ALEXANDRE POUSSE

Post-doctoral Researcher in Celestial Mechanics and Mathematical Physics
& Math teacher

• Astronomy • Celestial Mechanics • Dynamical Systems • Mathematical Physics •

Personal Informations

Contact. *email:* poussealexandre@gmail.com
PEC: alexandre.pousse@arubapec.it
Website: http://www.poussealexandre.com

Citizenship. French. Resident in Milan, Italy;
Born in Blois (Loir-et-Cher, France), April 6th, 1987.

Current Status

[Since Sep. 2022] I **teach mathematics in high school** at Lycée Stendhal, Milano (*French education system*).

Cursus

[Sep. 2016] **Ph.D. in Astronomy** (*Specialization in Gravitational Dynamical Systems*),
École doctorale Astronomie & Astrophysique d'Île-de-France,
PSL Research University - Observatoire de Paris.

[Jul. 2012] **Research M.Sc. degree** *(Master 2 Recherche)* **in Astronomy & Astrophysics**
(*Specialization in Gravitational Dynamical Systems*), Observatoire de Paris.

[Jun. 2011] **Research M.Sc. year 1 with Maîtrise degree** *(Master 1 Recherche)* **in Mathematics**
(*Specialization in Analysis*), Université de Tours.

[Jun. 2009] **B.Sc. degree** *(Licence)* **in Mathematics**, Université de Tours.

[Jul. 2005] **H.S. diploma** *(Baccalauréat général)* **in Sciences**, Lycée "*Augustin Thierry*" de Blois.

Skills

Languages **French**: *native*. **Italian**: *reading & speaking (advanced), writing (intermediate)*.
English: *reading & speaking (good), writing (advanced)*.

Computer Programming in **Fortran, C, bash, Gnuplot, Mathematica, Matlab, Python & TRIP**
(*computer algebra system dedicated to celestial mechanics,*
link: https://www.imcce.fr/Equipes/ASD/trip/trip.php),
Word Processing in LaTeX, Graphics edition with **GIMP & Inkscape**
OS: Linux, Windows & Mac. Office suite: Microsoft Office & Libreoffice.

Working experiences

[Sep. 2022 – today] **Math teacher** at Lycée Stendhal, Milano (*French education system*). Website : https://www.lsmi.it

[Period 2020–'22] **Postdoctoral fellow in Italy.**
*See Section **Academic experiences** for further details.*

[Oct. 2019] **Corrections of "concorso INdAM"**, Roma. Website : https://www.altamatematica.it

[Period 2010–'18] **Internships, Ph.D & teaching activities in France,**
Postdoctoral fellows in Italy.
*See Section **Academic experiences** for further details.*

[Period 2003–'10] **Seasonal worker (2009 and 2010 as supervisor)** during the period of June to August for the seed agricultural company *Euralis Semences, Blois* (France).
Website : http://euralis-seeds.com

Interests, Hobbies & Sports

"Storia e Arte": I am passionate about History, especially the **Italian History** (e.g. Ancient Rome, Venice, Baroque Rome, Milano) and **Arts**.

- Between 2012 and 2015, I took the opportunity to visit all the sections of the Louvre.
- I started a training courses in order to apply for the local tour guide licence:
  2020: Courses "Roma Antica" and "Roma Barocca", *Ass. culturale Roma e Lazio per te*, Roma
  Website: https://romaelazioperte.blogspot.com/p/corsi.html
- I also took art history courses:
  2020, Courses "dalla Milano Romana all' 400'";
  2021, Courses "dalla Milano del' 500' alla modernità" and "Storia dell'Arte nell' 800'";
  2022, Courses "Storia dell'Arte nell' 900'" and "Storia di Milano";
  Ufficio del tempo libero, Milano, Website: https://www.ufficiotempolibero.it
- I am concerned about **Sciences**, especially **Astronomy** (popularization and night sessions with telescope), passionate about **Old maps**, and **Urbanism**. One of my interest is to connect all these issues to Arts and History through writing or other contents.
- Finally, I have some basic knowlegd in *History of cinema*:

  2017, Courses "Storia del Cinema", Circolo *"la carrozza d'oro"*, Roma
  Website: https://lacarrozzadorocineclub.wordpress.com

Sports: In the past, I practiced:

- **Table tennis** (*Association Pongiste de La Chapelle Vendômoise, 1997-2008*)
- **Boxing** (*Club Cenvint Paris 13, 2013*)
- **Fencing** (*Les Duellistes Club Paris, 2015*).

For several years, I am practicing **Running** (*Trails, 10K, Half-marathons*)
and **Trekking** (*e.g. from Pavia to Roma along the ancient via Francigena, 2019*).

Academic experiences

[Aug. 2020 – Aug. 2022] **Postdoctoral Fellow, IMATI†-CNR‡, sede di Milano**
†: Istituto di Matematica Applicata e Tecnologie Informatiche "*Enrico Magenes*",
‡: Consiglio Nazionale delle Ricerche.
2-year post-doctoral research fellowship in the context of the project "*co-orbital motion and three-body regimes in the solar system*" funded by Fondazione Cariplo and supervised by Dr. Elisa Maria Alessi.
Website: http://arm.mi.imati.cnr.it/imati/mypage.php?idk=PG-11

[Dec. 2017 – Nov. 2018] **Postdoctoral Fellow, Università degli Studi di Padova,**
Dipartimento di Matematica ed applicazioni "*Tullio Levi-Civita*",
1-year postdoctoral research fellowship funded by the H2020-ERC Project 677793,
"*Stable & Chaotic Motions in the Planetary Problem*" leaded by Dr. Gabriella Pinzari.
Website: https://ercprojectpinzari.wordpress.com

[Nov. 2016 – Oct. 2017] **Postdoctoral Fellow, Università degli Studi di Napoli "Federico II",**
Dipartimento di Matematica ed applicazioni "*Renato Caccioppoli*",
1-year postdoctoral research fellowship funded by the H2020-ERC Project 677793.

[Oct. 2015 – Sep. 2016] **ATER (Temporary Research & Teaching Position), Observatoire de Paris,**
1-year grant for research and teaching activities, affiliated to the ASD-team† of IMCCE‡,
†: Astronomie et Systèmes Dynamiques, leaded by Prof. Jacques Laskar,
‡: Institut de Mécanique Céleste et de Calcul des Éphémérides.
Website: https://www.imcce.fr/recherche/equipes/asd/

[Oct. 2012 – Sep. 2015] **Doctoral Fellow, Observatoire de Paris,**
3-years grant for research and teaching activities, affiliated to the ASD-team of IMCCE.
Advisors: Dr. P. Robutel and Prof. A. Vienne.
Ph.D. Thesis: "Around quasi-satellites and remarkable configurations in the co-orbital resonance".

[Sep. 2012] **1-month Research Contract**, IMCCE, Observatoire de Paris.
Advisor: Dr. F. Deleflie.
Application of genetic algorithms in order to improve space debris orbit determination.

[Mar. – Jun. 2012] **3-monthes Research Intership**, IMCCE, Observatoire de Paris.
Advisor: Dr. P. Robutel.
Master-2-thesis: "Quasi-periodic orbits in the neighborhood of the Lagrange equilateral configurations".

[Jun. – Aug. 2011] **2-monthes Research Intership**, Geoazur laboratory (Grasse, France), Observatoire de la Côte d'Azur.
Advisor: Dr. G. Metris.
"Study of the two fixed centers problem (or Vinti problem) for geometric integration algorithms".
Website : https://geoazur.oca.eu/fr/acc-geoazur/584-metrologie-spatiale-geoazur

[Apr. – Jun. 2010] **2-monthes Research Intership**, Geoazur laboratory (Grasse, France), Observatoire de la Côte d'Azur.
Advisor: Dr. G. Metris.
Master-1-thesis: "Software developpement for Laser telemetry stations: satellites in Earth shadow determination".

On my researches

Sci. Interests.

I work in the framework of **Astronomy**, **Applied Mathematics** and **Dynamical Systems**. More specifically, I study problems issued from **Celestial Mechanics** in the purpose of showing the existence or the persistence of certain particular dynamics followed by **asteroids, moons, exoplanets, artificial satellites and possible spacecrafts**.

My activities are connected to the **perturbation methods** elaborated in the scope of **the research of planet in the solar system** (e.g., Le Verrier and the discovery of Neptune in 1846) and outside (exoplanets since 1995), as well as in the understanding of their stability. Let us mention that the problem of **the stability of the solar system** is one of the most ancient problem in science, for which Euler, Lagrange, Poincaré and, nowadays, Laskar provided important contributions. For instance, Poincaré exhibited **chaotic orbits** from this **deterministic problem** and considerably improved the mathematical study of the **nonlinear phenomenons** in Nature.

My works focus on the existence and stability of periodic or diophantine quasi-periodic invariant torii in the **3-body problem**, in order to understand **peculiar trajectories of asteroids and satellites** in some resonant regime or possible **exo-planetary configurations**. I'm especially interested by the **co-orbital dynamics** (two bodies that orbit the Sun with the same period). A major example is given by **the moons Janus and Epimetheus that gravitate Saturn** with the same period on coplanar and circular orbits that **swap every 4 years** after a relatively close encounter. I precise that this mechanism of orbital exchange could be relevant in the framework of **space mission design**. The work is currently in progress. Finally, I have recently started the study of the **non trivial motion of artificial satellites** (e.g., the Galileo constellation) generated by **diffusion** mechanisms and resonant structures due to the **combined gravitational effect of the Earth, of the Moon and of the Sun**.

Mainly through **algebraic computations** (construction of normal forms with computer algebra systems), **rigorous estimations of analytic developments** and with the help of **numerical studies**, I intend to improve the understanding of the dynamics followed by celestial objects in the solar system and outside.

Publications

Peer-reviewed proceedings.

3. **"An Arnold diffusion mechanism for the Galileo satellites**",
A. P., M. Giralt, I. Baldomá, M. Guardia , E. M. Alessi,
Congress proceedings of KePassa 2022, University of la Rioja, Logroño, Spain (**2022**).

2. **"A stable heliocentric disposal strategy for LPO missions, inspired by the natural co-orbital motion of Saturn's moons**", *A. P., E. M. Alessi*,
Congress proceedings of 72nd International Astronautical Congress (IAC), Dubai, UAE (**2021**).

1. **"The family of quasi-satellite periodic orbits in the circular co-planar restricted three-body problem"**, *A. P., P. Robutel, A. Vienne*,
Complex Planet. Syst. Proceedings, International Astronomical Union Symp. N°310: 172–173,
Editors: Z. Knezevic & A. Lemaitre (**2014**).
OpenAccess: https://doi.org/10.1017/S1743921314008175

Peer-reviewed popular science journal or website.

"Janus et Épiméthée: un ballet perpétuel autour de Saturne? De l'observation astronomique à la théorie KAM", *A. P., L. Niederman, P. Robutel*,
Website: Images des Mathématiques, CNRS† (**2018**).
† Centre national de la recherche scientifique).
Link : https://images.math.cnrs.fr/Janus-et-Epimethee-un-ballet-perpetuel-autour-de-Saturne.html

Published in peer-reviewed journals.

6. **"On the co-orbital asteroids in the solar system: medium-term timescale analysis of the quasi-coplanar objects"**, *S. Di Ruzza, A. P., E. M. Alessi*,
Icarus, 390: 115330, ISSN 0019-1035, (**2023**)
OpenAccess: https://doi.org/10.1016/j.icarus.2022.115330

5. **"Revisiting the Averaged Problem in the case of mean-motion resonances of the restricted three-body problem. Global rigorous treatment and application to the co-orbital motion"**,
A. P., E. M. Alessi,
Nonlinear Dynamics, 108: 959–985 (**2022**)
OpenAccess: https://doi.org/10.1007/s11071-022-07229-5

4. **"On the co-orbital motion in three-body problem: the existence of quasi-periodic horseshoe-shaped orbits"**, *L. Niederman, A. P., P. Robutel*,
Commun. Math. Phys. 377: 551-612 (**2020**).
OpenAccess: https://doi.org/10.1007/s00220-020-03690-8

3. **"On the co-orbital motion in the planar restricted three-body problem: the quasi-satellite motion revisited"**, *A. P., P. Robutel, A. Vienne*,
Celest. Mech. Dyn. Astron. 128 (4): 383–407 (**2017**).
OpenAccess: https://doi.org/10.1007/s10569-016-9749-1

2. **"Rigorous treatment of the averaging process for co-orbital motions in the planetary problem"**, *P. Robutel, L. Niederman, A. P.*,
Comp. and Applied Mathematics 35: 675-699 (**2016**).
OpenAccess: https://doi.org/10.1007/s40314-015-0288-2

1. **"On the co-orbital motion of two planets in quasi-circular orbits"**, *P. Robutel, A. P.*,
Celest. Mech. Dyn. Astron. 117 (1): 17–40 (**2013**).
OpenAccess: https://doi.org/10.1007/s10569-013-9487-6

Ph.D. Thesis.

"Les quasi-satellites et autres configurations remarquables en résonance co-orbitale",
English title: "Around quasi-satellites and remarkable configurations in the co-orbital resonance",
École doctorale Astronomie & Astrophysique d'Île-de-France,
PSL University-Observatoire de Paris (**2016**).
Openaccess: https://www.theses.fr/2016PSLEO006

• Advisors:
– Prof. Philippe Robutel, *CNRS Senior scientist* (equiv Prof.), IMCCE-Observatoire de Paris,
– Prof. Alain Vienne, Université Lille-1, IMCCE-Observatoire de Paris.

• Ph.D. committee:
– Prof. Jacques Féjoz, Université Paris-Dauphine, IMCCE-Observatoire de Paris, *president*,
– Prof. Antonio Giorgilli, Università degli Studi di Milano, *referee*,
– Prof. Anne Lemaître, Naxys, Université de Namur, *referee*,
– Dr. Andrea Venturelli, Université d'Avignon, *examiner*.

Teaching experiences

From October 2012 to September 2016, I have been involved in various teaching activities. During my Doctoral fellow (Oct. 2012 - Sep. 2015) and my ATER (Oct. 2015 - Sep. 2016) at the Paris Observatory, I carried out **4-years of teaching activities** for the Research M.Sc degree (*Master Recherche Astronomie & Astrophysique*) and some "University degrees" (DU, i.e. Diplôme Universitaire). All in all, **I headed 45 hours of lecture-exercices** ("chargé de cours et des Travaux Dirigés"), **68 hours of exercices** ("chargé des Travaux Dirigés"), and about **60 hours of night observing sessions**. More details are summarized below.

[Sep. – Dec. 2015] **Teaching assistant: Applied Quantum Physics**,
M.Sc. level, students from the Université Pierre & Marie Curie, Paris 6 & Paris Observatory.

Basis on quantum physics and applications on the study of the interactions between electromagnetic radiation and matter.

$32h$ of exercices *(Lectures given by T. Fouchet & C. Antoine)*, Detailed program on the website:
http://www.lesia.obspm.fr/perso/thierry-fouchet/quantique/

[Jan. – Apr. 2014, Jan. – Apr. 2016] **Teaching assistant: Théories Mathématiques pour la Physique**,
"Mathematical theories for physicists", M.Sc. level, students from the Paris Observatory.

An introduction to the mathematical methods of Classical Mechanics, from variational principle to fundamental notions: Lagrangian, Hamiltonian, integral invariants and symplectic structures.

$36h = 14h$ (in 2014) $+ 22h$ (in 2016) of exercices *(Lectures given by L. Niederman)*,

[Aug. 2013, Aug. 2014, Aug. 2015] **Assistant Astronomer: Night observing sessions at the Observatoire de Haute Provence (OHP)**
for the DU "*Explorer et Comprendre l'Univers*" of the Paris Observatory

Monitoring a group of 5-6 students on a professional telescope (80cm of diameter, non-automatized) in order to teach celestial coordinates, star-pointing and naked eye observation.

3×4-nights sessions, which corresponds, all in all, to $60h$ of practical work
(Leading Astronomer: M. Puech), More details on the DU on the website:
https://ufe.obspm.fr/DU/DU-en-presentiel/DU-Explorer-et-Comprendre-l-Univers/

[Jan. 2013, Jan. 2014, Jan. 2016] **Lecturer: Théories Mathématiques pour la Physique, Remise à niveau**
pre-course of "Mathematical theories for physicists", M.Sc. level, students from the Paris Observatory.

In this pre-course, recalls on analysis and differential calculus from Licence (B.Sc. level) were given (especially for student with only a background in physics).

$45h = 3 \times 15h$ of lectures & exercices.

[Oct. 2012 – Sep. 2016] **Online Tutoring for students participating to the DU "Fenêtre sur l'Univers"**,
Distance-learning courses on Astronomy of the Paris Observatory,

Thematic courses of different levels (from Licence to Master 1) and equivalent to a face-to-face course of $420h$ which cover all areas of astronomy. The courses are followed remotely on a website by the students which benefit from personalized tutoring with an astronomer/astrophysicist.

The formation in now called "Lumières sur l'Univers" and the Course materials are available on the website: https://media4.obspm.fr/LU/
More details on the DU on the website: https://ufe.obspm.fr/Formations-en-ligne/

[Oct. 2012 – Sep. 2013] **Contribution to the website project "L'Astronomie dans l'Apprentissage des Mathématiques"**
"Astronomy in the mathematics teaching" supported by the Paris Observatory & Université Lille-1

The philosophy of the present project is to use Astronomy as a source of examples in the learning of Mathematics in the aim of enhancing the attractiveness of mathematics for young people. In that framework, I created a maths courses and exercices linked to astronomical cycles.

Website: https://www.enseignementsup-recherche.gouv.fr/ressources-pedagogiques/notice/view/AAM-quotient_intro-fracont

Seminars, Conferences, Workshops & Schools

Some Communications.

15. **"Co-orbital motion with close-encounters: a discussion on the limit of the averaged problem**" (Online Talk),
CELMEC VIII, Tor Vergata University, (Roma), September 2022.

14. **"An Arnold diffusion mechanism for the Galileo satellites**" (Talk),
KePassa 2022, University of la Rioja, (Logroño, Spain), June 2022.

13. **"On the remarkable configurations of the co-orbital resonance"** (Invited Talk),
COOMOT - International workshop on Co-orbital Motion (Milano, Italy), March 2022.
Recording: `https://www.coomot.imati.cnr.it/inv_talks.php?ref_code=COOMOT`.

12. **"Taking advantage of the Averaged Problem in order to compute solutions in the Restricted 3BP. Co-orbital motions & Rigorous treatment"** (Online Talk),
XX Coloquio Brasileiro de Dinamica Orbital - CBDO 2020-2021, December 2021.

11. **"A stable heliocentric disposal strategy for LPO missions, inspired by the natural co-orbital motion of Saturn's moons"** (Talk),
72th International Astronautical Congress (IAC), Session C1.6 (Dubai, UAE), October 2021.

10. **"Taking advantage of the Averaged Problem in order to compute solutions in the Restricted 3BP. Co-orbital motions & Rigorous treatment"** (Online Talk),
IAU Symposium 364 Multi-scale (time and mass) dynamics of space objects (Iasi, Romania), October 2021.

9. **"Taking advantage of the Averaged Problem in order to compute solutions in the Restricted 3BP. Rigorous treatment & Application to co-orbital motions"** (Online Talk), *2nd Online Conference on Nonlinear Dynamics and Complexity*, October 2021.

8. **"On the averaged problem in the case of mean-motion resonances and the computation of solutions in the restricted three-body problem. Rigorous treatment and application to co-orbital motions"** (Online Talk),
XIX Jornadas de Trabajo en Mecánica Celeste, Universidad Pùblica de Navarra (Spain), August 2021.

7. **"On the stability of the Saturn co-orbital moons Janus and Epimetheus in the three-body problem "** (Talk), *Perpectives in Hamiltonian Dynamics* (Venezia, Italy), June 2018.

6. **"On the stability of co-orbital motion in the three-body problem: the Saturn-Janus-Epimetheus system"** (Talk), *CELMEC VII* (Viterbo, Italy), September 2017.

5. **"Around quasi-satellites and remarkable configurations in the co-orbital resonance"** (Seminar), *Seminario di Fisica Matematica dell'Università degli Studi di Padova* (Italy), June 2017

4. **"Co-orbital motion in the co-planar restricted three-body problem: family of quasi-satellite periodic orbits"** (Talk), *EPSC* (Nantes, France), September 2015.

3. **"The family of quasi-satellite periodic orbits in the co-planar restricted three-body problem"** (Talk), *AAS DDA Caltech* (Pasadena, USA), May 2015.

2. **"On the co-orbital motion in the coplanar restricted Three-Body problem: Quasi-satellites in the circular case"** (poster), *IAU CPS* (Namur, Belgium), July 2014.

1. **"On the co-orbital motion of two planets in quasi-circular and co-planar orbits focused on the Anti-Lagrange orbits"** (poster), *CELMEC VI* (Viterbo, Italy), September 2013.

Some Conferences attendances.

10. **CELMEC VIII: Eighth International Meeting in Celestial Mechanics**, Università di Tor Vergata, Roma (Italy), September 2022.

9. **"GLADS: Global and Local Aspects in Dynamical Systems: From Exponentially Small Phenomena to Instability"**, Centre de Recerca Matematica, Barcelona (Spain), July 2022.

8. **"COOMOT International workshop on Co-orbital Motion"**, Milano (Italy), March 2022.

7. **"72th International Astronautical Congress (IAC)"**, Dubai, (UAE), October 2021.

6. **"Perspectives in Hamiltonian Dynamics" conference**, Venezia (Italy), June 2018.

5. **CELMEC VII: Seventh International Meeting in Celestial Mechanics**, San Martino al Cimino, Viterbo (Italy), September 2017.

4. **AAS DDA 2015: American Astro. Society Dynamical Division of Astronomy**, Caltech University, Pasadena (USA), May 2015.

3. **IAU CPS 2014: International Astro. Union Complex Planetary Systems**, Naxys, Université de Namur (Belgium), July 2014.

2. **CELMEC VI: Sixth International Meeting in Celestial Mechanics**, San Martino al Cimino, Viterbo (Italy), September 2013.

1. **International Workshop in Planet. Motions, Satellites Dyn. & Space Ship Orbits**, Centre de Recherche Mathématique, Montréal (Canada), July 2013.

Some Schools attendances.

5. **Summer school "Stable and Chaotic Motions in the Planetary Problem"**, Osservatorio di Asiago (Università di Padova, Italy), June 2018.

4. **Winter school "Recent Advances in Hamiltonian Dynamics and Symplectic Topology"**, Università di Padova (Italy), February 2018.

3. **ETH-ITS Winter school on Conservative Dynamics**, Engelberg (Switzerland), February 2017.

2. **CELMEC Summer school "Satellite Dynamics and Space Missions: Theory and Applications of Celestial Mechanics"**, San Martino al Cimino, Viterbo (Italy), September 2017.

1. **GRGS Summer school, "Localisation précise par moyens spatiaux"**, Yverdon-les-bains (Switzerland), September 2012.

Visits.

4. **Universitat Politècnica de Catalunya** (Barcelona, Spain), one week in July 2022, *invited by M. Guardia*.

3. **Centro de Giorgi, Scuola Normale Superiore di Pisa** (Italy), 1-week in December 2018, *invited by J. E. Massetti*.

2. **Università degli Studi di Padova**, 2-weeks in June 2017, *invited by G. Pinzari*.

1. **IMCCE, Observatoire de Paris**, 2-weeks split between Dec. 2016, Apr. 2017 and Jul. 2017, *invited by P. Robutel.*

Organization.

3. **Member of the LOC** (Local Organizing Committee) of **"COOMOT International workshop on Co-orbital Motion"** Hybrid workshop, (Milano, Italy), March 2022.
Website: `https://coomot.imati.cnr.it`

1&2. **Member of the LOC of the "Stable and Chaotic Motions in the Planetary Problem" summer school** (Asiago, Italy)
and the **"Perspectives in Hamiltonian Dynamics" conference** (Venezia, Italy), June 2018.
Website of the school: `https://events.math.unipd.it/ercschool/`
Website of the conference: `https://events.math.unipd.it/ercvenice/`

Miscellaneous

Administration.

Qualification aux fonctions de Maître de Conferences, Section 25-26-34, February 2017.
French habilitation to apply for Associate Professor position in pure math., applied math. and astronomy.

Representative of the Ph.D. students *(Jan. 2014 – Dec. 2015)*
in scientific and institute councils of IMCCE-Observatoire de Paris.

Peer review contributions.

Peer-reviewed journals: **Advances in Space Research**; **Celest. Mech. and Dynamical Astronomy**.

Participation to projects.

3. **Team member** *(Aug. 2020 – today)* **of the Project "Co-orbital motion and three-body regimes in the solar system"** funded by Fondazione Cariplo through the program "Promozione dell'attrattività e competitività dei ricercatori su strumenti dell'European Research Council – Sottomisura rafforzamento, leaded by Dr. Elisa Maria Alessi, CNR IMATI, Milano.
Website: http://arm.mi.imati.cnr.it/imati/detail_pages.php?language=ENG&view=GEN&voice_code=PRG&fcode=WHA&ref_idk=PJ-167.

2. **Former member** *(Nov. 2016 – Nov. 2018)* **of the H2020-ERC Project 677793 Starting Grant "Stable and Chaotic Motions in the Planetary Problem"** leaded by Dr. Gabriella Pinzari, Università degli Studi di Napoli "Federico II" (until 2017) & Università di Padova (since 2017).
Website: https://ercprojectpinzari.wordpress.com.

1. **Former member** *(May 2016 - 2018)* **of the MathAmSud Project SIDIHAM**
(Hamiltonian Dynamical Systems, Celestial Mechanics, Weak KAM Theory).
Scientific coordinator for France: A. Venturelli, University of Avignon.

References

Research activities.

• **Dr. Elisa Maria Alessi**, IMATI-CNR Milano
(P.I. of the Project "Co-orbital Motion and Three-Body Regimes in the Solar System" and close collaborator) em.alessi@mi.imati.cnr.it

• **Dr. Laurent Niederman**, Université Paris-Saclay & IMCCE-Observatoire de Paris
(Close collaborator) laurent.niederman@u-psud.fr

• **Dr. Gabriella Pinzari**, Università degli Studi di Padova
(P.I. of the ERC Project "Stable and Chaotic Motions in the Planet. Pb.") pinzari@math.unipd.it

• **Prof. Philippe Robutel**, IMCCE-Observatoire de Paris
(Ph.D. thesis advisor & close collaborator) Philippe.Robutel@obspm.fr

Teaching activities.

• **Dr. Laurent Niederman**, Université Paris-Saclay & IMCCE-Observatoire de Paris
(Senior Lecturer) laurent.niederman@u-psud.fr

Lo sottoscritto Dott. Alexandre Pousse ha concesso l'autorizzazione dell'eventuale pubblicazione di questo Curriculum Vitae nei termini di Legge.

Milano,
March 10, 2023,
Alexandre Pousse.