

## Address

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## Mail

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## Languages

French ★★★★★  
English ★★★★★  
German ★★★★★

## OS Preference

GNU/Linux ★★★★★  
MacOS ★★★★★  
Windows ★★★★★

## Computer Skills

Python ★★★★★  
C ★★★★★  
Perl ★★★★★  
Bash ★★★★★  
Java ★★★★★  
Erlang ★★★★★

MQTT ★★★★★

Solidworks ★★★★★  
Redmine ★★★★★  
MOIS ★★★★★  
SCOS 2000 ★★★★★

# Daniel Petitfils

## Aerospace Engineer

## Experience

- 2015 - Now **AIT Lead Engineer** [SSTL, Guildford, UK](#)  
Responsible for planning, controlling and executing all phases of AIT and EVT activities, including testing, logistics and participation to design phase.  
Development of back end tooling to allow instant access to multiple years of TT&C archives and ease trending and monitoring for failure prediction/analysis.  
Rationalization of methods, equipment and tools to move towards an assembly-line production for Earth-observation products.  
Architecture and development of proof of concept for a distributed automated test system that follows a project from module testing to flight operations.  
Design of the next generation of EGSEs and preparation of RF system for Ground Segment, RF team and AIT.  
Creation of Python programming group in the company. Organizing events & training to share and define best practises.  
Lead on development of a ultra-low cost Earth-observation platform.
- 2013 - 2015 **Functional Validation Engineer** [Akka Ltd, full time at Airbus, Stevenage, UK](#)  
Development, run and analysis of test procedures on Flat Sat.  
Improved to the test environment to reduce by 30% the time to start a test and generate intelligent analytics helping the investigations.  
Investigation of anomalies and diagnosis - determination of root cause (equipment, environment model, software flight, test bed, databases, procedures, tests specifications).
- 2012 - 2013 **Conference Organizer - SpaceUp Paris** [SpaceUp France, Paris, France](#)  
Space conference located at ESA headquarters.  
Project management and treasurer – 125 attendees, budget of €7,500.  
Speaker at the conference, coordinating the debates and introducing guests.
- 2010 - 2013 **System Engineer and Co-founder** [Hemera System, Paris, France](#)  
Phase A of a nanosatellite platform for Earth Observation and development of an on-board software specialized in swarm control.  
Project management, requirements definition and software/hardware design.  
Market Analysis & assessment (Earth Observation), Revenue analysis.  
Third party customers identification and preparation of respective capture plans.  
Participation to bidding process and investor research.
- 2010 - 2012 **Satellite Operation Engineer** [CS-SI, full time at CNES, Toulouse, France](#)  
DHS and TTC Satellite Operation Engineer on Galileo IOV.  
Wrote more than 40 flight procedures in collaboration with ESA and DLR.  
Reviewed Satellite User Manuals, participation to Ground System development (SCOS 2000 from Logica).  
3-weeks operations campaign of the 2 Galileo IOV-1 satellites in 2011.

## Sports & Activities

Rock climbing

Private Pilot Licence

Amateur Radio  
licence - KD8NIZ

**SpaceUp** events and  
**space hackathons**.  
Finalist of the NASA  
SpaceApp Challenge  
Paris 2013 and  
London 2015

**Technology  
intelligence:**  
Aerospace, Robotics,  
Security, Distributed  
Computing and Energy

2008 - 2009 **Internship in Functional Validation** [Astrium GmbH, Munich, Germany](#)  
Design, implementation and run of test procedures on spacecraft using MOIS.  
Feedback meetings for the satellite requirements and satellite user manuals.

## Education

2009 - 2010 **Master of Science in Aerospace Engineering** [University of Michigan, USA](#)  
**Main subjects:** System Engineering, Programming, Astrophysics, Business Management, Space Policies, Space Mechanics.

### Projects:

- **Atmospheric Balloon Design** at the University of Michigan - 20h-project, launching a payload at 20km altitude.
- **Development of an attitude-determination software** (language C).
- **Magnetic field measurement cubesat project** inside the nanosat pipeline of the university. PDR in April 2010.

2006 - 2010 **Master's Degree in Engineering** [Supaero, France](#)  
**Main subjects:** System Eng., System Control, Mechanical Eng., Electrical Eng., Flight Dynamics, Programming, Telecommunication Systems.

### Projects:

- **Design and development of a star tracker** for ESA's SSETI-ESEO spacecraft: mechanical design, electronic design update.
- **Design and study of a navigation system** with helium balloons tested in 2009 at the Mars Society's Desert Research Station, Utah in collaboration with Pr. Foing from ESA's ESTEC centre.
- Br2C Micro-Air Vehicle: 2 ducted counter-rotating propeller drone - **carbon structure manufacturing and camera system development**.

July 2008 **CVA Summerschool** [Universidad Politécnica de Madrid, Spain](#)  
Summer school on structure/propulsion/operations of launchers.  
Project Team leader - **Launcher design solutions using extreme materials:** optimization of Ariane 5 and pre-design of a re-usable launcher.

2003 - 2006 **Classe Préparatoire PCSI/PSI** [Prytanée National Militaire, La Flèche, France](#)  
Competitive entrance exam to French "Grandes Ecoles": ranked 250 out of 3000 candidates.

## Publications

E.-A. Petitfils, L. Boche-Sauvan, B. H. Foing, *et al.*  
**Basic Mars Navigation System For Local Areas**  
*Poster presentation at the European Geosciences Union General Assembly in April 2009*

A. Hornig, C. Radcliff, A. Frey, N. Prasad Nagendra, E. Petitfils, R. Timmermans, *et al.*  
**SpaceUp unconferences: a 21st century global approach to space outreach**  
*Academic paper for the International Astronautical Congress 2013 in Beijing, China*