

Stefano Gandolfi

- **Education:**

- 2007: Ph.D. in Theoretical Physics, advisor Prof. F. Pederiva, University of Trento
- 2004: M.S. Specialist Laurea degree in physics, University of Trento
- 2003: B.S. Laurea degree in Physics, University of Trento

- **Awards:**

- 2008: "Premio Nazionale Sergio Fubini" by Istituto Nazionale di Fisica Nucleare (INFN) for the best INFN Ph.D. thesis during the Apr. 2007 - Apr. 2008 period.
- 2009: Awarded from University of Trento for the best Ph.D. thesis of the academic year 2006/2007.
- 2013: International Union of Pure and Applied Physics (IUPAP) Young Scientist Prize.

- **Employment:**

- 10/2010–present: *Staff scientist* in the Nuclear Theory group at Los Alamos National Laboratory (LANL).
- 08/2009–10/2011: *Postdoctoral research* at Los Alamos National Laboratory (LANL), advisor J. Carlson.
- 12/2007–07/2009: *Research assignment* at S.I.S.S.A. (Italy), advisor S. Fantoni.
- 2006: Assistant professor of "Nuclear and Subnuclear Physics" class, University of Trento.

- **Referee:** Physical Review Letters, Physical Review B, Physical Review C, Physics Letters B, Nuclear Physics A, The Astrophysical Journal, Astronomy & Astrophysics, European Physical Journal D, Journal of Low Temperature Physics, Journal of Computational Methods in Physics, Journal of the Physical Society of Japan (JPSJ).

- **Grant proposal reviewer:** National Science Foundation (NSF), Czech Science Foundation, National Science Center (Poland), Department of Energy Office of Science, Natural Sciences and Engineering Research Council of Canada (NSERC).

- **Computing allocations:** *Quantum Monte Carlo calculations of properties of strongly interacting Fermi systems* (2011-present), PI, total of 8.1M CPU Hours at DOE's NERSC; *Properties of nuclear matter and cold atoms* (2012-2013), PI, 4M CPU hours at Institutional Computing, LANL; *Towards the exact calculation of medium nuclei* (2015-present), PI, 3M CPU hours at Institutional Computing, LANL; *Electron and neutrino scattering from nuclei* (2016-present), PI, 23M CPU hours at Institutional Computing, LANL.

- **Publications:**

- 51 papers published in refereed journals and 20 conference proceedings
- Total number of citations is over 2,500 (h-index 29) in the Google-Scholar database and over 1,900 (h-index 27) in the SLAC-Spires database.

- **Publications Relevant to Proposed Work:**

- S. Gandolfi, A. Yu Illarionov, S. Fantoni, F. Pederiva, K. E. Schmidt, "Equation of state of superfluid neutron matter and the calculation of 1S_0 pairing gap", Phys. Rev. Lett. 101, 132501 (2008).
- Alexandros Gezerlis, S. Gandolfi, K. E. Schmidt, J. Carlson, "Heavy-Light Fermion Mixtures at Unitarity", Phys. Rev. Lett. 103, 060403 (2009).
- S. Gandolfi, K. E. Schmidt, J. Carlson, "BEC-BCS crossover and universal relations in unitary Fermi gases", Phys. Rev. A 83, 041601(R) (2011).
- Michael McNeil Forbes, Stefano Gandolfi, Alexandros Gezerlis, "Resonantly Interacting Fermions In a Box", Phys. Rev. Lett. 106, 235303 (2011).
- J. Carlson, Stefano Gandolfi, Kevin E. Schmidt, Shiwei Zhang, "Auxiliary Field quantum Monte Carlo for Strongly Paired Fermions", Phys. Rev. A 84, 061602(R) (2011).
- S. Gandolfi, J. Carlson, Sanjay Reddy, "The maximum mass and radius of neutron stars and the nuclear symmetry energy", Phys. Rev. C 85, 032801(R) (2012).
- J. Carlson, Stefano Gandolfi and Alexandros Gezerlis, "Quantum Monte Carlo Approaches to Nuclear and Atomic Physics", Prog. Theor. Exp. Phys. 1, A209 (2012).
- S. Gandolfi, A. Lovato, J. Carlson, Kevin E. Schmidt, "From the lightest nuclei to the equation of state of asymmetric nuclear matter with realistic nuclear interactions", Phys. Rev. C 90, 061306(R) (2014).
- J. Carlson, S. Gandolfi, F. Pederiva, Steven C. Pieper, R. Schiavilla, K.E. Schmidt, R.B. Wiringa, "Quantum Monte Carlo methods for nuclear physics", Rev. Mod. Phys. 87, 1067 (2015).
- Alexander Galea, Hillary Dawkins, Stefano Gandolfi, Alexandros Gezerlis, "Diffusion Monte Carlo study of strongly interacting 2D Fermi gases", Phys. Rev. A 93, 023602 (2016).
- Lucas Madeira, Silvio A. Vitiello, Stefano Gandolfi, Kevin E. Schmidt, "A vortex line in the unitary Fermi gas", Phys. Rev. A 93, 043604 (2016).

• **Collaborators and Co-Editors in the last 48 months:**

- G. Baardsen (University of Oslo), O. Benhar (La Sapienza and INFN, Italy), A. Ekstrom (UT), E. Epelbaum (Ruhr-Universitat Bochum, Germany), F. J. Fattoyev (IU), M. Freunek (Ruhr-Universitat Bochum, Germany), A. Gezerlis (University of Guelph, Canada), G. Hagen (ORNL and UT), K. Hebeler (TU Darmstadt, Germany), M. Hjorth-Jensen (University of Oslo and MSU), C. J. Horowitz (IU), D. Lonardoni (University of Trento, Italy), A. Lovato (ANL), J. E. Lynn (LANL), W. G. Newton (TAMU), A. Nogga (OSU), T. Papenbrock (ORNL and UT), F. Pederiva (University of Trento, Italy), S. C. Pieper (ANL), S. Reddy (INT), R. Schiavilla (JL, ODU), K. E. Schmidt (ASU), A. Schwenk (TU Darmstadt, Germany), A. W. Steiner (INT), I. Tews (INT), K. A. Wendt (ORNL and UT), R. B. Wiringa (ANL).

• **Graduate and Postdoctoral Advisors and Advisees:**

- F. Pederiva (University of Trento), graduate advisor
- S. Fantoni (ANVUR), postdoctoral advisor
- J. Carlson (LANL), S. Reddy (INT), postdoctoral advisors
- Lianyi He (Tsinghua University), J. Lynn (University of Darmstadt), D. Lonardoni (LANL), S. Pastore (LANL) postdoctoral advisees