



Dr. Alan Rainot

PhD. Astronomy & Astrophysics

Data driven scientist with a strong focus on problem-solving, innovative research development and effective communication

Experience

Address

Toulouse, France

Contact

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Web & Git

- arainot.github.io
- in LinkedIn/arainot
- github.com/arainot
- scholar.google.com

11/23 - Pres. **Calibration & Validation Engineer** Thales, France
Responsible for the design, development and deployment of the image processing chain, including the calibration and validation of satellite imagery.

07/22 - 10/23 **Data Scientist, Calibration & Validation** constellr, Belgium/Germany
Responsible for the design, development and deployment of the image processing chain, including the calibration and validation of thermal satellite imagery.

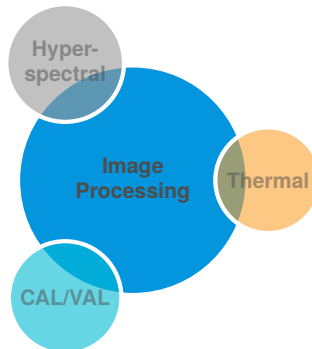
07/21 - 06/22 **Data Scientist / Image Processing Lead** ScanWorld, Belgium
Responsible for the design, development and deployment of the image processing chain, including the calibration and validation of satellite imagery.

09/16 - 06/22 **Ph.D. Researcher** KU Leuven, Belgium
Thesis: High-contrast imaging of massive stars.

07/14 - 09/14 **Summer Student** ASIAA, Taipei, Taiwan

08/12 - 08/13 **Internship** Royal Observatory of Belgium

EO Skills



Education

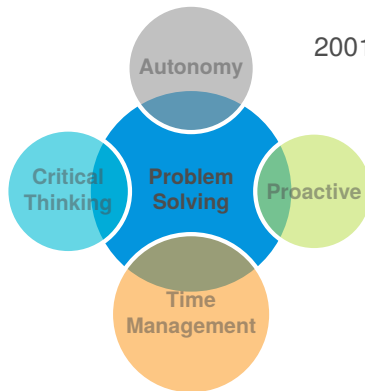
2016 - 2022 **Ph.D. Astronomy & Astrophysics** KU Leuven, Belgium

2015 - 2016 **Master 2 Degree in Astronomy and Astrophysics** Observatoire de Paris, France

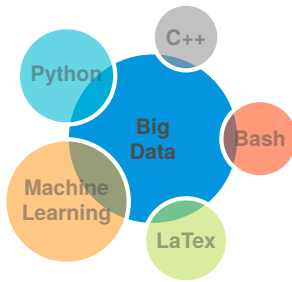
2011 - 2015 **Msci. Physics & Astrophysics** University of Birmingham, UK

2001 - 2011 **Baccalaureate** Lycée Français Jean Monnet de Bruxelles, Brussels, Belgium

Personal Skills



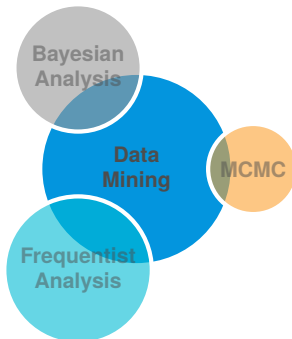
Programming Skills



Skills & Competences

Skills	Project management, research development, public speaking, team leadership, independent work, multilingual, communication
Software	Python, C++, Octave, LaTeX, IDL Software & project development
Remote Sensing	Calibration/Validation, Image Processing, Data Infrastructure, Thermal, Hyperspectral & Optical imaging, Analysis Ready Data

Statistical Skills



Teaching

2017 - 2019	Teacher Assistant Courses: <i>Star and Planet Formation & High-Energy Astrophysics</i>	KU Leuven
	Project Supervisor <i>3rd Year Bachelor Projects & High school student internship</i>	

Honors & Awards

2015	LABEX Excellence scholarship Institut Lagrange de Paris (ILP): "Lagrange Scholars Program" for the master 2 at the Observatoire de Paris, France.	Scholarship
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OS Preference

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

Publications

2022	The Carina High-contrast Imaging Project for massive Stars (CHIPS): II. O stars in Trumpler 14 A. Rainot, M. Reggiani, H. Sana, J. Bodensteiner, O. Absil <i>A&A, 658, A198 (2022).</i>
2022	Probing the low-mass end of the companion mass function for O-type stars M. Reggiani, A. Rainot, H. Sana, et al. <i>A&A, 660, A122 (2022).</i>
2020	Carina High-contrast Imaging Project for massive Stars (CHIPS) I. Methodology and proof of concept on QZ Car (HD93206) A. Rainot, M. Reggiani, H. Sana, et al. <i>A&A, 640, A50 (2020).</i>
2019	Towards constraints on massive galactic stars using VLT/SPHERE with high-contrast imaging A. Rainot, M. Reggiani, H. Sana, et al. <i>MmSAI, Vol.90, 366</i>

Languages

English	★★★★★
French	★★★★★
German	★★★★★
Japanese	★★★★★
Dutch	★★★★★

Software Development

- SHIPS **Sphere High-contrast Imaging Pipeline for massive Stars** [Python](#)
Reduction & analysis pipeline for the use of high-contrast imaging techniques for massive stars. Developing and maintaining the software.
- VIP **Vortex Image Processing package** [Python](#)
Post-processing package for high-contrast imaging. Development of 4D data analysis with SPHERE algorithms and general debugging.
- pyKLIP **pyKLIP** [Python](#)
Library for direct imaging of exoplanets and disks. Implementation of 4D data analysis with KLIP and debugging.

Project Writing

- 2017 - 2019 **116 hours at European Southern Observatory** [Paranal, Chile](#)
Awarded time for observations at the Very Large Telescope through proposals.

Conferences

- Speaker **at 10 international conferences (USA, Argentina, France, Spain, Belgium)**
- Posters **for a conference and a meeting (New-Zealand, France)**

Referees

Pietro Ceccato, Ph.D., European Commission (pietro.ceccato@gmail.com)
Andreas Brunn, Ph.D. Constellr (andreas.brunn@constellr.space)
Sanket B. Shah, TMC (sanket-shah@hotmail.com)
Prof. Dr. Hugues Sana, KUL (hugues.sana@kuleuven.be)
Dr. Maddalena Reggiani, KUL (maddalena.reggiani@kuleuven.be)

Alan Rainot, 10/2023