

Pr. Magali Deleuil (Magali.Deleuil@lam.fr)

Laboratoire Astrophysique de Marseille

Position : Institut Universitaire de France - Senior 2009, 2016 & 2021

Aix-Marseille University, Marseille

Palmes académiques in 2011

● Education and qualifications

2002 : Habilitation: *Gaseous content of evolved circumstellar disks and exoplanet searches.*

1991 : Science Doctorate (Astronomy & Astrophysics): *Spectroscopic Analysis of stellar objects with UV excess.*

● Research Domains

- 1997 - : Detection and characterization of exoplanets planets by transit or radial velocity methods. Physical properties of planetary systems. Measure of the host stars's parameters. Composition of small planets. Preparation and scientific exploitation of space-based missions.

- 1991 - 2006 : Study of the gas phase of circumstellar disks of young stars and debris disks (Herbig Ae/Be and β Pictoris): molecular gas content, physical properties, and stellar activity.

● Teaching activities

Courses over the 5 years of the university in various disciplines, with pedagogic responsibilities: astronomy, planetology, planetary systems, linear and tensorial algebra, numerical methods, thermodynamics, analysis (mathematic), computer science, programming, geometry.... In 2015 and 2017, development of a Massive Open Online Course (MOOC), set up on the French National Numerical Platform (FUN).

● Project appointments

- **PLATO (PLANetary Transits and Oscillations of stars)**, ESA M3, since 2008 :

- Member of the PLATO Science Working Team. Appointed by ESA

- member of the Board

- national coordinator of the French participation for CNES.

- Responsibility for a number of workpackages in the mission data centre, including performance evaluation of the exoplanet pipeline, specification of candidate verification and ranking procedures, and scientific responsibility for the mission's complementary data base.

- **CHEOPS (CHAracterizing ExOPlanets Satellite)**, ESA S1, since 2012 :

- Member of the CHEOPS Board

- Responsible for the preparation, the delivery, and maintenance of the data reduction pipeline (WP#10) to the Science Operation Center.

- **CoRoT (COnvection, ROtation & planetary Transits)**, CNES/Europe 1997 - 2016:

- Col and member of the scientific board from 2000. Member of the Operation Board

- 2000 - 2008: lead of the *Exoplanet Complementary Observations* working group.

- 2009 - 2016: Coordinator of the *CoRoT Exoplanet Science Team*.

Organization the annual workshops of the exoplanet collaboration. Definition and delivery of the CoRoT/exoplanet entry catalogue and the scientific database (*Exo-Dat*) of the CoRoT/ Exoplanet program

- **FUSE (Far Ultraviolet Spectroscopic Explorer)**, 1990 - 2006: Participation in the mission preparation, preparation and lead of the Circumstellar Disks programme of the guaranteed time.

● Recent major external appointments

2020 - Member of the **National Council of the Astronomers and Physicists** (elected)

2020 - Member of the **Board for the Center for Space Science of New York Abu Dhabi**.

2019 - Member of the **Commission Spécialisée Astronomie-Astrophysique** de l'INSU

2019 - Member of the **Advisory Scientific board** of the H2020 ExoPLANETS A project

2018 - Chair of the **Scientific Advisory Committee** of the T193 at OHP

2017 - 2020 Member of the **Haut Conseil de l'Observatoire de Paris**

2014 - 2017 Member of the **CFHT Scientific Advisory Council**

2012 - 2015 Member of the **National Council of the Universities** (appointed)

2012 - 2016 Member of the **Scientific Council of the French Astronomers and Astrophysicists Society**

Regular reviewer for ApJ and A&A

Reviewer for the France National Research Agency (2014), the ERC committee (2013), the Israël Science Foundation (2011, 2014), the Swedish National Space Board (2014), and the NASA Sagan Postdoctoral Fellowship (2017)

Organization and SOC of scientific international and national meetings

● Local appointments

2011 - 2019 Member appointed to the *Scientific Council of LAM*

2016 - 2020 Elected member of the *OSU Pythéas Council*

2006 - 2020 Head of the Planets, Stellar Systems and Interactions scientific team, then co-head of the *Planetary Systems Group* at LAM

● Committees:

Member of hiring committees at the universities of Paris, Nice, Montpellier

Member of PhD defense committees (excluding my PhD students ones): 36, 13 as reviewer

Member of HDR committees: 12, 7 as reviewer

● **Supervisor** of 9 PhD students (1 on-going), 20 Master students; mentoring of 13 post-docs

● **Publications:** 256 refereed publications, **11383** citations (H index 55 - 01/23)

8 book chapters

Communications in international conferences : more than 100, including more than 30 invited/solicited.

Press releases

Technical notes and project documentation for CoRoT, PLATO (M1/M2 and M3 competitions), and CHEOPS

● Outreach

More than 50 public conferences (3 to 4 per year), public debates on the role of women in science, and also TV documentaries ("*Sommes nous vraiment seuls dans l'Univers*"), radio broadcasts, interviews in newspapers.

Scientific advisor for exhibitions in Marseille and Paris, a performance art show and a play, and various scientific videos.

● Some recent illustrative publications:

- Acuña, L.; Lopez, T. A.; Morel, T.; Deleuil, M. Et al, 2022, A&A 660, 102
Water content trends in K2-138 and other low-mass multi-planetary systems
- Krenn, A. F.; Lendl, M.; Patel, J. A.; Carone, L.; Deleuil, M., et al, 2023, arXiv230107731K
The geometric albedo of the hot Jupiter HD 187933b measured with CHEOPS
- Deleuil, M., Pollacco, D., Baruteau, C., Rauer, H., Blanc, M. 2020, Sp. Sc. Reviews 216, 105
Observational Constraints on the Formation and Evolution of Neptune-Class Exoplanets
- Hoyer, S., Guterman, P., Demangeon, O., Sousa, S. G., Deleuil, M. et al., 2020, A&A 635, A24:
Expected performances of the Characterising Exoplanet Satellite (CHEOPS) III. Data reduction pipeline: architecture and simulated performances
- Mousis, O., Deleuil, M., Aguichine, A., Marcq, E., Naar, J. et al., 2020, ApJ 896, L22: *Irradiated Ocean Planets Bridge Super-Earth and Sub-Neptune Populations*
- Deleuil, M., Aigrain, S., Moutou, C., Cabrera, J., Bouchy, F. et al., 2018 A&A 619: *Planets, candidates, and binaries from the CoRoT/Exoplanet programme*
- Brugger, B., Mousis, O., Deleuil, M., Deschamps, F., 2017, ApJ 850: *Constraints on Super-Earth*

The name of my PhD students and postdocs, at the time they were at LAM, are underlined.