

G. 受賞歴

- G3.** “Hashimoto prize, with the ANPhA 1st prize, for the best presentation” in the Young Researchers Session of the SNP School 2020, with 10,000 JPY as reward, 6th December, 2020. [Certificate \(JPEG\)](#).
- G2.** “CAEN Best Young Speaker Award” in IVth Topical Workshop on Modern Aspects in Nuclear Structure, with 200 euros as reward, Bormio Italy, 25th February 2018. [Certificate \(JPEG\)](#).
- G1.** Super Research Assistant award for Ph.D. student in the GCOE programme “Weaving Science Web beyond Particle-Matter Hierarchy” in Tohoku University, April 2013.

Hi. 招待講演 (すべて英語、審査あり。)

- Hi8.** (Invited Talk) ◦[Tomohiro Oishi](#), “Two-proton emission and its sensitivity to diproton correlation”, Workshop on Nuclear Cluster Physics (WNCP) 2023, Toyonaka Campus, Osaka University, Japan + ONLINE, November 27-29th, 2023.
URL: <https://indico.rcnp.osaka-u.ac.jp/event/2187/overview>
- Hi7.** (Invited Talk) ◦[Tomohiro Oishi](#), “Magnetic dipole excitation as testing field of residual interaction and pairing effect”, NEWS Colloquium 2309, RCNP, Osaka University, Japan + ONLINE, September 21st, 2023.
URL: <https://www.rcnp.osaka-u.ac.jp/Divisions/np1-c/NEWS/>
- Hi6.** (Invited Talk) ◦[Tomohiro Oishi](#), “Time-dependent description of proton-emitting radioactivity”, PROCON2023, University of Warsaw, Poland, June 26-30th, 2023.
URL: <https://procon2023.fuw.edu.pl/invited-speakers/>
- Hi5.** (Invited Talk) ◦[Tomohiro Oishi](#), Lorenzo Fortunato, and Andrea Vitturi, “Nucleon-emission process as a time-dependent quantum system”, Theoretical Nuclear Physics in Padova: a meeting in honor of Andrea Vitturi, at Universita di Padova, Italy, May 21-22th, 2019.
- Hi4.** (Invited Talk) ◦[T. Oishi](#), Markus Kortelainen, and Alessandro Pastore, “Dependence of Two-proton Radioactivity on Nuclear Pairing Models”, FiDiPro Winter Symposium on Nuclear Structure Physics, at University of Jyväskylä, Finland, 12-15th December 2017.
- Hi3.** (Invited Seminar) [T. Oishi](#), “Analysis of Two-Nucleon Emission with Time-Dependent Three-Body Model”, seminar in the University of Tokyo, Kashiwa Campus, Prof. Naomichi Hatano’s laboratory, 8th August, 2017.
- Hi2.** (Invited Talk) ◦[T. Oishi](#), Kouichi Hagino, and Hiroyuki Sagawa, “Role of Pairing Correlation in Two-proton Emission”, The 5th International Conference on Proton-emitting Nuclei (PROCON-2015), Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China, 6-10th July 2015.
- Hi1.** (Invited Seminar) ◦[T. Oishi](#), K. Hagino, and H. Sagawa, “Role of Pairing Correlation in Two-proton Emission”, seminar in the University of Warsaw, Poland, 20th November, 2014.

H. 国際会議での研究発表 (特記の無いかぎり、すべて英語、審査あり。)

- H32.** (Talk) [Tomohiro Oishi](#), “Magnetic excitations based on relativistic energy-density functional theory”, YITP Workshop “Fundamentals in density functional theory (DFT2022)”, Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan (December 7-20th, 2022). <https://www2.yukawa.kyoto-u.ac.jp/~dft2022/program.php>
- H31.** (Poster + flash movie) [Tomohiro Oishi](#), “Relativistic quasi-particle random-phase approximation for collective excitation of deformed atomic nuclei”, The 30th Anniversary Symposium of the Center for Computational Sciences at the University of Tsukuba (October 13th, 2022). <https://www.ccs.tsukuba.ac.jp/sympo20221013en/>
- H30.** (Talk) [Tomohiro Oishi](#), “Nuclear spin-isospin excitations within the relativistic energy-density functional framework”, Symposium on Developments of Physics of Unstable Nuclei (YKIS2022b), Yukawa Institute for Theoretical Physics in Kyoto

University, Kyoto, Japan + ONLINE (May 23th – 27th, 2022). <http://www2.yukawa.kyoto-u.ac.jp/~mcd2022/program0527.php>
[Refined talk in YouTube.](#)

H29. (Talk) Tomohiro Oishi, Site-visit meeting on the project “Exotic Nuclear Structure and Dynamics” (project No. TTP-2018-07-3554, director: Prof. Kosuke Nomura) by Croatian Science Foundation and Ecole Polytechnique de Lausanne, at University of Zagreb, Croatia (November 28th, 2021).

H28. (Online talk, non-referral) T. Oishi, “Nuclear relativistic energy-density functional theory and its application to spin-isospin excitations”, talk in the 83rd DFT meeting, at ZOOM (November 15th, 2021).

H27. (Poster) [Tomohiro Oishi](#), “Nuclear symmetry energy in relativistic meanfield model constrained by collective excitations”, NuSym21 – International Symposium on Nuclear Symmetry Energy, ONLINE (October 20th, 2021).

H26. (Oral movie) [Tomohiro Oishi](#), “Systematic evaluation of magnetic-dipole (M1) excitation based on relativistic energy-density functional theory”, 3rd International Conference on Nuclear Photonics (NP2020), Research Center for Nuclear Physics (RCNP) in Osaka University, Osaka, Japan + ONLINE (June 7th – 11th, 2021). [Refined talk in YouTube.](#)

H25. (Online talk) [T. Oishi](#), “Proton emission from hypernuclei” with award [E3], SNP School 2020, Tohoku University, Sendai, Japan + ONLINE (December 2nd – 5th, 2020). [Refined talk in YouTube.](#)

H24. (Talk) [T. Oishi](#), “Magnetic dipole excitation and its sum rule for valence nucleon pair”, International Nuclear Physics Conference (INPC) 2019, Glasgow, Scotland UK (July 29th - August 2nd, 2019).

H23. (Talk) [T. Oishi](#), “Proton emission as a tool to investigate hypernuclei”, International Conference on Proton-Emitting Nuclei (PROCON) 2019, at NSCL/FRIB, Michigan State Univ., East Lansing US (June 2-7th, 2019).

H22. (Poster) [T. Oishi](#), “Effect of nuclear pairing on magnetic-dipole excitation”, Nuclear Structure and Dynamics (NSD) 2019, at Venice, Italy (May 13-17th, 2019).

H21. (Talk) [T. Oishi](#), “Time-dependent approach to proton-emitting nuclei”, XXV Nuclear Physics Workshop, at Kazimierz Dolny, Poland (September 25-30th, 2018).

H20. (Poster) [T. Oishi](#), “One-proton emission of hypernuclei with time-dependent method”, XXII International Conference on Few-body Problems in Physics (FB22), at Caen, France (9-13 July 2018).

H19. (Talk) [T. Oishi](#) and Lorenzo Fortunato, “Time-dependent few-body model for nuclear metastable systems” with award [E2], IVth Topical Workshop on Modern Aspects in Nuclear Structure, at Bormio, Italy (25th February 2018).

H18. (Talk) [T. Oishi](#), “Time-dependent method for many-body problems and its application to nuclear bound and resonant systems”, XXXV Mazurian Lakes Conference on Physics at Mazurski Raj, Piaski, Poland (3-9th September 2017).

H17. (Talk) [T. Oishi](#), “Two-nucleon emission with pairing interaction in three-body systems”, Meeting on “Probing fundamental interactions by low energy excitations -Advances in theoretical nuclear physics”, at Royal Institute of Technology, Stockholm (7th June 2017).

H16. (Talk) [T. Oishi](#), “Three-body model with pairing for quantum stable and meta-stable systems”, Workshop on “Superfluidity and Pairing Phenomena: from Cold Atomic Gases to Neutron Stars”, at ECT* Trento (22th March 2017).

H15. (Talk) [T. Oishi](#), M. Kortelainen and A. Pastore, “Dependence of Two-proton Radioactivity on Nuclear Pairing Models”, PHHQP16: Progress in Quantum Physics with Non-Hermitian Operators, Yukawa Institute of Theoretical Physics, Kyoto University, Kyoto, Japan (8-12th August, 2016).

H14. (Poster) [T. Oishi](#), M. Kortelainen and N. Hinohara, “Giant Dipole Resonance Analysis Based on the Finite Amplitude Method”, Nuclei in the Cosmos (NIC) XIV, Toki Messe, Niigata, Japan (19-24th June, 2016).

H13. (Talk) [T. Oishi](#), M. Kortelainen and N. Hinohara, “Finite amplitude method applied to giant dipole resonances: role of isovector effective mass”, Collaboration Meeting of Lyon-Jyvaskyla Nuclear Physics, Institut de Physique Nucléaire de Lyon, France (2nd December, 2015).

H12. (Talk) [T. Oishi](#), M. Kortelainen and N. Hinohara, “Nuclear Dipole Excitation with Finite Amplitude Method QRPA”,

Collaboration Workshop on The future of multi-reference DFT, University of Warsaw, Poland (25th June, 2015).

H11. (Talk) T. Oishi, M. Kortelainen and N. Hinohara, “Finite amplitude method applied to nuclear dipole excitation”, 13th Nordic Meeting on Nuclear Physics, Lapland Hotel Riekkonlinna, Saariselkä, Finland (14th April, 2015).

H10. (Talk) T. Oishi, K. Hagino and H. Sagawa, “Diproton correlation in two-proton emission of 6Be nucleus” HIP/FIDIPRO miniworkshop on nuclear isospin properties, Helsinki Institute of Physics, Helsinki, Finland (17th October, 2014).

H9. (Talk) T. Oishi, K. Hagino and H. Sagawa, “Effect of Diproton Correlation on Two-proton Emission”, International Molecule-type Workshop on New correlations in exotic nuclei and advances of theoretical models (co-sponsored by RIKEN iTHES), Yukawa Institute of Theoretical Physics, Kyoto University, Kyoto, Japan (13th March, 2014).

H8. (Poster) T. Oishi, K. Hagino and H. Sagawa, “Time-dependent Approach to Two-proton Radioactivity”, The 12th Asia Pacific Physics Conference (APPC12), Makuhari Messe, Chiba, Japan (16th July, 2013).

H7. (Poster) T. Oishi, K. Hagino and H. Sagawa, “Time-Dependent Approach to Two-Proton Radioactivity”, COMEX4 Conference, Shonan International Village Center, Kanagawa, Japan (24th October, 2012).

H6. (Talk) T. Oishi, K. Hagino and H. Sagawa, “Time-dependent approach to two-proton radioactivity”, The 11th CNS Summer School, Center for Nuclear Study (CNS), University of Tokyo, Wako, Saitama, Japan (Aug. 29th - Sep. 3rd, 2012).

H5. (Talk) T. Oishi, K. Hagino, T. Maruyama, and H. Sagawa, “Properties of proton-rich unstable nuclei and two-proton radioactivity”, Symposium for recent topics on nuclear physics and radioactivity, University of Aizu, Aizu-Wakamatsu, Fukushima, Japan (9-10th March, 2012).

H4. (Poster) T. Oishi, K. Hagino, and H. Sagawa, “Properties of proton-rich unstable nuclei and two-proton radioactivity”, The 4th GCOE International Symposium on “Weaving Science Web beyond Particle-Matter Hierarchy”, Tohoku University, Sendai, Japan (20-22th February, 2012).

H3. (Poster) T. Oishi, K. Hagino and H. Sagawa, “Role of Coulomb repulsion in E1 transition of 17Ne ”, Frontier Issues in Physics of Exotic Nuclei (YKIS2011), Yukawa Institute for Theoretical Physics, Kyoto University, Kyoto, Japan (13th October, 2011).

H2. (Poster) T. Oishi, “E1 transition of 17Ne nucleus with core + 2-proton model”, The 3rd GCOE International symposium on “Weaving Science Web beyond Particle-Matter Hierarchy”, Tohoku University, Sendai, Japan (17-19th February, 2011).

H1. (Talk) T. Oishi, K. Hagino, and H. Sagawa, “Di-proton correlation in the proton-rich Borromean nucleus 17Ne ”, University of Aizu-JUSTIPEN-EFES symposium on “CuttingEdge Physics of Unstable Nuclei”, University of Aizu, Aizu-Wakamatsu, Fukushima, Japan (10th November, 2010).

J. 日本国内での研究発表（特記の無いかぎり、すべて審査あり。）

J21. (口頭) 大石知広、 “Sensitivity of two-proton emission and magnetic-dipole transition to pairing model”, RCNP 研究会「対相関から対凝縮相への微視的アプローチ」、大阪大学核理学研究センター (RCNP)、大阪府茨木市 (September 4-6th, 2023)。 URL: <https://indico.rcnp.osaka-u.ac.jp/event/2163/>

J20=JPS11. ※日本物理学会発表、審査無し、後述。

J19. (口頭) 大石知広、 「核子多体系の時間依存性をともなう観測可能量と理論的アプローチ」、第4回若手放談会：エキジチック核物理の将来、理研神戸・融合連携イノベーション推進棟、兵庫県神戸市 (2023/03/15)。

URL: <https://indico2.riken.jp/event/3968/overview>

J18. (口頭、招待講演) 大石知広、 「同種核子の三重項型対相関モードと核子集団励起」、RCNP 研究会「微視的系と巨視的系における核子対凝縮相」、大阪大学核理学研究センター (RCNP)、大阪府茨木市+オンライン (September 26-28th, 2022)。

URL: <https://indico.rcnp.osaka-u.ac.jp/event/1921/>

J17=JPS10. ※日本物理学会発表、審査無し、後述。

J16. (口頭) 大石知広、 “Nuclear symmetry energy and collective excitations within the relativistic mean-field calculations”,

RCNP 研究会「低エネルギー核物理と高エネルギー天文学で読み解く中性子星」、大阪大学核理学研究センター (RCNP)、大阪府茨木市+オンライン (August 4th, 2022)。 <https://indico.rcnp.osaka-u.ac.jp/event/1897/>

J15. (口頭、審査無し) 大石知広、「時間発展する量子多体系としての陽子放出崩壊」、京都大学・核子多体系グループセミナー、京都大学物理第二教室 (July 1st, 2022)。

J14=JPS9. ※日本物理学会発表、審査無し、後述。

J13. (口頭、オンライン、審査無し) 大石知広、「原子核の磁気双極子 (M1) 励起と核子対相関」、京都大学・核子多体系グループオンラインセミナー (2021/05/28)。

J12=JPS8. ※日本物理学会発表、審査無し、後述。

J11. (口頭、オンライン) 大石知広、「核磁気双極子励起と相対論的残留相互作用」、東北大学 ELPH 研究会「様々なフレーバー領域で探るクォーク・ハドロン多体系の分光と構造」、東北大学電子光物理学研究センター (ELPH)、宮城県仙台市およびオンライン (2020/11/04-05)。

J10. (口頭) 大石知広、Lorenzo Fortunato、「ヴァレンス軌道上の陽子・中性子相関エネルギー」、RCNP 研究会「核子・ストレンジネス多体系におけるクラスター現象」、大阪大学核理学研究センター (RCNP)、大阪府茨木市 (2017/08/03-05)。

J6. (口頭) 大石知広、萩野浩一、佐川弘幸、「二核子放出崩壊に対する時間依存アプローチ」、RCNP 研究会「原子核の閾値近傍における共鳴現象と反応ダイナミクス」、大阪大学核理学研究センター (RCNP)、大阪府茨木市 (2012/07/18-20)。

J4. (口頭、審査無し) 大石知広、萩野浩一、佐川弘幸、「陽子過剰な不安定原子核と新種の放射性崩壊過程」、東北大学理学部 6 専攻合同シンポジウム、仙台メディアテーク、宮城県仙台市 (2012/03/15)。

そのうち日本物理学会での研究発表 (すべて審査無し)

JPS11=J18. (口頭) 大石知広、「Dirac 方程式による単陽子放出の評価と相対論的エネルギー密度汎関数」、日本物理学会・2023 年度春季大会、オンライン開催 (2023/03/24)。口頭発表に加えてセッション座長も務めた。

JPS10=J17. (口頭) 大石知広、「スピン・アイソスピン型励起と原子核のエネルギー密度汎関数」、日本物理学会・2022 年度秋季大会、岡山理科大学、岡山市 (September 6-8th, 2022)。口頭発表に加えてセッション座長も務めた。

JPS9=J14. (口頭、オンライン) 大石知広、「相対論的エネルギー密度汎関数理論によるスピン・アイソスピン型励起」、日本物理学会・第 77 回年次大会 (2022 年春)、コロナ禍によりオンライン開催に変更 (March 15-19th, 2022)。

JPS8=J12. (口頭、オンライン) 大石知広、「相対論的エネルギー密度汎関数理論に基づいた M1 励起の系統的研究」、日本物理学会・第 76 回年次大会 (2021 年春)、オンライン開催 (2021/03/12-15)。

JPS7=J9. (口頭) 大石知広、萩野浩一、佐川弘幸、「二核子放出崩壊における対相関力の効果」日本物理学会・第 69 回年次大会 (2014 年)、東海大学湘南キャンパス、神奈川県平塚市 (2014/03/27-30)。

JPS6=J8. (口頭) 大石知広、萩野浩一、佐川弘幸、「二陽子放出崩壊から探る di-proton correlation」、日本物理学会・2013 年度秋季大会、高知大学、高知市 (2013/09/21)。

JPS5=J7. (口頭) 大石知広、萩野浩一、佐川弘幸、「二陽子放出崩壊に対する時間発展的解法」、日本物理学会・第 68 回年次大会 (2013 年春)、26pHA-5、広島大学、広島県東広島市 (2013/03/26)。

JPS4=J5. (口頭) 丸山孝仁、大石知広、萩野浩一、佐川弘幸、「一次元三体模型に基づいた二陽子放出崩壊の時間依存アプローチ」、日本物理学会・第 67 回年次大会 (2012 年春)、関西学院大学、兵庫県西宮 (2012/03/24-27)。

JPS3=J3. (口頭) 大石知広、萩野浩一、佐川弘幸、「最外殻陽子間の Coulomb 力が ^{17}Ne の E1 遷移確率に与える影響」、日本物理学会・2011 年度秋季大会、弘前大学、青森県弘前市 (2011/09/16-19)。

JPS2=J2. (口頭) 大石知広、萩野浩一、佐川弘幸、「Core + 2 核子モデルを用いた ^{17}Ne の E1 遷移の解析」、日本物理学会・第 66 回年次大会 (2011 年)、新潟大学、新潟市 (2011/03/25-28)。

JPS1=J1. (口頭) 大石知広、萩野浩一、佐川弘幸、「 ^{17}Ne の三体模型計算と diproton 相関」、日本物理学会・2010 年度秋季大会、九州工業大学、北九州市 (2010/09/11-14)。

K. 教育関連の活動

- K5. 「力学Ⅱ」ティーチングアシスタント、東北大学理学部物理学科、2010年10月－2011年2月。
- K4. 「量子力学Ⅱ演習」ティーチングアシスタント、東北大学理学部物理学科、2009年4月－2009年7月。
- K3. 「量子力学Ⅰ演習」ティーチングアシスタント、東北大学理学部物理学科、2008年10月－2009年2月。
- K2. 「量子力学Ⅱ演習」ティーチングアシスタント、東北大学理学部物理学科、2008年4月－2008年7月。
- K1. 2010年4月－2020年3月、高等学校教諭一種免許状（理科）、宮城県。現在は失効中。[免許状写真](#)。

R. 論文査読（Peer Reviewing）

- R6. Referee in “The European Physical Journal A”, 3 times in June 2018 & April 2019 & November 2022.
- R5. Referee in “The European Physical Journal Plus”, 1 time in January 2022.
- R4. Referee in “Nuclear Physics A”, 2 times in November 2017 & May 2022.
- R3. Referee in “Chinese Physics C”, 1 time in February 2022.
- R2. Referee in “Nature Communications”, 1 time in July 2020.
- R1. Referee in “Journal of Physics G: Particle and Nuclear Physics”, 2 times in February 2020 & August 2020.

Z. その他の活動実績

- Z9. （計算機資源）東京大学 Wisteria/BDEC-01 スーパーコンピューターシステム利用資格。課題名“Proton-emitting radioactivity and spin-dependent excitations of atomic nuclei”，プロジェクト ID = MCRP-S- wo23i034。配分資源=30,000 ノード時間。URL: <https://project.ccs.tsukuba.ac.jp/event/24/overview>
- Z8. （国際会議世話人）Local organizer, YIPQS long-term workshop on “Mean-field and Cluster Dynamics in Nuclear Systems 2022 (MCD2022)”, Yukawa Institute for Theoretical Physics in Kyoto University, Kyoto, Japan + ONLINE (May 9th – June 17th, 2022). <http://www2.yukawa.kyoto-u.ac.jp/~mcd2022/organization.php>
- Z7. （卓越研究員候補者）応募者（大石知広）は文部科学省により令和3～5年度卓越研究員候補者に内定している。現在は次年度以降の当事者間交渉のため準備中。詳細は以下（応募者個人ページ）：
http://www.phy.pmf.unizg.hr/~toishi/JPN_Ver/MEMO_JP/Takuetsu2021/Takuetsu2021.html
- Z6. （計算機資源）筑波大学 Oakforest-PACS 利用資格。プロジェクト ID = xg21i064。配分資源=40,500 ノード時間。
- Z5. Youtube での研究発表（2021年から）<https://www.youtube.com/channel/UCgka98ebv1ADE8ecT4hOLzg>
- Z4. Scientific staff for open-campus event of Tohoku University 2013, for general public, August 2013.
- Z3. Scientific staff for open-campus event of Tohoku University 2012, for general public, July 2012.
- Z2. Scientific staff for open-campus event of Tohoku University 2011, for general public, July 2011.
- Z1. 日本物理学会（会員番号 54823H）、2010年9月～現在。