



Arthur Choplin



Chargé de recherches (FNRS / ULB)

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MAIN RESEARCH INTERESTS

- Nucleosynthesis processes (s-process, i-process, n-process, p-process)
- Asymptotic giant branch stars
- Impact of rotation on the evolution and nucleosynthesis of stars
- Evolution and nucleosynthesis of the first generations of massive stars
- Origin of the most metal-poor stars

FORMATION

- **PhD thesis**, Astrophysics — Geneva Observatory, Geneva, Switzerland Sep. 2014 – Oct. 2018
- **Master 2**, Astrophysics — Joseph Fourier University, Grenoble, France Sep. 2013 – July 2014
- **Master 1**, Fundamental Physics — Joseph Fourier University Sep. 2012 – July 2013
- **Bachelor**, Physics — Joseph Fourier University Sep. 2009 – June 2012

Physic schools (as a student)

- **Saas-Fee school**, Villars-sur-Ollon - Switzerland Mar. 2017
Topic: *Supernovae: cosmic explosions*
- **Joliot-Curie School**, Port Barcares - France Sep. 2016
Topic: *Origin of Nuclei in the Universe*
- **Nuclei in the cosmos school**, Niigata - Japan June 2016
Topic: *Nuclear astrophysics*

JOBS & INTERNSHIPS

- **Post-doctoral position**, Université Libre de Bruxelles Oct. 2023 – Now
Chargé de recherche, funded by the Fonds de la Recherche Scientifique
Referents: Lionel Siess, Stephane Goriely
- **Post-doctoral position**, Université Libre de Bruxelles June 2020 – Sept. 2023
Funded by Institut Interuniversitaire des Sciences Nucléaires (I.I.S.N)
Referent: Lionel Siess, Stephane Goriely
- **Post-doctoral position**, Konan University, Japan Feb. 2019 – Apr. 2020
Funded by the Swiss National Science Foundation ("Early post-doc mobility")
Referent: Nozomu Tominaga
- **Short Term Scientific Mission**, Trinity College, Dublin, Ireland Feb. 2018

In the frame of the ChETEC COST Action

Supervisor: Jose Groh

- **PhD thesis**, [Geneva Observatory](#), Geneva, Switzerland Sep. **2014** – Oct. **2018**
Topic: *Nucleosynthesis in the first stellar generations* [\[ADS\]](#)
Supervisors: Georges Meynet, Sylvia Ekström
- **Master thesis**, [IPAG](#), Grenoble, France Mar. - July **2014**
Topic: *Magnetic trapping of nano-dust around low-mass stars*
Supervisor: Jean-Charles Augereau
- **Master internship**, [IPAG](#), Grenoble, France Apr. - July **2013**
Topic: *Mass spectrum analysis of complex mixtures from primitive chondrites*
Supervisor: Véronique Vuitton
- **Master internship**, [GIPSA-LAB](#), Grenoble, France Feb. **2013**
Topic: *Developping tools for the software Ultraspeech-player, dedicated to speech therapists, and allowing the visualisation of ultrasonic data, video and audio of the vocal system*
Supervisor: Thomas Hueber
- **Bachelor internship**, [IPAG](#), Grenoble, France July **2012**
Topic: *Quantify the differential rotation of stars in a young cluster*
Supervisor: Jérôme Bouvier

PRIZES

- Prix Wernaers pour la vulgarisation scientifique July **2025**
- Prix de la diffusion scientifique ULB [\[LINK\]](#) Nov. **2024**
- Vacheron Constantin PhD prize June **2020**

FUNDED RESEARCH PROJECTS

- **Chargé de recherche** June. **2023**
Grant from the Fonds de la Recherche Scientifique for a 3 year post-doctoral position at the Institute of Astronomy and Astrophysics in Brussels (Belgium)
- **Early post-doc mobility fellowship** Feb. **2019**
Grant from the Swiss National Science Foundation for a 1.5 year post-doctoral fellowship in Konan University, Japan, with Prof. Nozomu Tominaga
- **COST STSM grant** Feb. **2018**
Grant from the ChETEC project (COST action CA16117) for a "short-term scientific mission" in Trinity College, Dublin with Prof. Jose Groh
- **SSAA grant** **2016**
Grant from the SSAA (Swiss Society for Astrophysics and Astronomy) funding "Encouragement à la relève" call.

PUBLICATION RECORD

- 39 papers in peer-reviewed journals (15 as first author)
 - 27 in A&A (Q1), 3 in PRC (Q1), 2 in MNRAS (Q1), 2 in EPJA (Q2), 2 in Galaxies (Q2), 1 in PRB (Q1), 1 in ApJ (Q1), 1 in PRL (Q1)
- 18 conference proceedings (8 as first author)
- h-index : 17 (source : ADS [\[LINK\]](#) , Google Scholar [\[LINK\]](#))
- h-index as a first author : 11 (source : ADS [\[LINK\]](#))

- Full list of publication : ADS [\[LINK\]](#) , Google Scholar [\[LINK\]](#)

CONFERENCES & SEMINARS

8 invited talk, 14 oral contributions, 13 seminars

Conferences & workshops

- **Invited review** — Nuclei in the Cosmos XVIII, Girona, Spain [\[Recording\]](#) June **2025**
- **Invited review** — s, i & r Element Nucleosynthesis Conference, Giulianova, Italy June **2025**
- **Oral contrib.** — 8th p-process workshop, Budapest, Hungary Oct. **2024**
- **Invited talk** — 3rd rencontre PhyNuBE: fission and nuclear astrophysics Oléron, France Oct. **2024**
- **Invited talk** — Nuclear Physics in Astrophysics XI, Dresden, Germany Sep. **2024**
- **Oral contrib.** — The 14th Torino Workshop on AGB stars, Rome, Italy June **2024**
- **Invited talk** — i-process Nucleosynthesis Workshop, Limassol, Cyprus May **2023**
- **Oral contrib.** — CaNPAN annual meeting Oct. 31st, **2022**
- **Oral contrib.** — Nuclear Physics in Astrophysics X, Geneva, Switzerland Sep. **2022**
- **Oral contrib.** — The 13th Torino Workshop on AGB stars & the 3rd Perugia Workshop on Nuclear Astrophysics, Perugia, Italy June **2022**
- **Oral contrib.** — Astrophysics with Radioactive Isotopes, Budapest, Hungary June **2022**
- **Oral contrib.** — First stars VI, Concepcion, Chile Mar. **2020**
- **Oral contrib.** — JINA-CEE IReNA / NAOJ meeting, National Astronomical Observatory of Japan, Tokyo, Japan Dec. **2019**
- **Invited talk** — First stars and first galaxies meeting, Nagoya, Japan Nov. **2019**
- **Oral contrib.** — CEMP Stars as Probes of First-Star Nucleosynthesis, the IMF, and Galactic Assembly, Geneva, Switzerland Sep. **2019**
- **Poster** — Nuclear Physics in Astrophysics IX, Frankfurt, Germany Sep. **2019**
- **Oral contrib.** — The 15th International Symposium on Origin of Matter and Evolution of Galaxies, Kyoto, Japan July **2019**
- **Oral contrib.** — LAMOST meeting, National Astronomical Observatory of Japan, Tokyo, Japan June 18th, **2019**
- **Invited talk** — JINA-CEE Frontiers in Nuclear Astrophysics, South Bend IN, US May **2018**
- **Oral contrib.** — ChETEC COST action meeting, Vilnius, Lithuania Mar. 14th, **2018**
- **Invited talk** — A Celebration of CEMP and Gala of GALAH, Melbourne, Australia Nov. **2017**
- **Oral contrib.** — Annual meeting of the French Society of Astronomy and Astrophysics, Paris, France July **2017**
- **Poster** — Nuclei in the Cosmos, Niigata XIV, Japan June **2016**
- **Oral contrib.** — Annual meeting of the French Society of Astronomy and Astrophysics, Toulouse, France June **2015**

Seminars

- **INAF** - Astronomical Observatory of Abruzzo colloquium series [\[Recording\]](#) Apr. 29th, **2025**
- **IReNA Online Seminar Series** [\[Recording\]](#) Jan. 17th, **2025**
- **Stockholm University**, Department of Astronomy (Stockholm, Sweden) Apr. 19th, **2024**
- **IPHC** (Strasbourg, France) Dec. 8th, **2022**
- **STAREX meeting** May 18th, **2022**
- **Geneva Observatory** (Geneva, Switzerland) Feb. 2nd, **2022**
- **IReNA Online Seminar Series** [\[Recording\]](#) Dec. 17th, **2021**
- **ULB**, Institute of Astronomy and Astrophysics (Brussels, Belgium) Jan. 27th, **2021**
- **Kyoto University**, Dept. of Astronomy (Kyoto, Japan) Apr. 25th, **2019**
- **Tokyo University**, Astronomy Dept. School of Science (Tokyo, Japan) Mar. 12th, **2019**
- **National Astronomical Observatory of Japan** Mar. 8th, **2019**
High Dispersion Spectrograph Section (Tokyo, Japan)

- **Tohoku University**, Astronomical Institute (Sendai, Japan) Feb. 28th, **2019**
- **Konan University** (Kobe, Japan) Feb. 21th, **2019**

ART / SCIENCE ACTIVITIES

- **Cosmic Pulse** (Astro-musical conference) Oct. 11th, **2025**
for the « Darkness night » (Belgium)
- **Cosmic Pulse** (Astro-musical conference) Sept. 26th, **2025**
Three consecutive representations at the Brussels Planetarium (Belgium)
For the [Wise Night](#)
- **Les 4 saisons de l'Univers, The Summer** (Astro-musical conference [\[LINK\]](#)) Aug. 1st, **2025**
Festival de Russol, Laure-Minervois, France
- **Les 4 saisons de l'Univers, The Summer** (Astro-musical conference [\[LINK\]](#)) July 6th, **2025**
Festival de l'Arpenteur, Les Adrets, France
- **Residency** June 30th — July 2nd, **2025**
Place : *Espace Pierre Maguelon*, Villeneuve-lès-Maguelone, France & *théâtre Jérôme Savary*, Villeneuve-lès-Maguelone, France
Collaboration with the stage director, artistic director and musicians to finalise *Les 4 saisons de l'Univers, The Summer*
- **Podcast recording** Mar. 13th **2025**
« *émotion, art & science* », Free University of Brussels, Belgium
- **Cosmic Pulse** (Astro-musical conference) Oct. 18th, **2024**
ArtScience day, Free University of Brussels, Belgium
- **Les 4 saisons de l'Univers, The Fall** (Astro-musical conference [\[LINK\]](#)) Oct. 12th, **2024**
Théâtre Scène en Grand Pic Saint-Loup, Saint Gely du Fesc, France
[\[Extrait 1\]](#) [\[Extrait 2\]](#) [\[Extrait 3\]](#)
- **Residency** Sep. 30th, Oct. 1st & Oct. 11th, **2024**
Place : *Espace Pierre Maguelon*, Villeneuve-lès-Maguelone, France & *Centre culturel Léo Mallet*, Mireval, France
Collaboration with the stage director, artistic director and musicians to finalise *Les 4 saisons de l'Univers, The Fall*
- **Les 4 saisons de l'Univers, The Spring** (Astro-musical conference [\[LINK\]](#)) June 15th, **2024**
Théâtre des 4 saisons, Gradignan, France
- **Residency** May 27th — May 29th **2024**
Place : *Espace Pierre Maguelon*, Villeneuve-lès-Maguelone, France & *Domaine du Bosc*, Montady, France
Collaboration with the stage director, artistic director and musicians to finalise *Les 4 saisons de l'Univers, The Spring*
—> Public residency showing [\[Teaser\]](#)
- **Cosmic Pulse** (Astro-musical conference) May 23rd, **2024**
Three consecutive representations at the Brussels Planetarium (Belgium)
- **Cosmic Pulse** (Astro-musical conference) July 8th, **2023**
At the « [festival de l'Arpenteur](#) », Les Adrets, France

ÉDUCATION, SCIENTIFIC DIFFUSION & OTHER

- **Qualification maître de conférence** Feb. **2022**
- **Public conference** during the « Nuit de l'obscurité » (Belgium) Oct. **2021**
- **Teaching assistant**, Université Libre de Bruxelles (Belgium) Sep. **2020 – Now**
Exercises for first year students
- **Public conference** for the « Darkness night » (Belgium) Oct. **2020**
- **Teaching assistant**, Geneva University (Switzerland) **2015 – 2018**

- Exercises for master students (internal structure of stars)
- **Telescope operator** May – June **2017**
(14 nights, Euler Telescope, La Silla Observatory, Chile)
 - **Public conference** on *Meteorites* (St-Luc Observatory, Switzerland) Mar. **2017**
 - **Scholar visits & public observations** Sep. **2014** – Mar. **2018**
3D Sessions with « Celestia »
 - Collaboration with the newspaper « Campus Junior » Mar. **2018**
 - Participation to the « nuit de la science » (Geneva observatory stand) July **2016**
 - Participation to a workshop on « How (not) to give a good scientific presentation » **2015**

INSTITUTIONAL TASKS

- **Reviewer** for a book chapter Sep. **2024**
« le livre de l'université des enfants » (UDE, Éditeurs UMONS-ULB)
- **Lecturer** for the Master Thesis of Louise Bizel June. **2023**
- **Reviewer** for specialized journals (A&A, ApJ, MNRAS, PASJ, Galaxies) May **2022** – **Now**
- **Organization** of group meetings (IAA, Brussels, Belgium) Sept. **2021** – Sept. **2022**
- **Co-supervision** of the PhD student F. Pogliano during a short mission at IAA Nov. **2022**
- **Co-supervision** of the PhD student F. Pogliano during a short mission at IAA July **2022**
- **Informal supervision** of the PhD student Sofia Tsiatsiou Sept. **2021** – **2023**
Trained the student in the use of a computational nucleosynthesis code I developed
Follow-up of activities, results...
- **Informal supervision** of the master student Luca Sciarini Jan. **2021** – June **2021**
Trained the student in the use of a computational nucleosynthesis code I developed
Follow-up of activities, results...
- Participation to the Konan University poster session Nov. **2019**
- Invitation / introduction of seminar speakers Mar. **2018**

NUMERICAL SKILLS

- Python, Fortran, UNIX shell scripting, C, LATEX, Gitlab, Subversion

LANGUAGES

- French (mother tongue)
- English (fluent)
- Italian (basics)
- Japanese (basics)

OTHER

Musical education

- **Chambéry Regional Conservatory of Music** – Chambéry, France **1999 - 2009**
Classical Piano: Completed 2 full training cycles (8 years)
Jazz Piano: 2 years of post-cycle training + jazz ensemble workshop
Music Theory / Aural Skills: Completed 2 full training cycles (8 years)

Musical activities

- **Independent composer (amateur)**
Original musical compositions published on SoundCloud: [\[LINK\]](#)

2015 - Now
- **Piano bar** at « c'est ici l'endroit où » (Genthod, Switzerland)

2017 - 2018
- **Piano accompanist for "Le Chœur en Ballades"**
Piment Scène, association de comédie musicale

2012 - 2013
- **Musical improvisation on a film** about the work of Georges Rousse,
Produced by students at the Cité des Arts de Chambéry

May 2008
- **Piano accompanist** for the « [Fanfare du bâtiment](#) »
Project from a school in Chambéry with Michel Bernard, A. Markéas and G. Goubin

2007
- Various

• **Worker** at [Bees Coop](#) (participative supermarket)

2021 - Now