Dr. Enrico Rinaldi

Current Position:
Special Postdoctoral Fellow
RIKEN Nishina Center
Quantum Hadron Physics Laboratory
2-1 Hirosawa, Wako
Saitama, Japan

enrico.rinaldi@riken.jp
http://inspirehep.net/author/profile/E.Rinaldi.1
Personal Webpage

EDUCATION

University of Edinburgh, Edinburgh, UK PhD in Theoretical Particle Physics, **2009 - 2013**

University of Milan, Milan, Italy Master in Theoretical Particle Physics, **2007 - 2009, grade: 110/110 cum laude**

University of Milan, Milan, Italy Bachelor in Theoretical Physics, **2004 - 2007, grade: 110/110 cum laude**

Liceo Scientifico A. Righi, Cesena, Italy Secondary studies (scientific curriculum), **1999 - 2004, grade: 100/100**

EMPLOYMENT

Special Postdoctoral Fellow Quantum Hadron Physics Laboratory, RIKEN Nishina Center, **2019 - present**

Special Postdoctoral Fellow RIKEN BNL Research Center, Brookhaven National Laboratory, , **2016 - 2019**

Postdoctoral Researcher Physics Division, Lawrence Livermore National Laboratory, **2013 - 2016**

OTHER AFFILIATIONS

Visiting Research Affiliate Lawerence Berkeley National Laboratories, **2017 - 2018**

SKILLS

Experience in Machine Learning algorithms: Supervised and Unsupervised learning, Generative Models

Experience in Lattice QCD codes: Chroma, FUEL, MILC, CPS, openQCD, Grid and SciDAC libraries

Experience in programming languages: FORTRAN, C, C++, CUDA, Python, Lua, Mathematica and shell scripting.

Experience in productivity softwares: git, svn, Atom, LaTeX, Emacs, xmgrace, gnuplot, Keynote, Pages, Word, PowerPoint.

Italian and English languages spoken fluently. Basic knowledge of Japanese.

AWARDS

ACM SC18 Gordon Bell prize finalist (**November 2018**)

BNL, Outstanding oral presenter at Early Career Researcher Symposium (**December 2016**)

RIKEN, Special Postdoctoral Researcher (SPDR) fellowship (**September 2016 - September 2019**)

LLNL, Physics and Life Sciences outstanding postdoctoral fellow award (**August 2016**)

JSPS (Japan Society for the Promotion of Science) short-term fellowship (**May 2012 - December 2012**)

SUPA (The Scottish Universities Physics Alliance) Prize studentship (**September 2009 - October 2013**)

Highly commended poster at the School of Physics and Astronomy, University of Edinburgh **September 2011**

Diploma Prize at the Erice ISSP (International School of Subnuclear Physics) (**June 2011**)

Scholarship "Homo Sapiens Sapiens" for the Academic Years **2008/2009** and **2010/2011**

Honorable mention at the Italian National Physics Olympiad (**April 2004**)

GRANTS AND COMPUTING ALLOCATIONS

INCITE, Co-PI, allocation on Summit (770M node-hours) for year **2019**

NERSC, Co-PI ERCAP allocation request (65M core-hours) for year **2018**

BNL, PI on Early Exploratory Computational Science Projects allocation (2M core-hours) for year **2017**

LLNL, Co-PI LDRD grant "The Origin of Matter on Near-Exascale Supercomputing" ($440k annually) for years **2017-2020**

MISCELLANEOUS

Referee for American Physical Society (APS) journals (Physical Review D and Physical Review Letters), Springer's Journal of High Energy Physics (JHEP), Elsevier's Computer Physics Communications and Nuclear Physics B - since **2014**

Nationality: Italian

LIST OF PUBLICATIONS

1. Henry Monge-Camacho, Evan Berkowitz, David Brantley, Chia Cheng Chang, M. A. Clark, Arjun Gambhir, Nicolas Garron, Balint Joo, Thorsten Kurth, Amy Nicholson, **Enrico Rinaldi,** Brian Tiburzi, Pavlos Vranas, Andre Walker-Loud,

   "Short range operator contributions to 0nuBB decay from LQCD"

arxiv:1904.12055

2. Richard Brower, Anna Hasenfratz, Ethan Neil, Simon Catterall, George Fleming, Joel Giedt, **Enrico Rinaldi,** David Schaich, Evan Weinberg, Oliver Witzel

   "Lattice gauge theory for physics beyond the Standard Model"

arxiv:1904.09964

3. Evan Berkowitz, David Brantley, Ken McElvain, Andre Walker-Loud, Chia Cheng Chang, M. A. Clark, Thorsten Kurth, Balint Joo, Henry Monge-Camacho, **Enrico Rinaldi,** Amy Nicholson, Pavlos Vranas

   "Progress in Multibaryon Spectroscopy"

arxiv:1902.09416

4. **Enrico Rinaldi**, Sergey Syritsyn, Michael L. Wagman, Michael I. Buchoff, Chris Schroeder, Joseph Wasem

   "Lattice QCD determination of neutron-antineutron matrix elements with physical quark masses"

Phys. Rev. D 99 (2019) 074510

5. Amy Nicholson, Evan Berkowitz, Henry Monge-Camacho, David Brantley, Nicolas Garron, Chia Cheng Chang, **Enrico Rinaldi,** Christopher Monahan, Chris Bouchard, M. A. Clark, Balint Joo, Thorsten Kurth, Brian Tiburzi, Pavlos Vranas, Andre Walker-Loud

   "Symmetries and Interactions from Lattice QCD"

arxiv:1812.11127

6. **Enrico Rinaldi**

   "Lattice field theory results on new strong dynamics"

Frascati Phys. Ser.65 (2017) 96-103

7. Evan Berkowitz, M. A. Clark, Arjun Gambhir, Ken McElvain, Amy Nicholson, **Enrico Rinaldi,** Pavlos Vranas, Andre Walker-Loud, Chia Cheng Chang, Balint Joo, Thorsten Kurth, Kostas Orginos

"Simulating the weak death of the neutron in a femtoscale universe with near-Exascale computing"

arxiv:1810.01609, Gordon Bell prize finalist

8. T. Appelquist, R.C. Brower, G.T. Fleming, A. Gasbarro, A. Hasenfratz, J. Ingoldby, J. Kiskis, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, P. Vranas, E. Weinberg, O. Witzel

"Linear sigma EFT for nearly conformal gauge theories"

Phys.Rev. D98 (2018) 114510 (**featured in Editors' Suggestions**)

9. **Enrico Rinaldi**, Sergey Syritsyn, Michael L. Wagman, Michael I. Buchoff, Chris Schroeder, Joseph Wasem

"Neutron-antineutron oscillations from lattice QCD"

Phys. Rev. Lett. 122 (2019) 162001

10. T. Appelquist, R.C. Brower, G.T. Fleming, A. Gasbarro, A. Hasenfratz, X.-Y. Jin, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, P. Vranas, E. Weinberg, O. Witzel

"Nonperturbative investigations of SU(3) gauge theory with eight dynamical flavors"

Phys. Rev. D 99 (2019) 014509

11. Chia Cheng Chang, Amy Nicholson, **Enrico Rinaldi,** Evan Berkowitz, Nicolas Garron, David Brantley, Henry Monge-Camacho, Christopher Monahan, Chris Bouchard, M. A. Clark, Balint Joo, Thorsten Kurth, Kostas Orginos, Pavlos Vranas, Andre Walker-Loud

"A per-cent-level determination of the nucleon axial coupling from quantum chromodynamics"

Nature 558, 91–94 (2018)

12. Amy Nicholson, Evan Berkowitz, Henry Monge-Camacho, David Brantley, Nicolas Garron, Chia Cheng Chang, **Enrico Rinaldi,** M. A. Clark, Balint Joo, Thorsten Kurth, Brian Tiburzi, Pavlos Vranas, Andre Walker-Loud

"Heavy physics contributions to neutrino less double beta decay from QCD"

Phys. Rev. Lett. 121 (2018) 172501

13. Evan Berkowitz, **Enrico Rinaldi,** Masanori Hanada, Pavlos Vranas

"Gauged and Ungauged: A Nonperturbative Test"

JHEP 1806 (2018) 124

14. Chia Cheng Chang, Amy Nicholson, **Enrico Rinaldi,** Evan Berkowitz, Nicolas Garron, David Brantley, Henry Monge-Camacho, Christopher Monahan, Chris Bouchard, M. A. Clark, Balint Joo, Thorsten Kurth, Kostas Orginos, Pavlos Vranas, Andre Walker-Loud

"Nucleon axial coupling from Lattice QCD"

EPJ Web Conf. 175 (2018) 01008

15. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Flavor-singlet spectrum in multi-flavor QCD"

EPJ Web Conf. 175 (2018) 08023

16. Evan Berkowitz, Amy Nicholson, Chia Cheng Chang, **Enrico Rinaldi,** M. A. Clark, Balint Joo, Thorsten Kurth, Pavlos Vranas, Andre Walker-Loud

"Calm Multi-Baryon Operators"

EPJ Web Conf. 175 (2018) 05029

17. **Enrico Rinaldi,** Evan Berkowitz, Masanori Hanada, Jonathan Maltz, Pavlos Vranas

"Toward Holographic Reconstruction of Bulk Geometry from Lattice Simulations"

JHEP 1802 (2018) 042

18. **Enrico Rinaldi**,

"Lattice field theory results on new strong dynamics"

Frascati Phys. Ser. 65 (2017) 96-103

19. Hooman Davoudiasl, Pier Paolo Giardino, Ethan Neil, **Enrico Rinaldi**

"Unified scenario for Composite Right-Handed Neutrinos and Dark Matter"

Phys. Rev. D96 (2017) 115003

20. A. Bazavov, H.-T. Ding, P. Hegde, O. Kaczmarek,F. Karsch, E. Laermann, Swagato Mukherjee, H. Ohno, P. Petreczky, **Enrico Rinaldi**, H. Sandmeyer, C. Schmidt, Chris Schroeder, S. Sharma, W. Soeldner, R.A. Soltz, P. Steinbrecher, P.M. Vranas

"Skewness and kurtosis of net baryon-number distributions at small values of the baryon chemical potential"

Phys. Rev. D96 (2017) 074510

21. Evan Berkowitz, David Brantley, Chris Bouchard, Chia Cheng Chang, M. A. Clark, Nicolas Garron, Balint Joo, Thorsten Kurth, Christopher Monahan, Henry Monge-Camacho, Amy Nicholson, Kostas Orginos, **Enrico Rinaldi,** Pavlos Vranas, Andre Walker-Loud

"An accurate calculation of the nucleon axial charge with lattice QCD"

arxiv:1704.01114, submitted to Physical Review C.

22. Evan Berkowitz, Chris Bouchard, Chia Cheng Chang, M. A. Clark, Balint Joo, Thorsten Kurth, Christopher Monahan, Amy Nicholson, Kostas Orginos, **Enrico Rinaldi,** Pavlos Vranas, Andre Walker-Loud

"Möbius domain-wall fermions on gradient-flowed dynamical HISQ ensembles"

Phys. Rev. D96 (2017) 054513

23. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Light flavor-singlet scalars and walking signals in N_f=8 QCD on the lattice"

Phys. Rev. D96 (2017) 014508

24. Amy Nicholson, Evan Berkowitz, Chia Cheng Chang, M. A. Clark, Balint Joo, Thorsten Kurth, **Enrico Rinaldi,** Brian Tiburzi, Pavlos Vranas, Andre Walker-Loud

"Neutrinoless double beta decay from lattice QCD"

PoS LATTICE2016 (2016) 017

25. Evan Berkowitz, **Enrico Rinaldi,** Masanori Hanada, Goro Ishiki, Shinji Shimasaki, Pavlos Vranas

"Precision lattice test of the gauge/gravity duality at large N"

Phys. Rev. D94 (2016) 094501

26. Evan Berkowitz, **Enrico Rinaldi,** Masanori Hanada, Goro Ishiki, Shinji Shimasaki, Pavlos Vranas

"Supergravity from D0-brane quantum mechanics"

arxiv:1606.04948

27. Francesco Knechtli, **Enrico Rinaldi**

"Extra-dimensional models on the lattice"

Int. J. Mod. Phys. A 31, 1643002 (2016)

28. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Lattice studies of 8-flavor QCD in the light of physics beyond the Standard Model "

Nucl. Part. Phys. Proc. 270-272 (2016) 242-246

29. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"S-parameter and vector decay constant in QCD with eight fundamental fermions"

PoS LATTICE2015 (2016) 245

30. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Topological observables in many-flavour QCD"

PoS LATTICE2015 (2016) 214

31. T. Appelquist, R.C. Brower, G.T. Fleming, A. Hasenfratz, X.-Y. Jin, J. Kiskis, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, P. Vranas, E. Weinberg, O. Witzel

"Strongly interacting dynamics and the search for new physics at the LHC"

Phys. Rev. D93 (2016) 114514

32. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "Walking and conformal dynamics in many-flavor QCD"

PoS LATTICE2015 (2016) 213

33. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "SU(3) gauge theory with four degenerate fundamental fermions on the lattice"

PoS LATTICE2015 (2016) 215

34. A. Nicholson, E. Berkowitz, **Enrico Rinaldi**, T. Kurth, B. Joo, M. Strother, P. Vranas, A. Walker-Loud

    "Two-nucleon scattering in multiple partial waves"

PoS LATTICE2015 (2016) 083

35. T. Kurth, E. Berkowitz, A. Nicholson, **Enrico Rinaldi**, M. Strother, P. Vranas, A. Walker-Loud

    "Nuclear parity violation from Lattice QCD"

PoS LATTICE2015 (2016) 329

36. Cynthia Y.-H. Huang, I. Kanamori, C.-J. David Lin, Kenji Ogawa, Hiroshi Ohki, Alberto Ramos, **Enrico Rinaldi**

    "Lattice study for conformal windows of SU(2) and SU(3) gauge theories with fundamental fermions"

PoS LATTICE2015 (2016) 224

37. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "Lattice study of the scalar and baryon spectra in many-flavor QCD"

Int.J.Mod.Phys. A32 (2017) no.35, 1747010

38. **E. Rinaldi** (for the LSD collaboration)

    "Investigation of the scalar spectrum in SU(3) with eight degenerate flavors"

Int.J.Mod.Phys. A32 (2017) no.35, 1747002

39. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "Topological insights in many-flavor QCD on the lattice"

Int.J.Mod.Phys. A32 (2017) no.35, 1747005

40. E. Berkowitz, T. Kurth, A. Nicholson, B. Joo, **Enrico Rinaldi**, M. Strother, P. Vranas, A. Walker-Loud

    "Two-nucleon higher partial-wave scattering from Lattice QCD"

Phys. Lett. B765 (2017) 285-292

41. D. Schaich, A. Hasenfratz, **Enrico Rinaldi** (for the LSD collaboration)

    "Finite-temperature study of eight-flavor SU(3) gauge theory"

Int.J.Mod.Phys. A32 (2017) no.35, 1747051

42. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "Thermodynamics in 8-flavor QCD"

Int.J.Mod.Phys. A32 (2017) no.35, 1747046

43. E. Berkowitz, M. Buchoff, **Enrico Rinaldi**

    "Lattice QCD input for axion cosmology"

Phys. Rev. D92 (2015) 034507

44. T. Appelquist, E. Berkowitz, R.C. Brower, M.I. Buchoff, G.T. Fleming, X.-Y. Jin, J. Kiskis, G.D. Kribs, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, C. Schroeder, S. Syritsyn, P. Vranas, E. Weinberg, O. Witzel

    "Direct Detection of Stealth Dark Matter through Electromagnetic Polarizability"

Phys. Rev. Lett. 115 (2015) 171803 (**featured in Editors' Suggestions**)

45. T. Appelquist, R.C. Brower, M.I. Buchoff, G.T. Fleming, X.-Y. Jin, J. Kiskis, G.D. Kribs, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, C. Schroeder, S. Syritsyn, P. Vranas, E. Weinberg, O. Witzel

    "Stealth Dark Matter: Dark scalar baryons through the Higgs portal"

Phys. Rev. D92 (2015) 075030 (**featured in Editors' Suggestions**)

46. Yasumichi Aoki, Tatsumi Aoyama, Ed Bennett, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "Conformality in twelve-flavour QCD"

PoS (Lattice 2014) 256

47. Cynthia Y.-H. Huang, C.-J. David Lin, Kenji Ogawa, Hiroshi Ohki, **Enrico Rinaldi**

    "Phase structure study of SU(2) lattice gauge theory with 8 flavors"

PoS (Lattice 2014) 240

48. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

    "Walking signals in N_f=8 QCD on the lattice"

PoS (Lattice 2013) 071

49. T. Appelquist, R.C. Brower, G.T. Fleming, J. Kiskis, M.F. Lin, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, C. Schroeder, S. Syritsyn G. Voronov, P. Vranas, E. Weinberg, O. Witzel

"Lattice simulations with eight flavors of domain wall fermions in SU(3) gauge theory"

Phys. Rev. D90 (2014) 114502

50. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Light composite scalar in eight-flavor QCD on the lattice"

Phys. Rev. D89 (2014) 111502

51. R.C. Brower, M. Cheng, G.T. Fleming, M.F. Lin, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, C. Schroeder, G. Voronov, P. Vranas, E. Weinberg, O. Witzel

"Maximum-Likelihood approach to topological charge fluctuations in lattice gauge theories"

Phys. Rev. D90 (2014) 014503

52. T. Appelquist, E. Berkowitz, R.C. Brower, M.I. Buchoff, G.T. Fleming, J. Kiskis, M.F. Lin, E.T. Neil, J.C. Osborn, C. Rebbi, **Enrico Rinaldi**, D. Schaich, C. Schroeder, S. Syritsyn, G. Voronov, P. Vranas, E. Weinberg, O. Witzel, G.D. Kribs

"Composite bosonic baryon dark matter on the lattice: SU(4) baryon spectrum and the effective Higgs interaction"

Phys. Rev. D89 (2014) 094508

53. **Enrico Rinaldi**

"Non-perturbative aspects of physics beyond the Standard Model"

Ph.D. thesis (https://www.era.lib.ed.ac.uk/handle/1842/8301)

54. Biagio Lucini, Agostino Patella, Antonio Rago, **Enrico Rinaldi**

"Infrared conformality and bulk critical points: SU(2) with heavy adjoint quarks"

JHEP 1311 (2013) 106

55. Luigi Del Debbio, Richard D. Kenway, Eliana Lambrou, **Enrico Rinaldi**

"Searching for a continuum 4D field theory arising from a 5D non-abelian gauge theory"

PoS (Lattice 2013) 107

56. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Gluonic observables and the scalar spectrum of twelve-flavor QCD"

PoS (Lattice 2013) 073

57. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Composite flavor-singlet scalar in twelve-flavor QCD"

PoS (**Lattice 2013**) **077**

58. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kohtaroh Miura, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Exploring for a light composite scalar in eight-flavor QCD on the lattice"

PoS (**Lattice 2013**) **070**

59. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"Light composite scalar in twelve-flavor QCD on the lattice"

Phys. Rev. Lett. 111 (2013) **16, 162001**

60. Luigi Del Debbio, Richard D. Kenway, Eliana Lambrou, **Enrico Rinaldi**

"The transition to a layered phase in the anisotropic five-dimensional SU(2) Yang-Mills theory"

Phys. Lett. B724 (2013) **133-137**

61. Yasumichi Aoki, Tatsumi Aoyama, Masafumi Kurachi, Toshihide Maskawa, Kei-ichi Nagai, Hiroshi Ohki, **Enrico Rinaldi**, Akihiro Shibata, Koichi Yamawaki, Takeshi Yamazaki

"The scalar spectrum of many-flavour QCD"

arxiv:1302.4577 SCGT12 proceeding

62. Giuseppe Lacagnina, Biagio Lucini, Agostino Patella, Antonio Rago, **Enrico Rinaldi**

"Scaling properties of SU(2) gauge theory with mixed fundamental-adjoint action"

PoS (**Lattice 2012**) **252**

63. Luigi Del Debbio, Alistair Hart, **Enrico Rinaldi**

"Light scalar spectrum in extra-dimensional gauge theories"

PoS (**Lattice 2012**) **038**

64. E. Gregory, A.C. Irving, B. Lucini, C. McNeile, A.Rago, C.Richards. **Enrico Rinaldi**

"Towards the glueball spectrum from unquenched lattice QCD"

JHEP 10 (2012) **170**

65. Luigi Del Debbio, Alistair Hart, **Enrico Rinaldi**

"Light scalars in strongly-coupled extra-dimensional theories"

JHEP 07 (2012) **178**

66. Biagio Lucini, Antonio Rago, **Enrico Rinaldi**

"SU(Nc) gauge theories at deconfinement"

Phys. Lett. B712 (2012) 279-283

67. Luigi Del Debbio, **Enrico Rinaldi**

"Scalar mass corrections from compact extra dimensions on the lattice"

PoS (Lattice 2011) 086

68. Biagio Lucini, Antonio Rago, **Enrico Rinaldi**

"Glueball masses in the large N limit"

JHEP 08 (2010) 119

69. Biagio Lucini, Antonio Rago, **Enrico Rinaldi**

"The glueball spectrum at large N"

PoS (Lattice 2010) 284

70. Sergio Caracciolo, **Enrico Rinaldi**, Andrea Sportiello

"Exact sampling of corrugated surfaces"

J. Stat. Mech (2009) P02049

TALKS, POSTERS AND SEMINARS

April 2019, *Invited* seminar at the workshop "Frontiers in Lattice QCD", YITP, Kyoto, Japan: "Nuclear matrix elements for baryogenesis."

March 2019, *Invited* seminar at the RBRC Scientific Review meeting, BNL, Upton, NY: "Lattice Quantum Field theories and New Physics."

January 2019, *Poster* at the RIKEN Special Postdoctoral Fellows Event, Wako, Japan: "Towards understanding dark matter using lattice quantum field theory techniques."

January 2019, *Invited* seminar at the Computational Science Initiative, BNL, Upton, NY: "The neutron lifetime with near-Exascale computing."

December 2018, *Invited* seminar at the Institut für Kernphysik, Forschungzentrum, Jülich, Germany: "First-principles lattice QCD calculations of the neutron beta decay: challenges and prospects."

December 2018, *Invited* talk at the workshop "Particle Physics with Neutrons at ESS" at the Nordita University, Stockholm, Sweden: "First-principles lattice QCD calculations of the neutron beta decay: challenges and prospects."

December 2018, *Invited* talk at the workshop "Particle Physics with Neutrons at ESS" at the Nordita University, Stockholm, Sweden: "Lattice calculations for neutron-antineutron oscillations."

November 2018, *Invited* seminar at York University, Toronto, Canada: "Illuminating dark matter with supercomputers."

November 2018, *Invited* talk at the workshop "Beta Decay as a Probe of New Physics" at the Amherst Center for Fundamental Interactions, University of Massachusetts Amherst, MA: "First-principles QCD calculation of the neutron lifetime."

October 2018, *Invited* seminar at University of Rome 3, Rome, Italy: "New results on strongly-coupled theories near the conformal window."

October 2018, *Invited* seminar at University of Milan Bicocca, Milan, Italy: "Beyond the Standard Model physics with lattice simulations."

October 2018, *Invited* talk at the workshop "Interdisciplinary approach to QCD-like composite dark matter" in ECT*, Trento, Italy: "Lattice composite dark matter"

September 2018, Talk at the workshop "Quantum Gravity meets Lattice QFT" in ECT*, Trento, Italy: "Ungauging the gauge/gravity duality"

July 2018, Talk at Lattice 2018, Michigan State University, USA: "Neutron-antineutron oscillations"

July 2018, Talk at ICHEP2018, Seoul, South Korea: "First-principles lattice QCD calculation of the neutron lifetime."

June 2018, *Invited* seminar at Tsukuba University, Tsukuba, JAPAN: "New results on strongly-coupled theories near the conformal window."

June 2018, *Invited* talk at the conference CIPANP18, Palm Springs, CA, USA: "Composite Dark Matter."

May 2018, *Invited* seminar at New York University, New York, NY, USA: "How to test the gauge/gravity duality with lattice simulations."

April 2018, *Invited* talk at the workshop LBSM18 "Lattice for Beyond the Standard Model Physics", University of Colorado, Boulder, CO, USA: "High-precision tests of the gauge/gravity duality and future applications."

February 2018, *Invited* seminar at Stony Brook University, Stony Brook, NY, USA: "What lattice gauge theory can do for dark matter searches."

January 2018, *Invited* seminar at Lawrence Livermore National Laboratory, Livermore, CA, USA: "The nucleon axial charge from Lattice QCD"

January 2018, *Invited* talk at the workshop "Continuum and Lattice Approaches to the Infrared Behavior of Conformal and Quasi-Conformal Gauge Theories", Stony Brook University, Simons Center for Geometry and Physics, Stony Brook, NY, USA: "Exploring signals of conformality in theories with many flavors: a LatKMI report"

October 2017, Talk at "Brookhaven forum 2017: in search of new paradigms", Brookhaven National Laboratory, Upton NY, USA: "Dark interactions and supercomputers"

October 2017, *Invited* talk at the inter-institutional meeting ITCPS2017 "Interdisciplinary Theoretical and Computational Physical Sciences", Tokyo Institute of Technology, Tokyo, Japan: "Petaflops computing for the search of New Physics"

October 2017, Seminar at RIKEN Nishina Center, Wako, Japan: "The nucleon axial coupling from Lattice QCD"

September 2017, *Invited* talk at the workshop LFC17 "Old and new strong interactions from LHC to future colliders", ECT*, Trento, Italy: "Lattice Field Theory results on new strong dynamics"

June 2017, Talk at Lattice 2017, Granada, Spain: "Flavor-singlet spectrum in multi-flavor QCD: SU(3) with N_f=4,8 and 12"

May 2017, *Invited* seminar at University of Oregon, Eugene, US: "How to Test the Gauge/Gravity Duality with Lattice Simulations"

May 2017, Seminar at RIKEN, BNL, Upton, US: "The nucleon axial charge from lattice QCD"

April 2017, *Invited* talk at the workshop "Lattice for Beyond the Standard Model Physics", Boston University, Boston, USA: "Many-flavor theories on the lattice"

April 2017, *Invited* talk at the workshop "Quantum gravity, string theory and holography", YITP, Kyoto, Japan: "How to test the gauge/gravity duality with lattice simulations"

March 2017, *Invited* seminar at Università di Roma 2, Tor Vergata, Roma, Italy: "Beyond the Standard Model Physics with Lattice Simulations"

February 2017, *Invited* seminar at Università di Roma 1, La Sapienza, Roma, Italy: "What lattice gauge theory can do for Dark Matter searches"

December 2016, Talk at Early Career Researcher Symposium, BNL, Upton, US: "Dark Interactions and Lattice Gauge Theories"

November 2016, Talk at "Frontiers in nuclear physics", KITP, Santa Barbara, US: "Dark Interactions and the Lattice"

November 2016, Seminar at RIKEN, BNL, Upton, US: "An overview of lattice field theory applications to dark matter searches"

October 2016, Talk at the workshop "Dark Interactions: Perspectives from Theory and Experiment", BNL, US: "Lattice gauge theory insights on Dark Matter"

August 2016, Poster at ICHEP2016, Chicago, US: "Strongly coupled physics Beyond the Standard Model with Peta-scale computing"

August 2016, *Invited* talk at ICHEP2016, Chicago, US: "Lattice Gauge Theory Bounds on Composite Dark Matter"

July 2016, *Invited* plenary talk at Lattice 2016, Southampton, UK: "Composite Dark Matter and Insights from the Lattice"

April 2016, Talk at the APS April Meeting, Salt Lake City, USA: "Stealth Dark Matter: Model, Lattice Calculations, and constraints"

April 2016, *Invited* talk at the APS April Meeting, Salt Lake City, USA: "Beyond the Standard Model Physics with Lattice Simulations"

March 2016, *Invited* seminar at University at Buffalo, Buffalo USA: "Lattice Gauge Theory bounds on composite dark matter"

March 2016, *Invited* seminar at UC Irvine, Irvine, USA: "Lattice Gauge Theory bounds on composite dark matter"

October 2015, Talk at the INT Workshop "Intersection of BSM Phenomenology and QCD for New Physics Searches", INT-15-3, Seattle, USA: "Lattice QCD techniques for Dark Matter Searches"

September 2015, Talk at "Lattice Gauge Theories for the LHC and beyond" KITP, Santa Barbara, USA: "Axion Dark Matter"

July 2015, *Invited* seminar at KEK, Tsukuba, Japan: "New first-principle lower bound on the axion mass"

July 2015, *Invited* talk at the workshop "Numerical approaches to the holographic principle, quantum gravity and cosmology", YITP, Kyoto, Japan: "Non-perturbative beyond the Standard Model physics"

July 2015, Talk at Lattice 2015, Kobe, Japan: "Stealth Dark Matter on the lattice"

May 2015, *Invited* talk at the lattice workshop "Origin of Mass 2015", CP3-Origins, Odense, DK: "Lattice Field Theory for dark matter searches"

April 2015, *Invited* talk at the workshop "Lattice for Beyond the Standard Model Physics", LLNL, Livermore, USA: "Stealth Dark Matter on the lattice"

April 2015, *Invited* seminar at CERN, Switzerland: "Dark matter tales from the lattice"

March 2015, Talk at the workshop "Bound states in QCD and Beyond", St. Goar, Germany: "Composite dark matter"

March 2015, *Invited* seminar at the University of Swansea, Swansea, UK: "Dark matter tales from the lattice"

March 2015, *Invited* seminar at the University of Plymouth, Plymouth, UK: "Dark matter tales from the lattice"

March 2015, Replacement speaker at the workshop "SCGT15", Nagoya, Japan: "Composite Dark Matter" by George Fleming

March 2015, *Invited* talk at the workshop "SCGT15", Nagoya, Japan: "Investigation of the scalar spectrum in 8-flavor QCD"

December 2014, *Invited* talk at the INT Workshop "Nuclear aspects of dark matter searches", Seattle, USA: "Strongly-coupled composite dark matter and lattice field theory"

November 2014, Joint Meeting at LLNL, Livermore, USA: "Lattice QCD 101: Foundations of lattice simulations"

June 2014, Poster at Lattice 2014, New York, USA: "Conformality in twelve-flavor QCD"

June 2014, Talk at Lattice 2014, New York, USA: "Testing composite Higgs models on the lattice"

March 2014, Poster at SCGT14, Nagoya, Japan: "Glueball masses and the string tension of twelve-flavor QCD"

July 2013, Talk at Lattice 2013, Mainz, Germany: "Gluonic observables and the scalar spectrum of twelve-flavor QCD"

March 2013, *Invited* seminar at KEK, Tsukuba, Japan: "The scalar spectrum of many-flavor QCD"

March 2013, *Invited* talk at ExtraDim 2013, Osaka, Japan: "Light scalars from extra dimensions"

March 2013, *Invited* seminar at KMI, Nagoya, Japan: "The scalar spectrum of many-flavor QCD"

January 2013, *Invited* seminar at LLNL, Livermore, USA: "The scalar spectrum of many-flavor QCD"

December 2012, Talk at SCGT12, Nagoya, Japan: "The scalar spectrum of many-flavor QCD"

November 2012, *Invited* seminar at Niigata University, Japan: "Light scalar spectrum in extra-dimensional gauge theories"

October 2012, *Invited* seminar at KEK, Tsukuba, Japan: "Light scalar spectrum in extra-dimensional gauge theories"

October 2012, *Invited* seminar at NTU, Taipei, Taiwan: "Light scalar spectrum in extra-dimensional gauge theories"

June 2012, Talk at Lattice 2012, Cairns, Australia: "Light scalar spectrum in extra-dimensional gauge theories"

June 2012, Poster at Lattice 2012, Cairns, Australia: "Scaling properties of SU(2) gauge theory with mixed fundamental-adjoint action"

June 2012, *Invited* seminar at KMI, Nagoya, Japan: "Light scalar spectrum in extra-dimensional gauge theories"

April 2012, *Invited* seminar at INFN, Frascati, Italy: "Extra-dimensional gauge theories on the lattice"

December 2011, Talk at YTF, Durham, UK: "Scalar mass corrections from compactified extra dimensions on the lattice"

September 2011, Poster at the School of Physics and Astronomy, Edinburgh, UK: "Lattice gauge theories with compactified extra dimensions"

July 2011, Talk at Lattice 2011, Squaw Valley, CA, USA: "Scalar mass corrections from compactified extra dimensions on the lattice"

June 2011, Talk in the New talent session of the ISSP, Erice, Italy: "Scalar mass corrections from compactified extra dimensions on the lattice"

June 2011, Talk at the workshop on ED physics, London, UK: "Scalar mass corrections from compactified extra dimensions on the lattice"

March 2011, Talk at the workshop in memory of Jan Wennekers: "Scalar mass corrections from compactified extra dimensions on the lattice"

March 2011, Seminar at the School of Physics and Astronomy, Edinburgh, UK: "Scalar mass corrections from compactified extra dimensions on the lattice"

June 2010, Talk at Lattice 2010, Villasimius, Italy: "The glueball spectrum in the large-N limit"

December 2009, Talk at YTF, Durham, UK: "The glueball spectrum in the large-N limit"

SCHOOLS, CONFERENCES AND WORKSHOPS

April 2019, "Frontiers in Lattice QCD", workshop, YITP, Kyoto, Japan

December 2018, "Particle Physics with Neutrons at ESS", workshop, Nordita University, Stockholm, Sweden

November 2018, "Beta Decay as a Probe of New Physics" workshop, ACFI, University of Massachusetts, Amherst, MA, USA

October 2018, "Interdisciplinary approach to QCD-like composite dark matter" workshop, ECT*, Trento, Italy

September 2018, "Quantum Gravity meets Lattice QFT" workshop, ECT*, Trento, Italy

July 2018, XXXVI International Symposium on Lattice Field Theory, Michigan State University, East Lansing, MI, USA

July 2018, ICHEP2018, Seoul, South Korea

June 2018, "Conference at the intersection of particle and nuclear physics", CIPANP18, Palm Springs, CA, USA

April 2018, "Dark matter detection and detectability: paradigm confirmation or shift?" conference, Kavli Institute of Theoretical Physics, University of California Santa Barbara, Santa Barbara, CA, USA

April 2018, "Lattice for Beyond the Standard Model Physics" workshop, University of Colorado, Boulder, CO, USA

January 2018, "Continuum and Lattice Approaches to the Infrared Behavior of Conformal and Quasi-Conformal Gauge Theories" workshop, Stony Brook University, Simons Center for Geometry and Physics, Stony Brook, NY, USA

November 2017, "Axions at the crossroads: QCD, dark matter, astrophysics" workshop, ECT*, Trento, Italy

October 2017, "Brookhaven forum 2017: in search of new paradigms" workshop, Brookhaven National Laboratory, Upton NY, USA

October 2017, Inter-institutional meeting ITCPS2017 "Interdisciplinary Theoretical and Computational Physical Sciences", Tokyo Institute of Technology, Tokyo, Japan

September 2017, ECT* workshop LFC17 "Old and new strong interactions from LHC to future colliders", ECT*, Trento, Italy

July 2017, INT Workshop "Lattice QCD for Neutrinoless Double-Beta Decay", INT-16-67W, Seattle, USA

June 2017, XXXV International Symposium on Lattice Field Theory, Granada, Spain

April 2017, "Lattice for Beyond the Standard Model Physics" workshop, Boston University, Boston, USA

April 2017, "Quantum gravity, string theory and holography" workshop, YITP, Kyoto, Japan

December 2016, "Early Career Researcher Symposium", BNL, Upton NY, USA

November 2016, "Frontiers in Nuclear Physics" program, KITP, Santa Barbara, USA

October 2016, "Dark Interactions: Perspectives from Theory and Experiment" workshop, BNL, USA

August 2016, ICHEP 2016, Chicago, USA

July 2016, XXXIV International Symposium on Lattice Field Theory, Southampton, UK

April 2016, APS April Meeting, Salt Lake City, USA

April 2016, INT Workshop "Nuclear physics from Lattice QCD", INT-16-1, Seattle, USA

October 2015, INT Workshop "Intersection of BSM Phenomenology and QCD for New Physics Searches", INT-15-3, Seattle, USA

August-September 2015, "Lattice Gauge Theory for the LHC and beyond" program, KITP, Santa Barbara, USA

July 2015, "Numerical approaches to the holographic principle, quantum gravity and cosmology" workshop, YITP, Kyoto, Japan

July 2015, XXXIII International Symposium on Lattice Field Theory, Kobe, Japan

- **April 2015**, "Lattice for Beyond the Standard Model Physics" workshop, LLNL, Livermore, USA (**local organizer**)

March 2015, "Bound states in QCD and beyond" workshop, St. Goar, Germany

March 2015, SCGT15 conference, Nagoya, Japan

December 2014, INT Workshop "Nuclear aspects of dark matter searches", Seattle, USA

June 2014, XXXII International Symposium on Lattice Field Theory, New York, USA

December 2013, Lattice Meets Experiments 2013 workshop, BNL, Upton, USA

March 2013, SCGT14mini workshop, Nagoya, Japan

July 2013, XXXI International Symposium on Lattice Field Theory, Mainz, Germany

March 2013, Extradim2013 conference, Osaka, Japan

- **December 2012**, SCGT12 conference, Nagoya, Japan (**local organizer**)

July 2012, "Crossover" workshop on Lattice and Hadron Physics, Nagoya, Japan

June 2012, XXX International Symposium on Lattice Field Theory, Cairns, Australia

May 2012, STRONGnet Summer School, Edinburgh, UK

December 2011, IPPP Annual Theory Meeting, Durham, UK

December 2011, UK High Energy Physics Young Theorists' Forum, Durham, UK

July 2011, XXIX International Symposium on Lattice Field Theory, Squaw Valley, CA, USA

June 2011, 49th International School of Subnuclear Physics, Erice, Italy

June 2011, Workshop on Extra Dimensional Theories, King's College, London, UK

March 2011, Workshop in memory of Jan Wennekers, Edinburgh, UK

December 2010, IPPP Annual Theory Meeting, Durham, UK

September 2010, British Universities Summer School in Theoretical Elementary Particle Physics, Swansea, UK

June 2010, XXVIII International Symposium on Lattice Field Theory, Villasimius, Italy

December 2009, UK High Energy Physics Young Theorists' Forum, Durham, UK

December 2009, Lattice field theory workshop, Turin, Italy

July 2009, Workshop on Large N theories, Swansea, UK

TEACHING EXPERIENCE

Undergraduate Course (for 3rd year students) in Quantum Mechanics, University of Edinburgh, **2010 and 2011**

Undergraduate Course (for 1st year students) in Mathematics for Physics, University of Edinburgh, **2009, 2010 and 2011**