europass Curriculum vitae

PERSONAL INFORMATION

Nicola Pintus

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https://nicolapintus.altervista.org

CURRENT POSITION

10/03/2021 - now

Research fellow

Research fellowship (PRIN): *Thermoacoustic technology for solar and waste heat powered energy conversion systems.*

Scientific responsible: Prof. Ing. Roberto Baccoli

Affiliation: Dipartimento di Ingegneria Civile, Ambientale e Architettura, University of Cagliari

EDUCATION

Studies

17/03/2016 **PhD in Mathematics and Computer Science,** University of Cagliari (Italy)

Thesis title: *On inflationary Cosmological Models*

Supervisor: Prof. Salvatore Mignemi

28/02/2012 **Master's degree in Mathematics (2 years),** University of Cagliari (Italy)

Research thesis title: *Termodinamica Estesa per un fluido che scorre in una lamina pieghevole.*

Supervisor: Prof. Sebastiano Pennisi

26/02/2010 **Bachelor's degree in Mathematics (3 years),** University of Cagliari (Italy)

Abroad experience

13/09/2015 - 15/11/2015 **Rudjer Boskovic Institut,** Zagreb (Croatia)

Collaboration with Prof. S. Meljanac on cosmology

Summer and training schools

15/09/2014 - 20/09/2014 **XII School of Cosmology in Cargèse**, University of Corse Pasquale Paoli, CNRS INSU, Aix Marseille Universitè, PNCG, Institut Lagrange de Paris

30/07/2012 - 31/08/2012 **SMI-Scuola Matematica Interuniversitaria,** Perugia (Italy)

Languages

Italian **Mothertongue**

English **B2 Certificate**

Computer skills

User Linux, Microsoft Windows, Microsoft Office, OpenOffice, LaTeX, Moodle.

Programming and Calculation MATLAB, Mathematica, wxMaxima, SuperMongo, Python, R, C++.

Data analysis CIAO, WebPIMMS, Synage++

Other skills

04/2021 - now Co-conductor, author and creator of a radio show as volunteer in a local radio

17/09/2004 Diploma in *Teoria, solfeggio e dettato musicale,* Conservatorio di Musica L. Canepa (Sassari, Italia)

28/05/2000 Sardinian musical piano award "Don Pietro Allori"

Driving license

B

POSITIONS

01/06/2017 - 31/05/2018

Research fellow

Research fellowship: *Applicazione di algoritmi Bayesiani per la stima dei campi magnetici in strutture su larga scala nell'Universo.*

Scientific responsible: Federica Govoni

Affiliation: INAF-Osservatorio Astronomico di Cagliari (Italy)

22/02/2011 - 27/07/2011

Stage

Purpose: *application of Bayesian algorithm in order to analyse radio observations.*

Supervisor: Matteo Murgia

Affiliation: INAF-Osservatorio Astronomico di Cagliari (Italy)

SCIENTIFIC ACTIVITY

Research interests

- Problems on existence, regularity and asymptotic behavior of solutions of Keller-Segel systems and applications on biological models
- Continuum mechanics
- Cosmological Inflation of the Universe

Scientific communications

Invited

23 Maggio 2017 Osservatorio Astronomico di Cagliari, Cagliari (Italy)

Cosmology and inflationary models

29 Settembre 2015 Rudjer Boskovic Institut, Zagreb (Croatia)

An exactly solvable inflationary model

Contributed

29/05/2017 - 01/06/2017 **8th Young Researcher Meeting in Cagliari (YRM2017)**, Cagliari (Italy)

Mathematical aspects of an exactly solvable inflationary model

Posters

30/05/2019 - 01/06/2019 **Partial Differential Equations in Analysis and Mathematical Physics**, Santa Margherita di Pula (Italy)

Properties of solutions to some reaction–diffusion–taxis problems

Participation to conferences

07/09/2017 - 09/09/2017 **III Workshop on Trends in Nonlinear Analysis**, University of Cagliari, INdAM-GNAMPA

09/04/2015 - 10/04/2015 **Two days on Applied Mathematics in Cagliari**, University of Cagliari

21/03/2014 - 22/03/2014 **Workshop Trends in Nonlinear Analysis**, University of Cagliari, INdAM-GNAMPA

02/09/2013 - 05/09/2013 **VDM60: Nonlinear Evolution Equations and Linear Algebra**, University of Cagliari, INdAM-GNFM, Regione Autonoma della Sardegna (RAS)

29/07/2013 - 09/08/2013 **Summer Graduate Workshop Mathematica General Relativity**, Cortona (Italy), INdAM, SMI-Scuola Matematica Interuniversitaria, Scuola Normale Superiore di Pisa

TEACHING

Contract professor

2020 - 2021 **Calculus 1**, 90 hours

Biomedical Engineering, University of Cagliari (Italy).

2020 - 2021 **Mathematics and Statistics**, 14 hours

Geology Science, University of Cagliari (Italy).

2020 - 2021 **Mathematics and Elements of Statistics**, 56 hours

Biotechnology, University of Cagliari (Italy).

2020 - 2021 **Mathematics and Elements of Statistics**, 48 hours
Toxicological Science and Quality Control, University of Cagliari (Italy).

2020 - 2021 **Mathematics**, 48 hours
Chemistry and Pharmaceutical Technology , University of Cagliari (Italy).

2019 - 2020 **Geometry and Algebra**, 70 hours
Electrical and Electronic Engineering, and Computer Science Engineering, University of Cagliari (Italy).

2019 - 2020 **Geometry and Algebra e-learning**, 14 hours
Electrical and Electronic Engineering, and Computer Science Engineering, University of Cagliari (Italy).

2019 - 2020 **Calculus 2**, 80 hours
Biomedical Engineering, University of Cagliari (Italy).

2019 - 2020 **Mathematics and Elements of Statistics**, 56 hours
Biotechnology, University of Cagliari (Italy).

2019 - 2020 **Mathematics and Elements of Statistics**, 48 hours
Toxicological Science and Quality Control, University of Cagliari (Italy).

2019 - 2020 **Basic Mathematics**, 48 hours
Chemistry, University of Cagliari (Italy).

2018 - 2019 **Geometry and Algebra**, 70 hours
Electrical and Electronic Engineering, and Computer Science Engineering, University of Cagliari (Italy).

2018 - 2019 **Geometry and Algebra e-learning**, 14 hours
Electrical and Electronic Engineering, and Computer Science Engineering, University of Cagliari (Italy).

2018 - 2019 **Calculus 1**, 90 hours
Biomedical Engineering, University of Cagliari (Italy).

2018 - 2019 **Mathematics and Elements of Statistics**, 56 hours
Biotechnology, University of Cagliari (Italy).

2018 - 2019 **Mathematics and Elements of Statistics**, 48 hours
Toxicological Science and Quality Control, University of Cagliari (Italy).

2016 - 2017 **Maths introductory course**, 25 hours
Biology, University of Cagliari (Italy).

2015 - 2016 **Teacher of Mathematics**, 360 hours (Project: Tutti a Iscol@)
Regione Autonoma della Sardegna (RAS)-Istituto Magistrale Carlo Baudi di Vesme di Iglesias

Teaching assistant

2020 - 2021 **Calculus 2**, 40 hours
Civil Engineering, and Environmental Engineering, University of Cagliari (Italy).

2020 - 2021 **Mechanics**, 40 hours
Civil Engineering, University of Cagliari (Italy).

2019 - 2020 **Geometry and Algebra**, 50 hours
Biomedical Engineering, University of Cagliari (Italy).

2019 - 2020 **Calculus 2**, 40 hours
Civil Engineering, and Environmental Engineering, University of Cagliari (Italy).

2019 - 2020 **Mechanics**, 40 hours
Civil Engineering, University of Cagliari (Italy).

2019 - 2020 **Calculus 1**, 45 hours

Civil Engineering, and Environmental Engineering, University of Cagliari (Italy).

2018 - 2019 **Geometry and Algebra**, 40 hours
Biomedical Engineering, University of Cagliari (Italy).

2018 - 2019 **Mechanics**, 20 hours
Physics, University of Cagliari (Italy).

2018 - 2019 **Calculus 2**, 40 hours
Civil Engineering, and Environmental Engineering, University of Cagliari (Italy).

2018 - 2019 **Mechanics**, 40 hours
Civil Engineering, University of Cagliari (Italy).

2018 - 2019 **Calculus 1**, 45 hours
Civil Engineering, and Environmental Engineering, University of Cagliari (Italy).

2017 - 2018 **Geometry and Algebra**, 40 hours
Biomedical Engineering, University of Cagliari (Italy).

2017 - 2018 **Calculus 2**, 30 hours
Civil Engineering, Environmental Engineering, Biomedical Engineering, Mechanical Engineering, Chemical Engineering, Electrical and Electronic Engineering, and Computer Science Engineering University of Cagliari (Italy).

2017 - 2018 **Calculus 1**, 45 hours
Civil Engineering, and Environmental Engineering, University of Cagliari (Italy).

2016 - 2017 **Geometry and Algebra**, 40 hours
Biomedical Engineering, University of Cagliari (Italy).

2016 - 2017 **Calculus 2**, 30 hours
Electrical and Electronic Engineering, and Computer Science Engineering, University of Cagliari (Italy).

2014 - 2015 **Calculus 1**, 40 hours
Mechanical Engineering, University of Cagliari (Italy).

2014 - 2015 **Mechanics 1**, 20 hours
Mathematics, University of Cagliari (Italy).

2014 - 2015 **Mechanics 2**, 20 hours
Mathematics, University of Cagliari (Italy).

2013 - 2014 **Mechanics 1**, 20 hours
Mathematics, University of Cagliari (Italy).

2013 - 2014 **Mechanics 2**, 10 hours
Mathematics, University of Cagliari (Italy).

2012 - 2013 **Calculus 2**, 40 hours
Mechanical Engineering, University of Cagliari (Italy).

2012 - 2013 **Calculus 1**, 40 hours
Mechanical Engineering, University of Cagliari (Italy).

2011 - 2012 **Calculus 2**, 30 hours
Electrical and Electronic Engineering, and Biomedical Engineering, University of Cagliari (Italy).

GRANTS

01/07/2016 - 30/04/2017 *Sviluppo di algoritmi basati sull'inferenza bayesiana per la stima dei campi magnetici in strutture su larga scala nell'Universo.*
Scientific responsible: Federica Govoni
Affiliation: INAF-Osservatorio Astronomico di Cagliari (Italy)

2013 - 2015 PhD grant (3 years)

2012 Grant for academic merits issued by Regione Autonoma della Sardegna (RAS)

2008 Grant *Medaglia d'Oro* issued by University of Cagliari

PUBLICATIONS

PhD Thesis

2016 N. Pintus

On inflationary cosmological models. PhD Thesis book. https://iris.unica.it/handle/11584/266648

Papers

2020 M. Marras, N. Pintus and G. Viglialoro

On the lifespan of classical solutions to a non-local porous medium problem with nonlinear boundary conditions. Discrete Continuous Dyn. Syst. Ser. S, vol. 13, p. 2033-2045, ISSN: 1937-1632, DOI: 10.3934/dcdss.2020156

2019 T. Li, N. Pintus and G. Viglialoro

Properties of solutions to porous medium problems with different sources and boundary conditions. Z. Angew. Math. Phys.*, (2019) 70 (3), art. no. 86.*

2015 S. Mignemi and N. Pintus

An exactly solvable inflationary model. Gen. Relativ. Gravit. (2015), 47:51 DOI 10.1007/s10714-015-1892-6

Proceedings

2017 N. Pintus and S. Mignemi

Mathematical aspects of an exactly solvable inflationary model. IOP Conf, Series: Journal of Physics: Conf. Series **956** (2018) 012022

Internal reports

2017 N. Pintus et al.

Statistical comparison of radio and X-ray diffuse emission in galaxy clusters. Reviewer: M. Bachetti, Report N. 69 of Osservatorio Astronomico of Cagliari

2011 N. Pintus and M. Murgia

Testing a new algorithm for Bayesian inference of Faraday rotation images. Reviewer: F. Govoni, Report N. 11 of Osservatorio Astronomico of Cagliari

Pursuant to articles 46 and 47 of the Italian legislative Decree 445/2000, all the data and information contained in this curriculum vitae et studiorum correspond to the truth.
In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I authorize you to use and process my personal details contained in this document.