

STEFANO CAVUOTI

07 January 1982

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POSITION

1 January 2024 – Continuing: INAF - Astronomical Observatory of Capodimonte , Italy

- Senior Researcher

1 July 2020 – 31 December 2023: INAF - Astronomical Observatory of Capodimonte , Italy

- Research associate

19 November 2018 – 30 June 2020: University of Naples Federico II, Italy

- Assistant Professor (RTDa)

01 August 2018 – 18 November 2018: University of Naples Federico II, Italy

- Research Fellow: Application of Machine Learning to the data analysis

30 December 2016 – 19 April 2018: University of Naples Federico II, Italy

- Assistant Professor (RTDa)

1 October 2015 – 29 December 2016: INAF - Astronomical Observatory of Capodimonte, Italy

- Research Fellow: Study and realization of instruments for the quality analysis in the data of the Euclid mission.

20 August 2013 – 31 August 2015: INAF - Astronomical Observatory of Trieste, Italy

- Research Fellow: Study and realization of instruments for the quality analysis in the data of the Euclid mission.

1 May 2013 – 31 July 2013: University of Naples Federico II, Italy

- Scholarship: Photometric Redshifts for the Euclid mission.

1 April 2008 – 30 September 2008: University of Naples Federico II, Italy. PON SCoPE Grant

- Term contract: Porting of software in the PON SCoPE GRID Infrastructure (MatLab, Python, Bash, gLite).

AWARDS

- **2016 International Astrostatistics Association Awards: Outstanding Publication in Astrostatistics, PostDoc**
- **2020 Appointed as Builder of the Euclid space mission from the Euclid Consortium Board**
- **2021 LSSTC Enabling Science AGN Data Challenge Award**

MAIN ROLES

- **Member of the Board** of DEAP-3600 Experiment, (since 27 June 2024);
 - **Chair Elected** member of the Board (since 20 November 2025)
- **Co-Leader** of the work package of Machine Learning for the Organization Unit of Photometric Redshift of Euclid Space Mission WP4-3-09-3209 (since 2017)

VISITING SCIENTIST

- April 2017: Heidelberger Institut für Theoretische Studien (HITS), Heidelberg, Germany
- June 2016: Heidelberger Institut für Theoretische Studien (HITS), Heidelberg, Germany
- September 2008 – November 2008: California Institute of Technology (CalTech), Pasadena, CA, USA

TEACHING & PUBLIC OUTREACH

Courses for the Universities

- Academic year 2019 - 2020: **Professor of Astroinformatics**, Course within the master degree in Physics, University of Naples Federico II
- Academic year 2018 - 2019: **Professor of Astroinformatics**, Course within the master degree in Physics, University of Naples Federico II
- Academic year 2017 - 2018: **Professor of Astroinformatics**, Course within the master degree in Physics, University of Naples Federico II
- Academic Year 2016 - 2017: Lessons on Python within the course of **Astroinformatics** for the master degree in Physics, University of Naples Federico II
- Academic Year 2009 - 2010: Lessons on machine learning SVM (Support Vector Machine), PPS (Probabilistic Principal Surface) e NEC (Negative Entropy Classification) within the course of **Astronomical Technologies** for the master degree in Physics, University of Naples Federico II

Public Outreach

- 16 October 2025 The Belliner #46, Magazine of the Theater Bellini, Naples
 - **Article:** Andare sottoterra per scrutare il cielo
- 26 September 2025, Notte Europea delle Ricercatrici e dei Ricercatori - NET-ScienceTogether, Roma (Italy)
 - **Invited Lecture:** Come si insegna a un computer a guardare il cielo?
- 25 August 2025, Media INAF news portal of INAF
 - **Article:** review of the book “Astrofisica in dieci parole” (in Italian)
- 9 May 2025, Invited Speaker at training course for the Italian Order of Journalists
Seminar: *"L'Intelligenza Artificiale per la ricerca scientifica. Le innovazioni, le sfide etiche e le implicazioni pratiche nei diversi campi di studio dalla fisica allo spazio, dai cambiamenti climatici alla comunicazione inclusiva di genere. Come scienziati e scienziate "nutrono" e si servono dell'intelligenza artificiale"* (on-line event)
 - **Invited Lecture:** "Indagare il cosmo con l'intelligenza artificiale" (in Italian)
- 2 April 2025 The Belliner #41, Magazine of the Theater Bellini, Naples
 - **Article:** Guardare lontano per scrutare nel tempo
- 28 March 2025 Researchers@School Cervello E Intelligenza Artificiale: Il Ruolo Futuro Dell'uomo, Convitto G. Bruno, Maddaloni
 - **Lecture:** “Indagare il cosmo con l'intelligenza artificiale” (in Italian)
- 21 March 2025 Public Conference: “La prima notte di primavera”, Astronomical Observatory of Capodimonte, Naples
 - **Lecture:** “Indagare il cosmo con l'intelligenza artificiale” (in Italian)
- 14 November 2024, The Belliner #28, Magazine of the Theater Bellini, Naples
 - **Article:** “Misurare il Cosmo senza un righello” (in Italian)
- 23 June 2024, Wired, Magazine
 - **Interview:** “Raccogliamo troppi dati dallo spazio: solo con l'AI riusciremo a non sprecarli” (in Italian)
- 20 May 2024, Media INAF, news portal of INAF
 - **Interview:** “Alla ricerca di anomalie con il transfer learning” (in Italian)
- 9 January 2024, The Belliner #10, Magazine of the Theater Bellini, Naples
 - **Article:** “E se cercassimo gli extraterrestri con l'Intelligenza Artificiale?” (in Italian)
- 27 October 2023, Media INAF news portal of INAF
 - **Interview:** “Alla ricerca di tecnofirme extraterrestri” (in Italian)

Training Schools

- September 2019: **Invited Instructor** at the Deep Learning @ INAF Training School, Pula, Italy
 - Data preparation and curation as well as parameter space analysis.
- April 2016: **Invited Instructor** at the BIGSKYEARTH Training School, The German Aerospace Center at Oberpfaffenhofen, Germany
 - Signal processing and Machine Learning for Big Data, Cloud Computing architecture; Dimensionality reduction.
- Feb 2010: **Tutor** of VO-Day ... in Tour, INAF - Astronomical Observatory of Capodimonte, Italy

High schools

- June 2015 - July 2015: **Instructor at Liceo Scientifico “F. Sbordone”** of Naples, Italy
 - Elements of Informatics & Web Design.
- February 2019 - May 2019: **Work-linked Trainer at Liceo Scientifico “S. Cantone”** of Pomigliano (Naples), Italy
 - Geographical and Astronomical coordinates
 - CCD and data reduction in Astronomy

THESES SUPERVISED

1. Supervisor of a B. Thesis in Physics, Finding gravitational lenses using transfer learning , candidate G. Sasanelli, 2023/24, University of Naples Federico II, supervisors prof. G. Longo, dr. **S. Cavuoti**, dr. C. Tortora;
2. Supervisor of a M. Sc. Thesis in Geomorphology, *Geomorphical Analysis Through Automatic Segmentation of Satellite and Topographic Images for Deep Learning Based Classification*, candidate M. D’Aniello, 2022/23, University of Naples Federico II, supervisors prof. C. Donadio, dr. M. Brescia, dr. **S. Cavuoti**;
3. Supervisor of a B. Thesis in Physics, Identification of photo-z outliers with ML methods, candidate M. Rossi, 2020/21, University of Naples Federico II, supervisors prof. G. Longo, dr. **S. Cavuoti**, dr. M. Delli Veneri;
4. Supervisor of a B. Thesis in Physics, *La correlazione tra variabilità e parametri fisici dei Nuclei Galattici Attivi*, candidate G. Russo, 2019/20, University of Naples Federico II, supervisors prof. M. Paolillo, dr. **S. Cavuoti**;
5. Supervisor of a M. Sc. Thesis in Physics, *Machine learning based classification of transients in astronomical synoptic surveys*, candidate M. Vicedomini, 2019/20, University of Naples Federico II, supervisors prof. G. Longo, dr. **S. Cavuoti**, dr. M. Brescia;
6. Supervisor of a M. Sc. Thesis in Physics, *Star Formation Rates Estimation via Machine Learning Methods*, candidate M. Delli Veneri, 2015/16, University of Naples Federico II, supervisors prof. G. Longo, dr. **S. Cavuoti**, dr. M. Brescia;
7. Supervisor of a B. Thesis in Physics, *Characterization of Outliers in the Quasar Photometric Redshift Space*, candidate M. Delli Veneri, 2015/16, University of Naples Federico II, supervisors prof. G. Longo, dr. **S. Cavuoti**, dr. M. Brescia;
8. Supervisor of a M. Sc. Thesis in Physics, *A new photometric method to determine the metallicity of galaxies*, candidate C. De Masi, 2014/15, University of Naples Federico II, supervisors prof. G. Longo, dr. M. Brescia, dr. **S. Cavuoti**, dr. A. Mercurio, dr. C. Maraston;
9. Supervisor of a M. Sc. Thesis in Physics, *Classification of astronomical transients with machine learning methods*, candidate A. D’Isanto, 2013/14, University of Naples Federico II, supervisors prof. G. Longo, dr. M. Brescia, dr. **S. Cavuoti**;
10. Supervisor of a M. Sc. Thesis in Physics, *Characterization of Outliers in the Quasar Photometric Redshift Space*, candidate C. Petrillo, 2012/2013, University of Naples Federico II, supervisors prof. G. Longo, dr. **S. Cavuoti**.

CURRENT ASSOCIATIONS

- Junior Member of the International Astronomical Union (IAU, 2019-2025);
- Member of the Institute for Systems and Technologies of Information, Control and Communication (INSTICC, since 2019);
- Member of the International AstroInformatics Association (IAIA, since 2019), **Chief Publication Officer**;
- Member of the International Astrostatistics Association (IAA, since 2012);
- Member of the **DEAP** (Dark matter Experiment using Argon Pulse-shape discrimination) collaboration (since 2018);
 - **Member of the Board**, (since 27 June 2024);
 - **Chair Elected** member of the Board (since 20 November 2025)
- Member of the **DarkSide** collaboration (since 2017);
- Member of **LSST** (Large Synoptic Survey Telescope, since 2017):
 - **DESC** (Dark Energy Science Collaboration);
 - **TVS SC** (Transients and Variable Stars Science Collaboration);
- Member of the **EUCLID** space mission (appointed a **Builder** since may 2020):

- **SGS (Science Ground Segment)**
 - **DQCT** (Data Quality Common Tools) for the Science Ground Segment.
Manager of the package Flow control & harmonization, WP4-02-11-01-1000 (since 2012);
Manager of the package MER Quality Common Tools, WP4-02-11-03-3300 (since 2012);
 - Team for the development of common scientific libs (since 2015);
- **SWG SN/T** (Science Working Group Supernovae/Transients, since 2012);
- **OU-PHZ** (Organization Units for photometric redshifts, since 2013).
Co-Leader of the work package of Machine Learning WP4-3-09-3209 (since 2017)
- Member of **KiDS** (Kilo Degree Square Survey) survey project and of the internal research project Photometric Redshifts with Data Mining (since 2015);
- Member of project **DAME** (Data Mining & Exploration, <http://dame.dsf.unina.it>) in collaboration with the Department of Physics of the University of Naples Federico II, California Institute of Technology and INAF - Astronomical Observatory of Capodimonte (since 2007);
- Co-Investigator of the ESO project: **GCAV** (Galaxy Clusters at Vircam, since 2017);
- Co-Investigator of the ESO project: **KABS** (KiDS-ATLAS Bridging Survey, since 2017);
- Co-Investigator of the ESO project: **VST-GAME** - (Galaxy Assembly as a function of Mass and Environment with VST).

PAST ASSOCIATIONS

- Member of the UdR (Research Unit) INAF-OACN for the project **VIALACTEA - The Milky Way as a Star Formation Engine**, financed by the Programme European Commission 7th Framework Programme for Research, Call FP7-SPACE-2013-1, 2014-2017;
- Member of the COST Action TD1403 **BIG-SKY-EARTH** (Big Data Era In Sky And Earth Observation), approved by COST - European Cooperation in Science and Technology, May 2014 – May 2018.

ACTIVITY AS REFEREE

- Member of the **editorial board** of Astronomy and Computing (Elsevier), 2023-continuing;
- Member of the **editorial board** of AI, Open Access Journal (MDPI), 2019-continuing;
- Member of the **editorial board** of Entropy, Open Access Journal (MDPI), 2020-continuing;
- Member of the **editorial board** of Frontiers in Astronomy and Space Sciences, Section Local Universe 2022-continuing;
- Member of the **editorial board** of Foundations, Open Access Journal (MDPI), 2021-2022;
- Reviewer for a proposal of National Science Centre Poland (Narodowe Centrum Nauki);
- Reviewer for the a proposal of Czech Science Foundation;
- Member of the editorial board of Astronomy and Computing (Elsevier), 2023-continuing;
- Member of the editorial board of AI, Open Access Journal (MDPI), 2019-continuing;
- Member of the editorial board of Entropy, Open Access Journal (MDPI), 2020-continuing;
- Member of the editorial board of Frontiers in Astronomy and Space Sciences, Section Local Universe 2022-continuing;
- Member of the editorial board of Foundations, Open Access Journal (MDPI), 2021-2022;
- Reviewer for a proposal of National Science Centre Poland (Narodowe Centrum Nauki);
- Reviewer for the a proposal of Czech Science Foundation;
- International Conference on Deep Learning Theory and Applications;
- The Astrophysical Journal Supplement Series (IOPscience);
- Monthly Notices of the Royal Astronomical Society (Oxford Journals);
- Astronomy & Astrophysics (EDP Sciences for European Southern Observatory);
- Publications of the Astronomical Society of the Pacific (IOPscience);
- Astronomy and Computing (Elsevier);
- PLOS ONE (Public Library of Science);
- Scientific Reports (Springer Nature);
- Proceedings of the International Astronomical Union (Cambridge University Press);
- Applied Computing and Informatics (Elsevier);
- Advances in Space Research (Elsevier);
- Engineering Science and Technology, an International Journal (Elsevier);
- Heliyon (Elsevier);
- ACM Transactions on Management Information Systems (ACM);
- IEEE Transactions on Systems, Man and Cybernetics: Systems (IEEE);
- IEEE Access (IEEE);
- The Universe of Digital Sky Surveys (Springer);
- Delta 2020 (Institute for Systems and Technologies of Information, Control and Communication);

- Frontiers in Astronomy and Space Sciences (Frontiers);
- Remote Sensing (MDPI);
- Universe (MDPI);
- Entropy (MDPI);
- Signals (MDPI).

RESEARCH FUNDING

- **FFABR 2017**, Funding of basic research activities, Ministry of Education, Universities and Research (Italy);
- **Quasars at high redshift: physics and Cosmology** financed by the ASI/INAF agreement 2017-14-H.0.
- **Cosmology beyond the LCDM paradigm with QSOs and GRBs** financed by the ASI/INAF agreement 2017-14-H.0.

CONFERENCES & WORKSHOPS

Invited Participation

1. 05 June 2025, LXVI Congresso Nazionale della Società Astronomica Italiana (SAIt), Firenze (Italy)
 - **Invited to the discussion panel:** Big science, big data, big challenges. Quale contributo per l'AI in astrofisica?
2. 21-23 May 2025, AI in Astronomy Workshop, Catania (Italy), remote participation
 - **Invited lecture shared with Dr. Giuseppe Angora:** Regression models for astronomical data
3. 10-11 July 2024, Seventeenth Marcel Grossmann Meeting, Pescara (Italy)
 - **Invited Lecture:** Leveraging Transfer Learning for Astronomical Image Analysis
4. 22-23 May 2024, Bridging Knowledge: Artificial Intelligence, ASI, Rome (Italy)
 - **Invited Lecture:** Applicazioni di Transfer Learning ad immagini Astronomiche
 - **Member of Discussion Panel:** "Osservazione della Terra e dell'Universo"
5. 28 November 2023, Kick-off Spoke 3 PNRR - Intesa Sanpaolo use case, Torino (Italy)
 - **Invited Lecture:** Identification of Active Galactic Nuclei in Time Series with Machine Learning
6. 21-23 September 2021, Second Chile - Italy Academic Forum, Bologna (remote participation due to coronavirus emergency)
 - **Invited as a member of the discussion panel in the Astronomy and Data Science Workshop**
7. 9-13 March 2020, Sexten (Italy), The Physical Challenge Of Astro-Statistics (conference canceled due to coronavirus emergency)
 - **Invited Lecture**
8. 20-24 May 2019, Pasadena (USA) invitation-only Data Driven Approaches to Searches for the Technosignatures of Advanced Civilizations workshop, a Keck Institute for Space Studies think tank
9. 12-15 September 2017, Padua (Italy) LXI congresso della Società Astronomica Italiana (SAIt)
 - **Invited Lecture:** Photometric redshifts in the Astrophysical Big Data Domain.
10. 20 January 2014 Melbourne (Australia) GALAH Astro-Statistics Meeting, Monash University
 - **Invited Lecture:** AstroInformatics for dummies.

Lectures, Posters & Conference Organization

1. 21-23 May 2025, AI in Astronomy Workshop, Catania (Italy), remote participation
 - **Lecture:** Summary of ML activities in Capodimonte
2. 26-28 February 2025, Archives and Data management Systems, Bologna (Italy)
 - **Member of the SOC**
 - **Lecture:** Mining Archives: needs for Machine Learning
3. 15-18 April 2024, Quantum Bootcamp for Astrophysicists, Naples (Italy)
 - **Member of the LOC**
4. 4-7 March 2024, AISSAI Anomaly Detection Workshop, Clermont-Ferrand (France)
 - **Lecture:** Identification of problematic epochs in Astronomical Time Series through Transfer Learning
5. 1-6 October 2023, Astroinformatics 2023, Naples (Italy)
 - **Chair of the LOC**
6. 13-15 September 2023, 109° Congresso Nazionale Società Italiana di Fisica (SIF), Salerno (Italy)
 - **Lecture:** ULISSE: a tool for one-shot sky exploration and its application to Active Galactic Nuclei detection.
7. 22-23 February 2022, DEAP Collaboration Meeting (online streaming due to coronavirus emergency)
 - **Lecture:** Random forest against alpha backgrounds
8. 20-23 September 2021, DEAP Collaboration Meeting, Sudbury (Canada) and Warsaw (Poland) parallel organization (remote participation due to coronavirus emergency)

- **Lecture:** Random forest against dust backgrounds
- **Chair** of final session
- 9. 17-19 August 2020, DEAP Collaboration Summer 2020 Meeting (online streaming due to coronavirus emergency)
 - **Lecture:** MVA validation and systematic uncertainties
- 10. 27-30 July 2020, DEAP Collaboration July 2020 Meeting (online streaming due to coronavirus emergency)
 - **Lecture:** MVA validation status: Random Forest
 - **Chair:** Session VI: Low-Level Analysis
- 11. 20-23 July 2020, Virtual Dark Energy Science Collaboration Meeting (online streaming due to coronavirus emergency)
 - **Lecture:** MLPQNA results in tomographic challenge
- 12. 8-12 July 2020, 1st International Conference on Deep Learning Theory and Applications (DeLTA 2020)
 - **Program Committee Member** (online streaming due to coronavirus emergency)
- 13. 25-28 February 2020, Garching bei Muenchen (Germany), DEAP Collaboration Winter 2020 Meeting (remote participation)
 - **Lecture:** Background classification with Random Forest
- 14. 20-23 August 2019, Sudbury (Canada) DEAP Collaboration Summer 2019 Meeting SNOLAB August 2019 (remote participation)
 - **Lecture:** Classification with Random Forest
- 15. 19-23 February 2019, Garching bei Muenchen (Germany), DEAP Collaboration Meeting Winter 2019
 - **Chair:** Session VI, Position Reconstruction
 - **Lecture:** Classification with Random Forest of events from 2nd paper MC
- 16. 11-14 February 2019, Rome (Italy), Euclid and Beyond: the many faces of modern cosmology
 - **Lecture:** Stellar Formation Rates for large samples of galaxies using Machine learning methods
- 17. 26-28 November 2018, Barcelona (Spain), Euclid 15th OU-PHZ Meeting
 - **Lecture:** Feature Selection
- 18. 10-13 September 2018, Naples (Italy) CLUSTER2
 - **Member of the LOC**
- 19. 9-11 April 2018, Naples (Italy) LSST TVS workshop 2018
 - **Chair:** discussion on transient classification
 - **Member of the LOC**
- 20. 20-24 October 2016, Sorrento (Italy) Astrominformatics 2016, IAU Symposium 325
 - **Lecture:** A cooperative approach among methods for photometric redshifts estimation;
 - **Member of the LOC.**
- 21. 20 September 2016, Naples (Italy) Falling Walls Lab Naples
 - **Lecture:** Breaking the wall of precision cosmology.
- 22. 30 May - 3 June 2016, Lisbon (Portugal) Euclid Consortium Meeting 2016
 - **Lecture:** Data Quality Common Tools status.
- 23. 18-20 May 2016, Naples (Italy), Euclid OU-PHZ Meeting #10
 - **Lecture:** A cooperative approach among SED and ML methods.
- 24. 1-3 July 2015, Barcelona (Spain), Euclid OU-PHZ Meeting #8
 - **Lecture:** PDF with MLPQNA
- 25. 16-17 October 2014, Paris (France), Euclid garage days #7
 - **Lecture:** Supernovae Pipeline Concept;
 - **Lecture:** Data Quality Common Tools.
- 26. 25-29 May 2014, Lisbon (Portugal) Statistical Challenges in Cosmology in the 21st Century, IAU Symposium 306
 - **Poster:** Data-Rich Astronomy: Mining Sky Surveys with PhotoRAPToR.
- 27. 18-19 March 2014, Naples (Italy) KIDS Science meeting
 - **Lecture:** Photometric Redshifts in KIDS with MLPQNA: completeness vs accuracy.
- 28. 1-4 July 2012, Amsterdam (Holland): SPIE Conference on Software and Cyberinfrastructure for Astronomy II
 - **Lecture:** Data Mining and Knowledge Discovery Resources for Astronomy in the Web 2.0 Age.
- 29. 25-29 September 2011: Naples (Italy) Astrominformatics 2011
 - **Member of the LOC.**
- 30. 16-20 May 2011: Naples (Italy) International Virtual Observatory Alliance Interoperability Workshop
 - **Member of the LOC.**
- 31. 15-21 April 2011, Erice (Italy): 7th International Workshop Data Analysis in Astronomy "Livio Scarsi"
 - **Lecture:** DAME: A Web Oriented Infrastructure For Scientific Data Mining And Exploration.
- 32. 12-14 May 2010, Poznan (Poland): INGRID 2010, Instrumenting the GRID
 - **Lecture:** DAME: A Distributed Data Mining & Exploration Framework within the Virtual Observatory.

Other Conferences And Workshops

1. 11-13 August 2025 DEAP Collaboration Meeting 2025, Carleton University, Canada (remote participation)
2. 23-24 January 2025, Napoli (Italy) INAF +25: 1999-2024
3. 23-27 September 2024, ESOGPT24 (on-line conference)
4. 17-11 June 2024, Rome (Italy) Euclid Consortium Meeting 2024
5. 18-21 July 2023, Sudbury (Canada) DEAP Collaboration Meeting 2023 (remote participation)
6. 20-23 June 2023, Copenhagen (Denmark) Euclid Consortium Meeting 2023 (remote participation)
7. 2-5 May 2023, Napoli (Italy) Giornate INAF 2023
8. 7-10 February 2023, Mexico City (Mexico) DEAP Collaboration Winter Meeting 2023 (remote participation)
9. 19-20 January 2023, Rome (Italy) 6° Meeting Nazionale Euclid (remote participation)
10. 22-25 August 2022, Deep River (Canada) DEAP Collaboration Meeting 2022 (remote participation)
11. 26-29 April 2022, Oslo (Norway) Annual Euclid Consortium Meeting 2022 (remote participation)
12. 23-25 February 2022, 5° Meeting Nazionale Collaborazione Euclid (online streaming due to coronavirus emergency)
13. 21 January 2022, DarkSide Collaboration Meeting (online streaming due to coronavirus emergency)
14. 4-8 October 2021, The Third National Workshop on the SKA Project - The Italian Route to the SKAO Revolution (online streaming due to coronavirus emergency)
15. 9-13 August 2021 Rubin 2021 Project and Community Workshop (online streaming due to coronavirus emergency)
16. 7-11 June 2021 DarkSide Collaboration Meeting (online streaming due to coronavirus emergency)
17. 25-28 May 2021, Annual Euclid Consortium Meeting 2021 (online streaming due to coronavirus emergency)
18. 18-26 February 2021, DEAP Collaboration Meeting, February 2021 (online streaming due to coronavirus emergency)
19. 15-17 February 2021, 4° Meeting Nazionale Collaborazione Euclid (online streaming due to coronavirus emergency)
20. 30 November - 4 December 2020 - DESC 2020 Virtual Sprint Week (online streaming due to coronavirus emergency)
21. 18-21 November 2020 IAU - Challenges and Innovations in Computational Astrophysics (online streaming due to coronavirus emergency)
22. 16-18 November 2020 DarkSide Collaboration Meeting (online streaming due to coronavirus emergency)
23. 27-28 October 2020 LSSTC Enabling Science Broker Workshop (online streaming due to coronavirus emergency)
24. 10-14 August 2020, Rubin Observatory Project & Community Workshop 2020 (online streaming due to coronavirus emergency)
25. 10-12 June 2020, VST beyond 2021 (online streaming due to coronavirus emergency)
26. 8-9 June 2020, Darkside Collaboration Meeting 2020 (online streaming due to coronavirus emergency)
27. 4-8 May 2020 Euclid plenary meeting 2020 (online streaming due to coronavirus emergency)
28. 9-10 January 2020, Rome (Italy) LSST Italia
29. 7-9 October 2019, Naples (Italy) Untangle the skein with Scarlet LSST de-blending pipeline application
30. 8-12 April 2019, Trieste (Italy) Advanced Workshop on Accelerating the Search for Dark Matter with Machine Learning, Abdus Salam International Centre for Theoretical Physics
31. 8-10 October 2018, Palermo (Italy) LSST Special Programs Workshop
32. 11-15 June 2018, Naples (Italy) First SUNDIAL annual meeting
33. 5-7 February 2018, Rome (Italy) 1° Convegno Nazionale della collaborazione Euclid Italia
34. 17-19 May 2017, Sendai (Japan) Photo-z Workshop For Large Surveys 2017
35. 22 November 2016, Rome (Italy) Info day spazio
36. 24 October 2016, Sorrento (Italy) Education in Big Data Era
37. 26-29 September 2016, Naples (Italy) Active Galactic Nuclei 12, a multi-messenger perspective
38. 24-27 November 2015, Garching bei Muenchen (Germany) Science Operations 2015: Science Data Management
39. 12-14 November 2014, Frascati (Italy) 2014 Conference on Big Data from Space 2014 (BiDS 14), ESA
40. 2 July 2014, Milan (Italy) Euclid Organisation Group #7
41. 5-9 May 2014, Marseille (France) Euclid Consortium Meeting 2014
42. 3-7 February 2014, Munich (Germany) Euclid SGS-ST Meeting Munich (garage day #5, SGS OG#5, ST meeting)
43. 21-22 November 2013, Garching bei Muenchen (Germany), Euclid 5th OU-PHZ Meeting
44. 13-14 November 2013, Toulouse (France), Euclid DataModelWorkshop

OTHER LECTURES

1. The Rare and the Unknown, IAPS Web Seminar (online streaming due to coronavirus emergency), 1 December 2021
2. Machine Learning in Astrophysics - photo-z as a template case, Astromeeting at the INAF - Astronomical Observatory of Capodimonte (online streaming due to coronavirus emergency), 20 January 2021
3. Machine Learning in Astrophysics - photo-z as a template case, Colloquium at the Pontificia Universidad Católica De Chile (online streaming due to coronavirus emergency), 21 April 2020

4. Photo-z for X-ray selected AGN in the eROSITA era, Journal Club, Naples, 13 May 2019
5. Return of the features, Journal Club, Naples, 31 May 2018
6. The Curse of Dimensionality, BIGSKYEARTH Training School, The German Aerospace Center at Oberpfaffenhofen, Germany, April 2016
7. Cloud Computing and Big Data Fundamentals, BIGSKYEARTH Training School, The German Aerospace Center at Oberpfaffenhofen, Germany, April 2016
8. Data Rich Astronomy: Mining Synoptic Sky Surveys, PhD Dissertation, University Federico II of Naples, May 2013
9. Surfing the Digital Universe Astroinformatics: a new era for Astronomy?, PhD Workshop, University Federico II of Naples, Italy, 30 January - 1 February 2013
10. Data Rich Astronomy: Mining Synoptic Sky Surveys, PhD Workshop, University Federico II of Naples, Italy, 10-11 October 2011
11. Data rich Astronomy: mining synoptic sky surveys, PhD Workshop, University Federico II of Naples, Italy, 3-5 November 2010
12. Tecnologie di indagine scientifica in Astrofisica, Lesson at Astronomic Technology course, University of Naples Federico II, December 2009
13. Seminar at Caltech: Support Vector Machines, CalTech, 27 November 2008
14. Ricerca di Nuclei Galattici Attivi in Survey Fotometriche Multibanda, Master's Degree Final Examination, 23 January 2008
15. Ricerca di Nuclei Galattici Attivi in Survey Fotometriche Multibanda, Journal Club, 15 January 2008

CONSULTANCY WORK

July 2018, Energy Management & Consulting S.r.l.

- Implementation of the model LSTM (long-short time memory) for the analysis of time series

EDUCATION

Mar 2010 – Feb 2013: University of Naples Federico II, Italy, PhD in fundamental and applied physics

- Thesis topic: Data-rich astronomy: mining synoptic sky surveys.

Feb 2010: INAF - Astronomical Observatory of Capodimonte, Italy, Vo-Day ... in Tour

- Scientific application of Virtual Observatory (VO) techniques and tools.

Jun 2008: INAF - Astronomical Observatory of Capodimonte, Italy, AstroWise School

- Use of AstroWise tools for data reduction.

Jun 2008: Penn State University, State College, PA, USA, Summer School in Statistics for Astronomers IV

- Exploratory data analysis, Hypothesis testing and parameter estimation, Regression & confidence interval estimation, Model selection & goodness-of-fit, Maximum likelihood methods & Bayes' Theorem, Non-parametric methods, Monte Carlo methods, Poisson processes, Time series.

Sep 2000 - Jan 2008: University of Naples Federico II, Italy. Master Degree in Physics

- Thesis topic: search for Active Galactic Nuclei (AGN) in multiband photometric survey.

Sep 1995 - Jul 2000: High School L. Da Vinci, Salerno, Italy, Diploma in Scientific studies

COMPUTER SKILLS

- Excellent programming skills in Python, PHP
- Good programming skills in Java, SQL, Bash, Matlab, C/C++, LabView, Basic64, GWBasic, QBasic
- Basic programming skills in Ruby, Fortran77 and Turbo Pascal
- Good knowledge of web technology: Docker, Django, CGI, Rails, XML and HTML
- Good knowledge of GRID environment: gLite 3.0 and gLite 3.1
- Excellent knowledge of Linux and Windows operating systems
- Excellent knowledge of Microsoft Office suite tools, OpenOffice suite and LaTeX
- Excellent knowledge of Virtual Observatory tools proficient in reduction of astronomical data
- Basic knowledge of graphic design applications such as PhotoShop, Corel Draw, Gimp etc.

LANGUAGE SKILLS

- **Italian:** Native language
- **English:** Fluent
- **French:** Beginner

List of Publications

BOOKS:

- Brescia, M., Djorgovski, S. G., Feigelson, E. D., Longo, G., **Cavuoti, S.** editors, *Astroinformatics (IAU S325)*, Proceedings of the International Astronomical Union Symposia and Colloquia, Cambridge University Press, ISBN-10: 110716995X
- **Cavuoti, S.** 2015, *Data-Rich Astronomy: Mining Synoptic Sky Surveys*, LAMBERT Academic Publishing, ISBN: 978-3-659-68311-4, 260pp.

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2. d'Assignies, W., Manera, M., Padilla, C., et al., 2025, Euclid: Photometric redshift calibration performance with the clustering-redshifts technique in the Flagship 2 simulation, *Astronomy & Astrophysics*, Volume 702, id.A155, 31 pp., 702, A155
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8. George, K., Boselli, A., Cuillandre, J.-C., et al., 2025, Euclid: Early Release Observations of ram-pressure stripping in the Perseus cluster: Detection of parsec-scale star formation within the low surface brightness stripped tails of UGC 2665 and MCG +07-07-070, *Astronomy & Astrophysics*, Volume 701, id.A40, 26 pp., 701, A40
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11. Adhikari, P., Ajaj, R., Alpízar-Venegas, M., et al., 2025, Position reconstruction in the DEAP-3600 dark matter search experiment, *Journal of Instrumentation*, Volume 20, Issue 07, id.P07012, 26 pp., 20, P07012
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