

Specially Appointed Faculty (Fixed-term)
(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 focused 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, comparing them with experimental results obtained by SPM.

Since its establishment in 2017, the institute has focused over the past 10 years on developing 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 collecting 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 specially appointed faculty members who will play central roles in promoting research activities in the four fields described above. For details regarding positions, fields, term of employment, duties, and application requirements, please see the appendix.

[Work Location]

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

[Number of Positions]

Approximately 18 positions. Details regarding the number of positions available in each field are listed in the appendix.

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

[Main Duties]

- Research activities (see appendix)
- Dissemination of research results to society and outreach activities
- Educational activities such as lectures and seminars in undergraduate and master's programs (Since research activities are the main focus, educational activities will be limited in scope and the specific responsibilities will be decided through consultation)
- Assisting young researchers, graduate students, and undergraduate students with research guidance

[Job Title]

Assistant Professor (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, research presentation skills, and the ability to write research papers.
- 3) Ability to collaborate with the research group leader and 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.
- 6) This position is a specially appointed position with a fixed employment period. As this is a fixed-term position, renewal of employment after the end of the employment period is not

guaranteed, and appointees are expected to engage in activities toward their next career step during the term.

Therefore, applicants whose continuous employment period at this university exceeds nine years as of April 1, 2027, are not eligible to apply. In addition, the total continuous employment period at this university cannot exceed ten years.

Terms and Conditions

[Details of salary, working hours, holidays, period of employment and insurance, etc.]

[Position] Specially Appointed Assistant Professor (Full-time)

[Period of Employment]

As shown in the appendix

[Working Conditions]

Working hours, holidays, and leave are determined in accordance with the Kanazawa University regulations concerning working hours, holidays, and leave.

*The discretionary labor system for professional work applies.

[Salary]

Salary is paid in accordance with the regulations concerning the employment of specially appointed faculty members at Kanazawa University, a national university corporation. It may also vary depending on the individual's experience and abilities.

Kanazawa University has a system in place that allows for the expenditure of personnel costs (equivalent to the effort spent on research activities) for principal investigators (PIs) and related personnel from direct costs such as competitive research grants. This system may allow for the use of funds secured through the expenditure of PI personnel costs to improve research capabilities.

[Other Information]

Social Insurance: MEXT Mutual Aid Association

Employment Insurance: Yes

Working Conditions: According to the rules of Kanazawa University. (available in Japanese)

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

[Application Period]

Deadline for receipt: August 31, 2026 (Evaluation will be performed upon receipt of each application and, if an appropriate candidate is found, this call may be closed in about a month)

after the application period has opened).

[Application, Selection, Notification of Results, and 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
- If the file size exceeds 5 MB, please use a file transfer service.
- Please include "Application Documents for Specially Appointed Faculty (Recruitment No.)" in the subject line of the email.

[Selection Process (Selection Method and Hiring Decision) 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

[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 Specially Appointed Faculty Members by Field

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

**** Period of Employment**

- Possibility of renewal after the end of the employment period.
- Possibility of promotion and salary increase depending on performance during the employment period.
- At NanoLSI, the total employment period for specially appointed associate professors is a maximum of three years, and the total employment period for specially appointed assistant professors is a maximum of six years.
- The start date of employment is negotiable.
- This position is a specially appointed position with a fixed employment period. Renewal of employment after the end of the employment period is not guaranteed, and appointees are expected to engage in activities toward their next career step during the term. Therefore, applicants whose continuous employment period at this university exceeds nine years as of April 1, 2027, are not eligible to apply. In addition, the total continuous employment period at this university cannot exceed ten years.

Recruitment No.	Position	Number of Positions	Period of Employment **	Field (Details)	Laboratory	Research Field	Research Content	Application Requirements (Field-Specific)	Contact Information for Inquiries
1	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Nanometrology field: Engaged in the development of SPM technologies such as AFM and SICM, and in nanoscience research utilizing these techniques. • Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale. 	Takeshi Fukuma	Area: Nano- and Micro-Science and Related Fields Discipline: Nanobioscience-related fields	<ul style="list-style-type: none"> • Development of nanoendoscopic AFM techniques that enable direct observation inside living cells, and research on intracellular measurements of nanodynamics and nanomechanics using these techniques. 	<ul style="list-style-type: none"> • Prior experience in the development of SPM technologies such as AFM and SICM, or experimental research using SPM, is desirable. • Research experience related to biomolecules or cells is desirable, but not required. 	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
2	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Measurement of molecular dynamics using high-speed AFM • Development of advanced application techniques for high-speed AFM • Collaborative research with life science researchers within the institute 	Noriyuki Kodera	Area: Life Sciences or Nanotechnology and Materials Discipline: Biophysics or Nanobioscience	<ul style="list-style-type: none"> • Research and development aimed at enhancing the performance and functionalities of high-speed AFM technologies to enable nanoscale understanding of biological phenomena. • Bioimaging research using existing high-speed AFM techniques applied to purified biomolecules, cellular organelles, and living cells. • 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. 	<ul style="list-style-type: none"> • 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. • The ability to conduct independent research activities, as well as to collaborate effectively within a team. 	Kanazawa University Nano Life Science Institute Professor Noriyuki Kodera Tel:076-264-5662 Email: nkodera@staff.kanazawa-u.ac.jp
3	Assistant Professor	1	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	Shibata Laboratory has been conducting research on the biological applications of high-speed atomic force microscopy (high-speed AFM) and has published the following representative papers. HP: https://bioafmfi.w3.kanazawa-u.ac.jp/ Representative publications 1. M. Shibata and H. Nishimasu et al., "Real-space and real-time dynamics of CRISPR-Cas9 visualized by high-speed atomic force microscopy." Nat. Commun. 8, 1430 (2017). 2. L. Puppulin et al., "Dynamics of target DNA binding and cleavage by Staphylococcus aureus Cas9 as revealed by high-speed atomic force microscopy." ACS Nano, 17, 4629-4641 (2023). 3. S. Tsujikawa et al., "Imaging single CaMKII holoenzymes at work by high-speed atomic force microscopy." Sci. Adv. 9, eadh1069 (2023). 4. S. Morioka et al., "High-speed atomic force microscopy reveals the nucleosome sliding and DNA unwrapping/wrapping dynamics of tail-less nucleosomes." Nano Lett., 24, 5246-5254 (2024). 5. A. Sumino et al., "High-speed atomic force microscopy reveals fluctuations and dimer splitting of the N-terminal domain of GluA2 ionotropic glutamate receptor-auxiliary subunit complex." ACS Nano 18, 25018-25035 (2024). 6. K. Matsushima et al., "Structural dynamics of mixed-subunit CaMKII α/β heterododecamers filmed by high-speed AFM." Nat. Commun., 16, 10603 (2025). As an Assistant Professor in this laboratory, the successful candidate will join the group and engage in interdisciplinary research at the interface of nanometrology and life science using high-speed AFM. Prior experience with AFM techniques is not required; instead, candidates with a research background in life science are sought.	Mikihiro Shibata	Area: Biological Sciences Discipline: Biophysics-related fields	<ul style="list-style-type: none"> • Single-molecule imaging of proteins and nucleic acids using high-speed AFM. While this laboratory mainly focuses on observing proteins and nucleic acid-binding proteins involved in memory and learning processes in the brain, research is not limited to these targets. Imaging of cells using high-speed AFM and independent research topics are also highly encouraged. • Development of application technologies required for high-speed AFM observations, such as the development of novel AFM substrates capable of visualizing enzymatic reactions. • Expression and purification of recombinant proteins. • Collaborative research with life science researchers within the institute. 	<ul style="list-style-type: none"> • A record of presentations and publications in at least one of the following research fields: biophysics, biochemistry, molecular biology, cell biology, structural biology, neuroscience, or applied physics. • The ability to conduct independent research activities, as well as to collaborate effectively within a team. 	Kanazawa University Nano Life Science Institute Professor Mikihiro Shibata Tel:076-264-5927 Email: msshibata@staff.kanazawa-u.ac.jp
4	Assistant Professor	1	One year from the start date. Possible consideration for annual renewal, until March 31, 2029, at the longest.	<ul style="list-style-type: none"> • Stem cell biology and cancer biology field focusing on hematopoietic stem cells and leukemia stem cells. 	Atsushi Hirao	Area: Medicine Discipline: Hematology, tumor biology, and stem cell biology	<ul style="list-style-type: none"> • This research field aims to elucidate the mechanisms underlying the maintenance of undifferentiated states in leukemia, based on stem cell biology, and to contribute to the development of novel cancer therapies. In particular, the focus is on the functions and interactions of intracellular organelles, nuclear chromatin dynamics, and epigenetic regulation to clarify the mechanisms governing the proliferation and differentiation of leukemia cells. • To achieve these objectives, interdisciplinary research is promoted by integrating cell biological, molecular biological, and functional analyses using animal models, together with collaborative efforts with bio-SPM technologies and chemistry research groups at the Nano Life Science Institute, enabling a multifaceted analysis of hematopoietic and leukemia cells. 	<ul style="list-style-type: none"> • Research experience in stem cell biology, hematology, cancer biology, molecular and cellular biology, cell biology, immunology, or related fields. • Experimental experience in cell culture, flow cytometry, analysis of genes, proteins, and small molecules, as well as functional analysis of cells.** In particular, experience in experiments related to chromatin dynamics and epigenetic regulation is highly desirable. • Experience in analyzing the in vivo behavior of hematopoietic and leukemia cells using animal models. • Motivation and experience in actively engaging in interdisciplinary research through collaboration with researchers from diverse fields. 	Kanazawa University Nano Life Science Institute Professor Atsushi Hirao Tel:076-264-6755 Email: ahirao@staff.kanazawa-u.ac.jp
5	Assistant Professor	1	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Basic pharmaceutical sciences, drug metabolism and pharmacokinetics, and drug safety science. 	Miki Nakajima	Area: Pharmaceutical Sciences Discipline: Basic pharmaceutical sciences	<ul style="list-style-type: none"> • Interdisciplinary research that utilizes measurement technologies such as high-speed AFM to elucidate the molecular basis of biological phenomena, while aiming to overcome various diseases including cancer and to develop safe and effective next-generation pharmacotherapies and modalities. • Research aimed at promoting drug discovery by focusing on the regulation of pharmacokinetics and drug responsiveness. • Research to elucidate the mechanisms of toxicity caused by xenobiotics, including pharmaceuticals. 	<ul style="list-style-type: none"> • The ability to conduct researches independently and to collaborate effectively within a team. • Research experience in the field of pharmaceutical sciences, with the ability to continue and advance high-level research activities after appointment. 	Kanazawa University Nano Life Science Institute Professor Miki Nakajima Tel:076-234-4408 Email: nmiki@p.kanazawa-u.ac.jp

[Appendix] List of Recruitment Details for Specially Appointed Faculty Members by Field

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

**** Period of Employment**

- Possibility of renewal after the end of the employment period.
- Possibility of promotion and salary increase depending on performance during the employment period.
- At NanoLSI, the total employment period for specially appointed associate professors is a maximum of three years, and the total employment period for specially appointed assistant professors is a maximum of six years.
- The start date of employment is negotiable.
- This position is a specially appointed position with a fixed employment period. Renewal of employment after the end of the employment period is not guaranteed, and appointees are expected to engage in activities toward their next career step during the term. Therefore, applicants whose continuous employment period at this university exceeds nine years as of April 1, 2027, are not eligible to apply. In addition, the total continuous employment period at this university cannot exceed ten years.

Recruitment No.	Position	Number of Positions	Period of Employment **	Field (Details)	Laboratory	Research Field	Research Content	Application Requirements (Field-Specific)	Contact Information for Inquiries
6	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	• 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.	WONG WING CHUEN RICHARD	Area: Cell Biology Discipline: Biomolecular science, molecular and cellular biology, and molecular pathophysiological science	<ul style="list-style-type: none"> • 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. • 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. • 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. 	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
7	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	• 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.	Hideko Isozaki	Area: Cancer Genomics Biology Discipline: Lung cancer	<ul style="list-style-type: none"> • 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. 	• 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.	Kanazawa University Nano Life Science Institute Professor Hideko Isozaki Tel:076-264-6745 Email: isozaki@staff.kanazawa-u.ac.jp
8	Assistant Professor	1	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	• Analysis of the relationship between the physical properties of the cranial nervous system and the pathophysiology of neurological diseases.	Hiroshi Kawasaki	Area: Life Sciences Discipline: General neuroscience	<ul style="list-style-type: none"> • The nervous system is the central hub of higher brain functions and the primary site for various neurological disorders; therefore, elucidating its development, evolution, and disease pathogenesis is of great importance. Traditionally, research in this field has been dominated by molecular biological and electrophysiological analyses, while physical approaches have lagged behind. Accordingly, we are seeking individuals who will analyze the physical properties of the nervous system using bio-SPM technologies. We welcome applicants who (1) already possess expertise in bio-SPM and wish to apply it to neuroscience, or (2) have a background in neuroscience and are interested in incorporating bio-SPM techniques into their research. 	No specific requirements.	Kanazawa University Nano Life Science Institute Professor Hiroshi Kawasaki Tel:076-265-2363 Email: kawasaki@med.kanazawa-u.ac.jp
9	Assistant Professor	1	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	• Supramolecular chemistry, organic chemistry, and coordination chemistry.	Shigehisa Akine	Area: Chemistry Discipline: Supramolecular chemistry, organic chemistry, and coordination chemistry	<ul style="list-style-type: none"> • Development of receptor and sensor molecules based on supramolecular and metal coordination chemistry. • Interdisciplinary research integrating receptor/sensor molecules with nanoprobe technologies, along with collaborative bio-SPM research. • Structural analysis of supramolecular and metal coordination compounds using SPM techniques. 	• Research experience in one or more of the following fields: organic chemistry, chemistry related to biological functions, supramolecular chemistry, coordination chemistry, or polymer chemistry.	Kanazawa University Nano Life Science Institute Professor Shigehisa Akine Tel:076-264-5701 Email: akine@se.kanazawa-u.ac.jp
10	Assistant Professor	1	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	• Applicants with research experience in organic synthesis, nanomaterial synthesis, protein engineering, and imaging studies (not limited to fluorescence imaging) are highly welcomed. In addition, candidates with a background in cell biology or molecular biology who are motivated to advance life science research by actively incorporating novel technologies are also encouraged to apply.	Satoshi Arai	Area: Nanotechnology and Materials Discipline: Nanobioscience, chemical biology, biomolecular chemistry, and analytical chemistry	<ul style="list-style-type: none"> • This research field promotes the development of fluorescent biosensors for the quantitative visualization of physicochemical properties and signaling molecule concentrations within cells, as well as systems for thermal stimulation of cells. • By utilizing these technologies, we aim to visualize and manipulate intracellular phenomena while pursuing the creation of nanoscale measurement and manipulation techniques through integration with bio-SPM technologies. We welcome individuals who are motivated to pioneer new life science measurement technologies by working across disciplines such as chemistry, biology, physics, and imaging. 	No specific requirements.	Kanazawa University Nano Life Science Institute Professor Satoshi Arai Tel:076-234-4580 Email: satoshi.arai@staff.kanazawa-u.ac.jp
11	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Research field of multicellular systems, including mechanics, morphogenesis, and biomedical engineering. • In particular, the focus is on the mechanical properties, morphogenesis, and functional expression of multicellular tissues in development, evolutionary development, aging, and disease. • 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. 	Satoru Okuda	Area: Life Sciences Discipline: Biophysics	<ul style="list-style-type: none"> • 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. 	No specific requirements.	Kanazawa University Nano Life Science Institute Associate Professor Satoru Okuda Tel:076-234-4579 Email: satokuda@staff.kanazawa-u.ac.jp
12	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Nanometrology field: Engaged in the development of SPM technologies such as AFM and SICM, and in nanoscience research utilizing these techniques. • Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases at the nanoscale. 	Takeshi Fukuma	Area: Nano- and Micro-Science and Related Fields Discipline: Nanobioscience-related fields	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Prior experience in the development of SPM technologies such as AFM and SICM, or experimental research using SPM, is desirable. • Research experience related to biomolecules or cells is desirable, but not required. 	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp

[Appendix] List of Recruitment Details for Specially Appointed Faculty Members by Field

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Recruitment No.	Position	Number of Positions	Period of Employment **	Field (Details)	Laboratory	Research Field	Research Content	Application Requirements (Field-Specific)	Contact Information for Inquiries
13	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • 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. • Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale. 	Kazuki Miyata/ Yasufumi Takahashi	Area: Nano- and Micro-Science and Related Fields Discipline: Nanobioscience-related fields	<ul style="list-style-type: none"> • Development of an integrated AFM-SICM system to enable localized structural observation inside cells, as well as sampling of the observed structures. 	<ul style="list-style-type: none"> • Prior experience in the development of SPM technologies such as AFM and SICM, or in experimental research using SPM, is desirable. • Research experience related to biomolecules or cells is desirable, but not required. 	Kanazawa University Nano Life Science Institute Associate Professor Kazuki Miyata Tel:076-234-4868 Email: k-miyata@staff.kanazawa-u.ac.jp
14	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Computational science, data science, and bioscience fields. 	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"> • Development of techniques and programs for analyzing SPM data (e.g., AFM and SICM) using machine learning and statistical analysis. • Mathematical modeling and simulation for the validation of principles underlying novel SPM technologies. • Mathematical modeling and simulation of biological phenomena, and elucidation of their mechanisms by comparing the results with SPM data. 	<ul style="list-style-type: none"> • 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. 	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
15	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Nano-metrology field: Engaged in the development of optical microscopy technologies and in life science research utilizing these techniques. • Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale. 	Takeshi Fukuma	Area: Biology from the molecular to cellular levels, and related fields Discipline: Biophysics-related fields	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
16	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Cell biology field • Nano-life science field: Aiming to understand the functions of biomolecules and cells, as well as the origins of diseases, at the nanoscale. 	Takeshi Fukuma	Area: Biology from the molecular to cellular levels, and related fields Discipline: Biophysics-related fields	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	Kanazawa University Nano Life Science Institute Professor Takeshi Fukuma Tel:076-234-4847 Email: fukuma@staff.kanazawa-u.ac.jp
17	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Further enhancement of the speed and throughput of high-speed AFM • Application to drug discovery research • Development of advanced application technologies for high-speed AFM • Collaborative research with life science researchers within the institute 	Noriyuki Kodera	Area: Life Sciences or Nanotechnology and Materials Discipline: Biophysics or Nanobioscience	<ul style="list-style-type: none"> • Research and development aimed at enhancing the performance and functionalities of high-speed AFM technologies to enable nanoscale understanding of biological phenomena. • Bioimaging research using existing high-speed AFM techniques applied to purified biomolecules, cellular organelles, and living cells. • 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. 	<ul style="list-style-type: none"> • 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. • The ability to conduct independent research activities, as well as to collaborate effectively within a team. 	Kanazawa University Nano Life Science Institute Professor Noriyuki Kodera Tel:076-264-5662 Email: nkodera@staff.kanazawa-u.ac.jp
18	Assistant Professor	1*	One year from the start date. Possible consideration for annual renewal, up to a maximum of six years.	<ul style="list-style-type: none"> • Biophysics, nanobioscience, and applied physics (general). 	Shinji Watanabe	Area: Life Sciences, Nanotechnology and Materials Discipline: Biophysics, nanobioscience, and applied physics (general)	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Candidates with a strong interest in cellular measurement using scanning probe microscopy are encouraged to apply. • Experience in the development of probe microscopy or optical/fluorescence microscopy technologies is desirable, but not a mandatory requirement. 	Kanazawa University Nano Life Science Institute Associate Professor Shinji Watanabe Tel:076-234-4054 Email: wshinji@se.kanazawa-u.ac.jp