

# Duho Kim

Department of Astronomy and Space Science  
Chungnam National University, 99 Daehak-ro  
Yuseong-gu, Daejeon, 34134, Republic of Korea

Phone: +82-10-7635-6439  
E-mail: duhokim81@gmail.com  
Homepage: duhokim.github.io

## 1. Employment

- 2022-2025 CNU PostDoc: Learning about galaxy evolution from large galaxy survey data using unsupervised machine learning (P.I.: Duho Kim, Sejong Science Fellow)
- 2019-2022 KASI PostDoc: Preparing LSST era / Research on galaxies' evolution in clusters (P.I.: Drs. Min-Su Shin / Yun-Kyeong Sheen)
- 2016-2019 Teaching: AST 113/114 Astronomy Laboratory I/II at ASU
- 2013-2019 Research: NASA ADAP funded program “*Magellanic Clues to Spatially-resolved Extinction Corrections for Distant Galaxies in the HST/JWST Era*” (P.I.: Dr. Rolf Jansen, ASU)
- Fall 2012 Teaching: AST111 Intro to Solar System Astronomy (ASU, Lecturer: Profs. Sumner Starrfield and Judd Bowman)
- 2010-2012 Research: Center for the Exploration of the Origin of the Universe (P.I.: Prof. Myungshin Im, Seoul National Univeristy (SNU))
- Fall 2010 Teaching: Stars and Stellar Systems (SNU, Lecturer: Prof. Myungshin Im)

## 2. Education

- 2012-2019 Ph.D. in Astrophysics (ASU, School of Earth and Space Exploration)  
“*Analysis of the Intrinsic L-band to V-band Flux Ratios In Resolved Regions of Galaxies*” (Advisors: Prof. Rogier Windhorst & Dr. Rolf Jansen)
- 2010-2012 M.Sc. in Astronomy (SNU, Department of Physics and Astronomy)  
“*Merging Features and Optical-Near Infrared (NIR) Color Gradients of Early-type Galaxies (ETGs)*” (Advisor: Prof. Myungshin Im)
- 2000-2007 B.S. in Electrical & Electronics Engineering (Yonsei University, College of Engineering)

## 3. Conference Presentation

- Oct. 2024 Morphological Feature Distances Among the Spectral Types of SDSS Galaxies (Oral)  
(KAS Fall Meeting, Gyeongpo, South Korea)
- Oct. 2021 Merging histories of Galaxies in Deep and Wide Images of 7 Abell Clusters with Various Dynamical States (Poster)  
(KAS Fall Meeting, Jeju, South Korea)
- Jan. 2019 Analysis of the spatially-resolved V-3.6 $\mu$ m colors and dust extinction within 257 nearby NGC and IC galaxies (Oral, Dissertation talk)  
(233rd AAS Meeting, Seattle, WA, US)
- Sep. 2017 Analysis of the Intrinsic Mid-Infrared L-band to Visible-Near Infrared Flux Ratios In Spectral Synthesis Models of Composite Stellar Populations (Oral)  
(Department of Astronomy/Steward Observatory Internal Symposium  
University of Arizona, AZ, US)
- Jan. 2016 Predicting Intrinsic mid-IR to optical flux ratios for galaxies of different types using Spectral Synthesis Models of Composite Stellar Populations (Poster)  
(227th AAS Meeting, Kissimmee, FL, US)
- Jan. 2015 Analysis of the Intrinsic Mid-Infrared L-band to Optical Flux Ratios In Spectral Synthesis Models of Composite Stellar Populations (Poster)  
(225th AAS Meeting, Seattle, WA, US)

- Jan. 2012      Merging features and Optical-NIR Color Gradients of ETGs (Poster)  
(219th AAS Meeting, Austin, TX, US)
- Apr. 2011      Merging features and Optical-NIR Color Gradients of ETGs (Oral)  
(KAS Spring Meeting, Chung-Buk Univ., South Korea)
- Feb. 2011      Merging features and Optical-NIR Color Gradients of ETGs (Poster)  
(Global Center Of Excellence (GCOE) Symposium, Tohoku Univ., Japan)

#### 4. Use of Telescope & Instrumentation

- July 2011, Mar. 2012    McDonald Observatory 2.1m telescope, Camera for Quasars in Early uNiverse  
(CQUEAN) High redshift quasar survey (PI : Prof. Myungshin Im) (~15 nights)
- 2011-2012      SNU Observatory 24inch, 8inch telescopes, ST-10, ST-8  
Supernova 2011fe observation (PI : Myungshin Im) (~30 nights)
- July 2010      Maidanak observatory 1.5m telescope, SNU CAMera (SNUCAM)  
High redshift quasar survey (PI : Prof. Myungshin Im) (1 night)  
MS Thesis (Duho Kim, Jueun Hong) (1 nights)

#### 5. Memberships

- 2019-2025      Korean Astronomical Society (KAS)
- 2012-2019      American Astronomical Society (AAS), Junior member
- 2010-2012      Korean Astronomical Society (KAS)

#### 6. Fellowship, Awards, Honors, & Scholarships

- Mar. 2022      Sejong Science Fellowship (5 years)
- Fall 2018      Travel Grant (ASU Graduate & Professional Student Association)
- Fall 2011      Scholarship of Lotte
- 2010-2011      The 2nd Brain Korea 21 Project Scholarship
- Fall 2005      Academic Honors (Yonsei University)

#### 7. Publications

First Author (Major Contribution):

- June 2025      Morphological Feature Distances among the Spectral Types of SDSS Galaxies  
(**Kim, Duho**; Martin, Garreth 2025, ApJ, 986, 45)  
→ Led the project, conducted all primary data analysis, and wrote the original manuscript draft.
- May 2024      Distribution of Merging and Post-merger Galaxies in Nearby Galaxy Clusters  
(**Kim, Duho**; Sheen, Yun-Kyeong; Jaffé, Yara L. and 10 more 2024, ApJ, 966, 124)  
→ Led the project, conducted all primary data analysis, and wrote the original manuscript draft.
- Oct. 2019      Analysis of the Spatially Resolved  $V-3.6\mu\text{m}$  Colors and Dust Extinction in  
257 Nearby NGC and IC Galaxies  
(**Kim, Duho**, Jansen, R. A., Windhorst, R. A., et al. 2019, ApJ, 884, 1)  
→ Led the project, conducted all primary data analysis, and wrote the original manuscript draft.
- May 2017      Analysis of the Intrinsic Mid-Infrared L-band to Visible-Near-Infrared Flux Ratios  
in Spectral Synthesis Models of Composite Stellar Populations  
(**Kim, Duho**, Jansen, R. A., & Windhorst, R. A. 2017, ApJ, 840, 28)  
→ Conducted all primary data analysis, and wrote the original manuscript draft.
- Apr. 2013      Optical-Near-infrared Color Gradients and Merging History of Elliptical Galaxies  
(**Kim, Duho**, & Im, M. 2013, ApJ, 766, 109)  
→ Conducted all primary data analysis, and wrote the original manuscript draft.

#### Co-Author (Specific Contribution):

Oct. 2021	The Galaxy Environment of Extremely Massive Quasars. I. An Overdensity of H $\alpha$ Emitters at $z=1.47$ (Jun, Hyunsung. D.; Im, Myungshin; <b>et al.</b> 2021, ApJ, 910, 2) → Observation and paper review
Dec. 2020	The Infrared Medium-deep Survey. VIII. Quasar Luminosity Function at $z\sim 5$ (Kim, Youngjung; Im, Myungshin; Jeon, Yiseul, <b>et al.</b> 2020, ApJ, 904, 2) → Observation and paper review
Apr. 2020	The Infrared Medium-deep Survey. VII. Faint Quasars at $z\sim 5$ in the ELAIS-N1 Field (Shin, Suhyun; Im, Myungshin; Kim, Y., <b>et al.</b> 2020, ApJ, 893, 1) → Observation and paper review
Mar. 2018	The Infrared Medium-deep Survey. IV. The Low Eddington Ratio of A Faint Quasar at $z\sim 6$ (Kim, Youngjung; Im, Myungshin; Jeon, Yiseul, <b>et al.</b> 2018, ApJS, 234, 41W) → Observation and paper review
Feb. 2018	On the Observability of Individual Population III Stars and Their Stellar-mass Black Hole Accretion Disks through Cluster Caustic Transits (Windhorst, Rogier A.; Timees, F. X.; Wyithe, J. Stuart B., <b>et al.</b> 2018, ApJS, 234, 41W) → Paper review and submission to journal
Aug. 2017	The Infrared Medium-deep Survey. III. Survey of Luminous Quasars at $4.7 \leq z \leq 5.4$ (Jeon, Yiseul; Im, Myungshin; Kim, Dohyeong, <b>et al.</b> 2017, ApJS, 231, 16J) → Observation and paper review
Apr. 2016	Discovery of a Supercluster at $z \sim 0.91$ and Testing the $\Lambda$ CDM Cosmological Model (Kim, J.-W., Im, M., Lee, S.-K., <b>et al.</b> 2016, ApJL, 821, L10) → Observation and paper review
Nov. 2015	Discovery of a Faint Quasar at $z \sim 6$ and Implications for Cosmic Reionization (Kim, Y., Im, M., Jeon, Y., <b>et al.</b> 2015, ApJL, 813, L35) → Observation and paper review
Dec. 2014	The Infrared Medium-Deep Survey. II. How to Trigger Radio AGNs? Hints from their Environments (Karouzos, M., Im, M., Kim, J.-W., <b>et al.</b> 2014, ApJ, 797, 26) → Observation and paper review

#### 8. Outreach

2016-2025	Translation of Astronomy Picture of the Day (APOD) into Korean on Facebook
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#### 9. Other Experience

2007-2010	Software Engineer for User-Interface (LG Electronics, Mobile Communications R&D)
2003-2005	ROK Navy Military Police Provost Marshall's Office (Last rank : Sergeant)

#### 10. Languages

Computer	C, IDL, Python
Human	Korean (Native), English (Fluent), Japanese (Good)

Last updated: 9 September 2025