

# Stéphane MAZOUFFRE

## CNRS Director of Research

Institute for Combustion, Aerothermodynamics, Reactivity and Environment, CNRS

## Head of the ICARE Electric Propulsion team

## Director of ORACLE, ICARE – Exotrail joint-laboratory

French, born 3<sup>rd</sup> of February 1973

## Qualification

- 2009** Thesis director certification (*Habilitation*), University of Orléans, France
- 2003** CNRS staff research scientist at ICARE in the field of spacecraft electric propulsion
- 2001-2003** Postdoctoral fellow at ICARE – Research fields: Rarefied supersonic plasma jets
- 2001** Ph.D. degree in plasma physics (summa cum laude) from the Eindhoven University of Technology, The Netherlands.
- 1996** M.Sc. degree from a French higher engineering school (ENSIL), University of Limoges, in materials science and surface treatments

## Expertise and Relevant experience

**Expertise:** low-temperature plasma physics, electric propulsion, laser-aided diagnostics

Research on EP with CNES, ANR, ESA, EU, USAF, SAFRAN, Airbus, Enpulsion, Exotrail  
Collaborations with foreign Universities: Princeton, Madrid, Prague, Singapore

Executive committee of the French Physical Society and of the FPS Plasma Division (2006-2012)

Coordinator of the low-temperature plasma network of the CNRS (2012-14)

PR manager of the ICARE laboratory (2002 – 2008).

AIAA senior member; Member of the AIAA EP technical committee

Board of directors of the Electric Rocket Propulsion Society

Chairman of the CNES Propulsion & Aerothermodynamics expert group

Member of EuroSpace and ESA EP Harmonisation program

Scientific committee of the IEPC and EUCASS symposia

Editorial Board of *Plasma Sources Science and Technology* (2012-18), *Aerospace*, *Frontiers*

Supervision of 12 PhD students and 9 post-doctoral fellows

Supervision of 26 graduate students and 36 undergraduate students

Teaching: Orléans University (Space Sciences Master), IPSA (Paris), EPF (Paris)

## Scientific production

100 papers in peer reviewed international journals (+ 12 book chapters),

130 conference proceedings,

43 articles in a general-public magazines and newspapers.

66 International symposia (14 invited talks)

## Recognitions

2020: Chairs of Excellence, University Carlos III, Madrid, Spain

2019&2009: IEPC Best paper award from the Electric Rocket Propulsion Society

2012: Noah Hershkowitz Award of the Institute of Physics (IOP)

**2008: Bronze medal of the CNRS**

## Relevant publications

*Direct experimental comparison of Kr and Xe discharge properties in the magnetic nozzle of a helicon plasma source*  
A. Vinci, S. Mazouffre, Phys. Plasmas **28**, 033504 (2021).

*Rotating spoke instabilities in a wall-less Hall thruster: Experiments*

S. Mazouffre, L. Grimaud, S. Tsikata, K. Matyash, R. Schneider, Plasma Sources Sci. Technol. **28**, 054002 (2019).

*Prospects and physical mechanisms for photonic space propulsion*

I. Levchenko, K. Bazaka, S. Mazouffre, S. Xu, Nature Photonics **12**, 649–657 (2018).

*Electric propulsion for satellites and spacecraft: established technologies and novel approaches*

S. Mazouffre, Plasma Sources Sci. Technol. [Topical Review] **25**, 033002 (2016).