

# Yuuka Kanakubo

POSTDOCTORAL RESEARCHER/PROJECT RESEARCHER AT UNIVERSITY OF JYVÄSKYLÄ

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## Work Experience

### RIKEN interdisciplinary Theoretical and Mathematical Sciences Program (iTHEMS)

Postdoctoral Researcher/RIKEN-Berkeley fellow associated with N3AS

- Principal Investigator: Tetsuo Hatsuda

Saitama, Japan/Berkeley, US

Oct 2024 - present

### Department of Physics, University of Jyväskylä

Postdoctoral Researcher

- Research work in the Centre of Excellence in Quark Matter
- Principal Investigator: Kari Eskola

Jyväskylä, Finland

Oct 2022 - Sep 2024

### Japan Society for the Promotion of Science

Research Fellowship for Young Scientists (DC1)

- Research project: Study on transport properties of quark-gluon plasma with integrated dynamical framework (20J20401)
- Budget amount: 3,400,000 JPY

Tokyo, Japan

Apr 2020 - Sep 2022

### Faculty of Science and Technology, Sophia University

Research Assistant

- Teaching assistant at Physics Exercise course
- Mentoring and supervising bachelor students at Hadron Physics group at Sophia University

Tokyo, Japan

Apr 2018 - Mar 2020

## Education

### Sophia University

Doctor's degree in physics

- Graduate School of Science and Technology
- Nuclear Physics, supervisor: Tetsufumi Hirano

Tokyo, Japan

Oct 2019 - Sep 2022

### Sophia University

Master's degree in physics

- Early graduation by a half year
- Graduate School of Science and Technology
- Nuclear Physics, supervisor: Tetsufumi Hirano

Tokyo, Japan

Apr 2018 - Sep 2019

### Sophia University

Bachelor degree

- Department of Materials and Life Sciences, Faculty of Science and Technology
- Finished systematic program of English for science

Tokyo, Japan

Apr 2014 - Mar 2018

## Community Service

Peer Review Referee

- Physical Review C
- Progress of Theoretical and Experimental Physics
- European Physical Journal Web of Conferences

## Achievements

### Awards

- 2023 **Young Scientist Award of the Physical Society of Japan**, Awarded by Physical Society of Japan.  
<https://www.jps.or.jp/activities/awards/wakate.php>
- 2023 **Yagi Award**, Awarded by RIKEN Interdisciplinary Theoretical and Mathematical Sciences Program.  
<https://ithems.riken.jp/en/about/yagi-award>
- 2022 **Best student presentation award**, Awarded by Physical Society of Japan, Okayama, Japan
- 2019 **Nuclear Physics A Elsevier Young Scientist Awards**, The best theory talk at the 28th International Conference on Ultra-relativistic Nucleus-Nucleus Collisions (Quark Matter 2019), Awarded by Elsevier
- 2019 **Global Award for Young Women Researchers**, Awarded by Sophia University

**Publications** [📍](#) Highlighted papers)

- H. Hirvonen, M. Kuha, J. Auvinen, K. J. Eskola, Y. Kanakubo, H. Niemi, Phys. Rev. C 110 (2024) 3, 034911**, Effects of saturation and fluctuating hotspots for flow observables in ultrarelativistic heavy-ion collisions
- M. Kuha, J. Auvinen, K. J. Eskola, H. Hirvonen, Y. Kanakubo, H. Niemi, arXiv: 2406.17592**, MC-EKRT: Monte-Carlo event generator with saturated minijet production for initializing 3+1 D fluid dynamics in high energy nuclear collisions
- 📍 **Y. Kanakubo, Y. Tachibana, T. Hirano, Phys. Rev. C 106 (2022) 5, 054908**, Nonequilibrium components in the region of very low transverse momentum in high-energy nuclear collisions
- 📍 **Y. Kanakubo, Y. Tachibana, T. Hirano, Phys. Rev. C 105 2, 024905 (2022)**, Interplay between core and corona components in high-energy nuclear collisions
- 📍 **Y. Kanakubo, Y. Tachibana, T. Hirano, Phys. Rev. C 101 no.2, 024912 (2020)**, Unified description of hadron yield ratios from dynamical core-corona initialization
- Y. Kanakubo, M. Okai, Y. Tachibana, T. Hirano, PTEP 2018, no. 12, 121D01 (2018)**, Enhancement of strange baryons in high-multiplicity proton-proton and proton-nucleus collisions

*Selected as an Editor's Suggestion*

## Outreach

- Sep 2024 **Column: Young Scientist Award of the Physical Society of Japan, Genshikaku Kenkyu vol. 69 no. 1 (2024)**,
- Apr 2024 **Column: Introduction of Alumni, Sophia Sci-Tech No.35 (2024)**, [🔗](#) Sophia Sci-Tech back number (available in Japanese)
- Mar 2024 **Column: Letters from abroad, Genshikaku Kenkyu vol. 68 no. 2 (2024)**, [🔗](#) Genshikaku-kenkyu, back number (available in Japanese)

## Presentations

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### Invited talks

- Aug 2024 **ALICE Correlations and Flow physics (online)**, Shanghai, China
- Jul 2024 **ALICE week, Plenary: 6 AIM session (online)**, CERN, Geneva, Switzerland
- Mar 2024 **Memorial talk on the 25th Young Scientist Award, The Physical Society of Japan the 79th Annual Meeting (online)**,
- Oct 2023 **Colloquium "Unified description of relativistic nuclear collisions for different system sizes"**, Yukawa Institute for Theoretical Physics (YITP) at Kyoto University, Kyoto, Japan
- Sep 2023 **Strong-NA7 workshop & HFHF Theory Retreat**, Sicily, Italy
- Sep 2023 **The XXX-th International Conference on Ultra-relativistic Nucleus-Nucleus Collisions (Quark Matter 2023), Plenary talk**, Texas, US
- Jun 2023 **The VII-th International Conference on the Initial Stages of High-Energy Nuclear Collisions (Initial Stages 2023), Plenary talk**, Copenhagen, Denmark
- May 2023 **Workshop "Exploring Quark-Gluon Plasma through soft and hard probes"**, Belgrade, Serbia
- May 2023 **11th Edition of the Large Hadron Collider Physics Conference (LHCP 2023)**, Belgrade, Serbia
- Apr 2023 **The 9th Asian Triangle Heavy-Ion Conference (ATHIC 2023), Plenary talk**, Hiroshima, Japan
- Feb 2023 **The 4th edition of International Workshop on QCD Challenges from pp to AA collisions**, Padova, Italy
- Feb 2023 **The 8th International Conference on Physics and Astrophysics of Quark Gluon Plasma (ICPAQGP-2023), Plenary talk**, Puri, India
- Feb 2023 **Emergent Topics in Relativistic Hydrodynamics, Chirality, Vorticity and Magnetic field**, Puri, India
- Nov 2022 **PHENomenal Workshop (ALICE experiment and Monte-Carlo event generator meeting)**, CERN, Geneva, Switzerland
- Jan 2022 **RBRC Workshop: Physics Opportunities from the RHIC Isobar Run (online)**, RIKEN Brookhaven National Laboratory, New York, US
- Sep 2021 **Workshop on the modeling of the QGP formation and QCD phase transition (online)**, University of Tsukuba, Tsukuba, Japan
- Apr 2021 **The 9th Workshop of the American Physical Society Topical Group on Hadronic Physics (online)**, Sacramento, US
- Feb 2021 **Opportunities of 00 and p0 collisions at the LHC (online)**, (talk was given by collaborator due to sick), CERN, Geneva, Switzerland
- Nov 2019 **The 11th International Workshop on Multiple Partonic Interactions at the LHC**, Prague, Czech
- Feb 2019 **Nagoya mini workshop "Phenomenology and experiments at RHIC and the LHC"**, Nagoya University, Nagoya, Japan

## Invited seminars

- Jun 2024 **Hadron Physics Seminar**, The University of Tokyo, Tokyo, Japan (online)  
May 2023 **ISOQUANT special seminar**, Heidelberg University, Heidelberg, Germany  
May 2023 **Transport Meeting**, Goethe University Frankfurt, Frankfurt, Germany  
Dec 2022 **QCD seminar at QCD theory group**, University of Jyväskylä, Jyväskylä, Finland  
Oct 2022 **BES-Tea seminar (online)**, University of Washington, Seattle, US  
Sep 2022 **NBI Heavy-ion seminar**, Niels Bohr Institute, Copenhagen, Denmark  
Sep 2022 **CLASH seminar**, Lund University, Lund, Sweden  
Nov 2021 **NPA seminar at Yale Wright Laboratory (online)**, Yale University, New Haven, US  
Nov 2021 **Monash HEP webinar (online)**, Monash University, Melbourne, Australia  
Sep 2021 **RBRC seminar, RIKEN BNL (online)**, Brookhaven National Laboratory, New York, US  
Sep 2021 **PHENomenal: ALICE experiment and Monte-Carlo event generator meeting (online)**, CERN, Geneva, Switzerland  
Jan 2021 **High Energy Nuclear Physics in China (online)**, Central China Normal University, Wuhan, China  
Jan 2021 **CHEP seminars (online)**, McGill University, Montreal, Canada

## Contributed talks

- Sep 2022 **The Physical Society of Japan Autumn Meeting**, Okayama University of Science, Okayama, Japan  
Jun 2022 **The 20th International Conference on Strangeness in Quark Matter**, Busan, South Korea  
Mar 2022 **The Physical Society of Japan the 77th Annual Meeting (online)**, Okayama, Japan  
Nov 2021 **The 8th Asian Triangle Heavy-Ion Conference (ATHIC2021)**, Inha University, Incheon, South Korea  
Sep 2021 **The Physical Society of Japan Autumn Meeting (online)**,  
Dec 2019 **Zimányi School**, Wigner Research Center for Physics, Budapest, Hungary  
Nov 2019 **The 28th International Conference on Ultra-relativistic Nucleus-Nucleus Collisions (Quark Matter 2019)**, Wuhan, China  
Oct 2019 **New Development of Hydrodynamics and its applications in Heavy-ion Collisions**, Fudan University, Shanghai, China  
Sep 2019 **The Physical Society of Japan Autumn Meeting**, Yamagata University, Yamagata, Japan  
Jun 2019 **The 18th International Conference on Strangeness in Quark Matter (SQM 2019)**, Bari, Italy  
Jun 2019 **The Physical Society of Japan the 74th Annual Meeting**, Kyushu University, Fukuoka, Japan  
Jun 2019 **The 2nd JETSCAPE Winter School and Workshop**, Texas A&M University, Texas, US  
Oct 2018 **The 5th Joint Meeting of the Nuclear Physics Divisions of the APS and the JPS**, Hawaii, US  
Aug 2018 **The 64th Young Nuclear and Particle Physicist Group of Japan**, Chiba, Japan  
Jun 2018 **The 2nd International Workshop on Collectivity in Small Collision Systems**, Central China Normal University, Wuhan, China

## Skills

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**Programming** C++, Python (Matplotlib, Pandas, NumPy, Scikit-learn. etc.), FORTRAN

**Miscellaneous** Linux, Shell (Bash),  $\LaTeX$ , Microsoft Office, Github

## Languages

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**English** Professional Working Proficiency

**Japanese** Native