

# CURRICULUM VITAE

Scilla Degl'Innocenti

## EDUCATION

1991 Degree (Laurea) in Physics, University of Pisa (Italy).

1995 Doctorate degree in Physics, University of Ferrara (Italy).

## CURRENT POSITION

1/2005- present Associate professor, Physics Department "E. Fermi"- Pisa University.

03/2017 MIUR- Italian Ministry of University and Research, Abilitazione Scientifica Nazionale alle funzioni di professore di I fascia 02/C1, ASN.

## WORKING EXPERIENCE

1995 Research fellow with a fellowship by the foundation "A. della Riccia", for research activity at the Max Planck Institut for Astrophysics, Munich (Germany).

1995/1996 Post-doctoral position at the Max Planck Institut for Astrophysics, Munich.

1996/1997 Post-Doctoral position at the Physics Department, University of Ferrara.

1997/2004 Research staff, Physics Department "E. Fermi"- Pisa University.

2014 - present Incarico di ricerca "research role" INFN (National Institut for Nuclear Physics)

2018 Associate editor for the journal "Frontiers in Physics"- Nuclear Physics Section

2019 Deputy coordinator of the PhD in Physics, Pisa University

Visiting fellow at Max Planck Institute for Astrophysics (Munich, Germany), Centre d'Etude de Saclays (Paris, France), Institute for Nuclear Theory (Seattle, USA), Institute for Advanced Study (Princeton, USA).

Member of international granted collaborations in the field of astrophysics and nuclear astrophysics as: "NACRE-Nuclear Astrophysics Compilation of REaction Rates", ENEAS: the European network of Excellence in AsteroSeismology, project "CoRot- "Evolution and Seismic Tools", Antares Collaboration (INFN) "Astronomy with a Neutrino Telescope and Abyss environmental REsearch", HELAS: A European Helio and Asterosismology Network, STREGA@VST: STRucture and Evolution of the GALaxy, asteroSTEP, Gaia-ESO Survey, PLATO (PLANetary Transit and Oscillation of stars) collaboration, MITiC Gaia (MIning The Cosmos Big Data and Innovative Italian Technology for Frontier Astrophysics and Cosmology) project.

## RESEARCH FIELD

The two main research topics are:

i) Analysis of evolutionary characteristics of field and cluster stars, galactic and extragalactic, to explain the stellar clusters evolution in terms of the galactic evolution and to define distance and time scales. Evolutionary models of low and intermediate mass stars from pre-MS to WD. Helio and asteroseismology. Population synthesis. Galactic models for star counts.

ii) Common problems in fundamental physics and stellar evolution. Main topics:

1) solar modeling and helioseismology analysis

2) nuclear astrophysics

## **PUBLICATIONS:**

3 review papers  
130 refereed papers  
84 non refereed papers  
H-index 40 [NASA ADS – 9/08/2021]

## **GRANTED RESEARCH PROJECTS**

- Local PI of 13 national research projects granted by INAF (National Institute of Astrophysics), MIUR (Italian Ministry of University and Research), Monte dei Paschi di Siena Foundation
- PI of 2 research projects granted by the Pisa University
- From 2001 local PI of INFN, Iniziativa Specifica FA51 (from 2014 TAsP, Theoretical Astroparticle Physics) , National P.I. prof. G. Fogli/E. Lisi/F. Donato (Bari University)
- Member of 9 national research projects granted by INAF (National Institute of Astrophysics) and MIUR (Italian Ministry of University and Research)
- Co-I of HST, ESO, CoRoT observing proposals.

## **TEACHING EXPERIENCE**

- 2001-present 2nd-year master course "Stellar Physics", (one semester, 60h) Physics Department, Pisa University.
- 2010-present first year undergraduate course "General Physics", (two semesters, 75h) Natural and Environmental Sciences Department - Pisa University.
- 2021 co-teacher for the PhD course "Introduction to astrophysics", (6 h), Physics Department, Pisa University.
- 2005-2010 2nd-year undergraduate course "General Physics", (two semesters, 75h) Science and Technologies for the Environment Department - Pisa University.
- 9/2011 and 9/2010 Lectures for the first year undergraduate course "Introduction to Physics", Natural and Environmental Sciences Department - Pisa University (6h).
- 9/2006 Lectures for the first year undergraduate course, "Introduction to Physics", Matematics Department - Pisa University (8h).
- 2002-2005 Teacher assistant for the undergraduate course, "General Physics II" (one semester, 30h), Matematics Department - Pisa University.
- 2005 Guest lecturer in the PhD course "Nuclear Astrophysics", Physics Department - Catania University (16h)
- 2002-2004 Teacher assistant for the first-year undergraduate course, "General Physics I" (one semester, 30h), Matematics Department - Pisa University.
- 1997, 1999, 2001 Teacher assistant for the undergraduate course, "General Physics II" (two semesters, 60h), Matematics Department - Pisa University
- 1998-2000 Teacher assistant for the first-year undergraduate course "General Physics I" (two semesters, 60h), Matematics Department - Pisa University.
- 1997-2001 Guest lecturer in the 4th-year undergraduate course "Stellar Physics" (10h per year), Physics Department - Pisa University.
- 1997-2001 Guest lecturer in the 4th-year undergraduate course "Nuclear and subnuclear Astrophysics" (12h per year), Physics Department - Ferrara University.

1997-present Member of several examination boards for about 12 different college classes in the astrophysics and physics fields for a total of about 150 exams per year.

## **THESIS TUTOR**

Supervisor of 36 master thesis, 43 degree thesis and 4 PhD thesis in astrophysics.

## **INSTITUTIONAL RESPONSABILITIES**

10/2019 2019 Deputy coordinator of the PhD in Physics, Pisa University

11/2014 - present, member of PhD educational committee (commissione didattica di dottorato), Physics Department, Pisa University.

10/2011 -present, member of collegio dei docenti (faculty committee) for the PhD in Physics, Pisa University.

09/2016 – 07/2017, permanent member of the degree board, Physics Department, Pisa University

9/2015 – 9/2016, substitute member of the degree board, Physics Department, Pisa University

07/2011- 9/2014, coordinator for the Physics Department, Pisa University, of the "Progetto Lauree Scientifiche" (Scientific Degrees Project), a national educational project funded by the Italian Ministry of Education, University and Research (Ministero dell'Istruzione, dell'Università e della Ricerca) and by the Tuscany Region.

2011-09/2013, member of "Giunta di Dipartimento" (Department Committee) of Physics Department, Pisa University.

2012-07/2013, permanent member of the degree committee, Physics Department, Pisa University.

2010- 2012, member of "Scientific Committee 02" (physics) of the Pisa University

2010- 2012, member of educational committee (Commissione Didattica) of the degree course in "Natural and Environmental Sciences", Pisa University.

2009-2012, member of Dean's Committee (Comitato di Presidenza) of the Faculty of Mathematical, Physical and Natural Sciences, Pisa University.

2006-2009, permanent member of the degree committee of Physics Department, Pisa University.

2006-2008, member of "Commissione Didattica" (Educational Committee) of the degree course in "Science and Technologies for the Environment", Pisa University.

2008-2010, member of the "Scientific Committee 02" (physics) of the Pisa University.

2004-2005, member of the "Scientific Committee 02" (physics) of the Pisa University.

## **PROFESSIONAL CONTRIBUTIONS**

Member of about 45 degree boards for PhD thesis and selection committees for PhD, post-master schools, post-doc and researcher positions (Pisa, Roma Tor Vergata, Padova, Bologna, Siena, Firenze University, Scuola Normale Superiore Pisa, Gran Sasso Science Institute (L'Aquila), INAF-Teramo Observatory, INFN Pisa and Siena). Referee of more than 50 diploma thesis.

Referee for MIUR of national research projects "FARE" and of the projects "The Fund for Scientific Research-FNRS (F.R.S.-FNRS)", Brussels (Belgium)

Referee activity for all the major professional journals (ApJ,A&A,MNRAS, Phys. Rev. etc.).

## **TALKS AT SCIENTIFIC CONFERENCES AND ORGANIZATION OF SCIENTIFIC MEETINGS**

17 invited talks at international scientific conferences in plenary session.

Co-chair of an international and a national conference, scientific committee of 8 international conferences. About 40 oral contributions at national and international conferences.

### **EDUCATIONAL/PUBLIC OUTREACH ACTIVITY**

From 1997 outreach activity with more than 60 talks in high schools, cultural circles and in public meetings. Seminars for high school teachers.

Collaboration to orientation activities for high school and university students (Open days, the European Researchers' Night, etc..).

-07/2011- 9/2014, coordinator for the Physics Department, Pisa University, of the "Progetto Lauree Scientifiche" (Scientific Degrees Project), a national educational project funded by the Italian Ministry of Education, University and Research (Ministero dell'Istruzione, dell'Università e della Ricerca) and by the Tuscany Region.

- 11/2012- present Member of "Centro interdipartimentale per l'Aggiornamento, la Formazione e la Ricerca Educativa" – C.A.F.R.E. Pisa University.

- 11/2013-12/2015 Collaboration to the INFN educational blog: "scienza per tutti"