

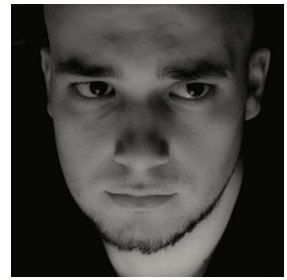
Ugo Niccolò Di Carlo

ASTROPHYSICS PHD STUDENT - UNIVERSITÀ DEGLI STUDI DELL'INSUBRIA

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Date of birth: 17/06/1991



Education

PhD in Astrophysics

Como, Italy

UNIVERSITÀ DEGLI STUDI DELL'INSUBRIA

2017 - now

- Project: Shedding light on the formation channels of binary black holes in small and open star clusters (Supervisors: Francesco Haardt, Michela Mapelli)

Master Degree in Astronomy (SC1173 2010 - LM58)

Padova, Italy

UNIVERSITÀ DEGLI STUDI DI PADOVA

2015 - 2017

- Final mark: 110/110 cum laude
- Weighted mean of exams marks: 29.55/30
- Thesis on 'Study of Rotation of Young Massive Star Clusters by means of Hydrodynamical and Direct N-Body Simulations' (Supervisors: Michela Mapelli, Giampaolo Piotto)

Bachelor Degree in Astronomy (SC1160 2008 - L-30)

Padova, Italy

UNIVERSITÀ DEGLI STUDI DI PADOVA

2010 - 2015

- Final mark: 103/110
- Thesis on 'Study of Tidal Disruption of Star Clusters by means of N-Body Simulations' (Supervisor: Paola Marigo - Co-Supervisor: Michela Mapelli)

High School

Teramo, Italy

LICEO SCIENTIFICO A. EINSTEIN

2005 - 2010

- Final mark: 100/100

Publications

Chung, Chul et al. 2019 - Radial Dependence of the Proto-Globular Cluster Contribution to the Milky Way Formation

[HTTPS://ARXIV.ORG/ABS/1909.01353](https://arxiv.org/abs/1909.01353)

Baibhav, Vishal et al. 2019 - Gravitational-wave detection rates for compact binaries formed in isolation: LIGO/Virgo O3 and beyond

[HTTPS://ARXIV.ORG/ABS/1906.04197](https://arxiv.org/abs/1906.04197)

Di Carlo Ugo Niccolò et al. 2019- Merging black holes in young star clusters

[HTTPS://ARXIV.ORG/ABS/1901.00863](https://arxiv.org/abs/1901.00863)

Bouffanais, Yann et al. 2019 - Constraining the fraction of binary black holes formed in isolation and young star clusters with gravitational-wave data

[HTTPS://ARXIV.ORG/ABS/1905.11054](https://arxiv.org/abs/1905.11054)

Fiorentino, G. et al. 2017 - 'MAORY science cases white book' - ESO

[HTTPS://ARXIV.ORG/ABS/1712.04222](https://arxiv.org/abs/1712.04222)

Conferences, Schools, Other Education, Stages

IHPCSS19 - International High Performance Computing Summer School 2019

Kobe - Japan

RIKEN, PRACE, XSEDE

08-13 July, 2019

IAU Symposium 351 & MODEST-19: Star Clusters: from the Milky Way to the Early Universe

IAU

[Bologna, Italy](#)

26-31 May, 2019

Advanced software programming for astrophysics

LAPP

[Annecy, France](#)

08-12 April, 2019

PHAROS PhD Training School: Multi-messenger physics and astrophysics with compact binaries

FSU UNIVERSITY OF JENA

[Jena, Germany](#)

11-15 March, 2019

N-body techniques for Astrophysics (Teacher: Michela Mapelli)

UNIVERSITÀ DEGLI STUDI DI PADOVA

[Padova, Italy](#)

November 2018

Heraeus Summer School - Astronomy from four perspectives: V Multi-messenger astrophysics

WILHELM UND ELSE HERAEUS STIFTUNG

[Padova, Italy](#)

September 2018

Waves on the Lake: the Astrophysics behind Gravitational Waves

LAKE COMO SCHOOL OF ADVANCES STUDIES

[Como, Italy](#)

May 28 - June 1, 2018

Machine learning for astrophysics (Teacher: Mario Pasquato)

UNIVERSITÀ DEGLI STUDI DI PADOVA

[Padova, Italy](#)

February 2018

Heraeus Summer School -Astronomy from four perspectives: IV Origin of Stars and Planets

WILHELM UND ELSE HERAEUS STIFTUNG

[Firenze, Italy](#)

September 2016

Heraeus Summer School -Astronomy from four perspectives: III Gravitational Wave Universe

WILHELM UND ELSE HERAEUS STIFTUNG

[Jena, Germany](#)

September 2015

Collisional dynamics for the PhD School in Astronomy (Teacher: Michela Mapelli)

UNIVERSITÀ DEGLI STUDI DI PADOVA

[Padova, Italy](#)

November 2014

Talks at Conferences

Young Star Clusters: a Black Holes' Dancing Stage

TOKYO UNIVERSITY

[Bologna, Italy](#)

2019

- <http://iausymp351.oas.inaf.it/>

Young Star Clusters: a Nursery of Merging Binary Black Holes

IAU SYMPOSIUM 351 & MODEST-19: STAR CLUSTERS: FROM THE MILKY WAY TO THE EARLY UNIVERSE

[Bologna, Italy](#)

2019

- <http://iausymp351.oas.inaf.it/>

Effects of different initial mass functions on the evolution of star clusters

HERAEUS BINATIONAL SUMMER SCHOOL - ASTRONOMY FROM FOUR PERSPECTIVES: IV ORIGIN OF STARS AND PLANETS

[Firenze, Italy](#)

2016

- <http://www.arcetri.astro.it/~heraeus2016/> - Organizer: Prof. Ruggero Stanga

Effects of the environment on the formation of gravitational waves sources in star clusters

HERAEUS BINATIONAL SUMMER SCHOOL - ASTRONOMY FROM FOUR PERSPECTIVES: III GRAVITATIONAL WAVE UNIVERSE

[Jena, Germany](#)

August 2015

- http://www.uni-jena.de/en/didaktik_physik_summerschool_en.html - Organizer: Prof. Karl Heinz Lotze

Memberships

Member of the ForDyS research group at INAF (Padova)

2015 - now

<http://web.pd.astro.it/mapelli/group.html>

Affiliated to INAF and INFN Padova

2017 - now

IT Knowledge

Operating Systems

- Linux/Unix (excellent)
- Windows (excellent)
- Android (excellent)
- MacOS

Programming

- Python (excellent)
- C/C++ (excellent)
- sh/bash (excellent)
- Git
- Keras Neural Networks
- HTML
- Unity (Game Engine)
- Matlab
- Mathematica
- Fortran 77 and 90
- Cuda
- Open MP and MPI
- Supermongo

Codes, user

- LaTeX
- Nbody6/Nbody6++GPU (direct N-body code)
- BSE/MOBSE/SEVN (Stellar Population synthesis codes)
- Starlab (software environment for direct N-body simulations, <http://sns.ias.edu/starlab/>)
- pkdgrav/gasoline (tree-code with sph, <http://arxiv.org/abs/astro-ph/0303521>)
- IRAF
- tipsy
- PBS/SLURM (Queue schedulers for HPC)

Codes, user and developer

- SEVN (Stellar Population synthesis codes)
- HiGPUs (direct N-body code)

HPC Experiences GPU/CPU N-Body and hydrodynamical simulations with HPC supercomputers

Awards

2019	Travel Grant , 2000€ Grant awarded by PRACE for the participation to the International HPC Summer School 2019	<i>Kobe, Japan</i>
2019	Travel Grant , 150€ Grant awarded by IAU for the participation to the IAU Symposium 351 & MODEST-19	<i>Bologna, Italy</i>
2019	Travel Grant , 150€ Grant awarded by ASTERICS for the participation to the Third ASTERICS-OBELICS International School	<i>Annecy, France</i>
2019	Travel Grant , 320€ Grant awarded by PHAROS for the participation to the PHAROS PhD Training School: Multi-messenger physics and astrophysics with compact binaries	<i>Jena, Germany</i>
2018	Travel Grant , 350€ Grant awarded by CINECA for the participation to the CINECA Summer School of Parallel Computing 2018	<i>Rome, Italy</i>
2012	Tuition Fees Refund , Refund of the bachelor tuition fees (3000€) for merit	<i>Padova, Italy</i>

Teaching

Junior Tutor

UNIVERSITÀ DEGLI STUDI DI PADOVA

Padova, Italy

2017

- Physics tutoring (lectures and exercises) to Natural Science bachelor students

Physics teacher: training for university admission tests

UNID S.R.L

Padova, Italy

2017-2018

- Frontal lessons and exercises to train students for university admission tests

Languages

Italian Native

English Fluent speaking and writing - Certifications: FCE (2008), PET (2006)

Observing experience

Observations of transits of exoplanets to extract light curves by using imaging differential photometry

ASIAGO ASTROPHYSICAL OBSERVATORY, 182 CM

Asiago, Italy

10-11, 29-30 October 2017

- Under the supervision of Prof. Piotto

Adaptive Optics speckle interferometry of a sample of unresolved binary stars

ASIAGO ASTROPHYSICAL OBSERVATORY, 122 CM

Asiago, Italy

13-14 January 2017

- Under the supervision of Prof. Ragazzoni

Long-slit spectroscopy of Soul Nebula (IC 1848) and Crab Nebula (M1)

ASIAGO ASTROPHYSICAL OBSERVATORY, 122 CM

Asiago, Italy

21-24 November 2012

- Under the supervision of Prof. Cirotti

Hobbies & Other Interests

Drums and Music

I PLAY DRUMS SINCE I WAS 13 AND I HAVE BEEN THE MEMBER OF MANY BANDS. I RECORDED SOME ORIGINAL TRACKS AND I KEEP PRACTISING A LOT ALSO BECAUSE IT KEEPS ME STRESS FREE.

Video games

I HAD MY FIRST COMPUTER WHEN I WAS VERY YOUNG AND THIS HELPED ME DEVELOP A STRONG PASSION FOR IT AND VIDEO GAMES.

Cooking

THE BEST ABOUT COOKING IS DOING IT FOR OTHERS; I THINK FOOD CAN CREATE AND STRENGTHEN BONDS BETWEEN PEOPLE IN A WAY THAT SIMPLY TALKING CANNOT.