

Demande de dérogation pour rapporter une thèse sans HDR **(Passage du dossier en CAc restreint aux Habilité-e-s)**

- **Pièces à fournir accompagnant la Fiche dérogatoire complétée et signée selon votre demande** (seuls les dossiers complets seront examinés) :
- ☐ CV du/de la rapporteur·e envisagé·e avec la liste de ses publications. Le CV indiquera, le cas échéant le nombre de thèses encadrées, en cours avec le pourcentage d'encadrement et le nombre de participations à des jurys de thèse.
 - ☐ Courrier du/de la directeur·ice de thèse justifiant le choix de ce rapporteur

INFORMATIONS

NOM – Prénom du/de la doctorant·e : Charles Sallard

Titre de la thèse :

Architecture optimale de mise en forme du front d'onde pour l'imagerie directe d'exoplanètes à de courtes séparations angulaires avec des télescopes segmentés.

Spécialité du Doctorat : Astronomie et Astrophysique

Laboratoire de rattachement : Lagrange

Signature du/de la doctorant·e



Avis argumenté de l'École Doctorale :

Avis favorable au vu du CV et de l'expertise de M Sebastiaan HAFFERT, et de l'argumentaire fourni avec la demande

Signature de l'école doctorale :

ECOLE DOCTORALE
Sciences Fondamentales et Appliquées
Directrice
Giovanna TISSONI





	RAPPORTEUR·E
Sexe	Masculin
Nom	Haffert
Prénom	Sebastiaan
Qualité	Maitre de conférences
Établissement / Structure de rattachement	Université de Leiden

AVIS DU CONSEIL ACADÉMIQUE

Date du passage en CAc restreint aux Habilité·e·s :

Avis du Conseil Académique d'Université Côte d'Azur :

Si report ou avis défavorable, observations :

Date du passage en CAc restreint aux Habilité·e·s (si report) :

Avis du Conseil Académique d'Université Côte d'Azur :

Si report ou avis défavorable, observations :

DÉCISION DU PRÉSIDENT d'UNIVERSITÉ CÔTE D'AZUR :

Fait à Nice, le

Le Président d'Université Côte d'Azur

Sebastiaan Y. Haffert, PhD

Assistant professor at Leiden University

Developing the next generation of extreme adaptive optics systems for the detection and characterization of (Earth-like) exoplanets and their atmospheres.

Contact details

Address: Einsteinweg 55, 2729BV, Leiden, The Netherlands

Email: haffert@strw.leidenuniv.nl

LinkedIn: <https://www.linkedin.com/in/sebastiaan-haffert/>

Professional Appointments

- **Assistant professor** – Leiden University 2024 - present
- **Postdoctoral Research Fellow** - University of Arizona 2022 – 2024
- **NASA Hubble Fellow** - University of Arizona 2019 – 2022

Education

- **PhD (cum laude) in astronomy** (Leiden Observatory, Leiden University) 2015 – 2019
“[High-resolution integral-field spectroscopy of exoplanets.](#)” I developed the Leiden EXoplanet Instrument (LEXI) a pathfinder instrument for adaptive-optics assisted high-resolution integral-field spectrographs. The research was done under supervision of Prof. Christoph Keller and Prof. Ignas Snellen. LEXI was a visiting instrument for the 4.2-meter William Herschel Telescope on La Palma.
- **MSc (cum laude) in astronomy** (Leiden University) 2013 – 2015
Master of Science in Astronomy with a focus on Astronomical Instrumentation. My dissertation thesis, “*Beyond the limit of the sky*”, was on the development of a novel wavefront sensor with Prof. Christoph Keller. The thesis won the “**KHMW Afstudeerprijs voor Sterrenkunde**” award for best nationwide astronomy master thesis of the year.
- **BSc in astronomy** (Leiden University) 2010 – 2013
- **BSc in physics** (Leiden University) 2010 – 2013

Funding and awards

Funding

- **GMTO** (EURO 386.326): “*Finishing the XAO design of the Giant Magellan Adaptive Optics eXtreme (GMagAO-X)*” PI 2026-2027
- **Prieneke van Hoeve interdisciplinary astronomy fund** (EURO 5.000) : “*Developing NedCAT - a high-contrast imaging instrument for outreach and educational purposes*” PI 2025-2026
- **NSO PIPP** (EURO 491.501): “*Developing metasurfaces for direct imaging and characterization of exoplanets at visible and infrared wavelengths*” PI 2026-2030

➤ Gratama Early Career award (EURO 2.500)	PI	2025
➤ Grants awarded from the “NWO”, “Nederlandse Onderzoek School voor Astronomie” and “SRON Netherlands Institute for Space Research” for organizing a community day workshop (Combined worth 11.000 EUR).		2024
➤ NWO VIDI (EURO 850.000): “Towards Discovering Habitable Worlds: Metasurface-Enabled Adaptive Optics at the fundamental limit for Exoplanet Imaging”	PI	2025 – 2030
➤ NWO Large Infrastructure grant (EURO 4.300.000): “Netherlands Instrumentation for the European Extremely Large Telescope (NL-ELT) – EPICS work package”	WP-PI	2024 – 2034
➤ NASA APRA (\$655.000): “Dark hole maintenance with the Self-Coherent Camera”	PI	2023-2026
➤ RII - International Research Grants (\$29,675): “Searching for life on Earth-like planets with the upcoming Giant Magellan Telescope”	PI	2022
➤ Heising-Simons Foundation (\$1.500.000): “MagAO-X Phase II”	Co-I	2021 - 2025
➤ Postdoctoral Research Development Grant from the University of Arizona (\$2.000): “Development of a novel laser guide star wavefront sensor”	PI	2021
➤ Lucas/San Diego Astronomy Association Junior Faculty Award (\$10.000): “Development of the Visible Integral-field Spectrograph eXtreme (VIS-X)”	PI	2020 – 2022
➤ NASA Hubble Postdoctoral Fellowship (\$353,998)	PI	2019 – 2022
➤ Grants awarded from the “Leids Kerkhoven-Bosscha Fonds”, “Leids Universiteits Fonds”, “Nederlandse Onderzoek School voor Astronomie” for organizing a workshop at Leiden Observatory (Combined worth 10.000 EUR).		2018

Awards

- Runner-up for the **2025 Gratama Early Career award**
- Breakthrough Prize **2025 New Horizons in Physics Prizes**
- Honorable mention for **Christiaan Huygens 2022** thesis award in astronomy
- Nominated for the **Leiden University, College of Science discoverer of the year 2019**.
- **KHMW Afstudeerprijs voor Sterrenkunde** for best nationwide astronomical master thesis of 2015.
- First place poster award at “Astrophotonics AO summer workshop 2015” in Durham.

Awarded telescope observing time

- Supported >100 nights of extreme adaptive optics observations on MagAO-X.
- 50 nights of telescope time allocated with Magellan/MagAO-X as PI and Co-I.
- >75 hours of telescope time allocated with on the VLT as PI and Co-I.
- 2.5 nights in 2019 with CANARY at the WHT to commission a new spectrograph as PI.
- 27 nights spread over 2016-2018 for observing runs with LEXI as PI.
- 35 nights with the Extreme Polarimeter (ExPo) between 2013-2015, where I was responsible for managing the hardware, software, and on-sky performance of the AO system.
- Five observing runs of a week each with the 2.7-meter Isaac Newton Telescope at La Palma, where I taught bachelor students how to operate the telescope and how to perform observations with the Wide Field Camera.

Large instrumentation projects

- ELT/PCS – Lead of the European coronagraph and focal plane wavefront control work package.
- HWO – Leading the Dutch technology development effort for HWO.
- GMT/GMagAO-X (**Co-I**) – Lead of wavefront sensing and control work package.
- MagAO-X/VIS-X (**PI**) – Integral-field spectrograph for exoplanet atmosphere characterization.
- MagAO-X – Leading the development of advanced wavefront sensing and control.
- GMT/Facility AO – Design of the co-phasing sensor to achieve nanometer level phasing.
- Schmidt Sciences/Lazuli – wavefront control strategy and coronagraph manufacturing.

Teaching and mentoring experience

PhD Supervision

- I am currently supervising 3 PhD students as the primary supervisor (100%), and 1 PhD student as the secondary supervisor (75%) and 2 PhD student as a co-supervisor (30%).
- None of my PhD students have finished yet. The first defense is expected in 2027.
- I have been in the defense committee of 2 PhD thesis.

Teaching experience

- I have mentored over 20 undergraduate and graduate students for research and thesis projects.
- “Astronomical Adaptive optics”, 2026 - , a course for the astronomy master specialization in instrumentation at Leiden University focused on adaptive optics instrumentation.
- “Exploring the Universe”, 2025 - , a course for the astronomy minor at Leiden University focused on observational astronomy.
- “Introductie sterrekunde”, 2024, an introduction to astronomy course at the Boswell institute for people that want to switch careers and become physics high school teachers.
- “Astronomical Telescopes and Instruments” 2024, gave several of the lectures for this master’s course.
- “Astronomical Lab and Observing Project” from 2013-2018.
In this course I taught students how to prepare astronomical observations, perform the observations and perform the image processing to analyze the data for the 2.7-meter Isaac Newton Telescope at La Palma.
- “Introduction to physics for chemistry and life sciences”, and “Introduction to python” from 2012-2014. In both courses I taught the students during tutorial sessions and labs.
- Developer of electronic learning material for first year courses such as “Optics”, “Introduction to math” and “Introduction to modern physics.”.
- Tutor for first year students from 2012 - 2015. I was responsible for a group of students in their first year. We held weekly tutorial sessions on any of their courses or specific problem sets.

Talks and organization

- SPIE Astronomical Telescopes and Instruments, Denmark, 2026
- Space-Based HCI in Europe III, Scotland, 2026
- Faculty of science Tuesday Talk series, Netherlands, 2026 (**invited**)
- Spirit of Lyot 6, USA, 2026 (**invited**)

- ESO, next generation of instruments and telescopes, 2026 **(invited)**
- WITSO, ESA next generation of instruments and telescopes, 2025
- NYRIA, Heidelberg, 2025 **(invited)**
- SPIE – Optics and Photonics, USA, 2025
- NAC 2025, Nijmegen, 2025 **(invited)**
- Space Research Organization of the Netherlands (SRON) Colloquium, Leiden, 2025 **(invited)**
- Giant Accreting Protoplanet conference, Heidelberg, Germany, 2025 **(invited)**
- ELT Planetary Camera and Spectrograph and Habitable Worlds Observatory community days, Leiden, Netherlands, 2024
- ELT/PCS workshop, Garching, 2024 **(invited)**
- Sagan Workshop, Caltec, US, 2024 **(invited)**
- EAS, Padova, 2024 **(invited)**
- SPIE – Astronomical Telescopes and Instruments, Japan, 2024
- Origins Seminar, Steward Observatory 2024
- Seager Symposium, Leiden Observatory, Netherlands, 2024 **(invited)**
- GSFC Optics Colloquium/Optica National Capitol Section (NCS), US, 2023 **(invited)**
- Astronomy seminar Herzberg institute, Canada, 2023 **(invited)**
- SPIE Optics and Photons, San Diego, USA, 2023 **(invited)**
- AO4ELT7, Avignon, France, 2023
- Lorentz Workshop on “*Optimal Exoplanet Imagers*”, Leiden, NL, 2023 **(invited)**
- Arizona Photonics Days, Tucson, USA, 2023 **(invited)**
- SPIE Astronomical Telescopes and Instruments, Montreal, US, 2022
- Spirit of Lyot, The Netherlands, June 2022
- Heising-Simons direct imaging seminar, USA, May 2022
- Exoplanets IV, USA, May 2022
- Planning the Keck Diffraction-Limited Visible-Light Roadmap, April 2022 **(invited)**
- CHAMPS early career symposium, Virtual, 2022
- Inverse Problems: Methods, Applications and Synergies, Chile, 2022 **(invited)**
- Wavefront sensing and control in the VLT/ELT era VI, Chile, 2021
- SPIE Optics and Photonics, San Diego, US, 2021
- Origin Seminar Steward/LPL, Tucson, US, 2021
- Arizona/Los Alamos Days, Tucson, US, 2021 **(invited)**
- SPIE Astronomical Telescopes and Instruments, San Diego, US, 2020
- Heising-Simons direct imaging seminar, 2020
- Wavefront sensing and control in the VLT/ELT era V, Nice, France, 2020
- Exoplanets III, Online conference, 2020
- Early Career seminar Steward, Tucson, US, 2020
- Origin Seminar Steward/LPL, Tucson, US, 2020
- High-resolution IR spectroscopy hackathon California Institute of Technology, US, 2020
- ESO Thirty Minute Talks, ESO Vitacura, Chile, 2019 **(invited)**
- SPHERE upgrade workshop, Paris, France, 2019
- Astro Tech Talk, Heidelberg, Germany, 2019 **(invited)**
- Wavefront sensing in the VLT/ELT era III, Paris, France, 2018

- Combining high-resolution spectroscopy and high-contrast imaging for exoplanet characterization, California Institute of Technology, US, 2018
- SPIE Astronomical Telescopes and Instruments, Austin Texas, US, 2018
- SPHERE upgrade workshop, Grenoble, France, 2018
- Wavefront sensing in the VLT/ELT era II, Padova, Italy, 2017

Organization

- Quantum and Space Faculty of Science research theme lead, 2026 - current
- SOC for Spirit of Lyot 6 in USA, 2026
- SOC for AO4ELT8 in Chile, 2025
- SOC for HCI4Europe in Heidelberg, 2025
- SOC for ELT/PCS and HWO community day, Netherlands, 2024
- SOC for AO4ELT7 in Avignon, France, 2023
- Organizer for Coherence Differential Imaging Workshop in Paris, 2023
- Steward Observatory DEI International scholars sub-committee, 2021 – 2024
- Origin Seminar co-organizer, 2020 – 2024
- Organizer of the NYRIA workshop at Leiden Observatory 2018.
- SOC for NYRIA workshop Paris, 2017
- Co-founder of the Network for Young Researchers in Astrophysics (NYRIA) in 2016
- Co-developer of 'High Contrast Imaging for Python' (HCIPy - <https://hccipy.org/>)
- Reviewer for multiple journals from OPTICA, the Astrophysical Journal, Astronomy & Astrophysics, Nature Astronomy and the Journal of Astronomical Telescopes, Instruments, and Systems.
- Reviewer for NASA grant proposals
- Reviewer for European grant agencies

Outreach

- Public lecture for the Leidse Weer- en Sterrekundige Kring, May, 2026
- Astronomy on Tap Oct 2025, Leiden, outreach talk for general audience
- Space Drafts (Astronomy on Tap) Jan 2022, Tucson, outreach talk for general audience
- Astronomy and planets lecture at the Tucson BASIS north middle school. (2021, 2022,2023)
- Dutch national radio appearance to talk about the discovery of the young growing planets in PDS 70. The publication and press release led to more than 200 news articles around the world ([link](#)).
- Outreach lectures at schools and museums with the Mobile planetarium of NOVA (2012-2015)

Full publication record can be found on [Google scholar profile \(click to open\)](#)

Journal articles + proceedings	>200
Total citations	3658
H-index	32
i10-index	80

Sebastiaan Y Haffert Publication List

1. A Freeform Forward-modeling Pipeline for High-contrast Images of Circumstellar Disks Based on Automatic Differentiation. JK Kueny, JD Long, JR Males, AJ Weinberger, LM Close, J Liberman, et al. The Astronomical Journal 172 (2), 124 (2026).
2. A Multiband Study of the HR 4796A Disk in the Optical Using MagAO-X. Jay K Kueny, Alycia J Weinberger, Zhe-Yu Daniel Lin, Joseph D Long, Jared R Males, Joshua Liberman, et al. The Astrophysical Journal 1001 (2), 189 (2026).
3. Beta Pic b in the blue: high contrast detections from 0.6–0.9 μm with MagAO-X. EA McEwen, JR Males, L Pearce, JD Long, E Tonucci, SY Haffert, et al. Adaptive Optics Systems X 14150, 1415040 (2026).
4. Closed-loop atmospheric dispersion correction for high-contrast imaging with MagAO-X. Katie Twitchell, Sebastiaan Haffert, Jared R Males, Laird M Close, Olivier Guyon, Kyle Van Gorkom, et al. Adaptive Optics Systems X 14150, 391-402 (2026).
5. Closing the technology gap for the Extremely Large Telescope's Planetary Camera and Spectrograph (ELT-PCS): definition of science cases and expected science yield. Arthur Vigan, Oscar Carrión-González, Gaël Chauvin, Benjamin Charnay, Silvano Desidera, Markus Kasper, et al. Ground-based and Airborne Instrumentation for Astronomy XI 14149, 396-404 (2026).
6. Closing the technology gap for the Extremely Large Telescope's planetary camera and spectrograph (ELT-PCS): description of the roadmap activity. M Kasper, S Scheithauer, L Schreiber, E Diolaiti, E Stadler, G Chauvin, et al. Ground-based and Airborne Instrumentation for Astronomy XI 14149, 1904-1911 (2026).
7. Closing the technology gap for the Extremely Large Telescope's planetary camera and spectrograph (ELT-PCS): development of the coronagraph and focal plane wavefront control SY Haffert, A Potier, L Leboulleux, B Wehbe, O Absil, P Baudoz, et al. Adaptive Optics Systems X 14150, 1185-1201 (2026).
8. Combining long-slit spectroscopy and accurate polarimetry with SPHERE-IRDIS to characterize circumstellar disks. RG van Holstein, S Bhattacharyya, M Rodríguez, C Ginski, SY Haffert, et al. Ground-based and Airborne Instrumentation for Astronomy XI 14149, 141491W (2026).
9. Comparing real-time optical gain measurement and methods on MagAO-X. E McEwen, JR Males, O Guyon, SY Haffert, V Deo, JD Long, et al. Adaptive Optics Systems X 14150, 723-734 (2026).
10. Continuing to Advance European High Contrast Imaging Research and Development towards HWO and LIFE. G Chauvin, OC Gonzalez, I Luginja, D Dicken, S Haffert, M Kasper, et al. arXiv preprint arXiv:2604.15077 (2026).
11. Continuing to Advance European High-Contrast Imaging R&D towards HWO and LIFE. G Chauvin, O Carrion-Gonzalez, I Luginja, D Dicken, S Haffert, M Kasper, et al. (2026).

12. Demonstration of simultaneous PIAA-coronagraphy and wavefront sensing using a single metasurface-based focal-plane optic. Dhwanil Patel, Sebastiaan Y Haffert, Skyler Palatnick, Adam Taras, Maxwell Millar-Blanchaer, Matthijs Mars, et al. *Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation VII* 14154, 1367-1377 (2026).
13. Differentiable design of the PIAA-ZWFS: a flexible wavefront sensor that approaches the fundamental limit. AK Taras, SY Haffert, L Desdoigts. *arXiv preprint arXiv:2606.28136* (2026).
14. Digging dark holes on-sky with the Self-Coherent Camera: Preliminary results. E Tonucci, SY Haffert, JR Males, LM Close, K van Gorkom, O Guyon, et al. *Adaptive Optics Systems X* 14150, 104-109 (2026).
15. ffortissimo: a freeform forward-modeling pipeline for high-contrast images of circumstellar disks based on Autodiff/JAX. J Kueny, JD Long, J Males, A Weinberger, L Close, J Liberman, et al. *Adaptive Optics Systems X* 14150, 141505T (2026).
17. Forward modelling coronagraphic images with a fully physical, differentiable digital twin of MagAO-X: first laboratory results. M Mars, SY Haffert, L Desdoigts, JD Long, R Landman, JR Males, et al. *arXiv preprint arXiv:2608.24445* (2026).
18. Freezing the speckles: focal plane wavefront sensing with the Spatially Clipped Self-Coherent Camera. J Liberman, SY Haffert, JR Males, A Khandelwal, S Rinaldi, JD Long, et al. *Adaptive Optics Systems X* 14150, 1449-1460 (2026).
19. HCIPy: High Contrast Imaging for Python. H Emiel, SY Haffert, VM Radhakrishnan, DS Doelman, M van Kooten, et al. *Astrophysics Source Code Library*, ascl: 2602.012 (2026).
20. Lessons learnt from existing instruments and R&D programs for the implementation of the polarimetric mode of the ELT's high-contrast imager PCS. D Smitha, SY Haffert, S Maharanab, M Teczab, M Lucasc, M Langloisd, et al. *Advances in Optical and Mechanical Technologies for Telescopes and ...* (2026).
21. Multi-core integral field unit (MCIFUv2): fibre-link design and status. S Mahdizadeh, R Mears, N Zhekova, A Benoît, SY Haffert, et al. *Ground-based and Airborne Instrumentation for Astronomy XI* 14149, 1491-1498 (2026).
22. Multicore integral field unit (MCIFU v2): design and optimization of the integral field spectrograph with multiplexed VPH gratings. C D'Amato, A Bianco, G Pariani, F Fornasiero, RJ Harris, S Mahdizadeh, et al. *Ground-based and Airborne Instrumentation for Astronomy XI* 14149, 1532-1543 (2026).
23. NEXT: The Netherlands EXoplanet Testbed I, goals and opto-mechanical design. R Landman, S Haffert, L Desdoigts, M Mars, D Patel, D Smith, et al. *Adaptive Optics Systems X* 14150, 2998-3011 (2026).
24. No need to modulate: on-sky results of a neural network enhanced pyramid wavefront sensor and prospects for the ELTs. R Landman, L Koning, SY Haffert, JD Long, JR Males, M Mars, et al. *Adaptive Optics Systems X* 14150, 760-773 (2026).

25. On-sky dark hole diggin'with implicit Electric Field Conjugation on MagAO-X. SY Haffert, J Liberman, JR Males, LM Close, WB Foster, K Van Gorkom, et al. arXiv preprint arXiv:2607.08146 (2026).
26. On-sky demonstration of self-learning predictive control with MagAO-X. SY Haffert, JR Males, PT Johnson, LM Close, O Guyon, J Kueny, et al. arXiv preprint arXiv:2608.24339 (2026).
27. Optimal mode-sorting coronagraphy: limits of single-moded measurements for the Habitable Worlds Observatory. Y Xin, SY Haffert, R Landman. Optical and Infrared Interferometry and Imaging X 14148, 1012-1017 (2026).
28. Performance estimates and target selection for the MCIFU, the multicore integrated field unit. V Kutnohorsky, RJ Harris, SY Haffert, LM Close, JR Males, A Benoit, et al. Ground-based and Airborne Instrumentation for Astronomy XI 14149, 2054-2069 (2026).
29. Phase-Induced Amplitude Apodization Complex Mask Coronagraph (PIAACMC) on-sky demonstration with MagAO-X. Elena Tonucci, SY Haffert, WB Foster, JR Males, Olivier Guyon, Laird M Close, et al. Astronomy & Astrophysics 708, A144 (2026).
30. Point spread function subtraction using telemetry data: one more step on the path to reaching the photon-noise limit in high-contrast imaging. S Juillard, O Guyon, N Desai, PK Poon, JR Males, G Ruane, et al. Adaptive Optics Systems X 14150, 448-456 (2026).
31. PWI-SPEC: an optical, multi-resolution spectrograph optimised for high fibre-count astrophotonic wavefront sensing and imaging instruments. A Rodziewicz-Ryan, B Norris, CH Betters, JJ Bryant, LM Close, DS Dahl, et al. Advances in Optical and Mechanical Technologies for Telescopes and ... (2026).
32. Quantum-optimal coronagraphy with spatial mode sorting for direct exoplanet observations. Yinzi Xin, Sebastiaan Haffert, Yoo Jung Kim, Jonathan Lin. arXiv preprint arXiv:2607.02065 (2026).
33. Quantum-optimal instruments for high-contrast imaging with multi-plane light converters. SY Haffert, Y Xin, R Landman. Advances in Optical and Mechanical Technologies for Telescopes and ... (2026).
34. Review of high-contrast detection of accreting proto-planets with visible ExAO at H-alpha: the MagAO-X MaXProtoPlanetS survey results of evidence of strong protoplanet H-alpha LM Close, JR Males, J Li, SY Haffert, JD Long, AD Hedglen, et al. Adaptive Optics Systems X 14150, 1415002 (2026).
35. Sensor fusion on MagAO-X: real time vibration control using accelerometers. Parker T Johnson, Jared R Males, Povilas Palunas, Olivier Guyon, Sebastiaan Haffert, Joseph Long, et al. Adaptive Optics Systems X 14150, 821-833 (2026).
36. Sub-diffraction-limited coronagraphic imaging with nano-printed PIAACMC phase masks. Elena Tonucci, Sebastiaan Y Haffert, Warren B Foster, Jared R Males, Olivier Guyon, Laird M Close, et al. Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation VII 14154, 1873-1880 (2026).

37. The eXtreme Wavefront Control Toolkit: high-contrast imaging instrument control for ground and space-based coronagraphs. Jared R Males, Joseph D Long, Sebastiaan Y Haffert, Kyle Van Gorkom, Parker Johnson, Rico Landman, et al. *Software and Cyberinfrastructure for Astronomy IX* 14155, 44-56 (2026).
38. The final design of GMagAO-X: high-contrast imaging at first-light of the GMT. Jared R Males, Laird M Close, Sebastiaan Y Haffert, Victor Gasho, Adam Fletcher, Joseph Boales, et al. *Ground-based and Airborne Instrumentation for Astronomy XI* 14149, 269-274 (2026).
39. The final design of GMagAO-X: the wavefront sensing and control (WFS&C) architecture of GMagAO-X. Sebastiaan Y Haffert, Jared R Males, Laird M Close, Olivier Guyon, Olivier Durney, Maggie Kautz, et al. *arXiv preprint arXiv:2608.24324* (2026).
40. The GMagAO-X facility ExAO coronagraphic instrument for the Giant Magellan Telescope: the first FDR level optomechanical design for an ELT ExAO system. Laird M Close, Olivier Durney, Jared R Males, Maggie Y Kautz, Sebastiaan Y Haffert, Adam Fletcher, et al. *Adaptive Optics Systems X* 14150, 2614-2641 (2026).
41. The Photonic Lantern Nuller: from concept to laboratory and on-sky demonstrations. Y Xin, N Jovanovic, D Mawet, D Echeverri, YJ Kim, J Lin, et al. *Optical and Infrared Interferometry and Imaging X* 14148, 529-537 (2026).
42. The photonic-lantern wavefront sensor and coherent-differential-imager: the next step in full-wave photonic-lantern sensing. BR Norris, S Leon-Saval, C Betters, A Taras, J Vella, J Wei, et al. *Adaptive Optics Systems X* 14150, 774-782 (2026).
43. The Roman Coronagraph Community Participation Program: early calibration plan and pilot observation of a companion. JH Girard, E Cady, NT Zimmerman, CR Do Ó, J Zhang, G Gonzalez, et al. *Space Telescopes and Instrumentation 2026: Optical, Infrared, and Millimeter ...* (2026).
44. The Roman Coronagraph Community Participation Program: pre-launch reference star list and impact of reference star properties on post-processing performance. Justin Hom, Schuyler G Wolff, Jessica Gersh-Range, Ramya M Anche, Vanessa P Bailey, Jean-Philippe Berger, et al. *Space Telescopes and Instrumentation 2026: Optical, Infrared, and Millimeter Wave* 14145, 227-246 (2026).
45. The spectral energy distribution of YSES 1 b and its circumplanetary disc. M Darcis, SY Haffert, T Stolker, RF van Capelleveen, MA Kenworthy, et al. *Astronomy & Astrophysics* 710, A328 (2026).
46. Tolerancing the PIAA-ZWFS: a practical and robust wavefront sensor that approaches the fundamental sensitivity limit. AK Taras, SY Haffert, L Desdoigts. *arXiv preprint arXiv:2607.17365* (2026).
47. Visible light spectroscopy with extreme adaptive optics: a pipeline for the low-resolution mode of VIS-X. MER González, SY Haffert, WB Foster, JR Males, O Guyon, LM Close, et al. *Adaptive Optics Systems X* 14150, 1860-1870 (2026).

48. Visible-light high-contrast polarimetric imaging with MagAO-X: characterization and early results. M Lucas, L Close, JR Males, TGB de Souza, R Pereira, J Li, et al. Ground-based and Airborne Instrumentation for Astronomy XI 14149, 1721-1740 (2026).
49. Visible-Light High-Contrast Polarimetry with MagAO-X: Characterization and Initial Results. M Lucas, L Close, JR Males, TGB de Souza, R Pereira, J Li, et al. arXiv preprint arXiv:2608.06579 (2026).
50. What the speck is that?: Improving exoplanet imaging sensitivity by combining machine learning and physical models. JD Long, SY Haffert, JR Males, LM Close, O Guyon, LH Schatz, et al. Adaptive Optics Systems X 14150, 1701-1706 (2026).
51. WindsoCC: reconstructing the wind-driven halo in MagAO-X images using wavefront sensor telemetry. JK Kueny, JR Males, AJ Weinberger, LM Close, JD Long, J Liberman, et al. Adaptive Optics Systems X 14150, 1007-1015 (2026).
52. A planetary-mass candidate imaged in the Young Suns Exoplanet Survey. P Liu, MA Kenworthy, BA Biller, A Wallace, T Stolker, S Haffert, et al. Astronomy & Astrophysics 699, A78 (2025).
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Nice le 7 septembre 2026

Demande de dérogation à l'HDR pour la désignation d'un rapporteur de thèse

Madame, Monsieur,

Dans le cadre de la préparation de la soutenance de thèse de Charles Sallard, je souhaiterais solliciter une dérogation à la condition de détention de l'Habilitation à Diriger des Recherches (HDR) pour la désignation de l'un des deux rapporteurs de la thèse.

Le chercheur que nous souhaiterions solliciter (Sebastiaan Haffert) a été choisi en raison de son expertise scientifique particulièrement pertinente au regard des travaux développés dans cette thèse. Il est notamment à l'origine du principe de *l'implicit electric field conjugation (iEFC)* et a contribué aux travaux fondateurs ayant établi cette stratégie de contrôle du champ électrique pour l'imagerie à haut contraste. Cette expertise présente un intérêt tout particulier pour l'évaluation de la thèse de Charles, qui porte notamment sur la mise en œuvre expérimentale et la validation de cette stratégie de contrôle sur le banc SPEED. Les travaux de thèse s'inscrivent ainsi directement dans la continuité des développements scientifiques auxquels ce chercheur a contribué de manière déterminante. Sa désignation permettrait donc de bénéficier d'une évaluation particulièrement pertinente et approfondie de la contribution scientifique de la thèse, notamment sur les aspects méthodologiques et expérimentaux liés au contrôle du champ électrique et à la génération de zones de haut contraste.

Le second rapporteur proposé est également un expert reconnu de la thématique et est titulaire de l'HDR, satisfaisant ainsi à la condition habituelle concernant la qualification des rapporteurs.

Vous trouverez le CV du chercheur proposé en pièce jointe, afin de permettre à l'École Doctorale et au Conseil Académique d'examiner son parcours, ses qualifications et son expertise scientifique, et de statuer sur cette demande de dérogation. Nous vous remercions par avance pour l'examen de cette demande et restons bien entendu à votre disposition pour tout complément d'information qui serait nécessaire.

Je vous prie d'agréer, Madame, Monsieur, l'expression de mes salutations distinguées.

Patrice Martinez

