

RESEARCH INTERESTS

My main research interest is the chemistry phenomena that occur in exoplanetary atmospheres, with a particular emphasis on accurate determination of the atmospheric composition through spectroscopic observations. My research relies significantly on data processing using Bayesian statistics and machine learning techniques. I am also interested in connecting my past experiences in geosciences and planetary dynamics to the study of exoplanet atmospheres.

EDUCATION

- **Ph.D., IAP and LISA** 2021 - 2024
PhD done jointly between Institut d'Astrophysique de Paris (IAP) and Laboratoire Interuniversitaire des Systèmes Atmosphériques (LISA).
- **2nd year of Master's degree in Planetology and Space exploration** 2020 - 2021
Paris Observatory, Paris, France
- **1st year of Master's degree in Universe Sciences and Space technologies** 2019 - 2020
Paris Observatory, Paris, France
- **Bachelor's degree in Earth, environmental and planetary sciences** 2016 - 2019
Paris Cité University, previously Paris 7 Diderot, Paris, France
- **Bachelor's degree in languages and civilization of Eastern Asia in Japanese** 2016 - 2019
Paris Cité University, previously Paris 7 Diderot, Paris, France

RESEARCH EXPERIENCE

- **Postdoctoral fellow at the University of Alabama** March 2025 - 2027
Worked with Katia Matcheva and Konstantin Matchev on machine learning for exoplanet atmospheres.
- **Ph.D., IAP and LISA** Oct 2021 - Sept 2024
Supervised by Olivia Venot (LISA), Pierre Drossart (IAP) and Jean-Philippe Beaulieu (IAP) on Hot Jupiters and Brown Dwarfs atmospheres.
- **Collaboration visit at Space Telescope Science Institute** September 2023
Visit at STScI to collaborate with Amélie Gressier and Quentin Changeat.
- **Master 2 internship, Institut d'Astrophysique de Paris** March to June 2021
Supervised by Jean-Philippe Beaulieu and Pierre Drossart on spectroscopy of exoplanets's atmospheres.
- **Master 1 internship, Institut de Physique du Globe de Paris (IPGP)** May to July 2020
Supervised by Sébastien Charnoz on light-curve processing and investigation for exomoons.
- **Bachelor internship, Earth Life Science Institute, Tokyo Institute of Technology** June to August 2018
Supervised by Ramon Brasser on chaoticity and stability of a planetary system, example on Trappist-1.

POSITIONS OF RESPONSIBILITY

- **Member of Ariel Consortium** March 2021 - present
- **Creator and organizer of monthly Exoplanet Seminars at IAP** June 2022 - Sept 2024
- **Member of Committee against harassment and discriminations at IAP** February 2022 - Sept 2024
- **Member of LOC for Elbereth conference 2024** 28 February – 1 March 2024
- **Member of LOC for conference ML IAP/CCA 2023** 27 November - 1 December 2023
- **Member of LOC for Elbereth conference 2023** 29–31 March 2023
- **Organizer of weekly PhD Seminars at IAP** December 2021 - December 2022

GRANTS & AWARDS

- **2024 Société Française d'Astronomie et d'Astrophysique (French AAS) grant for outreach actions**
Awarded for an outreach project (co-PIs: Emilie Panek & Assoc. Prof. Clément Ranc)
- **Ph.D. scholarship**
Competitive scholarship awarded by Astronomie and Astrophysique d'Île-de-France Doctoral school (ED 127).
- **3 months research and mobility scholarship**
Scholarship awarded by Paris Cité University, previously Paris 7 Diderot, for an internship in Tokyo, Japan.

TECHNICAL SKILLS AND PROGRAMMING LANGUAGES

Fluent: Python, L^AT_EX

Experience with: High Performance Computing facilities, Fortran 90, C, IDL, bash, html

Exoplanet modeling and analysis codes used : TauREx, petitRADTRANS, FRECKLL, Iraclis

CONFERENCES

Contributed talks

- **EPSC-DPS Joint Meeting 2025** in session EXOA11 9 September 2025
- **EPSC-DPS Joint Meeting 2025** in session EXOA19 8 September 2025
- **PhD day 2024** at IAP 29 March 2024
- **Journées 2023 de la Société Française d'Astronomie & d'Astrophysique** 20-23 June 2023
- **PhD day 2023** at IAP 12 May 2023
- **5th Chianti Topics – International Focus Workshop on Atmospheres** 20-22 April 2022
- **Journée Ariel France 2022** 12 January 2022
- **Ariel consortium meeting - online** 16 June 2021
- **Journées 2021 de la Société Française d'Astronomie & d'Astrophysique - online** 9 June 2021

Colloquia

- **ESPF (Exoplanets, Stars and Planet Formation) Seminar at STScI** 22 July 2025
- **PhD Seminar** at IAP 22 March 2024
- **Planetology Seminar at Observatoire de Paris, LESIA** 18 March 2024
- **PhD Seminar** at IAP 3 March 2023

Posters

- **Exosystèmes IV** 30 January - 1st February 2024
- **Protostars and Planets VII** 10-15 April 2023

OUTREACH

- **Explor'espace 2025** November 2025
Presentation with Clément!
- **Astrophysics on tap** 2025
Two hours of presentation and discussion with a general audience on the topic of exoplanets.
- **Fête de la science (national science festival) 2024** 13 October 2024
Creation and implementation of an animation on the Solar System for Fête de la science at IAP.
- **Festival Double Science** 8-9 June 2024
Participation in an outreach animation to make scientific papers more accessible.
- **Explor'espace 2023** 3-5 November 2023
Run a booth on exoplanet detection with models during the three days festival.
- **Radio interview for France Bleu Paris** 15 October 2023
Interview to present the profile of a PhD student at IAP.
- **Fête de la science (national science festival) 2023** 15 October 2023
Creation and implementation of an animation on the Solar System for Fête de la science at IAP.
- **Nuit de l'Astronomie 2023** 17 June 2023
Volunteer to help on-site organization of Nuit de l'Astronomie event of IAP.
- **Fête de la science (national science festival) 2022** 16 October 2022
Made a "20 minutes avec" presentation and implemented an animation on the Solar System.
- **Nuit de l'Astronomie 2022** 4 June 2022
Participated in speed meetings between the public and PhD students.
- **Explor'espace 2021** 5-7 November 2021
Presentation of a general public conference on exoplanet detection methods.

TEACHING EXPERIENCE

- **Mentor for GSoC 2025 Projects Related To EXXA** July - September 2025
Mentoring of two students on their summer projects related to exoplanet atmospheres.
- **Tutorial classes, ARES III summer school** 11-17 September 2023
Preparation of tutorial classes for the third Ariel Summer school.
- **Tutorial classes, Mathematics, 4th semester of bachelor** January - May 2023
20 hours of tutorial classes given to 26 students in 2nd year of bachelor Earth, environmental and planetary sciences.

LANGUAGES

French: Native language
English: Advanced

Japanese: Intermediate
Spanish: Beginner

HOBBIES

- **Modern jazz dance:** practiced at the Conservatoire Rudolph Noureev of Sainte Geneviève des bois, France, from 2008 to 2023. Certificate of choreographic studies obtained in 2018.
- **Baking:** love to bake traditional pastries or try more original recipes.
- **Bouldering:** started at the beginning of the PhD, climb up to 6C/V5 routes.