

# GIOVANNI TEDESCHI PRADES



- › **Status:** PhD student at the Ludwig Maximilian University of Munich
- › **Birth date:** 27/12/1998
- › **Nationalities:** Italian, Spanish
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- › **Website:** <https://giovanni-tedeschi.github.io/>

## »»» Education

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|-------------------|---|--|
| 09/2022 - Current | <b>PhD student in Physics</b>   | International Max Plank Research School - Ludwig Maximilian University of Munich |
|                   | <ul style="list-style-type: none"><li>› PhD project: Implementing the One-Fluid model for dust dynamics in the hydrodynamical simulation code OpenGadget3.</li><li>› Supervised by: Prof. Dr. Til Birnstiel; Dr. Klaus Dolag; Prof. Dr. Barbara Ercolano.</li></ul> |  |
| 11/2020 - 08/2022 | <b>MSc in Physics with Specialization in Astrophysics</b>   | Ludwig Maximilian University of Munich   |
|                   | <ul style="list-style-type: none"><li>› Master thesis: Simulating the Vertical Shear Instability in Protoplanetary Disks with PLUTO and OpenGadget3.</li><li>› Credits: 120 ECTS - Final grade: 1.08.</li></ul>   |  |
| 10/2017 - 09/2020 | <b>BSc in Physics</b>   | "Sapienza" University of Rome  |
|                   | <ul style="list-style-type: none"><li>› Bachelor thesis: Two possible developments of the Sedov-Taylor shock wave: the relativistic and the radiative wave.</li><li>› Credits: 180 ECTS - Final grade: 110 with honors / 110.</li></ul>                             |  |

## »»» Papers

- G. Tedeschi Prades, T. Birnstiel, K. Dolag, B. Ercolano, M. Hutchison, "Modeling dust dynamics in OpenGadget3. I. SPH implementation of the One-Fluid model.", *Astronomy & Astrophysics* (subm., available at [this link](#))
- G. Tedeschi Prades, T. Birnstiel, K. Dolag, B. Ercolano, M. Hutchison, "Modeling dust dynamics in OpenGadget3. II. MFM implementation for multiple grain sizes." (in prep.)

## »»» Conferences and Workshops

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|---------|--|----------------|
| 12/2024 | <b>Evolution of Dust and Gas throughout Cosmic Time</b>  | Hiroshima      |
|         | <ul style="list-style-type: none"><li>› Presented a poster on my PhD research work on dust dynamics</li></ul>                              |                |
| 11/2024 | <b>18th IMPRS Symposium</b>  | Munich         |
|         | <ul style="list-style-type: none"><li>› Presented my talk on "Modelling dust dynamics in SPH and MFM hydrodynamical simulations"</li></ul> |                |
| 07/2024 | <b>Course in Computing and HPC for Astrophysics</b>  | INAF - Bologna |
|         | <ul style="list-style-type: none"><li>› Attended a two weeks workshop on High Performance Computing</li></ul>                              |                |

02/2024

## The Physics of Star Formation

Les Houches School of Physics

- › Attended a two weeks workshop on star formation

09/2023

## Origin and Fate of Dust in our Universe

Chalmers conference center - Goteborg

- › Presented a poster on my PhD research work on dust dynamics

07/2023

## Life Cycle of Dust

Institute of Space Sciences - Barcelona

- › Attended a two weeks workshop on interstellar dust

### ››› Teaching

10/2024

## Hydrodynamics

Dr. Klaus Dolag

- › I have given a tutorial on simulating a free-fall collapse with hydrodynamical simulations.

11/2024

## Protoplanetary Disks and Planet Formation

Prof. Dr. Til Birnstiel

- › I have given one of the tutorials of the course.

### ››› Awards

06/2020

## Study Scholarships - Master Studies for All Academic Disciplines

- › Awarding Institution: DAAD

### ››› Language Skills

#### Mother tongues

- › Italian
- › Spanish

#### Other languages

- › English - C2
- › German - A1

### ››› Digital Skills

#### Programming Languages - Advanced

- › C | C++ | Python | OpenMP | MPI | OpenACC

#### Programming Languages - Intermediate

- › R | Fortran

#### Programming Languages - Basic

- › HTML | CUDA

#### Machine Learning

- › Tensorflow | PCA | k-means | Random Forests | CNNs | RNNs | GANs | VAEs

#### Quantum Computing

- › Qiskit

## Operative Systems

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» Linux | Windows | MacOS

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## Various Software

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» LaTeX | Microsoft Suite | Audacity | MuseScore 3

## »» Projects

02/2020 - Current

### **Web Search Engine development and maintenance for the ATLIS archive**

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» I developed and maintaining a Web Search Engine for the ATLIS (Archivio delle Traduzioni di Letteratura Ispanoamericana in Italia) archive, which can be consulted at [this link](#).