

# Alizée Amsler Moulanier

PhD student in planetary science, Aix-Marseille Université

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## PROFILE

Currently a 3rd year PhD student in planetary science from the *Laboratoire d'Astrophysique de Marseille*. My work is funded by the *Institut Origines* of Aix-Marseille University. I focus on the study of the evolution of the icy moons' hydrospheres, by modelling the physical and chemical processes affecting the volatiles distribution. My work will contribute to the interpretation and exploitation of *JUICE* and *Europa Clipper* future data. I am affiliated student to Europa Clipper-MASPEX instrument.

## EDUCATION

10/2022 – present Marseille, France	<b>Ph.D in Astrophysics (ongoing)</b> , Aix-Marseille Université, Laboratoire d'Astrophysique de Marseille <a href="#">🔗</a> "Physico-chemical evolution of the icy moon's hydrospheres" Supervised by Pr. Olivier Mousis and Dr. Alexis Bouquet
09/2020 – 09/2022 Milano, Italy	<b>MSc Space Engineering</b> , Politecnico Di Milano <a href="#">🔗</a> Double-degree exchange. Focus on space mission design.
09/2018 – 08/2020 Nantes, France	<b>Diplôme d'Ingénieur généraliste</b> , Ecole Centrale de Nantes <a href="#">🔗</a> General engineering studies. Focus on bio-informatics
09/2016 – 07/2018 Lyon, France	<b>Classe préparatoire aux grandes écoles</b> , Lycée Aux Lazaristes Intense preparatory course of 2 years. Speciality in Physics and Chemistry

## PROFESSIONAL EXPERIENCE




03/2022 – 10/2022 Milano, Italy	<b>Politecnico Di Milano</b> Master thesis supervised by Pr. Mauro Massari : "Feasibility analysis of an astrochemistry payload for cubesat"
04/2020 – 08/2020 Evry, France	<b>Genoscope - CEA</b> <a href="#">🔗</a> Research internship in a environmental genomics laboratory. Supervised by Dr. Eric Pelletier

## TEACHING


03/2024 – 09/2024 Marseille, France	<b>6 months Internship mentoring</b> Mentoring of a Bachelor student on the chemical evolution of the icy moons.
01/2024 – 04/2024 Marseille, France	<b>Science Watch mentoring</b> Co-supervision of a master student for a <i>Science-Watch</i> project, focused on the <i>Delivery of organic matter to the icy moons' primordial hydrosphere</i> .
10/2023 OHP, France	<b>SIMO internship mentoring</b> 16h teaching of masters' students on the use of T80 telescope and astronomical image processing.
Marseille, France	<b>Aix-Marseille University's Master of Fundamental physics</b> Short hour-long interventions in the planetary science course, for the 2nd year students of the Fundamental Physics Master.

## PUBLIC OUTREACH AND ACADEMIC RESPONSABILITY

2024 Marseille, France	<b>GSP coffee</b> Hosting the weekly team journal club, discussing scientific news and papers.
09/2024 La Ciotat, France	<b>Festival Lumexplore</b> <a href="#">🔗</a> Outreach presentation to a public audience : <i>Habitability of the Oceans Worlds</i>

01/2024 – 06/2024 Marseille, France	<b>Apprentis Chercheurs</b>  Mentoring of two 14 and 16 years old students in a short research project.
10/2023 Marseille, France	<b>Fête de la Science</b> Participation to the public event organized by the city of Marseille, to promote science to the public and share the lab's activities.
04/2023 Martigues, France	<b>Pint of Science festival</b>  Outreach presentation to a public audience : <i>Life in the Solar System</i>
03/2023 Marseille, France	<b>Classroom' scientific partner</b> Four interventions in classroom for 7-8 years old children.
Marseille, France	<b>Astrogirls</b>  Participations to the <i>Astrogirls</i> days to promote women in astrophysics.

## COURSES

06/2024 OHP, France	<b>Sample Returns Summer School</b>  Participant
06/2023 OHP, France	<b>Moons of the Solar System Summer School</b>  Participant and LOC member
02/2023	<b>GWB Workshop</b> 3 days introduction workshop to the <i>Geochemist Workbench</i> .


## SKILLS

- Python	- Matlab	- Geochemist Workbench
- Inkscape	- WORM	

## LANGUAGES

<b>French</b> Mother tongue	<b>English</b> Fluent	<b>German</b> Father tongue	<b>Italian</b> Beginner
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## PUBLICATIONS

01/2025	<b>The role of ammonia in the distribution of volatiles in the primordial hydrosphere of Europa</b> , Planetary Science Journal  <b>Alizée Amsler Moulanier</b> , Olivier Mousis, Alexis Bouquet and Christopher R. Glein
2024	<b>Delivery of organic matter to the galilean moons</b> , in prep Tom Benest Couzinou, <b>Alizée Amsler Moulanier</b> and Olivier Mousis
2025	<b>The impact of Titan's primordial hydrosphere on its subsurface inventory of methane</b> , in prep <b>Alizée Amsler Moulanier</b> , Olivier Mousis, Alexis Bouquet and Ngan H.D. Trinh

## CONFERENCE AND WORKSHOP ATTENDANCE

Berlin, Germany	<b>EPSC 2024</b> , Oral and Poster presentations 
Marseille, France	<b>SF2A 2024</b> , Oral presentation 
Vienna, Austria	<b>EGU 2024</b> , Oral presentation 
Göttigen, Germany	<b>JUICE-SWI 2024 April science meeting</b> , Oral presentation
Toulouse, France	<b>ANR FACOM 2023 December science meeting</b> , Two oral presentations
Göttigen, Germany	<b>JUICE-SWI 2023 November science meeting</b> , Oral presentation
Marseille, France	<b>Workshop on the Origins and Habitability of the Galilean Moons</b> , Poster presentation, LOC member 
Marseille, France	<b>International Planetary Probe Workshop 2023</b> , Poster presentation, LOC member 
La Palma, Spain	<b>BEACON 2023</b> , Poster presentation 
Marseille, France	<b>ANR FACOM January 2023 science meeting</b> , Oral presentation