Giovanni Sabatini

Curriculum Vitae et Studiorum

Personal information

Born in Pistoia (PT), Italy; May 01, 1991

Address *Osservatorio Astrofisico di Arcetri (INAF-OAA)*, Largo Fermi, 5, 50125, Firenze, Italy

Contacts (Email) giovanni.sabatini[at]inaf.it; (ORCID) 0000-0002-6428-9806

Research interests and expertise

⋆ Chemistry of the ISM; Star formation; Astrochemistry; Cosmic rays; Astrochemical models (e.g., KROME-package); Radioastronomy (e.g., ALMA, APEX, IRAM-30m);

Education

2017 – 2021 **PhD in Astrophysics**, *Department of Physics and Astronomy (University of Bologna - UniBo)*, PhD programme carried out under an international co-tutorship agreement between the Universities of *Bologna* (Italy) and *Concepción* (Chile; University of Conceptión - UdeC). The title conferred by UdeC is **PhD in Physics**..

Dissertation "Establishing a time line for the high-mass star formation process"; (PDF link).

Supervisor (UniBo), *Dr. Jan Brand, Dr. Andrea Giannetti*, INAF-IRA/ARC-It, Bologna, Italy.

Supervisor (UdeC), *Prof. Dr. Stefano Bovino*, UdeC, Concepción, Chile.

2014 – 2017 **M.Sc. in Astrophysics and Cosmology**, *Department of Physics and Astronomy (DiFA)*, UniBo.

Dissertation "Unveiling the inner morphology and gas kinematics of NGC5135 with ALMA"; (PDF link).

Supervisor, *Prof. Dr. Andrea Cimatti*, DiFA, UniBo, Bologna, Italy.

2010 – 2014 **B.Sc. in Astronomy**, *Department of Physics and Astronomy (DiFA)*, UniBo.

Dissertation "Meccanismi di produzione dell'energia in astrofisica"; (PDF link).

Supervisor, *Prof. Dr. Daniele Dallacasa*, DiFA, UniBo, Bologna, Italy.

Academic and professional employments

Mar 2023 – current **Postdoctoral position**, *Istituto Nazionale di Astrofisica - Osservatorio Astrofisico di Arcetri (INAF-OAA)*, Florence, Italy.

Jen 2021 – Feb 2023 **Postdoctoral position**, *Istituto Nazionale di Astrofisica - Istituto di Radioastronomia (INAF-IRA). European Node of the Italian ALMA Regional Centre (It-ARC)*, Bologna, Italy.

Short-term visits and work experience

Mar – Apr 2022 **Research period abroad (3 weeks)**, *Short-term visit at the Department of Astronomy (UdeC)*, **Local hosts:** Prof. Dr. Stefano Bovino and Prof. Dr. Dominik R. G. Schleicher.

Mar – Jun 2019 **Marco Polo Fellowship (10 weeks)**, *Visiting student at the Department of Astronomy (UdeC)*, **Local Supervisor:** Prof. Dr. Stefano Bovino.

Nov – Dec 2018 **Research period abroad (4 weeks)**, *Visiting student at the Department of Astronomy (UdeC)*, **Local Supervisor:** Prof. Dr. Stefano Bovino.

Jun – Aug 2018 **Research period abroad (6 weeks)**, *Visiting student at the Department of Astronomy (UdeC)*, **Local Supervisor:** Prof. Dr. Stefano Bovino.

Workshops, Conferences (without contribution) and professional training

Nov 2022 **Molecules in Extreme Environments: Near and Far (online) (link)**, Mitaka Campus, Japan.

Jul 2021 **2^{nd} AstroChemical Origins (ACO) Network School (link)**, Padova, Italy.

Nov 2020 **The Interstellar Medium**, *Department of Physic and Astronomy (DiFA)*, Bologna, Italy.

Sept 2020 **Gaia: Great Advances In Astrophysics**, *DiFA*, Bologna, Italy.

May 2020 **Neutrinos and Dark Matter in Astro- and Particle Physics (link)**, *C.R. Center (online)*.

Dec 2019 **1^{st} AstroChemical Origins (ACO) Network School (link)**, Perugia, Italy.

Jun 2019 **Statistics for Astrophysics**, *DiFA*, Bologna, Italy.

Feb 2019 **ALMA Science and Proposals Workshop**, *IRA/ARC-It*, Bologna, Italy.

Nov 2018 **4^{th} international KROME computational school (link)**, Concepción, Chile.

Oct 2018 **10^{th} IRAM millimeter interferometry school (link)**, Grenoble, France.

May 2018 **Spectral Energy Distribution of Galaxies**, *DiFA*, Bologna, Italy.

Dec 2017 **Self-calibration and advanced imaging**, *IRA/ARC-It*, Bologna, Italy.

Nov 2017 **Everything you always wanted to know about Python**, *DiFA*, Bologna, Italy.

Mentoring and teaching experiences

Dec 2022 **Guest Lecturer**, *Course: "The interstellar Medium" Master Degree Program (LM) in Astrophysics and Cosmology"*, Topics: "Observational Astrochemetry: Welcome to the Alma Era" (2 hrs), Bologna, Italy. **Holder of the Chair:** Prof. Francesca Pozzi.

Dec 2022 **Guest Lecturer**, *Course: "Selected topics in modern astrophysics"*, Topics: observational astrochemistry (4 hrs), Padova, Italy. **Holder of the Chair:** Prof. Stefano Bovino.

Oct 2022 **Tutor**, *Course: "Multiwavelength Astrophysics Laboratory"*, module of ALMA (30 hrs). Lesson topics: CASA tutorial of data reduction (calibration/imaging), Bologna, Italy.

2019 – 2021 **Tutoring of Master Student**, Morin Órdenes, Thesis title: "*Observations of deuterated molecules*", Department of Astronomy (University of Concepción).

Sep 2021 **Tutor**, *Course: "Multiwavelength Astrophysics Laboratory"*, module of ALMA (60 hrs). Lesson topics: CASA tutorial of data reduction (calibration/imaging) + exams, Bologna, Italy.

2019 – 2021 **Tutoring of Master Student**, Morin Órdenes, Thesis title: "*Observations of deuterated molecules*", Department of Astronomy (University of Concepción).

Apr 2021 **Guest Lecturer**, *Course: "Atomi e Molecole nel Cosmo"*, Lesson topics: Principles of interferometry and the ALMA telescope (2hrs). The science with ALMA (2hrs), Bologna, Italy. **Holder of the Chair:** Prof. Luca Dore.

Feb 2021 **Tutor**, *Practical sessions during the 5^{th} KROME international school (25hrs)*, online.

May 2020 **Guest Lecturer**, *Course: "Atomi e Molecole nel Cosmo"*, Lesson topics: Principles of interferometry and the ALMA telescope (2hrs). The science with ALMA (2hrs), Bologna, Italy. **Holder of the Chair:** Prof. Luca Dore.

Apr 2019 **Guest Lecturer**, *Course: "Introduction to Astrochemistry"*, Lesson topics: Dust physics and chemistry; Chemistry in star-forming regions (6hrs), Concepción, Chile. **Holder of the Chair:** Prof. Stefano Bovino.

Nov 2018 **Tutor**, *Practical sessions during the 4^{th} KROME international school (15hrs)*, Concepción, Chile.

2018 – 2019 **Tutoring of Master Student**, Joaquin Zamponi, Thesis title: "*Synthetic observations of deuterated molecules in massive prestellar cores*", Department of Astronomy (UdeC).

Mar 2018 **Guest Lecturer**, *Course: "Atomi e Molecole nel Cosmo"*, Lesson topics: Principles of interferometry and the ALMA telescope (2hrs). The science with ALMA (2hrs), Bologna, Italy. **Holder of the Chair:** Prof. Luca Dore.

Technical skills

Telescopes	(2022) Observer at the Green Bank Telescope (GBT; GBT Training completed in Aug 2022); (2021) Observer at the Atacama Pathfinder Experiment telescope (APEX)
Programming	Python (advance), Fortran90 (basic);
Astronomical Packages	Excellent ability in using: the astrochemical-package KROME to include chemistry and microphysics in a wide range of astrophysical numerical models; MCWeeds, Weeds and PySpecKit astrochemical-packages for spectral modelling (basic knowledge of CASSIS-package); ASTRODENDRO and SCIMES packages for dendrograms analysis; AstroPy, APLpy and Pandas.
Astronomical Tools	Excellent ability in using CASA software for data reduction/imaging, SIMALMA, and in the ALMA-observing tool; Excellent in GILDAS tools; Basic knowledge of IRAF and XSPEC software;
Display Tools	Proficient in: CASA-viewer, DS9/Js9 and Python (Matplotlib, APLpy, Seaborn, ...);
Software	Proficient in Latex and Microsoft Office Software Suite (Word, Excel, Powerpoint);

Talks

Jun 2023 **"First ALMA maps of cosmic ray ionisation rate in high-mass star-forming regions"**, *V Workshop sull'Astronomia Millimetrica in Italia*, Bologna, Italy.

Jun 2023 **"First ALMA maps of cosmic ray ionisation rate in high-mass star-forming regions"**, *Chemical processes in Solar-type star-forming regions (IV-ACO)*, Toulouse, France.

Apr 2023 **"The RCrA FAUST-Field"**, *FAUST 8th metting*, University of Tokyo (Hongo campus), Japan.

Nov 2022 **"Unveiling the distribution of the cosmic-rays ionization rate with ALMA"**, *Cosmic rays 2 - The salt of the star formation recipe*, Osservatorio astronomico di Arcetri, Italy.

Mar 2022 **"Establishing a timeline for the high-mass star formation process"**, *Invited (Dept. seminar) - Department of Astronomy of UdeC*, Concepción, Chile.

Feb 2022 **"Establishing a timeline for the high-mass star formation process"**, *Invited (IAPS-Seminar) - Istituto di Astrofisica e Planetologia Spaziali di Roma*, Rome (Virtual), Italy.

Sept 2021 **"The first survey of $ortho$–H_2D^+ in high-mass star-forming regions"**, *Chemical processes in Solar-type star-forming regions (III-ACO)*, Department of Chemistry of Torino, Italy.

Jen 2021 **"Timing the formation process of high-mass stars"**, *Invited - Madrid AstroChemical Aperitivo*, Madrid, Spain (Virtual).

Feb 2020 **"Unravelling the chemical complexity of high-mass star-forming regions"**, *IRA coffee talk*, Bologna, Italy.

Aug 2019 **"Mapping the large-scale CO-depletion in the IRDC G351.77-0.51"**, *Young European Radio Astronomers Conference (YERAC2019)*, Dublin, Ireland.

Apr 2019 **"On the size of the CO-depletion radius in the IRDC G351.77-0.51"**, *New quests in stellar astrophysics IV: Astrochemistry, Astrobiology and the Origin of Life*, Puerto Vallarta, Mexico.

Mar 2019 **"Large scale CO-depletion factor variations in the IRDC G351.77-0.51"**, *Weekly-meeting of the Computational Astrochemistry Group*, Department of Astronomy, UdeC, Chile.

Nov 2018 **"Timing the formation of high-mass-stars using chemo-dynamical models"**, *Weekly-meeting of the Computational Astrochemistry Group*, UdeC, Concepción, Chile.

Jun 2018 **"Modeling the molecular accretion disk in the nucleus of NGC5135 with 3D BAROLO"**, *Weekly-meeting of the Computational Astrochemistry Group*, UdeC, Concepción, Chile.

Nov 2017 **"Unveiling the inner morphology and gas kinematics of NGC5135 with ALMA"**, *IV Workshop sull'Astronomia Millimetrica in Italia*, Bologna, Italy.

Posters

Apr 2023 **"First ALMA maps of cosmic ray ionisation rate in high-mass star-forming regions"**, *Protostars and Planets VII (PPVII)*, Kyoto, Japan.

Jun 2021 **"On the evolutionary timescales of the high-mass star formation process"**, *European Astronomical Society Annual Meeting (EAS2021)*, Leiden, Virtual.

- **"Establishing the evolutionary timescales of the high-mass star formation process"**, *EAS2021*, Leiden, Virtual.

Oct 2019 **"How reliable is CO as a kinematical tracer in star-forming regions?"**, *ALMA2019: Science Results and Cross-Facility Synergies*, Cagliari, Italy.

Sept 2019 **"How reliable is CO as a kinematical tracer in star-forming regions?"**, *Views on the Interstellar Medium in galaxies in the ALMA era*, Bologna, Italy.

Oct 2018 **"Mapping the large scale highly depleted structures in the IRDC G351.77-0.51"**, *10^{th} IRAM millimeter interferometry school*, Grenoble, France.

Mar 2018 **"Establishing a timeline for the high-mass star formation process"**, *Science with APEX*, Tagungsstatte Schloss Ringberg, Germany.

Responsibility positions and professional achievements

Committees

Sept 2019 **Local Organizing Committee**, *Views in the Interstellar Medium in galaxies in the ALMA era*, Bologna, Italy.

International and national collaborations [since]

Membership **Astrochemistry beyond the Second Period Elements (Beyond-2P; link)**, *[2023]*.

- ⋆ **Fifty AU STudy of the chemistry in the disk/envelope system of Solar-like protostars (FAUST; link)**, *[2023]*.
- ⋆ **ALMA chemical survey of Disk-Outflow sources in Taurus - from the chemistry of protoplanetary disks to the planet's composition (ALMA-DOT; link)**, *[2023]*.
- ⋆ **JEts and Disks@INAF (JEDI; link)**, *[2023]*.
- ⋆ **The ALMA Survey of 70μm Dark High-mass Clumps in Early Stages (ASHES; link)**, *[2022]*.
- ⋆ **European Node of the Italian ALMA Regional Centre (It-ARC; link)**, *2021-23*.

ESO service

2021 – 23 **Analyst and data reducer for the ESO-ALMA**, *European Southern Observatory*.

Support Astronomer experiences

2021 **Telescope:** Atacama Pathfinder EXperiment (APEX); **Total time:** 32 hrs.

2016 **Telescope:** Cassini telescope 152 cm (Loiano, Bologna); **Total time:** 16 hrs.

Editorial board

Journals **Frontiers in Astronomy and Space Sciences**, *Review Editor (Astrochemistry)*, since 2023.

Referee experiences

Journals **Monthly Notices of the Royal Astronomical Society**, (2023).

- ⋆ **Astronomy & Astrophysics Letters**, (2022).
- ⋆ **Astronomy & Astrophysics**, (2020, 2021 and 2022).
- ⋆ **Astrophysical Journal Supplements**, (2019–2020).

Other responsabilities

2021-22 **Webmaster**, *Italian node of the European ALMA Regional Centre website*, link.

2019-21 **PhD Representative in the Doctoral College**, *Dipartimento di Fisica e Astronomia "Augusto Righi"*, Bologna, Italy.

Relevant professional achievements

Shortlists **Max-Planck-Institut für extraterrestrische Physik (Center for Astrochemical Studies)**, *Postdoctoral positions in Observations of Star/Planet Forming Regions*, (2022).

Qualifications **Independent postdoctoral fellowship**, *Istituto Nazionale di Astrofisica (INAF)*, IAF - INAF Astrophysics Fellowships, (2023).

Selection for the position of permanent researcher at INAF, *Title of the selection "Astrophysics of stellar populations in the era of large spectroscopic surveys."*, (2022).

(Selection of) Successful observing proposals

(87.1 hrs) **Telescope:** ALMA [4.5 hrs MA + 22.2 hrs ACA + 60.4 hrs TP]; **Cycle:** ALMA Cycle 9.
"Hunting prestellar cores in high-mass star-forming regions: a comparison between o-H_2D^+ and N_2D^+"
PI: Bovino S.; **Co-I: Sabatini G.**, Redaelli E.;

(15.0 hrs) **Telescope:** VLA [13.0 hrs VLA + 2.0 hrs of GBT related proposal] ; **Cycle:** VLA/2022.
"A crucial test for the mass of prestellar cores in a high-mass clump"
PI: Redaelli E.; **Co-I:** Caselli P., Sanhueza Nunez P., Alves F., **Sabatini G.**, Bovino S.;

(103.2 hrs) **Telescope:** ALMA [5.1 hrs MA + 26.1 hrs ACA + 72.0 hrs TP] ; **Cycle:** Cycle8.2021.
"Unveiling the distribution of the cosmic-rays ionization rate with ALMA"
PI: Sabatini G.; **Co-I:** Bovino S., Redaelli E.;

(16.6 hrs) **Telescope:** ALMA [5.2 hrs MA + 11.4 hrs ACA] ; **Cycle:** Cycle8.2021.
"Establishing a timeline for the high-mass star-formation process"
PI: Sabatini G.; **Co-I:** Bovino S., Grassi T., Giannetti A., Brand J., Urquhart J., Leurini S., Menten K. M.;

(45.2 hrs) **Telescope:** ALMA [45.2 hrs ACA] ; **Cycle:** Cycle8.2021.
"Pilot study of para-D_2H^+ in a high-mass clump with ALMA"
PI: Bovino S.; **Co-I:** Redaelli E., Caselli P., **Sabatini G.**, Wyrowski F.;

(35.2 hrs) **Telescope:** APEX; **Cycle:** 2021A (resubm. 2020B and 2020A).
"Testing the statistical relevancy of the o-H_2D^+-N_2D^+ ratio, as a new evolutionary tracer for massive clumps"
PI: Sabatini G.; **Co-I:** Bovino S., Giannetti A., Órdenes M. A., Schleicher D. R. G.;

(24.0 hrs) **Telescope:** APEX; **Cycle:** 2021A (resubm. 2020B).
"Duration of the pre-stellar phase in the high-mass regime via o-H_2D^+/p-D_2H^+ observations"
PI: Wyrowski F.; **Co-I: Sabatini G.**, Bovino, S., Ferrada S., Menten K. M., Giannetti A.;

(31.0 hrs) **Telescope:** Gemini Observatory (NIFS); **Cycle:** 2020A.
"Unravelling the circumstellar enviroment of High-mass YSOs within massive clumps"
PI: Navarete F.; **Co-I:** Daminelo A., Giannetti A., **Sabatini G.**;

Outreach, Media and Public Events

2023 (pressrelease) "Investigación dirigida por astrónomo UdeC logra importante avance en la comprensión de rayos cósmicos en zonas de formación estelar", (link).

- (MediaINAF news) "Raggi cosmici e formazione stellare", (link).
- (ALMA science highlight) "ALMA reveals for the first time the distribution of the cosmic-ray ionisation rate in two massive star-forming regions", (link).

2021 (Spotify podcast) "Dottorato et al.", to introduce young students to the PhD (link).

2017 – 2021 (OpenDay) Presentation of the Bachelor and Master's degree courses in Astronomy and Astrophysics at the University of Bologna.

2015 – 2017 (OpenDay) Presentation of the Bachelor degree course in Astronomy at the University of Bologna.

2016 (OpenDay) Celebrations for the 80th anniversary of Loiano's historical telescope

Refereed publications, proceedings and other contributions

I have a total number of 17 accepted refereed publications in astronomy and astrophysics journals. My current H-index is 7 and I have a total of 113 citations (60 as first-author; ADS - Astrophysics Data System).

Published (refereed)

(2023) **Sabatini G.**, Bovino S. & Redaelli E.
"First ALMA maps of cosmic ray ionisation rate in high-mass star-forming regions", 2023, ApJ Letters, 947L, 18S;

- Morii K., Sanhueza P., Fumitaka N., Zhang, Q., **Sabatini G.**, Beuther H., Lu, X., Li S., Garay G., Jackson J. M., Olguin F. A., Tafoya D., Tatematsu K., Narsuko I., Takeshi S. & Silva A.
"The ALMA Survey of 70 μm Dark High-mass Clumps in Early Stages (ASHES). IX. Physical Properties and Spatial Distribution of Cores in IRDCs", accepted in ApJ, **arXiv:2304.01757**;
- Li S., Sanhueza P., Zhang, Q., Garay G., **Sabatini G.**, Morii K., Lu, X., Tafoya D., Fumitaka N., Narsuko I., Tatematsu K., & Li F.
"The ALMA Survey of 70 μm Dark High-mass Clumps in Early Stages (ASHES). VIII. Dynamics of Embedded Dense Cores", 2023, ApJ, 949, 109L;

(2022) **Sabatini G.**, Bovino S., Sanhueza P., Morii K., Li S., Redaelli E., Zhang Q., Lu X., Feng S.,Tafoya D., Izumi N., Sakai T., Tatematsu K. & Allingham D.
"The ALMA Survey of 70 μm Dark High-mass Clumps in Early Stages (ASHES). VI. The core-scale CO-depletion", 2022, ApJ, 936, 80S;

- Li S., Sanhueza P., Lu, X., Lee C. W., Zhang, Q., Bovino S., **Sabatini G.**, Liu T., Kim K.-T., Morii K., Tafoya D., Tatematsu K., Sakai T., Wang J., Li F., Silva A., Izumi N. & Allingham D.,
"The ALMA Survey of 70 μm Dark High-mass Clumps in Early Stages (ASHES). VII. Chemistry of Embedded Dense Cores", 2022, ApJ, 939, 102L;
- Redaelli E., Bovino S., Sanhueza P., Morii K., **Sabatini G.**, Caselli P., Giannetti A. & Li S,
"The Core Population and Kinematics of a Massive Clump at Early Stages: An Atacama Large Millimeter/submillimeter Array View", 2022, ApJ, 936, 169R;
- Zamponi, J., Giannetti, A., Bovino, S., **Sabatini, G.,** Schleicher, D. R. G., Koertgen, B., Reissl, S., Wolf, S.,
"Synthetic observations using POLARIS: an application to simulations of massive prestellar cores", 2022, Ap&SS, 367, 65Z

(2021) **Sabatini G.**, Bovino S., Giannetti A., Grassi T., Brand J., Schisano E., Wyrowski, F., Leurini S. & Menten, K. M.
"Establishing the evolutionary timescales of the massive star formation process through chemistry", 2021, A&A 652, A71;

- Bovino S., Lupi A., Giannetti A., **Sabatini G.**, Schleicher D. R. G., Wyrowski F. & Menten K. M.
"Chemical analysis of prestellar cores in Ophiuchus yields short timescales and rapid collapse", 2021, A&A 654A, 34B;
- Redaelli E., Bovino S., Giannetti A., **Sabatini G.**, Caselli P., Wyrowski F., Schleicher D. R. G., Colombo D.
"Identification of prestellar cores in high-mass star forming clumps via H_2D^+ observations with ALMA", 2021, A&A 650, A202;

(2020) **Sabatini G.**, Bovino S., Giannetti A., Wyrowski, F., Órdenes, M. A., Pascale R., Pillai, T., Wienen, M., Csengeri, T. & Menten, K. M.
"Survey of $ortho-H_2D^+$ in high-mass star-forming regions"; 2020, A&A 644, A34

(2019) Bovino S., Ferrada-Chamorro, S., Lupi, A., **Sabatini G.**, Giannetti, A. & Schleicher, D. R. G., "The 3D Structure of CO Depletion in High-mass Prestellar Regions"; 2019, ApJ 887, 224-234;

- **Sabatini G.**, Giannetti A., Bovino S., Brand J., Leurini S., Schisano E., Pillai T. & Menten K. M. "On the size of the CO-depletion radius in the IRDC G351.77-0.51", 2019, MNRAS 490, 4489-4501;
- Iani E., Rodighiero G., Fritz J., Cresci G., Mancini C., Tozzi P., Rodríguez-Muñoz L., Rosati P., Caminha G. B., Zanella A., Berta S., Concas A., Enia A., Fadda D., Franceschini A., Liu A., Mercurio A., Morselli L., Pérez-González P. G., Popesso P., **Sabatini G.**, Vernet J., van Weeren R. J. "Inquiring the Abell 2667 Brightest Cluster Galaxy: physical properties from MUSE", 2019, MNRAS 487, 5593-5609);

(2018) **Sabatini G.**, Gruppioni C., Massardi M., Giannetti A., Burkutean S., Cimatti A., Pozzi F., Talia M.
"Unveiling the inner morphology and gas kinematics of NGC 5135 with ALMA", MNRAS 476, 5417-5431;

Proceedings

(2020) Iani E., Rodighiero G., Fritz J., Cresci G., Mancini C., Tozzi P., Rodríguez-Muñoz L., Rosati P., Caminha G. B., Berta S., Cassata P., Concas A., Enia A., Fadda D., Franceschini A., Liu A., Mercurio A., Morselli L., Pérez-González P. G., Popesso P., **Sabatini G.**, Zanella A.
"A MUSE inquiry into the physical processes taking place within the Abell 2667 Brightest Cluster Galaxy", 2020, IAUS 341, 83I ;

(2019) **Sabatini G.**, Giannetti A., Bovino S., Brand J., Leurini S., Schisano E., Pillai T. & Menten K. M. "Mapping the large scale CO-depletion in the IRDC G351.77-0.51", in Proceedings of "New quests in stellar astrophysics IV": Astrochemistry, Astrobiology and the Origin of Life", Puerto Vallarta (Mexico), 2019, Mem. S.A.It. 90, 497-502;

- Giannetti A., Bovino S., Caselli P., Leurini S., Schleicher D. R. G., Körtgen B., Menten K. M., E., Pillai T., Wyrowsky F. & **Sabatini G.**,
"A timeline for massive star-forming regions via deuterium chemistry", in Proceedings of "New quests in stellar astrophysics IV: Astrochemistry, Astrobiology and the Origin of Life", Puerto Vallarta (Mexico), 2019, Mem. S.A.It 90, 491-496;
- Zamponi J., Schleicher D. R. G., Bovino S., Giannetti A., **Sabatini G.**, Ferrada S.
"Synthetic observations of H_2D^+ towards high-mass starless cores", 2019, BAAA 61A, 131-133;

Telegrams and communications

(2016) Altavilla, G., Bruni, I., Cusano, F., **Sabatini, G.**, "Gaia16bak transient classified at Cassini 1.5m telescope ", 2016, ATel, 9449, 1A;

Other publications and contributions

(2019) **Sabatini G.** "On the size of the CO-depletion radius in the IRDC G351.77-0.51", ALMA2019: Science Results and Cross-Facility Synergies, 2019, asrc.confE.119S

- Pierozzi A. "Dionisio I, i Celti e il sacco di Roma. Alcune riflessioni sulla cronologia e sulla strategia delle operazioni militari siracusane tra l'Elleporo e Pyrgi ", 2019, Erga-Logoi (`DOI:10.7358/erga-2019-002-pier`)

(2017) **Sabatini G.** "Un breve percorso dello sviluppo del "meccanismo di Kelvin-Helmholtz" per spiegare l'origine dell'energia solare.", Giornale di Astronomia, Volume 43/1, 2017

Professional memberships

Member Società Astronomica Italiana (SAIt; Italian Astronomical Society); Ordinary membership.

- ⋆ European Astronomical Society (EAS); Ordinary membership.
- ⋆ International Astronomical Union (IAU); Junior membership. **Division B** Facilities, Technologies and Data Science; **Division H** Interstellar Matter and Local Universe; **Executive Committee**.

Transferable skills

General ⋆ Organization; ⋆ Problem solving; ⋆ Data analysis; ⋆ Creativity; ⋆ Teamwork, managing a team, leadership; ⋆ Conflict resolution, listening;

Transferable training ⋆ Scout Wood Badge; ⋆ Scout Assistant Leader Trainer in AGESCI (2016–2024);

Languages

Italian **Native speaker**

English **Excellent**

Spanish **Basic** *Basic words and phrases only*

*I hereby declare that all the information contained in this **Curriculum Vitae et Studiorum** is in accordance with facts or truths to my knowledge. I take full responsibility for the correctness of the said information.*

Jun, 2023

Giovanni Sabatini