

# Harim Jin

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☆ [Stellar Astrophysics](#)   ☆ [Supernova](#)   ☆ [Data Science](#)

## Work

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**Max Planck Institute for Astrophysics** Nov 2025–  
Independent Postdoctoral Fellow  
Mentor: [Selma E. de Mink](#)

## Education

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**University of Bonn** Apr 2021–Dec 2025  
Thesis: "Chemical fingerprints of stellar evolution in Galactic massive stars"  
Graduation with cum laude  
International Max Planck Research Schools (IMPRS) Fellow  
Supervisor: [Norbert Langer](#)

**Seoul National University** Mar 2019–Mar 2021  
M.Sc. in Astronomy (99.1% - GPA 4.4 / 4.5)  
Thesis: "Light Curve and Color Properties of Type Ib/Ic Supernovae"  
Supervisor: [Sung-Chul Yoon](#)

**Korea Advanced Institute of Science and Technology (KAIST)** Mar 2014–Feb 2019  
B.Sc. in Physics (96.67% - GPA 4.0 / 4.3)  
Presidential Fellow (top ~ 1 % of students)  
Graduation with summa cum laude

## Skills and Qualifications

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### Stellar Evolution Modelling

↳ Expert in detailed stellar evolution simulations using MESA

### Supernova Modelling

↳ Proficient in simulating supernova explosions and subsequent kinematics and radiation evolution using STELLA

### Statistical Data Analysis

↳ Proficient in applying Bayesian inference to large data sets of stellar models

### Programming and Web Development

↳ Expert in Python, with proficiency in Fortran and Java; developed web services

## Honors and Awards

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- International Max Planck Research Schools (IMPRS) Fellowship** Apr 2021–Dec 2025  
 ↳ Financial and academic support from Max Planck Institutes
- Scholarship for Excellent Academic Achievements** Sep 2020–Dec 2020  
 ↳ Financial support for academically high-achieving students
- Fund from National Research Foundation (NRF) of Korea** Apr 2019–Mar 2021  
 ↳ Financial support for master program
- KAIST Presidential Fellowship** Mar 2014–Feb 2019  
 ↳ The highest honor for distinguished undergraduate students at KAIST
- Fulbright & GE Foundation Scholar-Leaders Program** Jun 2015–Feb 2019  
 ↳ Scholarship award from Fulbright for potential contributions to society  
 ↳ (awarded to only 5 undergraduate students in Korea)
- Dean's List of College of Natural Science** Sep 2015–Dec 2015  
 ↳ Scholarship award for academic excellence
- National Scholarship for Science and Engineering** Mar 2014–Feb 2018  
 ↳ Financial support of full tuition for 4 years of undergraduate studies at KAIST
- 2<sup>nd</sup> prize in the 9<sup>th</sup> APAO (Asian-Pacific Astronomy Olympiad)** Dec 2013  
 ↳ The second-highest honor for achievements in the Olympiad

## Teaching and Outreach

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- Argelander-Institut für Astronomie (AIfA) Science Day** Jun 2024  
 ↳ Organized by the DEI (diversity, equity, inclusion) committee of AIfA  
 ↳ Introduced stellar astronomy to students
- Teaching Assistant, University of Bonn** Apr 2022–Feb 2024  
 ↳ Conducted exercise classes/labs in "Stars and Stellar Evolution" (fall semester)  
 ↳ Conducted exercise classes in "Nucleosynthesis" (spring semester)
- Teaching Assistant, Seoul National University** Sep 2019–Dec 2019  
 ↳ Organized practical exercises in "Evolution of the Universe"
- Teaching Assistant, Seoul National University** Mar 2019–Jun 2019  
 ↳ Assisted students with their writing skills in "Human and the Universe"
- Talented Education Program Tutor, KAIST** Apr 2018–Nov 2018  
 ↳ Conducted physics lectures for high-achieving students
- Volunteer Tutoring Program, KAIST** Oct 2015–Dec 2015  
 ↳ Taught calculus and physics to high school students

## Publications (TBD)

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### First-author publications

1. **Harim Jin**; Selma E. de Mink; Sebastian Holzner; Jakub Klencki; Géza Csörnyei; Sung-Chul Yoon; Iair Arcavi; Wolfgang E. Kerzendorf (2026) [Type Ib Supernovae are bluer than Type Ic Supernovae](#). Submitted to A&A
2. **Harim Jin**; Norbert Langer; Andrea Ercolino, Selma de Mink (2026) [Comprehensive massive binary evolution model grid for our galaxy](#).
3. **Harim Jin**; Norbert Langer; Lennon, Daniel J.; Charles R. Proffitt (2024) [Boron depletion in Galactic early B-type stars reveals two different main sequence star populations](#). 2024A&A...690A.135J
4. **Harim Jin**; Yoon, Sung-Chul; Blinnikov, Sergei (2023) [Optical Color of Type Ib and Ic Supernovae and Implications for Their Progenitors](#). 2023ApJ...950...44J
5. **Harim Jin**; Yoon, Sung-Chul; Blinnikov, Sergei (2021) [The Effect of Circumstellar Matter on the Double-peaked Type Ic Supernovae and Implications for LSQ14efd, iPTF15dtg, and SN 2020bvc](#). 2021ApJ...910...68J

### Second-author publications

6. Ercolino, A.; **Jin, H.** ; Langer, N. ; Dessart, L. [Mass-transferring binary stars as progenitors of interacting hydrogen-free supernovae](#)
7. Charles R. Proffitt; **Harim Jin**; Daflon, Simone; Lennon, Daniel J.; Norbert Langer; Cunha, Katia; Monroe, Talawanda (2024) [Boron Abundances in Early B Dwarfs of the Galactic Open Cluster NGC 3293](#). 2024ApJ...968....1P
8. Ercolino, Andrea; **Harim Jin**; Norbert Langer; Dessart, Luc (2024) [Interacting supernovae from wide massive binary systems](#). 2024A&A...685A..58E

### Other publications

9. Xu, X. -T. ; Schürmann, C. ; Langer, N. ; Wang, C. ; Schootemeijer, A. ; Shenar, T. ; Ercolino, A. ; Haberl, F. ; Hastings, B. ; **Jin, H.** ; Kramer, M. ; Lennon, D. ; Marchant, P. ; Sen, K. ; Tauris, T. M. ; de Mink, S. E. [Populations of evolved massive binary stars in the Small Magellanic Cloud I: Predictions from detailed evolution models](#), [10.48550/arXiv.2503.23876](https://arxiv.org/abs/10.48550/arXiv.2503.23876)
10. **Harim Jin**; [Implications of boron surface abundances in massive stars](#) Bulletin de la Société Royale des Sciences de Liège, vol. 93, no. 3 - Proceedings of the 41st Liège International Astrophysical Colloquium "The eventful Life of massive multiples", held in Liège 15-19 July 2024, eds Y. Nazé & E. Bozzo, pp. 275-282 10.25518/0037-9565.12353
11. Martínez-Sebastián, Carlos; Simón-Díaz, Sergio; **Harim Jin**; Keszthelyi, Zsolt; Holgado, Gonzales; Norbert Langer; Puls, J (2025) [Helium enrichment in O-type stars as a tracer of past binary interaction](#). 2025A&A...693L..10M

12. Dessart, Luc; Gutierrez, Claudia P.; Ercolino, Andrea; **Harim Jin**; Norbert Langer (2024) [A sequence of Type Ib, I Ib, II-L, and II-P supernovae from binary-star progenitors of varying initial separation](#). 2024A&A...685A.169D
13. Yoon, Sung-Chul; Jung, Moo-Keon; **Harim Jin**; Kim, Hyun-Jeong (2022) [Effects of wind mass-loss on the observational properties of Type Ib and Ic supernova progenitors](#). 2022IAUS..366...39Y
14. Rho, J.; Evans, A.; Geballe, T.; ..., **Harim Jin**; ... et al. (2021) [Near-infrared and Optical Observations of Type Ic SN 2020oi and Broad-lined Type Ic SN 2020bvc: Carbon Monoxide, Dust, and High-velocity Supernova Ejecta](#). 2021ApJ...908..232R

### Conference Activities (TBD)

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- BLOEM meeting 2026
- Talk, MIAPbP 2026
- Talk, EKC 2026
- Talk and Poster, EAS 2026
- Poster, IAU transients symposium
- Talk, APRIM 2026
- Talk, KAS Spring meeting 2026
- Talk, Ringberg Postdoc Conference 2026
- Talk, Ringberg supernova 2025
- POSYDON school 2025
- TA, MESA summer school Leuven 2025
- CCA Stable mass transfer workshop 2025
- Talk, BLOEM meeting 2025
- Talk, Seminar at Cologne University 2025
- Talk, International Annual Meeting of the German Astronomical Society, Sep 2024
- Lorentz Center Workshop: From discovery to a population: benchmarking stripped stars and companions, Jul 2024
- Poster, Liège International Astrophysical Colloquium: The eventful life of massive star multiples, Jul 2024
- Organizer, Bonn neutron star workshop, May 2024
- Poster, Science Meets Business and Poster Session, Apr 2024
- Stable mass transfer workshop, Mar 2024
- Talk, VFTS meeting in Munich, Mar 2023
- 102th Korean Astronomical Society Fall Meeting, Oct 2020
- Talk, 101st Korean Astronomical Society Fall Meeting, Nov 2019
- Poster, Fifty-One Erg Supernova Conference, May 2019
- Poster, 10th DTA symposium “Stellar deaths and their diversity”, Jan 2019
- 99th Korean Astronomical Society Fall Meeting, Oct 2018

- 93rd KPS (Korean Physical Society) Spring Meeting, Apr 2017
- Talk, KAIST Long-term Undergraduate Research Program Workshop, Feb 2017
- 99<sup>th</sup> Korean Astronomical Society Fall Meeting, Oct 2018
- 93<sup>th</sup> KPS (Korean Physical Society) Spring Meeting, Apr 2017
- Talk, KAIST Long-term Undergraduate Research Program Workshop, Feb 2017