

# Johan MAZOYER

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

## 1 RESEARCH POSITIONS

---

CNRS Scientist – <b>LIRA/Paris Observatory</b> (France)	Since 2020
Sagan Fellow – <b>Jet Propulsion Laboratory</b> (Pasadena, CA)	2018 - 2019
Postdoc – <b>Space Telescope Science Institute</b> (Baltimore, MD)	2014 - 2018
Graduate Student – <b>LIRA/Paris Observatory</b> (France)	2011 - 2014

## 2 EDUCATION

---

PhD – Astronomy & Astrophysics – <b>Université Paris Diderot</b> (France) <i>Thesis: High-Contrast Direct Imaging Of Exoplanets And Circumstellar Disks</i>	09/2014
Master degree – Astrophysics – <b>Université Paul Sabatier</b> (Toulouse, France) <i>Thesis: Influence of Mars atmosphere on the ChemCam abundance detection limits</i>	09/2011
Master degree – Space Engineering – <b>ISAE Supaero</b> (Toulouse, France)	09/2011
Bachelor – Computer Science – <b>Ecole polytechnique</b> (Paris, France)	09/2010

## 3 GRANTS & AWARDS

---

Franco-Chilean Collaboration Program <b>Ecosud</b> with <i>Universidad de Chile</i> – 3 yrs	2020
Carl Sagan Fellowship ( <b>NASA Hubble Fellowship Program</b> ) – 3 yrs	2018
Cover of <b>Astronomy &amp; Astrophysics Journal</b> ( <b>Volume 564</b> )	2014
CNES Doctoral Research Fellowship ( <b>French space agency</b> ) – 3 yrs	2011

## 4 MENTORING

---

Postdocs	
<b>Vito Squicciarini</b> (LIRA) co-advisor with A.-M. Lagrange	Since 2022
<b>Iva Laginja</b> (LIRA): CNES post-doctoral Fellow	Since 2022
PhDs	
<b>Yann Guttierrez</b> (LIRA) co-advisor with L. Mugnier	Since 2022
<b>Sophia Stasevic</b> (LIRA) co-advisor with A.-M. Lagrange and J. Milli	Since 2021
<b>Justin Hom</b> (ASU) co-advisor with J. Patience	Since 2018
Undergrad Interns	
<b>Clara Puerto-Sanchez</b> (LIRA)	Since 2022
<b>Benjamin Roman</b> (LIRA)	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](#)