

# HYEIN YOON

Korea Astronomy and Space Science Institute  
776 Daedeokdae-ro, Yuseong-gu  
Daejeon 08826, South Korea

Email : [hiyoon \(at\) kasi.re.kr](mailto:hiyoon(at)kasi.re.kr)  
Website : <https://hyeinyoon.github.io>  
ORCID : [0000-0003-4048-2203](https://orcid.org/0000-0003-4048-2203)

## CURRENT POSITION

---

<b>Staff Researcher (Employment)</b> Korea Astronomy and Space Science Institute (KASI), South Korea	Mar 2026 – Present
<b>Research Fellow (Honorary)</b> Sydney Institute for Astronomy, School of Physics, The University of Sydney, Australia	Jan 2024 – Present

## RESEARCH INTERESTS

---

Environmentally-driven galaxy evolution over cosmic time — Neutral atomic hydrogen (H I) gas in galaxies — H I 21-cm absorption and emission lines — AGN outflows — Large radio surveys and data processing — Interferometric imaging — Data quality assessment — Automatic line identification

## EDUCATION

---

<b>Ph.D. in Astronomy, Yonsei University, South Korea</b> <b>Thesis:</b> The Impact of Large-scale Environments on Galaxy Evolution: Insights from the Neutral Hydrogen Gas in Galaxies Inside and Outside of the Virgo Cluster <b>Thesis committee:</b> Prof. Aeree Chung (Yonsei; Supervisor), Dr. O. Ivy Wong (CSIRO), Prof. Sukyoung K. Yi (Yonsei), Prof. Myungkook James Jee (Yonsei), Prof. Ho Seong Hwang (SNU)	Aug 2019
<b>M.S. in Astronomy, Yonsei University, South Korea</b> <b>Thesis:</b> Diagnostics to Probe Environmental Effects on Late-type Galaxies in the Virgo Cluster <b>Thesis committee:</b> Prof. Aeree Chung (Yonsei), Prof. Yong-Ik Byun (Yonsei), Prof. Soo-Chang Rey (CNU)	Feb 2013
<b>B.S. in Astronomy, Physics (double major), Yonsei University, South Korea</b>	Feb 2011

## ACADEMIC POSITIONS AND RESEARCH EXPERIENCE (\*: CURRENT)

---

<b>*Staff Researcher, Korea Astronomy and Space Science Institute</b> - Research: Studying the multi-wavelength properties of extragalactic gas using SKA precursor telescopes	Mar 2026 – Present
<b>*Sejong Science Research fellow</b> - Research: Studying galaxy evolution over cosmic time using large radio interferometers - Supported by NRF Sejong Science Fellowship	Mar 2025 – Feb 2026 (SNU) / Mar 2026 – Present (KASI)
<b>*Project Scientist, ASKAP–FLASH Survey Science Team</b> - Research: Observing H I 21-cm absorption, Data validation for ASKAP Commissioning and Full Survey - Affiliation: Research Fellow (Honorary affiliate, Jan 2024 – Present), The University of Sydney	Oct 2021 – Present
<b>Postdoctoral research fellow, Seoul National University</b> - Research: Studying environmentally-driven galaxy evolution using H I and multi-wavelength data - Supervisor: Prof. Ho Seong Hwang, Prof. Jubee Sohn (IDIS & Astronomy; G-LAMP & Sejong Fellowship program)	Dec 2023 – Feb 2026
<b>Postdoctoral research associate, The University of Sydney</b> - Research: FLASH wide-field survey to detect H I 21-cm absorption lines toward $0.4 < z < 1.0$ - Supervisor: Prof. Elaine Sadler (Sydney Institute for Astronomy; ASTRO 3D program)	Sep 2019 – Dec 2023
<b>Research assistant, Yonsei University</b> - Research: Studying H I emission of galaxies in various density environments from void to clusters - Thesis supervisor: Prof. Aeree Chung (Dept. of Astronomy)	Mar 2011 – Feb 2013 (M.S.) / Mar 2013 – Aug 2019 (Ph.D.)
<b>Endeavour research fellow at ICRAR/UWA</b> - Research visit: International Centre for Radio Astronomy Research/The University of Western Australia - Awarded: Australian Government Endeavour Research Fellowship, Host: Dr. O. Ivy Wong (CSIRO)	Aug 2016 – Mar 2017
<b>Advanced schools, observer trainings, radio telescope visits:</b> - ATCA/Parkes/LBA training (2016, 2020, 2022, 2023), Pawsey supercomputing training (2019), NRAO imaging school (2014), Telescope visits (ATCA, JVLA, GMRT, NRO, FAST, KVN, Parkes, MeerKAT, TRA0: 2012 – 2025)	

## OBSERVING EXPERIENCE AND SUCCESSFUL PROPOSALS

---

**Observing bands:** H I absorption ( $0.4 < z < 1.0$ ) and emission ( $0 < z < 0.2$ ) lines ( $\sim 700$  to  $1400$  MHz), CO emission lines ( $z < 0.8$ ,  $95 - 200$  GHz), C, L, K, Q, W, D-band VLBI ( $\sim 4.3$  to  $129$  GHz), Optical long-slit spectroscopy and imaging

### Accepted programs as PI or Builder:

- **ASKAP:** Australian SKA Pathfinder (200+1200 hrs, Project Scientist of AS109/AS209, 2019 – 2028)
- **ALMA:** 12-m CO(2-1)/(3-2) (25.3 hrs, PI of 2025.1.01311.S (accepted) and 2025.1.01204.S (filler))
- **Gemini:** GMOS, Long-slit spectroscopy & Imaging (21 hrs, PI of GS-2024B-FT-215, GN-2025A-FT-105, GS-2025B-Q128, GN-2025B-Q129, and GN-2025B-Q222)
- **KVN:** Korean VLBI Network (90 hrs, PI of 2022A\_0286)
- **ATCA:** Australia Telescope Compact Array (11.5 hrs, PI of CX473 + Duty astronomer)
- **WSRT:** Westerbork Synthesis Radio Telescope, 72-m configuration (96 hrs, PI of R14A011)
- **JVLA:** Karl G. Jansky Very Large Array, D-configuration (7.5 hours, PI of 14A-304)
- **GMRT:** Giant Metrewave Radio Telescope (20 hours, PI of 25\_034)
- **Co-I projects:** KVN (SD-499), VLBA (24A-059), MeerKAT (MKT-22047, MKT-20135), e-MERLIN (CY12212), LBA (V631), GMRT (43\_078, 43\_076, 40\_096, 40\_092, 36\_002), ATCA (C3515, C3392), NRO-45m (CG121032, CG112025)

## TEACHING

---

**SSP research supervisor at the University of Sydney:** Physics Special Studies Program – Astro (PHYS2921; Semester 1 2023) - D. Jian (USyd)

**Course lecturer at the University of Sydney:** Data Science in Astronomy: Algorithms (OLET1618; Semester 1, Semester 2 2020)

**Teaching Assistant at Yonsei University;** Astrophysics II (Fall 2012), Radio astronomy (Spring 2012), Understanding of Space (Fall 2011, Spring 2011)

## SUPERVISING/STUDENT MENTORING EXPERIENCE

---

**Undergraduate internship supervising:** G. Hyun (SNU, June – Aug 2025), S. Lee (SNU, June 2025 – Present)

**Undergraduate thesis project supervising:** S. Kim (KHU, now ANU), Mar 2024 – May 2025

**CSIRO summer student program co-supervising:** L. Tran (UNSW), Dec 2021 – Feb 2022

**FLASH team's PhD student project mentoring:** R. Su (SHAO), S. Weng (USyd, now LAM), E. Kerrison (USyd), 2019 – Present

## ORAL PRESENTATIONS (SELECTED, LAST 5 YEARS)

---

### Lectures/Colloquia/Invited Talks:

- **KASI Colloquium, KASI, South Korea, Apr 2026** (in-person)
- **Radio Summer School & Radio User's Meeting, KASI, South Korea, Aug 2025/Aug 2024** (in-person)
- **KHU Astro Colloquium, Kyung Hee University, Yongin, South Korea, Sep 2024** (in-person)
- **SNU Astro Colloquium, Seoul National University, Seoul, South Korea, Mar 2024** (in-person)
- **ATNF Colloquium, CSIRO-Marsfield, Sydney, Australia, Sep 2023** (in-person)
- **2023 ACAMAR workshop: Gas in galaxies, Perth, Australia, July 2023** (invited, in-person)

### Contributed Talks:

- **Meeting of the Korean Astronomical Society, Jeju, South Korea, Oct 2025** (in-person)
- **SKA-Korea workshop, Daejeon/Dongtan/Busan, South Korea, Jun 2025/Jul 2024/Feb 2024** (in-person)
- **IAU General Assembly 2024 S392 & FM5, Cape Town, South Africa, Aug 2024** (in-person)
- **Meeting of the Korean Astronomical Society, Yeosu, South Korea, Apr 2024** (in-person)
- **The 2nd Workshop on Galaxies and Dark Matter 2024, Seoul, South Korea, Feb 2024** (in-person)
- **Survey Science Group workshop 2024, Jeongseon, South Korea, Jan 2024** (in-person)
- **The evolution of gas in and around galaxies workshop, Stanley, USA, July 2023** (in-person)
- **Astronomical Society of Australia - ASM, Australia, July 2023/July 2021** (in-person/remote)
- **IAU General Assembly 2022 Division J & S373, Busan, South Korea, Aug 2022** (in-person/e-talk)
- **Sifa Morning Tea talk, University of Sydney, Sydney, Australia, Mar 2022/June 2021/July 2020** (remote)
- **ASTRO 3D Science Meeting (2022/2021), Australia, June 2022/Sep 2021** (in-person/remote)

## GRANTS, AWARDS, AND SCHOLARSHIPS

---

**Sejong Science Fellowship:** NRF grant of Korea funded the Korea government (MSIT), 2025 – Present  
**2024 Excellence Award for Young Scientists:** Korean Federation of Women's Science & Technology Associations, 2024  
**G-LAMP Fellowship:** NRF grant of Korea funded by the Ministry of Education, 2023 – 2025  
**IAU Travel Grant:** XXXII IAU General Assembly (Cape Town, South Africa), 2024  
**Slogan Contest – award:** KAS 60th Anniversary Slogan Contest, Korean Astronomical Society, 2024  
**WISSET Research Travel Grant:** Korea Foundation for Woman in Science/Engineer/Technology, 2018  
**Student Poster Competition:** “Yonsei Astro Poster Jamboree”, Yonsei University, 2017  
**Endeavour Research Fellowship:** Australian Government, 2016 – 2017  
**BK21/BK21 Plus Scholarship:** National Research Foundation of Korea, 2011 – 2012, 2013 – 2016  
**Teaching/Research Assistantship:** Yonsei University, 2011 – 2012  
**Undergrad Scholarships from Yonsei University:** Honors (2010), Truth Scholarship (University Designated; 2009 – 2010), Yonsei Internal/External Scholarship (2009)

## SERVICE AND OUTREACH (SELECTED)

---

### Professional:

- **Journal reviewer:** Monthly Notices of the Royal Astronomical Society
- **Committee:** Women in Astronomy committee member, Korea Astronomical Society, 2025 – Present
- **ATNF TAC:** Australia Telescope National Radio Facility Time Assignment Committee, 2023 – 2025
- **Science organizer (SOC):** SKA-Korea Winter Science Meeting (2025), SKA-Korea Summer Science Meeting (2024), ASTRO 3D Science Meeting (2021)
- **Local organizer (LOC):** USyd SifA Morning Tea (2022), USyd node coordinator for ASTRO 3D NSW Monthly Meeting (2021), SKA in Seoul on H I Science conference (2015)
- **Session chair:** KAS Fall Meeting (2025), SNU ARC 3rd H. S. Yun Astronomy Workshop (2024), Astronomical Society of Australia - ASM (2023), ACAMAR workshop: Gas in galaxies (2023), IAU General Assembly: Division J Galaxies and Cosmology (2022), ASTRO 3D Science Meeting (2021)
- **Student talk judge:** 2023 Astronomical Society of Australia - ASM, 2023
- **Duty Astronomer:** ATCA duty astronomer, Oct 2020

### Mentoring/Outreach/Volunteering:

- **Career exploration activities for students:** Kyeongbuk, Woosung High School Students, 2025/2024
- **Public outreach talk:** Exhibition “Vacancy”, 2025
- **Mentoring for juniors:** Korea Woman in Science/Engineer/Technology (WISSET), 2018 – 2019
- **Global mentoring for career development:** WISSET and General Electrics, 2018
- **Volunteering (translation/editing):** Africa-Asia Destitute Relief Foundation (ADRF), 2015
- **Public outreach:** Yonsei astronomy public outreach activities (“Byul-a-rum”), 2008 – 2009
- **Volunteering (teaching):** Chungam community child center, 2007 – 2008

## PROGRAMMING SKILLS

---

**Languages:** Python, HTML, Fortran, LaTeX, IDL (basic), Matlab (basic), C (basic)

**Radio observational data processing/analysis tool experiences:** **CASA** (for JVLA/ASKAP/e-MERLIN data), **AIPS** (GMRT/KVN/JVLA), **MIRIAD** (WSRT/ATCA), **Karma** (GMRT/JVLA/WSRT), **GIPSY** (JVLA/GMRT), **SoFiA** (MeerKAT source extraction), **FLASHfinder** (ASKAP/MeerKAT), **CARTA** (ASKAP)

**Other astronomical data analysis tools:** IRAF/PyRAF, DRAGONS, TOPCAT, DisPerSE, Fv

## COLLABORATIONS/MEMBERSHIPS (ALPHABETICAL)

---

**ASKAP–FLASH** (First Large Absorption Survey in H I) • **ASKAP spectral line WG** (ASKAP spectral line and data validation working group) • **ASTRO 3D** (The ARC Centre of Excellence for All Sky Astrophysics in 3 Dimensions – Alumni) • **BUDHIES** (Blind Ultra Deep H I Environmental Survey) • **SKA-KOREA WG** (SKA-KOREA Science Working Group - H I science) • **SKAO H I SWG** (SKAO H I Science Working Group - H I science) • **VERTICO** (Virgo Environment Traced In CO) • **VIVA** (VLA Imaging of Virgo in Atomic gas)  
**ASA** (Astronomical Society of Australia) • **IAU** (International Astronomical Union Junior Member) • **KAS** (Korean Astronomy Society) • **WISSET** (Korea Foundation for Woman in Science/Engineer/Technology)