

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 POSITIONS

Senior Researcher Korea Astronomy and Space Science Institute (KASI), South Korea	Mar 2026 – Present
Associated Professor University of Science and Technology (UST), South Korea	Sep 2026 – 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

Ph.D. in Astronomy, Yonsei University, South Korea Thesis: The Impact of Large-scale Environments on Galaxy Evolution: Insights from the Neutral Hydrogen Gas in Galaxies Inside and Outside of the Virgo Cluster (Supervisor: Prof. Aeree Chung)	Aug 2019
M.S. in Astronomy, Yonsei University, South Korea	Feb 2013
B.S. in Astronomy, Physics (double major), Yonsei University, South Korea	Feb 2011

ACADEMIC POSITIONS AND RESEARCH EXPERIENCE (*: ONGOING)

*Senior Researcher, Korea Astronomy and Space Science Institute - Research: Studying the multi-wavelength properties of extragalactic gas using SKA precursor telescopes	Mar 2026 – Present
*Sejong Science Research fellow - 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)
*Project Scientist, ASKAP–FLASH Survey Science Team - Research: Observing H I 21-cm absorption, Data validation for ASKAP Commissioning and Full Survey - *Honorary research affiliate, The University of Sydney (Jan 2024 – Present)	Oct 2021 – Present
Postdoctoral research fellow, Seoul National University - 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
Postdoctoral research associate, The University of Sydney - 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
Research assistant, Yonsei University - 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.)
Endeavour research fellow at ICRAR/UWA - 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
Advanced schools, observer trainings, radio telescope visits: - 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 (~ 700 to 1400 MHz), CO emission lines ($z < 0.8$, $95 - 200$ GHz), C, L, K, Q, W, D-band VLBI (~ 4.3 to 129 GHz), Optical long-slit spectroscopy and imaging

Accepted programs as PI or Builder:

- **ASKAP:** H I 21-cm line absorption – NAASHI (312 hrs, PI of AS333, 2026 – 2029), FLASH (200+1200 hrs, Project Scientist of AS109/AS209, 2019 – 2026)
- **ALMA:** 12-m CO(2-1), CO(3-2) (43.7 hrs, PI of 2026.1.01456, 2025.1.01311.S, 2025.1.01204.S)
- **Gemini:** GMOS, Long-slit spectroscopy & Imaging (22.5 hrs, PI of GS-2026B-Q-226, GN-2025B-Q222, GS-2025B-Q128, GN-2025B-Q129, GN-2025A-FT-105, GS-2024B-FT-215)
- **JVLA:** Karl G. Jansky Very Large Array, C and D-configuration (7.5 hours, PI of 26B-192, 14A-304)
- **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)
- **GMRT:** Giant Metrewave Radio Telescope (20 hours, PI of 25_034)
- **Co-I projects:** NOEMA (S26BY001), KVN (SD-611, 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

PRESENTATIONS (SELECTED)

Lectures/Colloquia/Invited Talks:

- **KASI Colloquium, KASI, South Korea, Apr 2026** (in-person)
- **Radio Summer School & Radio User's Meeting, KASI, South Korea, Aug 2026/2025/2024** (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)

Contributed Talks:

- **Meeting of the Korean Astronomical Society, Jeju, Korea, Oct 2025** (in-person)
- **SKA-Korea Workshops, Daejeon/Dongtan/Busan, Korea, Aug 2026/Dec&Jun 2025/Jul&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)

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:** Astronomy & Astrophysics, Monthly Notices of the Royal Astronomical Society
- **Committee:** Women in Astronomy committee (Korea Astronomical Society), 2025 – Present
- **ATNF TAC:** Australia Telescope National Radio Facility Time Assignment Committee, 2023 – 2025
- **Science organizer (SOC):** SKA-Korea Summer/Winter Science Meetings (2026, 2025, 2024), SNU Joint Workshop (2025), ASTRO 3D Science Meeting (2021)
- **Local organizer (LOC):** KASI Radio School/Radio Telescope Users' Meeting (2026), SNU ExgalCOs Workshop (2025), SIFA Morning Tea (2022), USyd node coordinator - ASTRO 3D NSW Meeting (2021)
- **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–NAASHI** (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 Working Group) • **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)