# STEFANIA SOLDINI

## Ph.D, Flight Dynamics Engineer
3-1-4 Yoshinodai, Sagamihara, Japan, 252-5210

## PROFILE

I am a dedicated post doctorate aerospace engineer with experience in trajectory design, orbit determination and mission operations training; interested in flight dynamics from both an engineering and applied mathematics perspective. I am seeking a challenging astrodynamics research role to develop my space flight dynamics expertise. My ambition is to advance my career as a flight dynamics engineer for the space industry where teamwork and innovation are central to the role. I am willing to travel and provide on-call support to ensure project delivery.

## EXPERIENCE

### AEROSPACE PROJECT RESEARCH ASSOCIATE, JAXA, SAGAMIHARA, JP — 2017-PRESENT
Haysbusa2 Team Flight Dynamics Engineer/ Hayabusa2 Science Team/ Astrodynamics Co-Investigator

Responsibilities

- Small body vicinity operations: responsible for the design of a transfer trajectory during the solar conjunction black out of communications;

- Orbit determination and propagation;

- Provide the tools required for mission operations training purposes as telemetry data visualisation, landing site selection for JAXA's Minerva hoppers and CNES/DLR's Mascot lander and Cutting-edge high order asteroid gravity model.

### JAPAN SOSCIETY FOR THE PROMOTION OF SCIENCE RESEARCH FELLOW, JAXA, SAGAMIHARA, JP — 2016-2017
Japan Aerospace Exploration Agency's Haysbusa2 Team

Delivery of a high fidelity numerical and semi-analytical model to predict the evolution of Ryugu asteroid dust dynamics.

### EARLY STAGE RESEARCHER, IEEC, BARCELONA, ES — 2015
Institut d'Estudis Espacials de Catalunya (IEEC) and University of Southampton Team

Design of transfer trajectories for solar radiation pressure-assisted missions near the libration point orbits.

### UNIVERSITY OF SOUTHAMPTON, SOUTHAMPTON, UK — PH.D., 2012-2015
Ph.D in Space Engineering

Design and control of solar radiation pressure-assisted missions in the Sun-Earth system. This research was partially founded by ESA (industrial project) and IEEC (Internship/Early Stage Researcher in Astronet-II training network).

### TEST SOFTWARE ENGINEER, TXT E-SOLUTION, MILAN, IT — 2011-2012
Expertise in area navigation and flight management systems. Direct collaboration with the customer/Augusta-Westland.

### RESEARCH STUDENT, ESA, GLASGOW, UK — 2011
University of Strathclyde and Politecnico di Milano Team

ESA's European Student Moon Orbiter project. This work earned the Pegasus Award in recognition of my international cooperation.

## EDUCATION

### POLITECNICO DI MILANO, MILAN, IT — MASTER, 2011
M.Eng in Space Engineering

Thesis title: 'ESMO attitude dynamics: propellant sloshing and mass expulsion torques'. Key courses include: Attitude Orbit and Control System, Orbital Mechanics and Space Mission Design.

B.Eng in Aerospace Engineering

Thesis title: 'Simulation software development for a planetary rover navigation, guide and control: locomotion system analysis and wheel-soil interaction'.

## SKILLS

### COMMUNICATION & ORGANISATION

- Ability to write for a variety of audiences. Produced weekly reports for advisors, six peer-reviewed scientific journals and fifteen conference papers (2011-2017). Experience writing research proposals; I have been awarded JAXA funds (200,000 JPY in 2017), a Japan Society for the Promotion of Science research fellowship (included 400,000 JPY founds in 2016), three grants (IET-500 GBP 2014, ESA-Travel Grant to IAC 2013 and European Control Institute-500 EUR 2014) and ESR position in Astronet II in 2015;

- Developed confidence in public speeches through giving talks at business meetings, workshops and international astronautical congresses;

- Ability to set personal and project goals through planning activities and track progress;

- Leading and promoting new collaborations between JAXA and the University of Barcelona (2016), IEEC and the University of Southampton (2015) and between the Politecnico di Milano and the University of Strathclyde (2011);

- Enjoying teamwork in a diverse, international and multi-cultural environment. My adaptability and technical skills have been strengthened by working and living in diverse countries;

- Experience in supervising, assigning work packages and setting goals to undergraduate students. All students under my supervision successfully completed their projects on time;

- Ability to work under pressure and within the deadlines as demonstrated through my career.

### TECHNICAL & ANALYTICAL

- Ability to deliver fast and efficient engineering solutions in diverse disciplines. Fast response in learning new projects and in solving new engineering problems as shown from past and current activities;

- Focused on achieving results while maintaining high quality standards; providing test cases and the necessary documentations when delivering new software;

- Analytical and systematic approach to research engineering problems. Looking for logical solutions on the basis of past experiences and seeking for novel solutions as well as confronting the opinion of collaborators and experts in the field.

### COMPUTING

- MATLAB, Python, C++, Mathematica, Latex and Office (good knowledge);

- ADA (basic knowledge);

- Operating systems: Mac OS, Windows and Linux.

### LANGUAGES

- Italian (mother tongue), English (proficiency), Spanish and Japanese (basic)

### QUALIFICATIONS & COURSES

Professional Engineering Qualification: for the Italian law, the Esame di Stato (State Exam) is necessary to gain admission to the register of engineers. Italy, 2012.

### DRIVING LICENCE

B European Category/Japanese driving license.