

Daive Gerosa | Curriculum Vitae

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Relativistic astrophysicist and gravitational-wave astronomer, studying the impact of Einstein's general relativity on the astrophysical world. Research interests include astrophysical inference with gravitational-wave sources, black-hole binary spin dynamics, black-hole recoils, accretion disks and tests of general relativity.

Personal information

Present position: Lecturer in Gravitational-Wave Astronomy.
School of Physics and Astronomy, University of Birmingham,
Edgbaston, Birmingham, B15 2TT, UK.

Citizenship: Italy, EU.

Personal webpage: www.davidegerosa.com

Research experience

University of Birmingham **Birmingham, UK**
Lecturer, Institute for Gravitational Wave Astronomy 2019-

- *Responsibilities:* Research in gravitational-wave astronomy, teaching graduate and undergraduate classes, mentoring students. UK Lecturer rank is roughly equivalent to Assistant Professor in the US.

California Institute of Technology **Pasadena CA, USA**
NASA Einstein Fellow 2016-2019

- *Support:* Einstein postdoctoral prize fellowship. Part of the NASA prize fellowship program, Einstein Fellowships are prestigious awards in theoretical astrophysics consisting of personal research grant at selected US institution. See cxc.cfa.harvard.edu/fellows.

University of Cambridge **Cambridge, UK**
Ph.D. candidate, Department of Applied Mathematics and Theoretical Physics 2013-2016

- *Support:* Isaac Newton Studentship; STFC Ph.D. Studentship. The Isaac Newton Studentship is the only astronomy-specific Ph.D. scholarship of the University of Cambridge.
- *Supervisor:* Ulrich Sperhake.
- *Thesis:* Source modelling at the dawn of gravitational-wave astronomy. Resulted in 14 publications.

Extended research visits:

- Institut Astrophysique de Paris. Paris, France. Jul 2015
- University of Mississippi, Oxford MS, USA. Aug-Dec 2012
- Caltech, Pasadena CA, USA. LIGO Summer Undergraduate Research Fellow (SURF). Jun-Aug 2012

Education

Università degli Studi di Milano **Milan, Italy**
Master's degree in Astrophysics 2010-2013

- *Final degree grade:* 110/110 with distinction ("cum laude").
- *Average class grade:* 30/30 with 7/12 distinctions ("cum laude"). Top 1% of my class.
- *Thesis advisors:* Giuseppe Lodato, Emanuele Berti. Thesis resulted in 2 publications.

Università degli Studi di Milano **Milan, Italy**
Bachelor's degree in Physics 2007-2010

- *Final degree grade:* 110/110 with distinction ("cum laude").
- *Average class grade:* 29.84/30 with 18/26 distinctions ("cum laude"). Top 1% of my class.

Liceo Scientifico Statale Paolo Frisi **Monza MB, Italy**
Scientific High School degree 2002-2007

- *Final grade:* 100/100.

Grants, scholarships and awards

NSF Grant PHY-1759835 , US National Science Foundation	2018
Co-PI, 10kUSD, “ <i>Numerical Relativity beyond General Relativity</i> ”	
Einstein Postdoctoral Prize Fellowship , NASA.	2016-2019
Giulio Rampa Ph.D Thesis Prize , Italian Society for General Relativity and Gravitation.	2018
Stefano Braccini Ph.D Thesis Prize , Gravitational Wave International Committee.	2017
Isaac Newton Ph.D. Studentship , DAMTP & IoA, University of Cambridge.	2013-2016
STFC Ph.D. Studentship , UK Science & Technology Facilities Council.	2013-2016
Royal Astronomical Society Travel Grant , Royal Astronomical Society.	2016
Rouse Ball Studentship in Mathematics , Trinity College, University of Cambridge.	2015
Smith-Rayleigh-Knight Essay Prize , Faculty of Mathematics, University of Cambridge.	2015
LIGO Summer Undergraduate Research Fellowship , California Institute of Technology.	2012
Undergraduate Studentship , Physics Department, University of Milan.	2007-2008

Publications

Counts: 31 papers published in major peer-reviewed journals, 2 papers in submission stage, 4 other papers published in conference proceedings, software journals, etc, (out of which 18 first-authored papers and 4 papers covered by press releases).

Total number of citations: >1100 (using ADS and InSpire).

h-index: 17

Web links to list services: ADS; INSPIRE; ARXIV.

Full list of publications available below and at www.davidegerosa.com/pub.

Presentations

Counts: 29 talks at conferences, 27 talks at department seminars, 7 posters at conferences, (out of which 39 invited presentations).

Full list of presentations available below and at www.davidegerosa.com/talks.

Teaching and Mentoring

Ph.D. student projects:

- R. Tso, Caltech. 2018
Co-supervised with Y. Chen.
- V. Varma, Caltech. 2018
Co-supervised with Y. Chen. Publication: PRL 122 (2019) 011101.

Undergraduate student mentoring:

- J. Vosmera, University of Cambridge. 2015
Summer project (CMS program). Main supervisor. Publication: CQG 34 (2017) 6, 064004.
- B. Veronesi, University of Milan. 2015
Bachelor’s thesis. Co-supervised with G. Lodato. Publication: MNRAS 451 (2015) 3941-3954.
- R. Barbieri, University of Cambridge (visiting from University of Pavia). 2016
Summer project (St. John’s College exchange program). Main supervisor.

- K. Chamberlain, Caltech (visiting from Montana State University). 2017
Summer project (LIGO SURF program). Main supervisor. Publication: PRD 99 (2019) 024025.
- R. Barbieri, Caltech (visiting from University of Pavia). 2018
Master's thesis (APS funded). Main supervisor.
- L. Reali, University of Milan. 2018
Bachelor's thesis. Main supervisor.
- A. Lima, Caltech (visiting from Bowdoin College). 2018
Summer project (LIGO SURF program). Main supervisor.
- L. Reali, University of Birmingham (visiting from University of Milan). 2019 (awarded)
Summer project (HPC-Europa3 award). Main supervisor.

Teaching assistant:

- University of Cambridge, Part III General Relativity (master class). 2015-2016
- University of Cambridge, Part II General Relativity (3rd-year undergraduate class). 2014-2016

Outreach and Service

Referee

- Physical Review Letters
- Physical Review D
- Science Advances
- The Astrophysical Journal
- Monthly Notices of the Royal Astronomical Society
- General Relativity and Gravitation
- Europhysics Letters
- European Physical Journal Plus

Grant proposal reviewer and panelist

- NASA Astrophysics Theory Program (ATP), USA;
- NASA Graduate Fellowship Program (NESSF/FINESST), USA;
- NSF, Physics Division, USA;
- STFC DiRAC HPC allocation proposals; UK.

Editor

- Classical and Quantum Gravity, Focus Issue "*Numerical Relativity Beyond General Relativity*". 2019

Organized conferences

- *Numerical Relativity beyond General Relativity*, Benasque Science Center, Spain. 2018
- *APS 34th Pacific Coast Gravity Meeting*, Caltech. 2018
- *The disc migration issue: from planets to black holes*, University of Cambridge. 2017
- *Einstein's Legacy: Celebrating 100 yrs of General Relativity*, Queen Mary University of London. 2015

Professional recognition and service

- Italian Habilitation to Associate Professorship in Theoretical Physics (ASN 02/A2) 2018-2024
- Seminar organizer, TAPIR seminar series, Caltech. 2018-2019
- Observer member in management committee of European COST Action grant "GWverse". 2017-
- PhD representative, Gravitational Physics committee of the UK Institute of Physics. 2014-2016^{now}
- Undergraduate student representative, Science Faculty Council, University of Milan. 2008-2012

Memberships

- LISA Consortium (associate member)
- American Physical Society
- International Society on General Relativity and Gravitation
- GWIC 3G Science case subcommittee
- Royal Astronomical Society

Skills

Programming languages: Python (advanced), Bash, Mathematica, C, Fortran.

Other scientific tools: LIGO lalsuite, LaTeX, GIT, SVN, SLURM, Condor, Gnuplot, SuperMongo.

Languages: English (fluent), Italian (native).

Hobbies

Alpinism, rock climbing, skiing. Climbed to the top of Monte Rosa, 2nd highest mountain in the Alps.
Avid soccer player (and FC Inter fan). Some tennis and squash as well. In love with the US National Parks.
Rock music, great fan of Bruce Springsteen. Some photography.