

SONG HUANG (黄崧)

PRESENT ADDRESS

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CONTACT INFORMATION

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FIELDS OF INTEREST

- Connecting galaxies to dark matter halos using imaging and spectroscopic survey.
- Decoding the life of massive and dwarf galaxies using their structure and stellar population.
- Mining data and modeling galaxies in large imaging survey.
- **Collaboration:** [Hyper Suprime-Cam Survey](#); [Merian Survey](#)

WORKING EXPERIENCE

- **Associate Research Scholar**, Princeton University, Princeton, NJ, U.S.A Oct, 2019 – Now
(Contact: Prof. Jenny Greene) Utilizing deep HSC images to investigating the evolution of both massive and dwarf galaxies.
- **Post-doc Researcher**, UCSC, CA, U.S.A Feb, 2017 – Oct, 2019
(Contact: Prof. Alexie Leauthaud) Connecting the bright and dark sides of massive central galaxies and exploring their cosmological potential.
- **Post-doc Researcher**, Kavli-IPMU, University of Tokyo, Japan Aug, 2014 – Feb, 2017
(Contact: Prof. Alexie Leauthaud) Data analysis for Hyper-Suprime Camera Survey; Structure and evolution of massive galaxies in the nearby universe.
- **Research Assistant**, Carnegie Observatories, Pasadena, CA Oct, 2010 – Oct, 2012
(Advisor: Dr. Luis C.Ho) Structure of nearby galaxies using the Carnegie-Irvine Galaxy Survey.

EDUCATION

- **Doctor of Philosophy**, Astrophysics
School of Astronomy and Space Sciences, Nanjing University
Nanjing, Jiangsu, P. R. China 2008 – 2014
- **Bachelor of Science**, Astronomy
School of Astronomy and Space Sciences, Nanjing University
Nanjing, Jiangsu, P. R. China 2004 – 2008

REFERENCES

- **Prof. Alexie Leauthaud** University of California, Santa Cruz
✉: alexie@ucsc.edu
- **Prof. Jenny Greene** Princeton University
✉: jgreene@astro.princeton.edu
- **Prof. Michael Strauss** Princeton University
✉: strauss@astro.princeton.edu
- **Prof. Yen-Ting Lin** Academia Sinica Institute of Astronomy and Astrophysics
✉: ytl@asiaa.sinica.edu.tw
- **Prof. Luis C. Ho** The Kavli Institute for Astronomy and Astrophysics, Peking University
✉: lho.pku@gmail.com

VIDEOS OF PAST TALKS

- [Connecting Stellar Mass Distribution and Dark Matter Halo for Massive Galaxies](#), Santa Cruz, 2018
- [New Insights about the Assembly of Massive Galaxies from the Hyper Suprime-Cam](#), Santa Cruz, 2017
- [Structure of Nearby Massive Galaxies and Comparison with Hydro-dynamic Simulations](#), Santa Barbara, 2017
- [New Insights from the HSC survey on the Stellar Halos of Massive Galaxies](#), Santa Barbara, 2017






HONORS AND AWARDS

- YCAA Postdoctoral Prize Fellowship (*Declined*) 2018
- KIAA Fellowship (*Declined*) 2014
- SDSS-IV Fellowship at Shanghai Observatory (*Declined*) 2014
- Promotive Funding for Promising Academic Dissertation 2013
- National Scholarship for Graduate Student 2013
(Most prestigious scholarship for graduate student in China)
- Scholarship for Excellent Graduate Student 2010,2012
- Yao-Liang Scholarship for Outstanding Students 2008
- Excellent Student Leader (Grade 2) 2007
- The Innovation Scholarship of Astronomy Department 2006
- People's Scholarship 2005

APPROVED PROPOSALS

- Keck Proposal 2019B Co-I
Title: Testing the Feedback-driven Breathing Mode in Dwarf Galaxies at $z \sim 0.1$ (PI: Prof. Alexie Leauthaud)
- Spitzer Space Telescope Cycle-10 (ID:10052) Co-I
Title: Deep Imaging and Structure Decomposition of Nearby Elliptical Galaxies (PI: Prof. Luis C.Ho)
- Gemini-2014B (Time awarded: 16 hrs) Co-I
Title: Do the Primordial Cores of Massive Elliptical Galaxies Have a Bottom-heavy IMF? (PI: Prof. Luis C.Ho)

COMPUTER SKILLS

- Skilled in IDL and Python. Past works can be found on GitHub: [@dr-guangtou](#)
- Examples of software contributions:
 - ASAP Modeling the halo mass variation over the aperture stellar mass plane: 
 - dsigma A simple pure-python galaxy-galaxy lensing pipeline: 
 - synpipe Synthetic object pipeline for LSST data reduction pipeline: 
 - kungpao Photometric analysis library for HSC images: 
 - unagi Python portal to the HSC SSP data release: 
- Familiar with C; SQL; Mathematica; R.
- Experience with imaging data reduction in the optical and near-infrared.
- Experience with image decomposition and morphological analyses.
- Experience with stellar population synthesis tools and general spectral analysis.
- Familiar with basic statistical methods in astrophysics, approaches to deal with large dataset, and basic machine learning methods.

REVIEWER/REFEREE

- The Astrophysical Journal • The Astrophysical Journal, Letter • Monthly Notices of the Royal Astronomical Society • Research in Astronomy and Astrophysics • Acta Astronomica Sinica

OBSERVATIONAL EXPERIENCE

- 3.0m Shane telescope, UCO Lick, California,
- 8.2m Subaru telescope, Mauna Kea, Hawaii (7 night; as observer for the HSC survey)
- 2.16m telescope at Xinglong Observatory, NAOC, China (20 nights from 2009 to 2010; both imaging and spectroscopic observations).
- 2.4m telescope at Yunnan Observatory, China (in total of 8 nights since 2010; both imaging and spectroscopic observations).
- Remote observation using NIRC2 on 10m Keck II telescope at Caltech (1 night; under the supervision of Dr. Hai Fu).

STUDENT MENTORSHIP

- [Fangzhou Jiang](#) (Undergraduate Student, Nanjing University) 2009-2010
- [Shuo-Wen Jin](#) (Graduate Student, Nanjing University) 2012-2014
- Ryoma Murata (Graduate Student, University of Tokyo) 2016-2017
- [Felipe Ardila](#) (Graduate Student, UCSC) 2017-2019
- [Christopher Bradshaw](#) (Graduate Student, UCSC) 2017-2019
- Enia Xhakaj (Graduate Student, UCSC) 2017-2019
- [Yi-Fei Luo](#) (Graduate Student, UCSC) 2017-2019
- Dane Cross (Undergraduate Student, UCSC) 2017 Summer
- [Rajdipa Chowdhury](#) (Undergraduate Student, UCSC) 2017-2019
- Greg Sallaberry (Undergraduate Student, UCSC) 2017-2019
- [Run-Quan Guan](#) (Undergraduate Student, UCSC) 2017-2019
- [Jia-Xuan Li](#) (Visiting Undergraduate from PKU) 2018-Now


TEACHING EXPERIENCE

- Teaching Assistant – Extragalactic Astronomy 2010
- Teaching Assistant – Introduction to Astronomy 2009

OTHER PROFESSIONAL EXPERIENCE

- Time Allocation Committee Chinese Telescope Access Program (TAP)
(Contact: Prof. Eric Peng @ KiAA) Review observational proposals.
- Member of the LOC Feb, 2015 Getting a Grip on the Galactic Girths Conference
(Contact: Prof. Alexie Leauthaud @ UCSC)
- Member of Time Allocation Comm Chinese Li-Jiang IFU (CHILI)
(Contact: Dr. Lei Hao @ Shanghai Observatory) Develop the science cases for galaxies.
- Leader of the LOC, Summer School for Astrophysics, Nanjing, China Summer 2010
(Contact: Prof. Qiu-Sheng Gu @ Nanjing University)
- Summer Internship, Xinglong Observatory, NAOC, China Summer 2007
(Advisor: Dr. Hong Wu @ NAOC) Optical-MIR color selection of low metallicity dwarf galaxies

OUTREACH AND OTHER EXPERIENCE

- Founder of academic sharing website: [AstroLeaks](#).
- I created and am maintaining a curated collection of resources for astrophysical research: [Taotie \(饕餮\)](#) 
- Wrote many articles for the general public (Please see my personal website).
- Helped organize the Summer School of Modern Astronomy and Astrophysics at Nanjing, 2010.
- Several talks to the general public in levels that range from elementary school students to undergraduate students.

TALKS AND COLLOQUIA

- Galaxy Formation and Evolution in the Era of the Nancy Grace Roman Space Telescope
Speaker Given remotely, (Oct 7, 2020)
- Princeton Thursday Lunch Talk (Thunch)
Speaker Given remotely, (Sep 3, 2020)
- The Galaxy-Halo Connection Across Cosmic Time: Recent Updates *Invited speaker* Given remotely, (Aug 6, 2020)
- The HSC Weak Lensing Workshop *Speaker* Given remotely, (Jun 14, 2020)
- The Low Surface Brightness Universe as seen by LSST
Invited speaker Given remotely, (Feb 6, 2020)
- Astronomy Seminar at SJTU/TDLI
Invited speaker Shanghai, China, (Jan 9, 2020)
- Special Astronomy Colloquium at Tsinghua University
Invited speaker Beijing, China, (Jan 3, 2020)
- Astronomy Seminar at Tsinghua University
Invited speaker Beijing, China, (Nov 19, 2019)
- Astronomy Colloquium at KIAA/PKU
Invited speaker Beijing, China, (Nov 14, 2019)
- Astronomy Colloquium at UMASS Amherst
Invited speaker Amherst, MA, (Oct, 2019)
- Galaxies & Cosmology Seminar
Invited speaker Cambridge, MA, (Mar, 2019)
- Santa Cruz Galaxy Workshop 2018
Speaker Santa Cruz, CA, (Aug, 2018)
- Collaboration Meeting of the Hyper Suprime-Cam Survey
Speaker Princeton, NJ, (May, 2018)
- CosmoClub at University of California, Santa Cruz
Speaker Santa Cruz, CA, (Apr, 2018)
- Astronomy Seminar at University of Kentucky
Invited speaker Lexington, KT, (Apr, 2018)
- Astronomy Journal Club at University of California, Los Angeles
Speaker Los Angeles, CA, (Feb, 2018)
- Lunch Talk at Princeton University
Speaker Princeton, NJ, (Nov, 2017)
- Astronomy Journal Club at New York University
Speaker New York, NY, (Nov, 2017)
- YCAA Seminar at Yale University
Invited Speaker New Haven, CT, (Oct, 2017)

- Cosmology Seminar Series at the University of California, Davis
Invited Speaker Davis, CA, (Oct, 2017)
- Lunch Talk at the Physics Department of UCSB
Speaker Santa Barbara, CA, (May, 2017)
- Quantifying and Understanding the Galaxy—Halo Connection
Presentation Santa Barbara, CA, (May, 2017)
- KITP Program: The Galaxy-Halo Connection Across Cosmic Time
Presentation Santa Barbara, CA, (May, 2017)
- The Galaxy-Halo Connection Across Cosmic Time
Presentation Santa Barbara, CA, (May, 2017)
- 229th Meeting of the American Astronomical Society
Invited speaker for the HSC special session Grapevine, TX, (Jan, 2017)
- Collaboration Meeting for MaNGA/SDSS-IV
“SpectralFitness” workshop Shanghai, China, (Nov, 2016)
- The Changing Faces of Galaxies
Presentation Hobart, Australia, (Sep, 2016)
- Collaboration Meeting of the Hyper Suprime-Cam Survey
Presentation Kashiwa, Japan, (Aug, 2016)
- Group Meeting talk for Lars Hernquist’s Group at CfA/Harvard University
Speaker Cambridge, MA, (Jun, 2016)
- Collaboration of the Chinese-Lijiang IFU
Speaker Shanghai, China (Feb, 2016)
- Lunch Talk at Kavli-IPMU, University of Tokyo
Speaker Kashiwa, Japan, (Feb, 2016)
- Collaboration Meeting of the Hyper Suprime-Cam Survey
Presentation Taipei, China/Taiwan, (Jan, 2016)
- Annual Meeting of the Chinese Astronomical Society
Presentation Beijing, China, (Oct, 2016)
- SDSS-IV Collaboration Meeting
Lighting Talk Madrid, Spain, (Jul, 2015)
- Collaboration Meeting of the Hyper Suprime-Cam Survey
Presentation Princeton, NJ, (Jul, 2015)
- The Stellar IMF at Low Masses
Poster Baltimore, MD, (Jun, 2015)
- Getting a Grip on Galactic Girths
Conference Summary Speaker Chiba, Japan (Feb, 2015)
- Lunch Talk at KIAA, Peking University
Invited Speaker Beijing, China, (Feb, 2015)
- Lunch Talk at KIAA, Peking University
Invited Speaker Beijing, China, (Sep, 2014)
- Colloquium at University of Science & Technology of China
Invited Speaker Hefei, China, (Sep, 2013)
- The Origin of the Hubble Sequence – 75 Anniversary Conference IAP
Presentation & Poster Paris, France, (Jun, 2013)
- Dissecting Galaxies with 2-D Wide-Field Spectroscopy
Presentation Li-Jiang, China (Mar, 2013)
- Lunch Talk at the Purple Mountain Observatory
Speaker Nanjing, China (Dec, 2012)

- Lunch Talk at the National Astronomical Observatories of China
Speaker Beijing, China (Nov, 2012)
- Lunch Talk at the Carnegie Observatories
Speaker Pasadena, CA (Sep, 2012)
- Science Day at the Carnegie Observatories
Speaker Pasadena, CA (Apr, 2012)
- 219th American Astronomical Society Meeting
Presentation Austin, TX (Jan, 2012)
- Lunch Talk of the Extragalactic Group at University of Arizona
Speaker Tuscon, AZ (Nov, 2011)
- Science Day at the Carnegie Observatories
Speaker Pasadena, CA (Oct, 2011)