

# **FY2020 The 22nd Interdisciplinary Exchange Evening / 2020 22**

**Friday 25 September 2020 - Friday 25 September 2020**

**Online**

## **Scientific Programme**

## Opening Remark□□□□□□□

**Masafumi Jo** ,Chairman of RIKEN Scientists' Assembly Steering Committee (RSASC)  
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## Talk Session

**Yuko Harayam**, Director  
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**Ichio Shimada**, Laboratory for Dynamic Structure of Biomolecules  
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**Ryusuke Hamasaki**, Nonequilibrium Quantum Statistical Mechanics RIKEN Hakubi Research Team  
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**Keiji Yamamoto**, Advanced Operation Technologies Unit  
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## Poster Presentations□□□□□□□□

1.Video-recording of C. elegans behaviors until the death

**Yukinobu Arata**

*Senior Research Scientist*

*Sako Cellular Informatics Laboratory, CPR, Wako*

[<https://riken-share.box.com/s/o6qjxi13d9zceg1prmud0pme5odjm9py>][1]

2.New technology for collagen live imaging

**Yoshihiro Miwa**

*Director*

*Gene Engineering Division, BRC, Tsukuba*

[<https://riken-share.box.com/s/eca355gyn8qm5zpw0xk2f3kohw7kj58j>][2]

3.Acrolein Sensor for Rapid and Accurate Intraoperative Diagnosis of Breast Cancer Morphology

**Ambara Rachmat Pradipta**

*Assistant Professor*

*Biofunctional Synthetic Chemistry Laboratory, CPR, Wako*

[<https://riken-share.box.com/s/qta7tp10cv1mthq3yd001343lyrrfha6>][3]

4.Translating the mechanisms underlying renal/urinary system formation during mammalian development

**Filip J. Wymeersch**

*Research Scientist*

*Laboratory for Human Organogenesis, BDR, Kobe*  
[<https://riken-share.box.com/s/z6qd5vm8wst1wg2sad0dgiii80o5iy9b>][4]

5. Biomimetic directions inspired by anhydrobiosis and hibernation

**Oleg Gusev**

*Unit Leader*

*KFU-RIKEN Translational Genomics Unit, RIKEN Cluster for Science, Technology and Innovation Hub, Yokohama*

[<https://riken-share.box.com/s/bgob6oxw3zs9yvvyg66qr6noon3h0x29>][5]

6. Novel method for realizing artificial magnetic fields in ultracold atomic gases

**Tomoki Ozawa**

*Visiting Scientist*

*Interdisciplinary Theoretical and Mathematical Sciences Program, Wako*

[<https://riken-share.box.com/s/lyat5hrm35c73w47rauo0uak38co37px>][6]

7. Isolation of new chemical compounds as helpers for understanding diverse ion transport systems

**Juyeon Moon**

*Postdoctoral Researcher*

*Environmental response research unit, CSRS, Yokohama*

[<https://riken-share.box.com/s/nvu5zb70id5cwtg9f26byeer0pe4xwc1>][7]

8. Achievement of high yield of natural rubber by alteration of transcription factor network in *Hevea brasiliensis*

**Yukio Kurihara**

*Research Scientist*

*Synthetic Genomics Research Group, CSRS, Yokohama*

[<https://riken-share.box.com/s/lnt37p4honlyfvo85gsb7kqfvv2fpcm6>][8]

9. Functional identification of the novel chimeric fusion photoreceptor of PHY-CRY and determination of its genome sequence

**Setsuko Shimada**

*Research Scientist*

*Synthetic Genomics Research group, CSRS, Yokohama*

[<https://riken-share.box.com/s/yuz02efrclnztdpxn7u3p20iirzkodpc>][9]

10. High-resolution structure prediction of flexible proteins by multiple cryo-EM data fitting

**Takaharu Mori**

*Senior Research Scientist*

*Theoretical Molecular Science Laboratory, CPR, Yokohama*

[<https://riken-share.box.com/s/5ewvgyow7td5ewqkrmfec2yfwqreodnn>][10]

11. Exploring the relationship between tornadogenesis and lightning activity by using an advanced ensemble data assimilation system

**Takumi Honda**

*Special Postdoctoral Researcher*

*Data Assimilation Research Team, R-CCS, Kobe*

[<https://riken-share.box.com/s/0x6eo31rqe7mpquuga917i95b31m68w7>][11]

12. Tunable microwave beam splitter

**Iuliia Zotova**

*IPA*

*Superconducting quantum simulation research team, CEMS, Wako*

13. Protocol for retrieving three-dimensional biological shapes for a few single particle diffraction patterns

**Sandhya Premnath Tiwari**

*Special Postdoctoral Researcher*

*Tama Unit, Computational Structural Biology Division, R-CCS, Kobe*

[<https://riken-share.box.com/s/zxweso2au3b1igh6d29anxyhydwlxf5f>][12]

14. Functional annotation of human long noncoding RNAs inferred from chromatin conformation data

**Michiel de Hoon**

*Team Leader*

*Laboratory for Applied Computational Genomics, IMS, Yokohama*

[<https://riken-share.box.com/s/lbayzltihbctua1y6xqhps2gwikaes9n>][13]

15. Microbial platform for industrial application using metabolic pathway-modulating microorganisms

**Shuhei Noda**

*Research Scientist*

*Cell Factory Research Team, CSRS, Yokohama*

[<https://riken-share.box.com/s/hh9v8754vsjxy0ytqo9lsp4c0bl83b9k>][14]

16. Real space investigation of the exotic superconducting states in the transition metal chalcogenides with spin-polarized electronic structure

**Tadashi Machida**

*Research Scientist*

*Emergent Phenomena Measurement Research Team, CEMS, Wako*

[<https://riken-share.box.com/s/kuqum9glpyr3o8jds6io9hpu096s8z45>][15]

17. Bioactive compounds-driven reprogramming of human somatic cells into functional neurons, which restores memory function in chronic stroke

**Rei Nakano**

*SPDR*

*Laboratory for Cellular Function Conversion Technology, IMS, Yokohama*

[<https://riken-share.box.com/s/c3znktpa7r8m77s2891q22tz4clm4jc>][16]

18. Noninvasive engineering of cancer cells via in vivo chemical glycosylation

**Tsung-Che Chang**

*Postdoctoral Researcher*

*Biofunctional Synthetic Chemistry Laboratory, CPR, Wako*

[<https://riken-share.box.com/s/l9w4phivzyia26qvlwsnfrngjyp05m8x>][17]

19. Investigation of fluoride complexation and chemical species of element 105, dubnium: anion exchange of Db in HF/HCl system

**Takuya Yokokita**

*Postdoctoral Researcher*

*Nuclear Chemistry Research Team, RNC, Wako*

[<https://riken-share.box.com/s/zdjgv6r24c4jfk3cnk2m412osi74uu7a>][18]

20.High efficiency dark-to-bright exciton conversion in carbon nanotubes

**Akihiro Ishii**

*Postdoctoral Researcher*

*Nanoscale Quantum Photonics Laboratory, CPR, Wako*

[<https://riken-share.box.com/s/fdukh6ru6i7twvcoxfz5j5kj6uomcen5>][19]

21.Discovery of topological Weyl loops in quantum magnets

**Ilya Belopolski**

*Special Postdoctoral Researcher*

*Strong Correlation Quantum Transport Research Team, CEMS, Wako*

[<https://riken-share.box.com/s/vz5h9agaoyghp9g5inngtgneh2yixo2w>][20]

22.Development of high-speed multi-point sampler for secreted chemicals to analyze non-synaptic communication of neurons

**Nobutoshi Ota**

*Researcher*

*Laboratory for Integrated Biodevice, BDR, Osaka*

[<https://riken-share.box.com/s/useu03ir7p6rl5lkb4ttsq4sh94ckmrh>][21]

23.Development of new growth method of high crystalline quality oxide film using Ni-phthalocyanine

**Kei Takahashi**

*Senior Researcher*

*Strong Correlation Interface Research Group, CEMS, Wako*

[<https://riken-share.box.com/s/ov0pg2hoou37ask3f6f7epibrmprh7ap>][22]

24.Revealing a regulatory mechanism of plant cell movement by single-cell-based metabolite analysis

**Shunsuke Watanabe**

*SPDR*

*Dormancy and Adaptation Research Unit, CSRS, Yokohama*

[<https://riken-share.box.com/s/jyulazny2uln6pu69y8mkeu0k1fonn07>][23]

25.Exploring the strongly-interacting regime of polarons

**Pascal Naidon**

*Senior Research Scientist*

*Strangeness Nuclear Physics Laboratory, RNC, Wako*

[<https://riken-share.box.com/s/teg4ppxt7yvddq0irfb7b6u452jefxoe>][24]

26.Study on the Charge Accumulation Process Towards the Rational Development of Earth-Abundant Oxygen Evolution Catalysts

**Hideshi Ooka**

*Special Postdoctoral Researcher*

*Biofunctional Catalyst Research Team, CSRS, Wako*

[<https://riken-share.box.com/s/7rzy9nqm0ezwnheq31uapiea5yu46g93>][25]

27. Experimental visually-guided investigation of sub-structures in three-dimensional Turing-like patterns

**Martin Skrodzki**

*Visiting Researcher*

*iTHEMS & German Academic Scholarship Foundation, Wako*

[<https://riken-share.box.com/s/s653jmk8k0k9gs1xlcw8tup9ff5yo6q>][26]

28. Why do only rodents have Pot1b?—Role in lagging strand telomere synthesis

**Takeshi Mizuno**

*Senior Research Scientist*

*Cellular Dynamics Laboratory, CPR, Wako*

[<https://riken-share.box.com/s/ejofg7tcr85gv1b98nxi04p3d3kmirb6>][27]

29. What is the role of strong hydrogen bond network for the proton pump function in Rhodopsin?

**Yagi Kiyoshi**

*Senior Research Scientist*

*Theoretical Molecular Science Lab, CPR, Wako*

[<https://riken-share.box.com/s/kjv772bprsmbu356dtpo2imfsiz42xp0>][28]

30. RIKEN SHARing system for Shared Facilities and Equipment □SimpRent(□□)□

**Kentaro Fuji**

*Staff*

*CPR promotion office, CPR, Wako*

[<https://riken-share.box.com/s/7s4hfk9d0djaeiqwo1osh7vo7vv88d7u>][29]

31. From zygote to birth: Developing a non-classical model to study mammalian embryogenesis and implantation

**Aurélien Courtois**

*Former Researcher at RIKEN*

*Laboratory for chromosome segregation, BDR, Kobe*

[<https://riken-share.box.com/s/q0gzlmd20u7nyjp7gvces5c6j3050y2m>][30]

32. Mechano-chemical enforcement of tendon apical ECM into nano-filaments during *Drosophila* flight muscle development

**Wei-Chen Chu**

*Research Scientist*

*Laboratory for Morphogenetic Signaling, BDR, Kobe*

[<https://riken-share.box.com/s/sf0bvpjfbdyttfarack0ti85jiclxzy>][31]

33. Analysis of cortical dynamics in social interaction paradigm under virtual environments

**Nobuhiro Nakai**

*Researcher*

*Laboratory for Mental Biology, CBS, Wako*

[<https://riken-share.box.com/s/24q4ak18yg6iq7p82rnwb4q5ep0llbqu>][32]

34. Elucidation of neuronal cell death mediated by oxidative stress-induced neuroinflammation

**Shoko Hashimoto**

*Research Scientist*

*Lab. for Proteolytic Neuroscience, CBS, Wako*

[<https://riken-share.box.com/s/cj1fvw9uso8ul70qhlmptr4rn4wzitnd>][33]

35.Human-Machine Co-Creativity for Architecture

**Jean-François A. Baffier**

*Post-Doc*

*Discrete Optimization Unit, Center for Advanced Intelligence Project*

[<https://riken-share.box.com/s/y370ldnercovho6wdt7996kmd5pcdg2k>][34]

36.Electrochemically-Driven Ferrocene-Terminated Self-Assembled Monolayers Probed with Photoelectron Spectroscopy

**Raymond Wong**

*Postdoctoral researcher*

*Surface and interface science laboratory, CPR, Wako*

[<https://riken-share.box.com/s/lqwxmhls7f56khl97cbms92dz1ht7fa7>][35]

37.Advances in molecular breeding of cassava

**Yoshinori Utsumi**

*Research scientist*

*Plant Genomic Network Research team, CSRS, Yokohama*

[<https://riken-share.ent.box.com/f/b9b844f597534746a8217e3cf8978b38>][36]

38.Performance study of glass cell with Mo-mesh electrodes toward a measurement of Xe atomic EDM

**Tomoya Sato**

*Specially appointed assistant professor*

*Kozuma Laboratory, Dep. of Physics., Tokyo Tech.*

[<https://riken-share.box.com/s/2khikk3as62vzcvr4c5fiyxzii7dgre>][37]

**Poster Q&A Sessions** □ □ □ □ □ □ □ □