	Position	Number of Positions	Field (Details)	Laboratory	Research Field	Research Content	Application Requirements (Field-Specific)	Contact Information for Inquiries
7	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Nanometrology field: Engaged in the development of SPM technologies such as AFM and SICM, and in nanoscience research utilizing these techniques.</li> <li>Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases at the nanoscale.</li> </ul>	Takeshi Fukuma	Area: Nano- and Micro-Science and Related Fields Discipline: Nanobioscience-related fields	<ul style="list-style-type: none"> <li>Development and application of local sampling SPM techniques, in which molecules and cells are collected from localized regions of cells or tissues using nano/micropipettes, followed by molecular or cellular-level analysis using various techniques including SPM.</li> </ul>	<ul style="list-style-type: none"> <li>Prior experience in the development of SPM technologies such as AFM and SICM, or experimental research using SPM, is desirable.</li> <li>Research experience related to biomolecules or cells is desirable, but not required.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
8	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Nano-metrology field: Engaged in the development of scanning probe microscopy (SPM) technologies such as AFM and SICM, and in nanoscience research utilizing these techniques.</li> <li>Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale.</li> </ul>	Kazuki Miyata/ Yasufumi Takahashi	Area: Nano- and Micro-Science and Related Fields Discipline: Nanobioscience-related fields	<ul style="list-style-type: none"> <li>Development of an integrated AFM-SICM system to enable localized structural observation inside cells, as well as sampling of the observed structures.</li> </ul>	<ul style="list-style-type: none"> <li>Prior experience in the development of SPM technologies such as AFM and SICM, or in experimental research using SPM, is desirable.</li> <li>Research experience related to biomolecules or cells is desirable, but not required.</li> </ul>	Kanazawa University Nano Life Science Institute Associate Professor Kazuki Miyata Tel:076-234-4868 Email: k-miyata@staff.kanazawa-u.ac.jp
9	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Computational science, data science, and bioscience fields.</li> </ul>	Takeshi Fukuma	Area: Information Science, Information Engineering, and Related Fields Discipline: Computational science-related fields	Engagement in at least one of the following research activities: <ul style="list-style-type: none"> <li>Development of techniques and programs for analyzing SPM data (e.g., AFM and SICM) using machine learning and statistical analysis.</li> <li>Mathematical modeling and simulation for the validation of principles underlying novel SPM technologies.</li> <li>Mathematical modeling and simulation of biological phenomena, and elucidation of their mechanisms by comparing the results with SPM data.</li> </ul>	<ul style="list-style-type: none"> <li>Candidates should have a strong track record in computational science or data science, and demonstrate a strong interest and commitment to applying these technologies to SPM technology development and the analysis of biological phenomena.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
10	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Nano-metrology field: Engaged in the development of optical microscopy technologies and in life science research utilizing these techniques.</li> <li>Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale.</li> </ul>	Takeshi Fukuma	Area: Biology from the molecular to cellular levels, and related fields Discipline: Biophysics-related fields	<ul style="list-style-type: none"> <li>Development of correlative imaging systems that integrate SPM technologies (e.g., AFM and SICM) with state-of-the-art optical microscopy, and nanoscale imaging research on molecular- and cellular-level biological phenomena using these systems.</li> </ul>	<ul style="list-style-type: none"> <li>Candidates should have experience in the development of optical microscopy technologies and demonstrate a strong interest and commitment to integrating these techniques with SPM technologies and applying them to life science research.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
11	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Cell biology field</li> <li>Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale.</li> </ul>	Takeshi Fukuma	Area: Biology from the molecular to cellular levels, and related fields Discipline: Biophysics-related fields	<ul style="list-style-type: none"> <li>In collaboration with researchers developing bio-SPM technologies such as AFM and SICM, engage in research aimed at elucidating cellular functions and disease mechanisms at the nanoscale by complementarily utilizing cell culture, modification, and analytical techniques used in cell biology together with bio-SPM technologies.</li> </ul>	<ul style="list-style-type: none"> <li>Candidates should possess a strong understanding and research experience in cell culture, modification, and analytical techniques used in cell biology, and demonstrate a strong interest and commitment to conducting life science research that integrates these techniques with SPM technologies in a complementary manner.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
12	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Further enhancement of the speed and throughput of high-speed AFM</li> <li>Application to drug discovery research</li> <li>Development of advanced application technologies for high-speed AFM</li> <li>Collaborative research with life science researchers within the institute</li> </ul>	Noriyuki Kodera	Area: Life Sciences or Nanotechnology and Materials Discipline: Biophysics or Nanobioscience	<ul style="list-style-type: none"> <li>Research and development aimed at enhancing the performance and functionalities of high-speed AFM technologies to enable nanoscale understanding of biological phenomena.</li> <li>Bioimaging research using existing high-speed AFM techniques applied to purified biomolecules, cellular organelles, and living cells.</li> <li>In addition to the above, engaging in a wide range of life science research in collaboration with researchers both within and outside the institution, utilizing diverse knowledge and technologies.</li> </ul>	<ul style="list-style-type: none"> <li>A record of presentations and publications in at least one of the following research fields: biophysics, biochemistry, molecular biology, cell biology, structural biology, or applied physics.</li> <li>The ability to conduct independent research activities, as well as to collaborate effectively within a team.</li> </ul>	Kanazawa University Nano Life Science Institute Professor Noriyuki Kodera Tel:076-264-5662 Email: nkodera@staff.kanazawa-u.ac.jp
13	Postdoctoral Researcher	1*	<ul style="list-style-type: none"> <li>Biophysics, nanobioscience, and applied physics (general).</li> </ul>	Shinji Watanabe	Area: Life Sciences, Nanotechnology and Materials Discipline: Biophysics, nanobioscience, and applied physics (general)	<ul style="list-style-type: none"> <li>Engage in the development of scanning ion conductance microscopy (SICM) instrumentation and cellular measurements, as well as in research on cell analysis and functional control using nanopipettes.</li> </ul>	<ul style="list-style-type: none"> <li>Candidates with a strong interest in cellular measurement using scanning probe microscopy are encouraged to apply.</li> <li>Experience in the development of probe microscopy or optical/fluorescence microscopy technologies is desirable, but not a mandatory requirement.</li> </ul>	Kanazawa University Nano Life Science Institute Associate Professor Shinji Watanabe Tel:076-234-4054 Email: wshinji@se.kanazawa-u.ac.jp