

# Massimo Vaglio

## Curriculum Vitae

### Personal information

Name Massimo Vaglio

### Current position

2019–now **PhD in Physics**, *Sapienza University of Rome*, Physics Department, Rome (IT).  
Supervisors: Andrea Maselli, Leonardo Gualtieri, Paolo Pani

### Education

2015–2018 **MSc in Teoretical Physics**, *University Federico II of Naples*, Naples (IT), 110/110 *cum laude*.

Master thesis in quantum gravity with title: “On the relativistic properties of a Planck-scale polymer model”

Supervisor: Prof. Giovanni Amelino-Camelia

2011–2015 **BSc in Physics**, *University Federico II of Naples*, Naples (IT), 110/110 *cum laude*.

Dissertation of a thesis work in special and general relativity: “Relativistic corrections to planetary orbits”

Supervisor: Prof Salvatore Capozziello

2011 **Diploma di liceo scientifico**, *Istituto Giuseppe Mazzini*, Naples (IT), 100/100.

### Current research

Research field Gravity theory and gravitational waves phenomenology

Description My present research interests concern the gravitational signal emitted from binary systems of boson stars, hypothetical self-gravitating objects that might form in a wide mass range if light bosonic fields exist in the universe. In order to search for these objects with current (LIGO- Virgo) and future (LISA-3G) detectors, very accurate waveform models are needed. The long-term goal of the PhD thesis project is to produce the first inspiral-merger-ringdown template for these binary systems, the present focus being on the inspiral stage through a detailed analysis of the various effects entering the post-Newtonian expansion.

### Schools and workshops

2020 SIGRAV International School 2020 Gravity: General relativity and beyond.  
Astrophysics, Cosmology and Gravitational waves - Vietri (SA), Italy

2019 University of Naples Federico II and Fundamental Questions Institute (FQXi)  
workshop: Observers in quantum gravity II - Naples, Italy

## Languages

Italian Native  
English Fluent

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## Computer skills

O.S. Windows  
Language C, Mathematica, Latex  
Software Microsoft Office, Origin Lab

## Other activities

Volunteer and educator From 2011 to 2017 I've been in CNGEI, an Italian association that is part of the WOSM (World Organization of the Scout Movement) which aims to support young people in their physical, mental and spiritual development. During this period I acquired several skills both through hands-on experience and training courses made available by the association. Some of these are: writing work planning with objectives and progressive steps, communication and group management skills, ability to work under pressure, handle responsibility and capability to transmit experience. On September 2017, the association assigned me a praise for commitment, competence and service-minded attitude.

Scientific divulgation I've been involved in many activities with the student's association PONYS (Physics & Optics Naples Young Students).

Private teacher Private lessons of physics and mathematics for high school students and of mathematical analysis, mechanics and electromagnetism for bachelor students (total amount of hours over 100).

## Publications

2020 **Costantino Pacilio, Massimo Vaglio, Andrea Maselli, Paolo Pani,**  
*Gravitational-wave detectors as particle-physics laboratories: Constraining scalar interaction with a coherent inspiral model of boson-star binaries*, submitted to PhysicsI Review D.