

HYEIN YOON

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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:

- **Radio Summer School & Telescope User's Meeting, KASI**, South Korea, Aug 2024 (lecture, 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 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)