Johan MAZOYER

Research Interests: Optical Instrumentation, Direct Imaging & Coronagraphy, Observation & Characterization of Extrasolar Systems, Debris Disks

1 RESEARCH POSITIONS

CNRS Scientist – **LESIA/Paris Observatory** (France) **Since 2020**

Sagan Fellow – **Jet Propulsion Laboratory** (Pasadena, CA) **2018 - 2019**

Postdoc – **Space Telescope Science Institute** (Baltimore, MD) **2014 - 2018**

Graduate Student – **LESIA/Paris Observatory** (France) **2011 - 2014**

2 EDUCATION

PhD – Astronomy & Astrophysics – **Université Paris Diderot** (France) **09/2014**
Thesis: High-Contrast Direct Imaging Of Exoplanets And Circumstellar Disks

Master degree – Astrophysics – **Université Paul Sabatier** (Toulouse, France) **09/2011**
Thesis: Influence of Mars atmosphere on the ChemCam abundance detection limits

Master degree – Space Engineering – **ISAE Supaero** (Toulouse, France) **09/2011**

Bachelor – Computer Science – **Ecole polytechnique** (Paris, France) **09/2010**

3 GRANTS & AWARDS

Franco-Chilean Collaboration Program EcosSud with *Universidad de Chile* – 3 yrs **2020**

Carl Sagan Fellowship (NASA Hubble Fellowship Program) – 3 yrs **2018**

Cover of **Astronomy & Astrophysics** Journal (Volume 564) **2014**

CNES Doctoral Research Fellowship (French space agency) – 3 yrs **2011**

4 MENTORING

Postdocs

Vito Squicciarini (LESIA) co-advisor with A.-M. Lagrange **Since 2022**

Iva Laginja (LESIA): CNES post-doctoral Fellow **Since 2022**

PhDs

Yann Guttierez (LESIA) co-advisor with L. Mugnier **Since 2022**

Sophia Stasevic (LESIA) co-advisor with A.-M. Lagrange and J. Milli **Since 2021**

Justin Hom (ASU) co-advisor with J. Patience **Since 2018**

Undergrad Interns

Clara Puerto-Sanchez (LESIA) **Since 2022**

Benjamin Roman (LESIA) **2021**

5 TEACHING

Observatoire de Paris Master Class:

- Instrumentation for Astronomy
- Detection of Exoplanets (collab. Anne-Marie Lagrange)

6 PROFESSIONAL ACTIVITIES & SERVICE

Conference and Workshop Organizer:

- Organizer and SOC: **National Capital Area Disks** workshop (Baltimore, MD, Oct. 2018) - **website**
- Organizer and SOC: **Optimal Optical Coronagraphs** workshop (Leiden, NL, Sep. 2017) - **website**
- SOC: **High Contrast Imaging from Space** (Baltimore, MD, Nov. 2016) - **website**

Other Services:

- **SPHERE+:** Responsible Focal Plane Wavefront Sensor WP
- Science Commity of CNRS/INSU's High Angular Resolution Working Group **(CS-ASHRA)**
- Habitable Exoplanet Observatory **(HabEx): Contributing Scientist**
- Large UV Optical Infrared Surveyor **(LUVOIR): Contributing Scientist**
- NASA Exoplanet Exploration Program Analysis Group (ExoPAG) member of the **Study Analysis Groups (SAGs) #19** (Theory and Rigorous Contrast Metrics).
- **Referee** for publications in the *AJ*, *A&A*, *MNRAS*, *PASP* and *JATIS*.

7 OUTREACH

Podcast Science: I am running **PodcastScience.fm**, a **general science program**, airing every Wednesdays, in french. This podcast is listened by 10'000 to 30'000 listeners. Podcast Science received the Golden blog award for best scientific blog in 2012.

Public talks: including at CERN (Switzerland) & several times at Palais de la découverte (Paris)

8 SELECTED PUBLICATIONS (34 refereed publications, 7 in first author)

1. Chen, C. ; **Mazoyer, J.** ; Poteet, C. A., et al. (**2020**), *Multi-Band GPI Imaging of the HR 4796A Debris Disk*, The Astrophysical Journal, 898, 55, ADS Link
2. **Mazoyer, J.** ; Baudoz, P. ; Belikov, R. et al. (**2019**), High-Contrast Testbeds for Future Space-Based Direct Imaging Exoplanet Missions, Bulletin of the American Astronomical Society, 51, 101, ADS Link
3. **Mazoyer, J.** ; Pueyo, L. ; N'Diaye, M. et al. (**2018**), *Active Correction of Aperture Discontinuities-Optimized Stroke Minimization. II. Optimization for Future Missions*, The Astronomical Journal, 155, 8, ADS Link
4. **Mazoyer, J.** ; Pueyo, L. ; N'Diaye, M. et al. (**2018**), *Active Correction of Aperture Discontinuities-Optimized Stroke Minimization. I. A New Adaptive Interaction Matrix Algorithm*, The Astronomical Journal, 155, 7, ADS Link, 6 citations
5. Fogarty, K. ; Pueyo, L. ; **Mazoyer, J.** et al. (**2017**), *Polynomial Apodizers for Centrally Obscured Vortex Coronagraphs*, The Astronomical Journal, 154, 240, ADS Link, 6 citations
6. **Mazoyer, J.** ; Pueyo, L. ; Norman, C. et al. (**2016**), *Active compensation of aperture discontinuities for WFIRST-AFTA: analytical and numerical comparison of propagation methods and preliminary results with a WFIRST-AFTA-like pupil*, Journal of Astronomical Telescopes, Instruments, and Systems, 2, 011008, ADS Link, 7 citations
7. **Mazoyer, J.** ; Baudoz, P. ; Galicher, R. et al. (**2014**), *High-contrast imaging in polychromatic light with the self-coherent camera*, Astronomy and Astrophysics, 564, L1, ADS Link
8. **Mazoyer, J.** ; Baudoz, P. ; Galicher, R. et al. (**2013**), *Estimation and correction of wavefront aberrations using the self-coherent camera: laboratory results*, Astronomy and Astrophysics, 557, A9, ADS Link