

# Program

(JST = UTC + 9)

20 Feb. (Tue)	21 Feb. (Wed)	22 Feb. (Thu)
<b>10:20–10:30</b> <b>Opening</b> Tomoya Naito		
<b>10:30–12:00</b> <b>Invited Seminar</b> Kouichi Hagino	<b>10:30–12:00</b> <b>Invited Seminar</b> Hitoshi Nakada	<b>10:30–12:00</b> <b>Invited Seminar</b> Takeru Yokota
<b>Lunch &amp; Coffee Break</b>	<b>Lunch &amp; Coffee Break</b>	<b>Lunch &amp; Coffee Break</b>
<b>13:30–15:00</b> <b>Invited Seminar</b> Yukimi Goto	<b>13:15–14:45</b> <b>Workshop Session (1)</b> Takaharu Otsuka Shunsuke A. Sato Kotaro Uzawa Shintaro Hoshino Hiroyuki Sagawa Takumi Chida <b>Coffee Break</b>	<b>13:30–15:00</b> <b>Invited Seminar</b> Terumasa Tadano
<b>Coffee Break</b>	<b>15:05–16:35</b> <b>Workshop Session (2)</b> Shoujirou Mizutori Koun Shirai Yuuki Kubo Hiroki Katow Yusuke Tanimura Yasuhiro Oishi <b>Coffee Break</b>	<b>15:00–15:10</b> <b>Closing</b> Ryosuke Akashi
<b>15:30–17:00</b> <b>Invited Seminar</b> Taisuke Ozaki	<b>16:55–18:25</b> <b>Workshop Session (3)</b> Yoichi Kamihara Nobuo Hinohara Tatsuya Miki Kenta Yoshimura Hsiao-Yi Chen Moemi Matsumoto <b>18:40–20:00</b> <b>Banquet</b>	

## 20 February 2024 (Tue)

### Opening

10:20–10:30 Tomoya Naito (内藤智也) (RIKEN iTHEMS)  
Opening

### Invited Seminar

(Chair: Taisuke Ozaki)

10:30–12:00 Kouichi Hagino (萩野浩一) (Dept. Phys., Kyoto U.)  
Orbital-free DFT in nuclear physics

### Invited Seminar

(Chair: Hitoshi Nakada)

13:30–15:00 Yukimi Goto (後藤ゆきみ) (Dept. Math., Kyushu U./RIKEN iTHEMS)  
Mathematical aspect of DFT

### Invited Seminar

(Chair: Kouichi Hagino)

15:30–17:00 Taisuke Ozaki (尾崎泰助) (Institute for Solid State Physics, U. Tokyo)  
Absolute binding energies of electrons in condensed matters

## 21 February 2024 (Wed)

### Invited Seminar

(Chair: Yukimi Goto)

10:30–12:00 Hitoshi Nakada (中田仁) (Dept. Phys., Chiba U.)  
Minimal composition of Kohn-Sham theory

**Workshop Session 1****(Chair: Kenichi Yoshida)**

- 13:15–13:30 Takaharu Otsuka (大塚孝治) (RIKEN Nishina Center)  
(10 + 5) [What was wrong with nuclear DFT for nuclei with deformed shapes?](#)
- 13:30–13:45 Shunsuke A. Sato (佐藤駿丞) (U. Tsukuba)  
(10 + 5) [Limitations of time-dependent mean-field approximations to second-order nonlinear optical phenomena](#)
- 13:45–14:00 Kotaro Uzawa (鶴沢浩太郎) (Kyoto U.)  
(10 + 5) [Microscopic analysis of the distribution of the fission width in a configuration-interaction approach](#)
- 14:00–14:15 Shintaro Hoshino (星野晋太郎) (Saitama U.)  
(10 + 5) [Relativistic corrections in strongly correlated electron systems](#)
- 14:15–14:30 Hiroyuki Sagawa (佐川弘幸) (RIKEN Nishina Center/U. Aizu)  
(10 + 5) [QCD-based Charge Symmetry Breaking interaction and Okamoto-Nolen Schiffer anomaly](#)
- 14:30–14:45 Takumi Chida (千田拓実) (U. Tokyo)  
(10 + 5) [Calculation of Green function and ionization energy based on the transcorrelated method](#)

**Workshop Session 2****(Chair: Tomoya Naito)**

- 15:05–15:20 Shoujirou Mizutori (水鳥正二郎) (Kansai University of Welfare Sciences)  
(10 + 5) [Stability of the rod-shaped nuclei](#)
- 15:20–15:35 Koun Shirai (白井光雲) (SANKEN, Osaka U.)  
(10 + 5) [Glass Transition Studied by Molecular Dynamics Simulations](#)
- 15:35–15:50 Yuuki Kubo (久保祐貴) (U. Tokyo)  
(10 + 5) [Determination of crystal structures in multiphase materials by data assimilation](#)
- 15:50–16:05 Hiroki Katow (加藤洋生) (U. Tokyo)  
(10 + 5) [A gauge problem of electronic structure calculations](#)
- 16:05–16:20 Yusuke Tanimura (谷村雄介) (Soongsil U.)  
(10 + 5) [Effects of center-of-mass correction and nucleon anomalous moment on nuclear charge radii](#)
- 16:20–16:35 Yasuhiro Oishi (大石泰弘) (U. Hyogo)  
(10 + 5) [Prediction of the structural change of the amyloid  \$\beta\$  protein at the fibril end: DFT-RISM study](#)

**Workshop Session 3****(Chair: Ryosuke Akashi)**

- 16:55–17:10 Yoichi Kamihara (神原陽一) (Keio U.)  
(10 + 5) [Experimental and theoretical magnetism on antiferromagnetic GdFeAsO, a mother compound of high- \$T\_c\$  iron-based superconductors](#)
- 17:10–17:25 Nobuo Hinohara (日野原伸生) (U. Tsukuba)  
(10 + 5) [Spin-triplet pairing in nuclear DFT](#)
- 17:25–17:40 Tatsuya Miki (三木健矢) (Saitama U.)  
(10 + 5) [Quantitative evaluation of relativistic effects on physical quantities using Wannier function](#)
- 17:40–17:55 Kenta Yoshimura (吉村健太) (Tokyo Tech.)  
(10 + 5) [Superfluid band calculations for the inner crust of the neutron star](#)
- 17:55–18:10 Hsiao-Yi Chen (RIKEN CEMS)  
(10 + 5) [First Principles Calculation of Topological Hall Conductance in the Skyrmion lattice](#)
- 18:10–18:25 Moemi Matsumoto (松本萌未) (Tohoku U.)  
(10 + 5) [Non-empirical description of nuclear collective motion with optimized basis for multi-reference density functional theory](#)

**Banquet (18:40–20:00)**

Held in front of the auditorium

## 22 February 2024 (Thu)

### Invited Seminar

(Chair: Terumasa Tadano)

10:30–12:00 Takeru Yokota (横田猛) (RIKEN iTHEMS)  
Approach to classical liquids based on functional renormalization group

### Invited Seminar

(Chair: Takeru Yokota)

13:30–15:00 Terumasa Tadano (只野央将) (National Institute for Materials Science)  
Anharmonic phonon theory in condensed matter physics

### Closing

15:00–15:10 Ryosuke Akashi (明石遼介) (National Institutes for Quantum Science and Technology)  
Closing

## Venue & Access

Auditorium (8F), Integrated Innovation Building (融合連携イノベーション推進棟: IIB), RIKEN Kobe Campus  
The IIB building is connected to the east exit of P07 Iryo Center (Shimin Byoin Mae) [医療センター (市民病院前)] station of the Port Liner (ポートルライナー) train via the pedestrian deck. It takes 15 min. from Sannomiya (三宮) station. You should not take a train for Kita-Futo (北埠頭).

## Wi-Fi Connection

You can use eduroam and RIKEN guest Wi-Fi (RIKEN\_guest). We cannot provide a visitor account of eduroam.

## Updated Information

You can find the updated information from [https://ribf.riken.jp/~tnaito/workshop/202402\\_dft2024/index.html](https://ribf.riken.jp/~tnaito/workshop/202402_dft2024/index.html).

## Organizers

- Ryosuke Akashi (明石遼介) (National Institutes for Quantum Science and Technology)
- Tomoya Naito (内藤智也) (RIKEN iTHEMS/Dept. Phys., U. Tokyo)
- Kenichi Yoshida (吉田賢市) (Research Center for Nuclear Physics, Osaka U./RIKEN Nishina Center)

## Acknowledgment

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