

HYEIN YOON

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CURRENT POSITION/EMPLOYMENT

LAMP Postdoctoral Researcher Seoul National University, South Korea	Dec 2023 – Present
ASKAP–FLASH Survey Project Scientist ASKAP–FLASH (First Large Absorption Survey in H I) Survey Science Team, Australia The University of Sydney, Australia (Affiliate)	Oct 2021 – Present

RESEARCH INTERESTS

Neutral atomic hydrogen (H I) gas observations — H I absorption and emission spectral lines — Radio data processing and interferometric imaging — Environmentally-driven galaxy evolution — Large radio surveys — Data quality assessment — Automatic spectral line finder and source extractor

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 - 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)	Aug 2019
M.S. in Astronomy, Yonsei University, South Korea - 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)	Feb 2013
B.S. in Astronomy, Physics (double major), Yonsei University, South Korea	Feb 2011

RESEARCH EXPERIENCE AND ADVANCED EDUCATION

Postdoctoral researcher, Data Discovery Center, Seoul National University - Studying environmentally-driven galaxy evolution using H I and multi-wavelength data - Supervisor: Prof. Ho Seong Hwang, Prof. Jubee Sohn, Prof. Ji-hoon Kim (Supported by LAMP program)	2023 – Present
Project Scientist, ASKAP–FLASH Project - Observing H I 21-cm absorption, Data validation for ASKAP Commissioning and Full Survey	2021 – Present
Postdoctoral researcher, Sydney Institute for Astronomy, The University of Sydney - FLASH wide-field survey to detect H I 21-cm absorption lines toward $0.4 < z < 1.0$ - Supervisor: Prof. Elaine Sadler (Supported by ASTRO 3D program)	2019 – 2023
Research assistant, Yonsei University - Studying H I emission of galaxies in various density environments from void to clusters	2011 – 2013 (Master) / 2013 – 2019 (Ph.D.)
Endeavour visiting researcher at ICRAR/UWA - International Centre for Radio Astronomy Research/University of Western Australia - Awarded Australian Government Endeavour Research Fellowship, Host: Dr. O. Ivy Wong (CSIRO)	2016 – 2017 (7 months)
Advanced schools, observer trainings, research/observation visits: - ATCA/Parkes/LBA training (2016, 2020, 2022, 2023), Pawsey supercomputing training (2019), NRAO 14th synthesis imaging school (2014), Research/observation visits (ATCA, JVLA, GMRT, NRO, FAST, KVN: 2012 – 2023)	

OBSERVING EXPERIENCE AND SUCCESSFUL PROPOSALS

Korean VLBI Network (90 hours, PI of 2022A_0286)
Australia Telescope Compact Array (11.5 hours, PI of CX473 + Duty astronomer)
Westerbork Synthesis Radio Telescope, 72-m configuration (96 hours, PI of R14A011)
Karl G. Jansky Very Large Array, D-configuration (7.5 hours, PI of 14A-304)
Giant Metrewave Radio Telescope (20 hours, PI of 25_034)
Co-I projects: LBA (V631), e-MERLIN (CY12212), JVLA (21A-310), MeerKAT (MKT-22047, MKT-20135), GMRT (43_078, 43_076, 40_096, 40_092, 36_002), ATCA (C3515, C3392), NRO 45-m (CG121032, CG112025)

TEACHING/SUPERVISING EXPERIENCE

Student mentoring (2015 – Present): CSIRO summer student program - Lan Tran (UNSW), PhD students in the FLASH team - Renzhi Su (SHAO, now Zhejiang Lab), Simon Weng (USyd), Emily Kerrison (USyd)
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 and 2 2020)
Teaching Assistant at Yonsei University: Astrophysics II (Fall 2012), Radio astronomy (Spring 2012), Understanding of Space (Fall/Spring 2011)

ORAL PRESENTATIONS (SELECTED, LAST 5 YEARS)

ATNF Colloquium, CSIRO-Marsfield, Sydney, Australia, Sep 2023 (in-person)
The evolution of gas in and around galaxies workshop, Stanley, USA, July 2023 (in-person)
2023 ACAMAR workshop: Gas in galaxies, Perth, Australia, July 2023 (invited talk, in-person)
Astronomical Society of Australia – ASM, Australia, July 2023/July 2021 (in-person/remote)
IAU General Assembly 2022 Division J/Symposium 373, Busan, South Korea, Aug 2022 (in-person/e-talk)
2022 ASTRO 3D Science Meeting, Melbourne, Australia, June 2022 (in-person)
SIFA Morning Tea talk, University of Sydney, Sydney, Australia, Mar 2022/June 2021/July 2020 (remote)
2021 ASTRO 3D Science Meeting, Virtual, Australia, Sep 2021 (remote)
East-Asia SKA workshop, Japan, May 2021 (remote)
ATNF Co-learnium, CSIRO-Marsfield, Sydney, Australia, Jan 2021 (remote)
Meeting of the American Astronomical Society (236th/233rd), USA, June 2020/Jan 2019 (remote/in-person)

SERVICE AND OUTREACH (SELECTED)

ATNF TAC: Australia Telescope National Facility Time Assignment Committee, 2023 – 2026
Session chair at conferences: “ACAMAR workshop: Gas in galaxies”, “2023 Astronomical Society of Australia - Annual Science Meeting”, “IAU General Assembly Division J Galaxies and Cosmology”, 2022 – 2023
Local organizer: Co-organizer of weekly SIFA Morning Tea, University of Sydney, 2022
Science organizer & Session chair: SOC and Session chair for “2021 ASTRO 3D Science Meeting”, 2021
Local organizer: University of Sydney node coordinator for ASTRO 3D NSW Nodes Monthly Meeting, 2021
Duty Astronomer: ATCA duty astronomer, Oct 2020
Mentoring for juniors: Korea Foundation for Woman in Science/Engineer/Technology (WISET), 2018 – 2019
Global mentoring for career development: WISET 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

GRANTS, AWARDS, AND SCHOLARSHIPS

Research Travel Grant: Korea Foundation for Woman in Science/Engineer/Technology (WISET), 2018
Award for Student Poster Competition: “Yonsei Astro Poster Jamboree”, Yonsei University, 2017
Endeavour Research Fellowship: Australian Government, 2016
BK21/BK21 Plus Scholarship: National Research Foundation of Korea, 2011 – 2012, 2013 – 2016
Teaching/Research Assistantship: Yonsei University, 2011 – 2012
Honors: Yonsei University, 2010
Truth Scholarship (University Designated): Yonsei University, 2009 – 2010
Yonsei Internal/External Scholarship: Yonsei University, 2009

PROGRAMMING SKILLS

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

Astronomical data processing tools: CASA, MIRIAD, AIPS, Karma, GIPSY, SoFiA, IRAF, DisPerSE, Fv

COLLABORATIONS/MEMBERSHIPS

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), BUDHIES (Blind Ultra Deep H I Environmental Survey), 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), WISET (Korea Foundation for Woman in Science/Engineer/Technology)