Giacomo Fragione

Personal Information

Full Name	Giacomo Fragione.
Place of Birth	Formia (Italy).
Date of Birth	January 9th, 1990.
Nationality	Italian.
Office	CIERA, Northwestern University, Evanston, IL 60201, USA
Email	giacomo.fragione90@gmail.com; giacomo.fragione@northwestern.edu
Web	http://giacomofragione90.wix.com/giacomofragione

Current Position

2020– **Research Assistant Professor**, Northwestern University, Evanston, USA.

2019– **CIERA Fellow**, Northwestern University, Evanston, USA.

Past Positions

2018–2019 **Fellow of the Israel Academy of Sciences and Humanities**, Hebrew University of Jerusalem, Jerusalem, Israel.

2018–2019 **Arskin Fellow**, Hebrew University of Jerusalem, Jerusalem, Israel.

2017 **Postdoctoral Researcher**, Hebrew University of Jerusalem, Jerusalem, Israel.

Education

2013–2016 **Ph.D.**, Sapienza, University of Rome - University of Rome Tor Vergata, Rome, Italy.
Ph.D. student in Astronomy, Astrophysics and Space Science.
Thesis: "Hypervelocity Stars as Tools for Galactic Astrophysics". Supervisor: R. Capuzzo-Dolcetta.

2011–2013 **Master Degree**, Sapienza, University of Rome, Rome, Italy.
Master Degree, obtained on 22/07/2013 with mark 110/110 with distinction.
Thesis: "Constraints on the Curvature of the Universe from Planck
and Their Implications for Dark Energy". Supervisor: A. Melchiorri.

2008–2011 **Bachelor Degree**, Sapienza, University of Rome, Rome, Italy.
Bachelor Degree, obtained on 27/09/2011 with mark 110/110 with distinction.
Thesis: "Primordial Nucleosynthesis". Supervisor: P. de Bernardis.

Invited talks and seminars

21 Oct '20 **Cornell University**, Ithaca, USA.

8 May '20 **University of Wisconsin Milwaukee**, Milwaukee, USA.

29 Apr '20 **University of Concepcion**, Concepcion, Chile.

5 Mar '20 **Center for Computational Astrophysics (CCA)**, New York, USA.

5 Mar '20 **Columbia University**, New York, USA.

3 Mar '20 **American Museum of Natural History**, New York, USA.

2 Mar '20 **Stony Brook University**, Stony Brook, USA.

13 Dec '19 **Harvard Center for Astrophysics**, Cambridge, USA.

8 Nov '19 **Johns Hopkins University**, Baltimore, USA.

18 Oct '19 **CIERA Northwestern University**, Evanston, USA.
22 May '19 **Sapienza, University of Rome**, Rome, Italy.
6 Mar '19 **Ben Gurion University of the Negev**, Be'er Sheva, Israel.
26 Feb '19 **Eötvös Lorand University**, Budapest, Hungary.
28 Nov '18 **Technion**, Haifa, Israel.
6 Nov '18 **Hebrew University of Jerusalem**, Jerusalem, Israel.
31 Oct '18 **Tel Aviv University**, Tel Aviv, Israel.
5 Mar '18 **Nicolaus Copernicus Astronomical Center**, Warsaw, Poland.
30 Jan '18 **Hebrew University of Jerusalem**, Jerusalem, Israel.
11 Dec '17 **Black Hole Initiative at Harvard University**, Cambridge, USA.
5 Apr '17 **Technion**, Haifa, Israel.
23 May '16 **University of Surrey**, Guildford, UK.
4 May '16 **Eötvös Lorand University**, Budapest, Hungary.
27 Jan '16 **Rochester Institute of Technology**, Rochester, USA.
18 Nov '15 **University of Bonn**, Bonn, Germany.

Conferences, Workshops, Meetings, Visits

22-24 Oct '20 **Midwest Relativity Meeting**, University of Notre Dame, Notre Dame, USA (talk).
6-7 Oct '20 **AGN Disks: Where the Wild Things Are**, Center for Computational Astrophysics, New York, USA (invited talk).
4-8 Jan '20 **235th AAS meeting**, Honolulu, USA (talk).
11-13 Nov '19 **The New Faces of Black Holes**, Annapolis, USA (talk).
27-31 May '19 **IAU Symposium 351 & Modest-19: Star Clusters: from the Milky Way to the Early Universe**, University of Bologna, Bologna, Italy (poster).
1-4 Apr '19 **Radio Astronomy: A Time Domain Perspective**, Hebrew University of Jerusalem, Jerusalem, Israel.
10-14 Sep '18 **Triple Evolution and Dynamics Trendy-2**, Lorentz Center, Leiden, The Netherlands (talk).
25-29 Jun '18 **Modest 18: Dense Stellar Systems in the Era of Gaia, Ligo and Lisa**, Santorini, Greece (talk).
1 Feb '18 **National Israeli Astronomy Seminar Day**, Hebrew University of Jerusalem, Jerusalem, Israel (talk).
4-8 Dec '17 **Numerical Scattering Workshop**, Center for Computational Astrophysics, New York, USA.
16-20 Oct '17 **Astro-GR Meeting Barcelona 2017**, Universidad Autonoma de Barcelona, Barcelona, Spain.
18-22 Sep '17 **Modest 17: Modest under Prague's Starry Sky**, Charles University, Prague, Czech Republic (talk).
29 May-1 Jun '17 **8th Young Researcher Meeting 2016**, University of Cagliari, Cagliari, Italy (SOC).
12-15 Dic '16 **(M+1)-st Aarseth N-body Meeting**, Charles University, Prague, Czech Republic (talk).
5-9 Dic '16 **Stellar Aggregates over Mass and Spatial Scales**, Physikzentrum, Bad Honnef, Germany (talk).
24-26 Oct '16 **7th Young Researcher Meeting 2016**, INRiM, Turin, Italy (SOC).
26-28 Sep '16 **Perspectives of GPU Computing in Science**, Sapienza, University of Rome, Rome, Italy (poster).
18-22 Apr '16 **Modest 16: Star Clusters as Cosmic Laboratories for Astrophysics**, Bologna, Italy (poster).
12-14 Oct '15 **6th Young Researcher Meeting 2015**, GSSI, L'Aquila, Italy (SOC).

3-11 Oct '15 **Galactic Nuclei at High Resolution in Many Dimensions**, Alájar, Spain.

21-25 Sept '15 **101th National Congress of the Italian Society of Physics (SIF)**, Sapienza, University of Rome, Rome, Italy (talk).

12-18 Jul '15 **14th Marcel Grossmann Meeting**, Sapienza, University of Rome, Rome, Italy (talk).

31 May-5 Jun '15 **Triple Evolution and Dynamics**, Technion, Haifa, Israel (talk).

3-8 Nov '14 **The Early Life of Stellar Clusters**, Niels Bohr Institute, Copenhagen, Denmark (poster).

20-28 Sept '14 **Growth and Evolution of the Milky Way's Nuclear Star Cluster and its Central Black Hole**, Alájar, Spain.

22-26 Sept '14 **100th National Congress of the Italian Society of Physics (SIF)**, University of Pisa, Pisa, Italy (talk).

14-15 Jul '14 **5th Young Researcher Meeting 2014**, SISSA, Trieste, Italy (talk).

1-14 Jun '14 **The Unquiet Universe**, Cefalú, Italy (talk).

14 May '14 **Investigating Strangeness: from Accelerators to Compact Stellar Objects**, LNF, Frascati, Italy (talk).

Visits

10-13 Dec '19 **Harvard University**, Cambridge, USA.
host: A. Loeb.

5-8 Nov '19 **Johns Hopkins University**, Baltimore, USA.
host: E. Berti.

25 Feb-3 Mar '19 **Eötvös Lorand University**, Budapest, Hungary.
host: B. Kocsis.

4-9 Mar '18 **Nicolaus Copernicus Astronomical Center**, Warsaw, Poland.
host: M. Giersz.

10-16 Dec '17 **Harvard University**, *Harvard-Smithsonian Center for Astrophysics*, Cambridge, USA.
hosts: A. Loeb and I. Ginsburg.

14-20 May '17 **Leiden University**, Leiden, The Netherlands.
host: S. Portegies Zwart.

22-24 May '16 **University of Surrey**, Guildford, UK.
host: M. Gieles.

1-7 May '16 **Eötvös Lorand University**, Budapest, Hungary.
host: B. Kocsis.

24-29 Jan '16 **Rochester Institute of Technology**, Rochester, USA.
host: D. Merritt.

10-23 Jan '16 **Harvard University**, *Harvard-Smithsonian Center for Astrophysics*, Cambridge, USA.
host: A. Loeb.

Nov '15 **University of Bonn**, *Argelander-Institut für Astronomie (AIfA)*, Bonn, Germany.
hosts: S. Banerjee and P. Kroupa.

Publications

Papers, *52 (total), 37 (1st author), 7 (2nd author), 8 (Nth author).*

All publications, *969 citations, h-index 19.*

First-Author publications, *719 citations, h-index 16.*

[1] R. Capuzzo-Dolcetta, G. Fragione, *"High velocity stars from close interaction of a globular cluster and a super massive black hole"*, Monthly Notices of the Royal Astronomical Society, 454, 2677-2690, 2015.

[2] G. Fragione, R. Capuzzo-Dolcetta, *"High velocity stars from the interaction of a globular cluster and a massive black hole binary"*, Monthly Notices of the Royal Astronomical Society, 458, 2596-2603, 2016.

[3] G. Fragione, A. Loeb, *"Constraining Milky Way mass with Hypervelocity Stars"*, New Astronomy, 55, 32-38, 2017.

[4] G. Fragione, I. Ginsburg, *"Transits probabilities around hypervelocity and runaway stars"*, Monthly Notices of the Royal Astronomical Society, 466, 1805-1813, 2017.

[5] G. Fragione, R. Capuzzo-Dolcetta, P. Kroupa, *"Hypervelocity stars from young stellar clusters in the Galactic Centre"*, Monthly Notices of the Royal Astronomical Society, 467, 451-460, 2017.

[6] G. Fragione, R. Sari, *"Steeper stellar cusps in galactic centers from binary disruption"*, Astrophysical Journal, 852, 51, 2018.

[7] G. Fragione, F. Antonini, O. Y. Gnedin, *"Disrupted Globular Clusters and the Gamma-Ray Excess in the Galactic Centre"*, Monthly Notices of the Royal Astronomical Society, 475, 5313, 2018.

[8] G. Fragione, A. Gualandris, *"Tidal breakup of triple stars in the Galactic Centre"*, Monthly Notices of the Royal Astronomical Society, 475, 4986, 2018.

[9] G. Fragione, I. Ginsburg, B. Kocsis, *"Gravitational waves and Intermediate Massive Black Hole retention in Globular Clusters"*, Astrophysical Journal, 856, 92, 2018.

[10] M. Arca-Sedda, P. Berczik, R. Capuzzo-Dolcetta, G. Fragione, M. Sobolenko, R. Spurzem, *"Supermassive black holes coalescence mediated by massive perturbers: gravitational waves emission and the Milky Way - Andromeda fate"*, Monthly Notices of the Royal Astronomical Society, 484, 520, 2019.

[11] G. Fragione, N. Leigh, *"The secular tidal disruption of stars by low-mass Super Massive Black Holes secondaries in galactic nuclei"*, Monthly Notices of the Royal Astronomical Society, 479, 3181, 2018.

[12] G. Fragione, V. Pavlík, S. Banerjee, *"Neutron stars and millisecond pulsars in star clusters: implications for the diffuse γ-radiation from the Galactic Centre"*, Monthly Notices of the Royal Astronomical Society, 480, 4955, 2018.

[13] G. Fragione, *"Tidal breakup of quadruple stars in the Galactic Centre"*, Monthly Notices of the Royal Astronomical Society, 479, 2615, 2018.

[14] G. Fragione, B. Kocsis, *"Black hole mergers from an evolving population of globular clusters"*, Physical Review Letters, 121, 161103, 2018.

[15] G. Fragione, A. Loeb, I. Ginsburg, *"A dynamical origin for planets in triple star systems"*, Monthly Notices of the Royal Astronomical Society, 483, 648, 2019.

[16] G. Fragione, N. Leigh, I. Ginsburg, B. Kocsis, *"Tidal Disruption Events and Gravitational Waves from Intermediate Mass Black Holes in Evolving Globular Clusters Across Space and Time"*, Astrophysical Journal, 867, 119, 2018.

[17] G. Fragione, N. Leigh, *"Intermediate-Mass Ratio Inspirals in Galactic Nuclei"*, Monthly Notices of the Royal Astronomical Society, 480, 5160, 2018.

[18] E. Grishin, H. B. Perets, G. Fragione, *"Quasi-secular evolution of mildly hierarchical triple systems: analytics and applications for GW-sources and hot Jupiters"*, Monthly Notices of the Royal Astronomical Society, 481, 4907, 2018.

[19] G. Fragione, F. Antonini, O. Y. Gnedin, *"Millisecond pulsars and the gamma-ray excess in Andromeda"*, Astrophysical Journal Letters, 871, L8, 2019.

[20] G. Fragione, A. Gualandris, *"Hypervelocity stars from star clusters hosting Intermediate-Mass Black Holes"*, Monthly Notices of the Royal Astronomical Society, 489, 4543, 2019.

[21] A. Rasskazov, G. Fragione, N. Leigh, H. Tagawa, A. Sesana, A. Price-Whelan, E. M. Rossi, *"Hypervelocity Stars from a Supermassive Black Hole-Intermediate Mass Black Hole binary"*, Astrophysical Journal, 878, 17, 2019.

[22] G. Fragione, E. Grishin, N. Leigh, H. B. Perets, R. Perna, *"Black Hole and Neutron Star Mergers in Galactic Nuclei"*, Monthly Notices of the Royal Astronomical Society, 488, 47, 2019.

[23] S. Rastello, P. Amaro-Seoane, M. Arca-Sedda, R. Capuzzo-Dolcetta, G. Fragione, I. Tosta e Melo, *"Stellar Black Hole Binary Mergers in Open Clusters"*, Monthly Notices of the Royal Astronomical Society, 483, 1233, 2019.

[24] G. Fragione, *"Dynamical origin of S-type planets in close binary stars"*, Monthly Notices of the Royal Astronomical Society, 483, 3465, 2019.

[25] L. Šubr, G. Fragione, J. Dabringhausen, *"Intermediate-Mass Black Holes in binary-rich star clusters"*, Monthly Notices of the Royal Astronomical Society, 484, 2974, 2019.

[26] G. Fragione, B. Kocsis, *"Black hole mergers from quadruples"*, Monthly Notices of the Royal Astronomical Society, 486, 4781, 2019.

[27] G. Fragione, F. Antonini, *"Massive binary star mergers in galactic nuclei: implications for blue stragglers, binary S-stars and gravitational waves"*, Monthly Notices of the Royal Astronomical Society, 488, 728, 2019.

[28] N. Leigh, G. Fragione, *"A new method to constrain the origins of dark-matter-free galaxies and their unusual globular clusters"*, Astrophysical Journal, 892, 32, 2020.

[29] G. Fragione, N. Leigh, R. Perna, *"Black hole and neutron star mergers in Galactic Nuclei: the role of triples"*, Monthly Notices of the Royal Astronomical Society, 488, 2825, 2019.

[30] G. Fragione, O. Bromberg, *"Eccentric binary black hole mergers in globular clusters hosting intermediate-mass black holes"*, Monthly Notices of the Royal Astronomical Society, 488, 4370, 2019.

[31] G. Fragione, A. Loeb, *"Black hole-neutron star mergers from triples"*, Monthly Notices of the Royal Astronomical Society, 486, 4443, 2019.

[32] G. Fragione, N. Leigh, R. Perna, B. Kocsis, *"Tidal disruption events onto stellar black holes in triples"*, Monthly Notices of the Royal Astronomical Society, 489, 727, 2019.

[33] R. Sari, G. Fragione, *"Tidal disruption events, main-sequence extreme-mass ratio inspirals and binary star disruptions in galactic nuclei"*, Astrophysical Journal, 885, 24, 2019.

[34] G. Fragione, I. Ginsburg, A. Loeb, *"Supernovae in massive binaries and compact object mergers near supermassive black holes"*, Journal of Cosmology and Astroparticle Physics, 10, 045, 2019.

[35] G. Fragione, A. Loeb, *"Black hole-neutron star mergers from triples II: the role of metallicity and spin-orbit misalignment"*, accepted by Monthly Notices of the Royal Astronomical Society, 490, 4991, 2019.

[36] G. Fragione, B. Metzger, R. Perna, N. Leigh, B. Kocsis, *"Electromagnetic transients and gravitational waves from white dwarf disruptions by stellar black holes in triple systems"*, Monthly Notices of the Royal Astronomical Society, 495, 1061, 2020.

[37] G. Fragione, B. Kocsis, *"Effective spin distribution of black hole mergers in triples"*, Monthly Notices of the Royal Astronomical Society, 493, 3920, 2020.

[38] S. C. Ye, W.-f. Fong, K. Kremer, C. L. Rodriguez, G. Fragione, F. A. Rasio, *"On the rate of neutron star binary mergers from globular clusters"*, Astrophysical Journal Letters, 888, L10, 2020.

[39] K .Kremer, S. C. Ye, N. Z. Rui, N. C. Weatherford, S. Chatterjee, G. Fragione, C. L. Rodriguez, M. Spera, F. A. Rasio, *"Modeling dense star clusters in the Milky Way and beyond with the CMC cluster catalog"*, Astrophysical Journal Suppl., 247, 48, 2020.

[40] A. Rasskazov, G. Fragione, B. Kocsis, *"Binary intermediate-mass black hole mergers in globular clusters"*, Astrophysical Journal, 899, 149, 2020.

[41] M. Bonetti, A. Rasskazov, A. Sesana, M. Dotti, F. Haardt, N. Leigh, M. Arca Sedda, G. Fragione, E. Rossi, *"On the eccentricity evolution of massive black hole binaries in stellar backgrounds"*, Monthly Notices of the Royal Astronomical Society Letters, 493, L114, 2020.

[42] G. Fragione, A. Loeb, K. Kremer, F. A. Rasio, *"Gravitational-wave captures by intermediate-mass black holes in galactic nuclei"*, Astrophysical Journal, 897, 46, 2020.

[43] G. Fragione, A. Loeb, F. A. Rasio, *"Merging Black Holes in the Low-mass and High-mass Gaps from 2+2 Quadruple Systems"*, Astrophysical Journal Letters, 895, L15, 2020.

[44] C. L. Rodriguez, K. Kremer, M. Grudic, Z. Hafen, S. Chatterjee, G. Fragione, A. Lamberts, M. Martinez, F. A. Rasio, N. Weatherford, C. S. Ye, *"GW190412 as a Third-Generation Black Hole Merger from a Super Star Cluster"*, Astrophysical Journal Letters, 896, L10, 2020.

[45] G. Fragione, J. Silk, *"Repeated mergers and ejection of black holes within nuclear star clusters"*, Monthly Notices of the Royal Astronomical Society, 498, 4591, 2020.

[46] G. Fragione, S. Banerjee, *"Demographics of neutron stars in young massive and open clusters"*, Astrophysical Journal Letters, 901, L16, 2020.

[47] K. Kremer, M. Spera, D. Becker, S. Chatterjee, U. N. Di Carlo, G. Fragione, C. L. Rodriguez, C. S. Ye, F. A. Rasio, *"Populating the upper black hole mass gap through stellar collisions in dense star clusters"*, accepted by Astrophysical Journal, arXiv:2006.10771, 2020.

[48] G. Fragione, R. Perna, A. Loeb, *"Calibrating the binary black hole population in nuclear star clusters through tidal disruption events"*, submitted, arXiv:2006.14632, 2020.

[49] G. Fragione, M. A. S. Martinez, K. Kremer, S. Chatterjee, C. L. Rodriguez, C. S. Ye, N. Weatherford, S. Naoz, F. A. Rasio, *"Demographics of triple systems in dense star clusters"*, Astrophysical Journal, 900, 16, 2020.

[50] G. Fragione, A. Loeb, *"An upper limit on the spin of SgrA* based on stellar orbits in its vicinity"*, Astrophysical Journal Letters, 901, L32, 2020.

[51] G. Fragione, A. Loeb, F. A. Rasio, *"On the Origin of GW190521-like Events from Repeated Black Hole Mergers in Star Clusters"*, Astrophysical Journal Letters, 902, L26, 2020.

[52] M. A. S. Martinez, G. Fragione, K. Kremer, S. Chatterjee, C. L. Rodriguez, J. Samsing, C. S. Ye, N. Weatherford, M. Zevin, S. Naoz, F. A. Rasio, *"Black Hole Mergers from Hierarchical Triples in Dense Star Clusters"*, accepted by Astrophysical Journal, arXiv:2009.08468, 2020.

Press & Media

G. Fragione, A. Loeb, *"Constraining Milky Way mass with Hypervelocity Stars"*, Universe today, `https://www.universetoday.com/137379/determining-mass-milky-way-using-hypervelocity-stars/`, 2017.

G. Fragione, A. Loeb, *"Constraining Milky Way mass with Hypervelocity Stars"*, Phys.org, `https://phys.org/news/2017-10-mass-milky-hypervelocity-stars.html`, 2017.

S. C. Ye, W.-f. Fong, K. Kremer, C. L. Rodriguez, G. Fragione, F. A. Rasio, *"On the rate of neutron star binary mergers from globular clusters"*, Northwestern University, `https://ciera.northwestern.edu/2019/12/02/rate-of-neutron-star-binary-mergers-much-lower-than-previously-thought/`, 2020.

G. Fragione, A. Loeb, *"An upper limit on the spin of SgrA* based on stellar orbits in its vicinity"*, Harvard University, `https://www.cfa.harvard.edu/news/2020-28?fbclid=IwAR2_Ge72HBJebtzDRr9Ld5GhRqPktXxMwGaHIhPh0ak9kC-93dz-NG42Ujs`, 2020.

G. Fragione, A. Loeb, *"An upper limit on the spin of SgrA* based on stellar orbits in its vicinity"*, Northwestern University, https://ciera.northwestern.edu/2020/10/20/the-low-spin-of-the-milky-ways-supermassive-black-hole/?fbclid=IwAR0fhZ5numWt0cpTX75nweD_9t3Afuk5ylR0I0sMUAomLihLPk1AJi34rtY, 2020.

G. Fragione, A. Loeb, *"An upper limit on the spin of SgrA* based on stellar orbits in its vicinity"*, Phys.org, https://phys.org/news/2020-10-supermassive-black-hole-milky.html, 2020.

G. Fragione, A. Loeb, *"An upper limit on the spin of SgrA* based on stellar orbits in its vicinity"*, INAF (Istituto Nazionale di Astrofisica), https://www.media.inaf.it/2020/10/21/spin-lento-sgr-a-star/?fbclid=IwAR18v2wJsQ9gFKZtwJ3HlBpNcZaHqXytAHGcs8kz_oXzxzRZ9FEKF87M6lw, 2020.

G. Fragione, A. Loeb, *"An upper limit on the spin of SgrA* based on stellar orbits in its vicinity"*, Harvard Crimson, https://www.thecrimson.com/article/2020/10/23/harvard-smbh-spin/?fbclid=IwAR32fpLiHm0HbwzNz3MKNCDJabT8fBsRBEHcOGTyWSpw4UVMLZ2DPJEqe8M, 2020.

Proceedings

[1] G. Fragione, *"Gravity and thermodynamics: fundamental principles and gravothermal instability"*, J. of Phys.: Conf. Ser., 556, 012024, 2014.

[2] G. Fragione, R. Capuzzo-Dolcetta, *"Star clusters and super massive black holes: high velocity stars production"*, Mem. Soc. Astron. Ital., 87, 687, 2016.

[3] R. Capuzzo-Dolcetta, G. Fragione, *"Super massive black holes and the origin of high-velocity stars"*, Proceed. of the 14th Marcel Grossman Meeting on General Relativity, pp. 1532-1537, 2018.

[4] G. Fragione, *"Merging black holes of any size and hierarchy"*, Proc. IAU Symposium 351, 2019.

[5] L. Šubr, G. Fragione, J. Dabringhausen, *"Intermediate-Mass Black Holes in binary rich star clusters"*, Proc. IAU Symposium 351, 2019.

[6] G. Fragione, A. Loeb, *"A triple channel for black hole-neutron star mergers"*, Bulletin of the American Astronomical Society, 52, 334.05, 2020.

Professional Service

2020- **Topic Editor**, *Universe*.

2020- **Member of the committee organizing the astrophysics seminars at CIERA Northwestern University (USA)**.

2020 **Review panelist for the Chilean Research Council for Science and Technology (Chile)**.

2019 **Review panelist for scientific proposals for the ERC Consolidator Grant 2019 (European Union)**.

2018 **Review panelist for "Telescope Access Program" at the Kavli Institute for Astronomy and Astrophysics at Peking University (China)**.

2018-2019 **Organizer of the astrophysics seminars at the Hebrew University of Jerusalem (Israel)**.

2018-2019 **Organizer of the journal club at the Hebrew University of Jerusalem (Israel)**.

2017- **Referee Activity**, *Monthly Notices of the Royal Astronomical Society, Astrophysical Journal, Astrophysical Journal Letters, Physical Review D, Physical Review Letters, Nature, Astronomy & Astrophysics*.

2017- **Meeting Organization**, *8th Young Researcher Meeting 2017 (29 May-1 Jun '17 University of Cagliari, Cagliari, Italy; SOC), 7th Young Researcher Meeting 2016 (24-26 Oct '16 INRiM, Turin, Italy; SOC), 6th Young Researcher Meeting 2015 (12-14 Oct '15, GSSI, L'Aquila, Italy; SOC)*.

Grants, Awards, Honors

2019-2024 **CIERA Fellowship**, CIERA, Northwestern University, USA.

2019 **IAU travel grant for IAU Symposium 351 & Modest-19**, €460, funded by IAU.

2019 **T.D. Lee Prize Fellowship**, Shanghai Jiao Tong University, China (declined).

2018-2019 **Fellowship for Foreign Researchers in Israel**, Israel Academy of Sciences and Humanities, Israel.

2018-2019 **Arskin Fellowship**, Hebrew University of Jerusalem, Jerusalem, Israel.

2015-2016 **Grant for Teaching Assistantship**, €2K, funded by Sapienza, University of Rome.

2015-2016 **Research Grant**, *'Dynamics around Black Holes and Hyper Velocity Stars Production'*, €1K, funded by Sapienza, University of Rome.

2014-2015 **Grant for Teaching Assistantship**, €2K, funded by Sapienza, University of Rome.

2014 **Prize for Excellent Master Graduates**, Sapienza, University of Rome, Rome, Italy.

Teaching Experience

Jul 2020 **Teaching "The habitable zone of other worlds in the cosmos" for the CIERA High-School Summer Program**, CIERA, Northwestern University, Evanston, USA.

Feb 2016-Sep 2016 **Teaching Assistant for "Mechanics" (Bachelor Degree)**, Physics Department, Sapienza, University of Rome, Rome, Italy.

Oct 2015-Jul 2016 **Teaching Assistant for "Thermodynamics" (Bachelor Degree)**, Physics Department, Sapienza, University of Rome, Rome, Italy.

Feb 2015-Sep 2015 **Teaching Assistant for "Mechanics" (Bachelor Degree)**, Physics Department, Sapienza, University of Rome, Rome, Italy.

Oct 2014-Jul 2015 **Teaching Assistant for "Thermodynamics" (Bachelor Degree)**, Physics Department, Sapienza, University of Rome, Rome, Italy.

Student Supervision

Graduate

2019- **Miguel A. S. Martinez**, Northwestern University - Primary advisor: Fred Rasio.

2019- **Claire Shi Ye**, Northwestern University - Primary advisor: Fred Rasio.

Undergraduate

2020- **Elena Gonzalez**, University of Florida - Primary advisor: Laura Blecha.

2020- **Avery Keare**, Northwestern University - BA Computer Science.

Memberships

2020- International Astronomical Union (IAU).

2019- American Astronomical Society (AAS).

Computer Skills

Programming Fortran, C, Bash, Python, OpenMP, MPI, CUDA

O.S. Linux, MacOS, Microsoft Windows

Software Latex, Office, Gnuplot, Origin, Mathematica, R

Codes HiGPUs, NEMO, ARChain, phiGRAPE, Nbody6/7, McLuster, CORBITS, CMC

Languages

Italian Native Speaker

English	Fluent
Hebrew	Fluent
French	Intermediate
Spanish	Intermediate

Academic References

Avi Loeb, Harvard University, USA.
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Fred Rasio, Northwestern University, USA.
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Rosalba Perna, Stony Brook University, USA.
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Roberto Capuzzo-Dolcetta, Sapienza, University of Rome, Italy.
roberto.capuzzodolcetta@uniroma1.it