

Alessio Ludovico De Santis

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RESEARCH INTERESTS

I work on designing and simulating cryogenic detectors mainly focused on the detection of **neutrinos**, through neutrino-nucleus scattering (**CEvNS**). In the past **reactor** neutrinos, however most recently I have pivoted towards the detection of **supernova** neutrinos. In tandem with my work on detectors I study the **multimessenger** approach to the future detection of the next galactic supernova.

EDUCATION

Gran Sasso Science Institute, L'Aquila, AQ, Italy

2022-
2023

Ph. D in Astroparticle Physics

*Advisors: Lorenzo Pagnanini, Luca Pattavina,
Andrei Puiu*

I am currently working within the **RES-Nova** experiment. Characterizing and developing the sensors we will use for the detection of **supernova** neutrinos.

University "La Sapienza", Rome, RM, Italy

2017-
2022

M. S. in Particle and Astroparticle Physics (Oct 2022)

Advisors: Marco Vignati, Angelo Cruciani

Designed **kinetic inductance superconductive detectors** with improved resolution for **neutrino** detection.

B. S. in Physics (2020)

Advisors: Marco Vignati, Angelo Cruciani

Developed a fast **digital filter** for the triggering system of BULLKID cryogenic detectors.

SCHOLARSHIPS

- Awarded an INFN scholarship (N. 24318/2022) for working on an INFN project for my master's thesis (3 k€)

2022

OTHER FUNDED RESEARCH POSITIONS	Visiting PhD at Max Planck Institute <i>München, Germany</i>	Jan-Jul 2023
	Will conduct research under the supervision of Dr. Federica Petricca on “Development of TES-based cryogenic detectors for neutrinos”	
OUTREACH	<ul style="list-style-type: none"> • “Space Explorers”, outreach event organized by Prof. M Branchesi at GSSI for elementary school students 	2023
CONFERENCES & SCHOOLS	<ul style="list-style-type: none"> • SIF: Italian Society of Physicists conference (on behalf of the RES-Nova group), <i>Italy</i> 	Sep 2023
	<ul style="list-style-type: none"> • Cryocourses: Cryogenic focused Summer School organized by the European Microkelvin Platform, <i>Finland</i> 	May 2023
	<ul style="list-style-type: none"> • SCIA: Scientific communication in astronomy Summer School, <i>Italy</i> 	Oct 2023
NON-ACADEMIC ACTIVITIES	Freelance Web Developer for Non-Profits: https://stormproject.org https://www.lacasadigiuliaonline.it	2019-2021
	Internship, Saint Petersburg I helped organize and translate documents for the “ SCIENCE FEST 2019 ” at the Planetarium One observatory	2019