

Andrea Amico

PHD STUDENT IN PHYSICS

☎ (+35) 3357449618 | ✉ amico.andrea.90@gmail.com

Education

Università degli Studi di Firenze

Florence, Italy

1ST LEVEL – DEGREE/BACHELOR IN PHYSICS AND ASTROPHYSICS

December 2012

- Final degree mark : 110/110 cum laude
- Thesis title: “Production of optical potentials using phase plates for ultracold atom trapping”.

Università degli Studi di Firenze

Florence, Italy

2ND LEVEL – MASTER DEGREE IN PHYSICS AND ASTROPHYSICS

April 2015

- Final degree mark : 110/110 cum laude
- Thesis title: “Measurement of the equation of state of superfluid Fermi gases of ^6Li atoms”.

Summer schools

July 2014 **International school of Physics “Enrico Fermi”**, Quantum matter at ultralow temperatures

Italy

July 2016 **Les Houches summer school**, Current trends in atomic physics

France

Aug. 2017 **Granada Summer School**, Quantum matter out of equilibrium

Spain

Certificates

June 2013 **Coursera - Rice University**, An introduction to interactive Programming in Python

USA (TX)

Jan 2014 **Coursera - California institute of the arts**, Introduction to programming for musicians and digital artists

USA (CA)

Nov. 2015 **MITx - Massachusetts Institute of Technology**, 6.00.1x - Introduction to Computer Science and Programming Using Python

USA (MA)

Dec. 2015 **MITx - Massachusetts Institute of Technology**, 6.00.2x - Introduction to Computational Thinking and Data Science

USA (MA)

Jan 2016 **Coursera - University of Michigan**, Using Python to Access Web Data

USA (MI)

Publications

Science

G. Valtolina, A. Burchianti, A. Amico, E. Neri, K. Khani, J. A. Seman, A. Trombettoni, A. Smerzi, M. Zaccanti, M. Inguscio, G. Roati - “Josephson effect in fermionic superfluids across the BEC-BCS crossover” – Science 18 Dec 2015: Vol. 350, Issue 6267, pp. 1505-1508
DOI: 10.1126/science.aac9725

Nature Physics

G. Valtolina, F. Scazza, A. Amico, A. Burchianti, A. Recati, T. Enss, M. Inguscio, M. Zaccanti, and G. Roati. Exploring the ferromagnetic behaviour of a repulsive Fermi gas through spin dynamics. Nature Physics, 13(7):704–709, April 2017.

Physical Review Letters

F. Scazza, G. Valtolina, P. Massignan, A. Recati, A. Amico, A. Burchianti, C. Fort, M. Inguscio, M. Zaccanti, and G. Roati. Repulsive Fermi Polarons in a Resonant Mixture of Ultracold Li 6 Atoms. Physical Review Letters, 118(8), February 2017.

Nuovo Cimento C

Andrea Amico. Experiments on the ferromagnetic behavior of atomic repulsive Fermi gases. Il Nuovo Cimento C, (2):1, August 2017.

Physical Review Letters

A. Burchianti, F. Scazza, A. Amico, G. Valtolina, J. A. Seman, C. Fort, M. Zaccanti, M. Inguscio, and G. Roati. Connecting Dissipation and Phase Slips in a Josephson Junction between Fermionic Superfluids. Phys. Rev. Lett. 120, 025302 – Published 12 January 2018

Conferences and talks

Frontiers in ultracold Fermi gases

Florence, Italy

90 YEARS AFTER THE "BIRTH" OF FERMIONS IN FLORENCE - THE GALILEO GALILEI INSTITUTE FOR THEORETICAL PHYSICS (GGI)

March 2016

Equation of state in quantum many body systems

Trento, Italy

ECT* EUROPEAN CENTRE FOR THEORETICAL STUDIES IN NUCLEAR PHYSICS AND RELATED AREAS

May 2016

SIF - 102° congress of Italian Physical Society

Padova, Italy

Sept. 2016

- Short communication: "Ferromagnetism of a repulsive Fermi gas"
- Second best communication award

INO annual symposium 2017

Trento, Italy

Feb 2017

- Poster presentation: "Spin dynamics and collective excitations in ultracold repulsive Fermi gases"

Conference on lasers and electro-optics

Munich, Germany

CLEO 2017

June 2017

- Talk: "Spin response and metastability of a strongly repulsive Fermi gas of ultracold atoms"

Quantum science approaches to strongly correlated systems: from ultracold atoms to high-energy and condensed matter physics

Florence, Italy

GGI 2017

June 2017

- Poster presentation: "Spin response and metastability of a strongly repulsive Fermi gas of ultracold atoms"

Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors

San Benedetto del Tronto, Italy

SUPERFLUCTUATIONS 2017

Sept. 2017

- Poster presentation: "Repulsive Fermi polarons in a mass-balanced mixture at a broad Feshbach resonance"
- Springer Nature Awards for best poster presentations.

SIF - 103° congress of Italian Physical Society

Trento, Italy

Sept. 2017

- Short communication: "Probing the spectral response of ultracold Fermi gases after quench to strong repulsive interactions."

Italian National Conference on Condensed Matter Physics

Trieste, Italy

FisMAT 2017

Oct. 2017

- Contributed talk: "Probing the spectral response of ultracold Fermi gases after quench to strong repulsive interactions"

Skills

PROGRAMMING LANGUAGE

- Fluent Python and C.
- Good understanding of C++, C#, Java, Mathematica, MATLAB, and Object-orient programming.
- Familiar of data modeling languages: JSON, YAML, XML.

SOFTWARE

- Good understanding of Unity, LabView, and OSLO
- Graphics: GIMP, Inkscape, Photoshop, Blender

Other Activity

- **Freelance programmer**
- **University tutor** Mechanics and quantum mechanics tutoring at the University of Florence
- **Science divulgation** Small experiments with light and colors for students and general public at Scienzestate and F-Light events in Florence
- **CNR-INO internship** Development of two-dimensional trapping potential for ultracold atoms

Languages

- **English** Good working knowledge
- **Italian** Native speaker