

# YI-KUAN CHIANG

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## Education

2011 – 2016	<b>Ph.D. Astronomy</b>	<b>University of Texas at Austin, USA</b>
	Advisor: Karl Gebhardt & Roderik Overzier	
	Thesis: <i>Galaxy Proto-clusters as an Interface of Structure, Cluster, and Galaxy Formation</i>	
2007 – 2009	<b>M.S. Astronomy</b>	<b>National Tsing Hua University, Taiwan</b>
	Advisor: Albert Kong	
	Thesis: <i>The Long-term Variability of the X-ray Sources in M82</i>	
2003 – 2007	<b>B.S. Computer Science with Physics Minor</b>	<b>National Tsing Hua University, Taiwan</b>

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## Professional Appointments

2016 10 –	Postdoctoral Fellow, <b>Johns Hopkins University</b>
2016 06 – 09	Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellow, <b>University of Tokyo</b>

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## Research Interests

Galaxy Evolution, Galaxy Clusters and Structure Formation, Intensity Mapping, Stellar Compact Objects

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## Awards & Grants

2016	Japan Society for the Promotion of Science (JSPS) Fellow ( <b>¥2M</b> )
2016	American Astronomical Society Rodger Doxsey Travel Prize Honorable Mention
2015 – 2016	University of Texas at Austin Graduate School Continuing Fellowship ( <b>\$4K</b> )
2014 – 2015	University of Texas at Austin Homer Lindsey Bruce Graduate Fellowship ( <b>\$38K</b> )
2014	Roland K. Blumberg Endowment in Astronomy Award
2014 & 2016	University of Texas at Austin Graduate School Professional Development Award
2014	UT Department of Astronomy Frank Edmonds Memorial Fellowship
2013	UT Department of Astronomy Board of Visitors Best 2nd Year Research Defense Award
2012 – 2015	Chandra X-ray Observatory GO Grant as PI ( <b>\$25K</b> )
2011	Taiwan Ministry of Education Study Abroad Scholarship ( <b>\$32K</b> )
2011	Taiwan Physical Society Outstanding Thesis Award

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## Refereed Publications

1. **Chiang, Y.-K.**, Overzier, R. A., Gebhardt, K., & Henriques, B. 2017, ApJ, 844, L23  
*Galaxy Protoclusters as Drivers of Cosmic Star Formation History in the First 2 Gyr*
2. **Chiang, Y.-K.**, Overzier, R., Gebhardt, K., Finkelstein, S., Chiang, C.-T., & 10 coauthors 2015, ApJ, 808, 37  
*Surveying Galaxy Proto-clusters in Emission: A Large-scale Structure at  $z=2.44$  and the Outlook for HETDEX*
3. **Chiang, Y.-K.**, Overzier, R., & Gebhardt, K. 2014, ApJ, 782, L3  
*Discovery of a Large Number of Candidate Protoclusters by  $\sim 15$  Mpc-scale Galaxy Overdensities in COSMOS*
4. **Chiang, Y.-K.**, Overzier, R., & Gebhardt, K. 2013, ApJ, 779, 127  
*Ancient Light from Young Cosmic Cities: Physical and Observational Signatures of Galaxy Proto-clusters*
5. **Chiang, Y.-K.**, & Kong, A. K. H. 2011, MNRAS, 414, 1329  
*The Long-term Variability of the X-ray Sources in M82*

6. Higuchi, R., Ouchi, M., Ono, Y., Shibuya, T., Toshikawa, J., Harikane, Y., Kojima, T, **Chiang, Y.-K.**, & 12 coauthors eprint arXiv:1801.00531  
*SILVERRUSH. VII. Subaru/HSC Identifications of 42 Protocluster Candidates at  $z \sim 6-7$  with the Spectroscopic Redshifts up to  $z=6.574$ : Implications for Cosmic Reionization*
7. Uchiyama, H., Toshikawa, J., Kashikawa, N., Overzier, R., **Chiang, Y.-K.**, & 20 coauthors 2018, PASJ, 70, S32  
*Luminous Quasars do not Live in the Most Overdense Regions of Galaxies at  $z \sim 4$ .*
8. Mukae, S., Ouchi, M., Kakiichi, K., Suzuki, N., Ono, Y., Cai, Z., Inoue, A., **Chiang, Y.-K.**, & 2 coauthors 2017, ApJ, 835, 281  
*Cosmic Galaxy-IGM HI Relation at  $z \sim 2-3$  Probed in the COSMOS/UltraVISTA 1.6 Deg<sup>2</sup> Field*
9. Smolcic, V., Miettinen, O., Tomicic, N., Zamorani, G., Finoguenov, A., Lemaux, B. C., Aravena, M., Capak, P., **Chiang, Y.-K.**, & 14 coauthors 2017, A&A, 597, A4  
*(Sub)millimetre Interferometric Imaging of a Sample of COSMOS/AzTEC Submillimetre Galaxies III. Environments*
10. Hung, C.-L., Casey, C., **Chiang, Y.-K.**, & 10 coauthors 2016, ApJ, 826, 130  
*Large Scale Structure around a  $z=2.1$  Cluster*
11. Hagen, A., Zeimann, G., Behrens, C., Ciardullo, R., Gebhardt, H., Gronwall, C., Bridge, J., Fox, D., Schneider, D., Trump, J., Blanc, G., **Chiang, Y.-K.**, & 5 coauthors 2016, ApJ, 817, 79  
*HST ELGs at  $z \sim 2$ : Comparing Physical Properties of Ly $\alpha$  and Optical Emission Line Selected Galaxies*
12. Rigby, E., Hatch, N., Röttgering, H., Sibthorpe, B., **Chiang, Y.-K.**, & 13 coauthors 2014, MNRAS, 437, 1882  
*Searching for Large-scale Structures around High-redshift Radio Galaxies with Herschel*

## Community Service, Teaching & Work Experience

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2014 – present Referee for the Astrophysical Journal & Monthly Notices of the Royal Astronomical Society  
 2011 – 2012 Teaching Assistant, University of Texas at Austin (4 Astronomy Courses)  
 2009 – 2010 Second Lieutenant of Military Meteorology & Aviation Safety, Air Force, Taiwan

## Collaborations

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MAMMOTH — Mapping the Most Massive Overdensity Through Hydrogen  
 Subaru PFS SSP — Prime Focus Spectrograph Subaru Strategic Program  
 Subaru HSC SSP — Hyper Suprime-Cam Subaru Strategic Program (external collaborator)  
 LSST DESC — Large Synoptic Survey Telescope Dark Energy Science Collaboration  
 HETDEX — Hobby-Eberly Telescope Dark Energy Experiment  
 COSMOS — Cosmic Evolution Survey

## Selected Telescope Proposals

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1. **PI**, Gemini Observatory, 2017A, Gemini GMOS-N, 9.5 hrs  
*JWST High- $z$  Pathfinder: 3D-HST Metal Poor Galaxies at  $z \sim 0.8$*
2. **PI**, Gemini Observatory, 2016B, Gemini GMOS-N, 16.49 hrs + GMOS-S, 15.78 hrs  
*Mapping out the Densest Structures in the COSMOS Field at  $z \sim 2-3$*
3. **PI**, Gemini Observatory, 2015B, Gemini GMOS-N, 20.36 hrs + GMOS-S, 8.14 hrs  
*Mapping out the Densest Structures in the COSMOS Field at  $z \sim 2-3$*
4. **PI**, Chandra X-ray Observatory, AO13, Chandra / ACIS, 15 ks  
*The X-Ray Evolution of Supernova 2004am*
5. **PI**, Chandra X-ray Observatory, AO11, Chandra / ACIS, 10 ks  
*The X-Ray Evolution of Supernova 2004am*

6. **Co-PI** (PI: Overzier), European Southern Observatory, VLT / KMOS, 4 half-nights (P95) + 16 hrs (P93)  
*Rise of the Clusters: a Survey of Galaxy Formation in the Densest Regions at  $z \sim 2.5$  in COSMOS/UltraVista*
- Other successful Co-I proposals include HST, ALMA, and Subaru

## Observing Experience

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Very Large Telescope / KMOS	4 half-nights
Gemini / GMOS N+S	28.5 hrs
Mayall Telescope / NEWFIRM	3 nights
Harlan J. Smith Telescope / VIRUS-P	4+7 nights
Chandra X-Ray Telescope / ACIS	10+15 ks

## Conferences

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06/2015	<b>Poster</b> , IGM@50 — Is the IGM Driving Star Formation?, Abbazia di Spineto, Italy
04/2015	<b>Contributed Talk</b> , South by High Redshift, UT Austin, Austin, Texas, USA
01/2015	<b>Poster</b> , AAS 225th Meeting, Seattle, Washington, USA
11/2014	<b>Poster</b> , WFIRST Meeting, Pasadena, California, USA
07/2013	<b>Poster</b> , Tracing Cosmic Evolution with Galaxy Clusters, Sexten Center for Astrophysics, Italy
09/2012	<b>Contributed Talk</b> , From Proto-clusters to Galaxy Clusters, ESAC, Madrid, Spain
01/2009	<b>Contributed Talk</b> , Annual Meeting of Physical Society of Taiwan, Changhua, Taiwan
05/2008	<b>Poster</b> , Annual Meeting of Astronomical Society of Taiwan, Hualien, Taiwan

## Colloquium, Seminar & Collaboration Meeting Talks

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08/2017	<b>Seminar</b> , Lawrence Berkeley National Laboratory, USA
07/2017	<b>MAMMOTH Mini Workshop</b> , University of California, Santa Cruz, California, USA
04/2017	<b>Seminar</b> , Purdue University, Indiana, USA
01/2017	<b>Seminar</b> , Johns Hopkins University, Maryland, USA
09/2016	<b>Colloquium</b> , Kyoto University, Kyoto, Japan
08/2016	<b>PFS IGM Workshop</b> , Kavli IPMU, Kashiwa, Japan
08/2016	<b>Colloquium</b> , Tohoku University, Sendai, Japan
12/2015	<b>Seminar</b> , Carnegie Observatories, Pasadena, California, USA
12/2015	<b>Seminar</b> , University of California, Riverside, California, USA
12/2015	<b>Seminar</b> , California Institute of Technology, Pasadena, California, USA
11/2015	<b>Seminar</b> , Yale University, New Haven, USA
11/2015	<b>Galread</b> , Princeton University, New Jersey, USA
10/2015	<b>Seminar</b> , Space Telescope Science Institute, Baltimore, USA
10/2015	<b>Seminar</b> , Lawrence Berkeley National Lab & University of California, Berkeley, CA, USA
10/2015	<b>Seminar</b> , University of California, Santa Cruz, California, USA
08/2015	<b>Seminar</b> , National Astronomical Observatory of Japan, Mitaka, Tokyo, Japan
08/2015	<b>Seminar</b> , Kavli Institute for the Physics and Mathematics of the Universe, Kashiwa, Japan
08/2015	<b>Kashiwa Meeting</b> , Institute for Cosmic Ray Research, University of Tokyo, Kashiwa, Japan
07/2015	<b>Seminar</b> , Observatório Nacional, Rio de Janeiro, Brazil
07/2015	<b>Seminar</b> , Valongo Observatory, Rio de Janeiro, Brazil
06/2015	<b>Seminar</b> , Max-Planck-Institut für Astronomie, Heidelberg, Germany
06/2015	<b>COSMOS Collaboration Meeting</b> , University of Helsinki, Helsinki, Finland
04/2015	<b>Seminar</b> , European Southern Observatory, Santiago, Chile
07/2014	<b>Seminar</b> , University of California, Santa Cruz, California, USA
07/2014	<b>Seminar</b> , Academia Sinica Institute of Astronomy and Astrophysics (ASIAA), Taipei, Taiwan
04/2014	<b>Seminar</b> , Observatório Nacional, Rio de Janeiro, Brazil
12/2013	<b>Colloquium</b> , National Tsing Hua University, Hsinchu, Taiwan
12/2013	<b>Seminar</b> , Kavli Institute for the Physics and Mathematics of the Universe, Kashiwa, Japan

05/2013      **HETDEX Collaboration Meeting**, Leibniz Institute for Astrophysics, Potsdam, Germany  
10/2012      **HETDEX Collaboration Meeting**, Rutgers University, New Jersey, USA

## Research Visits

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08/2015      University of Tokyo & Kavli IPMU, Kashiwa, Japan — Host: M. Ouchi & J. Silverman  
07/2015      Observatório Nacional, Rio de Janeiro, Brazil — Host: R. Overzier  
06/2015      Max-Planck-Institut für Astronomie, Heidelberg, Germany — Host: K.-G. Lee & J. Hennawi  
11/2014      Infrared Processing and Analysis Center, California, USA — Host: A. Rettura  
03/2014      Observatório Nacional, Rio de Janeiro, Brazil — Host: R. Overzier  
12/2013      University of Tokyo, Kashiwa, Japan — Host: M. Ouchi  
03/2013      Leiden Observatory, Leiden, Netherlands — Host: H. Rottgering & E. Rigby

## Summer & Winter Schools

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06/2014      Astrostatistics Summer School, Pennsylvania State University, Pennsylvania, USA  
07/2013      SciCoder, New York University, New York, USA  
12/2012      Jerusalem Winter School: Early Galaxy Formation in LCDM, Hebrew University, Israel

## References

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Roderik Overzier	Observatorio Nacional, Brazil	overzier@on.br
Karl Gebhardt	University of Texas at Austin, USA	gebhardt@astro.as.utexas.edu
Masami Ouchi	University of Tokyo, Japan	ouchims@icrr.u-tokyo.ac.jp