

## HYEIN YOON

Institute for Data Innovation in Science  
Department of Physics & Astronomy  
Seoul National University  
1 Gwanak-ro, Gwanak-gu, Seoul 08826, South Korea

Email : [hyein.yoon@snu.ac.kr](mailto:hyein.yoon@snu.ac.kr)  
Website : <https://hyeinyoon.github.io>  
ORCID : [0000-0003-4048-2203](https://orcid.org/0000-0003-4048-2203)

### CURRENT POSITION

**G-LAMP Postdoctoral Researcher (Employment)** Dec 2023 – Present  
Seoul National University, South Korea  
Institute for Data Innovation in Science (G-LAMP Program) / Department of Physics & Astronomy (Astronomy)  
**Honorary Research Fellow** Jan 2024 – Present  
Sydney Institute for Astronomy, School of Physics, The University of Sydney, Australia

### RESEARCH INTERESTS

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

### EDUCATION

**Ph.D. in Astronomy, Yonsei University, South Korea** Aug 2019  
**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  
**Thesis Committee:** 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)  
**M.S. in Astronomy, Yonsei University, South Korea** Feb 2013  
**Thesis:** Diagnostics to Probe Environmental Effects on Late-type Galaxies in the Virgo Cluster  
**Thesis Committee:** Prof. Aeree Chung (Yonsei; Supervisor), Prof. Yong-Ik Byun (Yonsei), Prof. Soo-Chang Rey (CNU)  
**B.S. in Astronomy, Physics (double major), Yonsei University, South Korea** Feb 2011

### EMPLOYMENT AND RESEARCH EXPERIENCE

**G-LAMP Postdoctoral researcher, IDIS, Seoul National University** Dec 2023 – Present  
- Research: Studying environmentally-driven galaxy evolution using H I and multi-wavelength data  
- Supervisor: Prof. Ho Seong Hwang, Prof. Jubee Sohn (Astronomy Program)  
**Project Scientist, ASKAP–FLASH Survey Project** Oct 2021 – Present  
- Research: Observing H I 21-cm absorption, Data validation for ASKAP Commissioning and Full Survey  
- Affiliation: Research Fellow (Honorary affiliate, Dec 2023 – Present), The University of Sydney  
**Postdoctoral researcher, SIfA, The University of Sydney** Sep 2019 – Dec 2023  
- 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, Supported by ASTRO 3D program)  
**Endeavour research fellow at ICRAR/UWA** Aug 2016 – Mar 2017  
- Research visit: International Centre for Radio Astronomy Research/The University of Western Australia  
- Grant: Awarded Australian Government Endeavour Research Fellowship, Host: Dr. O. Ivy Wong (CSIRO)  
**Research assistant, Yonsei University** Mar 2011 – Feb 2013 (M.S.) / Mar 2013 – Aug 2019 (Ph.D.)  
- Research: Studying H I emission of galaxies in various density environments from void to clusters  
**Advanced schools, observer trainings, research/observation visits:**  
- ATCA/Parkes/LBA training (2016, 2020, 2022, 2023), Pawsey supercomputing training (2019), NRAO 14th imaging school (2014), Research/observation visits (ATCA, JVLA, GMRT, NRO, FAST, KVN: 2012 – 2023)

## OBSERVING EXPERIENCE AND SUCCESSFUL PROPOSALS

---

**ASKAP; Australian SKA Pathfinder** (200 + 1200 hrs, Project Scientist of AS109/AS209, 2019 – 2028)  
**KVN; Korean VLBI Network** (90 hours, Principal Investigator of 2022A\_0286)  
**ATCA; Australia Telescope Compact Array** (11.5 hours, PI of CX473 + Duty astronomer)  
**WSRT; Westerbork Synthesis Radio Telescope, 72-m configuration** (96 hours, 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: VLBA (24A-059), LBA (V631), e-MERLIN (CY12212), MeerKAT (MKT-22047, MKT-20135), GMRT (43\_078, 43\_076, 40\_096, 40\_092, 36\_002), ATCA (C3515, C3392), NRO (CG121032, CG112025)**

## TEACHING

---

**SSP research supervisor at the University of Sydney:** Physics Special Studies Program – Astro (PHYS2921; Semester 1 2023) - Daniel Jian (USyd)  
**Course lecturer/unit coordinator 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 research project supervising:** Soyeong Kim (Kyung Hee Univ.), 2024 – Present  
**CSIRO summer student program co-supervising:** Lan Tran (UNSW), 2021 – 2022 Summer  
**FLASH team's PhD student project mentoring:** Renzhi Su (SHAO, now Zhejiang Lab), Simon Weng (USyd), Emily Kerrison (USyd), 2019 – Present

## ORAL PRESENTATIONS (SELECTED, LAST 3 YEARS)

---

### Lectures/Colloquia/Invited Talks:

- **2024 Radio Summer School & Telescope User's Meeting**, South Korea, Aug 2024 (lecture, in-person)
- **SNU Astro Colloquium**, SNU, 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 talk, in-person)
- **ATNF Co-learnium**, CSIRO-Marsfield, Sydney, Australia, Jan 2021 (remote)

### Contributed Talks:

- **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)
- **2024 Winter SKA-Korea workshop**, Busan, 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)
- **East-Asia SKA workshop**, Japan, May 2021 (remote)

## GRANTS, AWARDS, AND SCHOLARSHIPS

---

**G-LAMP Fellowship:** NRF grant of Korea funded by the Ministry of Education, 2023 – Present  
**IAU Travel Grant:** XXXII IAU General Assembly (Cape Town, South Africa), 2024  
**Award—Slogan Contest:** 2024 Summer Signboard Slogan Contest, Shinhan Card, 2024  
**Award—Slogan Contest:** KAS 60th Anniversary Slogan Contest, Korean Astronomical Society, 2024  
**WISER Research Travel Grant:** Korea Foundation for Woman in Science/Engineer/Technology, 2018  
**Award—Student Poster Competition:** "Yonsei Astro Poster Jamboree", Yonsei University, 2017  
**Award—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)

---

**Journal Reviewer:** Monthly Notices of the Royal Astronomical Society

**Science organizer:** SOC for “2024 SKA-Korea Summer Science Meeting”, 2024

**ATNF TAC:** Australia Telescope National Radio Facility Time Assignment Committee, 2023 – 2026

**Session chair:** “ACAMAR workshop: Gas in galaxies”, 2023

**Session chair and student talk judge:** “2023 Astronomical Society of Australia - ASM”, 2023

**Local organizer:** Co-organizer of weekly SIfA Morning Tea, University of Sydney, 2022

**Session chair:** “IAU General Assembly: Division J Galaxies and Cosmology”, 2022

**Science organizer & Session chair:** SOC/Session chair for “2021 ASTRO 3D Science Meeting”, 2021

**Local organizer:** University of Sydney node coordinator for ASTRO 3D NSW Monthly Meeting, 2021

**Duty Astronomer:** ATCA duty astronomer, Oct 2020

**Mentoring for juniors:** Korea Foundation for Woman in Science/Engineer/Technology (WISSET), 2018 – 2019

**Global mentoring for career development:** WISSET and General Electrics, 2018

**Local organizer:** LOC for “SKA in Seoul on H I Science” conference, 2015

**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 tools:** CASA, AIPS, MIRIAD, Karma, GIPSY, SoFiA, FLASHfinder

**Other astronomical data analysis tools:** IRAF, DisPerSE, Fv

## COLLABORATIONS/MEMBERSHIPS (ALPHABETICAL ORDER)

---

**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) • **SKAO H I SWG** (SKAO H I Science Working Group - H I science) • **SKA-KOREA WG** (SKA-KOREA 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)