

Curriculum Vitae

Keiichi Umetsu

Contact Information

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ADS Library: <https://ui.adsabs.harvard.edu/public-libraries/YfVHJhW3T6K0z00QW7fI3w>

Academic Appointments

Full Research Fellow (equivalent of Full Professor),	ASIAA	(01/2014 – present)
Kavli Visiting Scholar,	KIAA, Peking University, China	(2016)
Associate Research Fellow (tenured),	ASIAA	(01/2010 – 12/2013)
Adjunct Research Fellow,	LeCosPA, NTU	(01/2008 – 12/2012)
Assistant Research Fellow (tenure track),	ASIAA	(06/2006 – 12/2009)
Faculty Staff Scientist,	ASIAA	(07/2005 – 05/2006)
Postdoctoral Research Fellow,	ASIAA	(06/2001 – 06/2005)

Education

Ph.D. in Astronomy,	Astronomical Institute, Tohoku University, Japan	(04/1998 – 03/2001)
M.S. in Astronomy,	Astronomical Institute, Tohoku University, Japan	(04/1996 – 03/1998)
B.S. in Physics,	Department of Physics, Tohoku University, Japan	(04/1992 – 03/1996)

Academic Impact and Publication Metrics (as of December 12, 2019)

Number of refereed publications: **158**

Number of 1st-, 2nd-, and 3rd-author refereed publications: **56**

Total citation counts from NASA/ADS [or Google Scholar]: **8050 [8875]**

h-index from NASA/ADS [or Google Scholar]: **49 [52]**

18 lead (first or corresponding*) author papers published in refereed journals, with > **1200** citations

7 first-author papers with ≥ 90 citations each (**KU*** *et al.* 2008, 2009, 2011a, 2011b, 2012, 2014, 2016)

5 first-author papers with ≥ 100 citations each (**KU*** *et al.* 2008, 2011a, 2012, 2014, 2016)

Honors and Awards

MOST Outstanding Research Award [‡] , Taiwan [科技部傑出研究獎]	(2018)
Academia Sinica Investigator Award [†] [中央研究院深耕計畫獲獎]	(2018 – 2022)
MOST Research Grant for Excellent Junior Investigators [科技部優秀年輕學者研究計畫獲獎]	(2017 – 2020)
PASJ Excellent Paper Award, Japan [日本天文学会欧文研究報告論文賞]	(2012)
Academia Sinica Significant Research Achievements [中央研究院重要研究成果專刊]	(2011, 13, 15)
Academia Sinica Award for Junior Research Investigators [†] [中央研究院年輕學者研究著作獎]	(2011)
Founding Member, <i>Hubble Space Telescope</i> Treasury Program “CLASH”, USA	(2010 – 2013)
Academia Sinica Career Development Award [†] [中央研究院前瞻計畫獲獎],	(2009 – 2013)
Invited Lecturer, International School of Physics “Enrico Fermi”, Italy	(2008)

(‡) National prizes for Taiwan-based Professors with outstanding research achievements.

(†) Research award grants for outstanding researchers of Academia Sinica.

Research Interests

Observational Cosmology; Dark Matter; Cosmic Structure Formation; Galaxy Clusters; Gravitational Lensing; Plasma Physics; Cosmic Microwave Background; Sunyaev-Zel'dovich Effects; Near-field Cosmology; Radio Interferometry; Statistical Methods: Bayesian and Frequentist Approaches, Backward and Forward Modeling

Research Grants Awarded (PI only)

Summary – Awarded a total of >1.6 Million US dollars in grants as PI (converted at 30 NTD to 1 USD).

PI, Academia Sinica Investigator Award (AS-IA-107-M01),	800K USD	(01/2018 – 12/2022)
PI, MOST 106-2628-M-001-003-MY3,	186K USD	(08/2017 – 07/2020)
PI, MOST 103-2112-M-001-030-MY3,	90K USD	(08/2014 – 10/2017)
PI, NSC 100-2112-M-001-008-MY3,	55K USD	(08/2011 – 07/2014)
PI, Academia Sinica Career Development Award,	370K USD	(01/2009 – 12/2013)
PI, NSC 95-2112-M-001-020-MY3,	62K USD	(08/2008 – 01/2012)
PI, NSC 95-2112-M-001-074-MY2,	63K USD	(10/2006 – 07/2008)

Academic Service (selected)

Journal referee for: *Astronomy & Astrophysics* (A&A)

Journal referee for: *The Astrophysical Journal* (ApJ)

Journal referee for: *The Astrophysical Journal Letters* (ApJL)

Journal referee for: *Monthly Notices of the Royal Astronomical Society* (MNRAS)

Journal referee for: *Journal of Cosmology and Astroparticle Physics* (JCAP), declined due to conflict of interest

Observing proposal referee for: Subaru Telescope

Observing proposal referee for: Canada-France-Hawaii Telescope (CFHT)

Grant proposal referee for: Netherlands Organisation for Scientific Research (NWO), Netherlands

Grant proposal referee for: French National Research Agency (ANR), France

Grant proposal referee for: National Science Council (NSC), Taiwan

Grant proposal referee for: Ministry of Science and Technology (MOST), Taiwan

External reviewer for: Promotion to Assistant Research Professor, California Institute of Technology, USA

External reviewer for: Promotion to Research Professor (tenured), California Institute of Technology, USA

External reviewer for: Promotion to Associate Professor, National Central University (NCU), Taiwan

External reviewer for: Faculty publications (new appointment as tenure-track Assistant Professor), NTU, Taiwan

External reviewer for: Junior faculty research awards, National Tsing-Hua University (NTHU), Taiwan

Leadership and Management Experience

<u>Chair</u> [‡] ,	Faculty Search Committee,	ASIAA	(12/2016 – present)
Member,	Award Nomination Committee,	ASIAA	(01/2019 – present)
Member,	Joint HSC-XXL Working Group,	HSC-XXL collaboration	(06/2016 – present)
Member,	Promotion and Appointment Committee,	ASIAA	(01/2014 – present)
<u>Chair</u> ,	Taiwanese Time Allocation Committee,	CFHT	(18A, 18B, 19A, 19B)
Member,	Taiwanese Time Allocation Committee,	CFHT	(17B, 20A)
Organizer,	Joint Colloquium Series,	ASIAA/CCMS/IAMS/NTU/NTNU	(12/2015 – 01/2018)
Member,	Colloquium Committee,	ASIAA	(11/2015 – 01/2018)
Member,	Strategic Planning Committee,	ASIAA	(11/2015 – 12/2017)
Member,	Faculty Search Committee,	ASIAA	(12/2014 – 11/2016)
Member,	Research Manpower Committee,	ASIAA	(10/2012 – 11/2014)
Member,	Standing Executive Committee,	ASIAA	(01/2011 – 11/2014)
<u>Chair</u> [†] ,	Research Manpower Committee,	ASIAA	(01/2011 – 09/2012)
<u>Chair</u> [†] ,	Postdoctoral Search Committee,	ASIAA	(04/2009 – 09/2012)

(‡) Led 2017, 2018, and 2019 faculty hiring as Chair.

(†) Led 2010, 2011, and 2012 postdoctoral hiring as Chair.

Talks at Conferences (listed in descending chronological order)

1. Dissecting Cluster Cosmology [limited to 20 external participants], Trieste (Institute for Fundamental Physics of the Universe), Italy, August 31 – September 4, 2020 **[invited]**: “*TBD*”
2. The first Shanghai Assembly on Cosmology and Galaxy Formation, Shanghai (Shanghai Jiao Tong University), China, November 4–8, 2019 **[invited]**: “*Unveiling Cosmic Structure Formation by Cluster Lensing*”
3. MATERA OSCURA: Cosmology and Dark Matter within Galaxies and Clusters, Matera, Italy, September 2–6, 2019 **[invited]**: “*Unveiling the Mass Structure of Galaxy Clusters from Lensing and Multiwavelength Observations*”
4. Sesto 2019: Tracing Cosmic Evolution with Clusters of Galaxies, Sesto, Italy, July 8–12, 2019 **[invited]**: “*Unveiling Cosmic Structure Formation with Cluster Lensing*”
5. Joint XXL-HSC Collaboration Meeting, Ovronnaz, Switzerland, July 4–5, 2019 **[invited]**: “*The Fundamental Plane of Galaxy Clusters*”
6. Joint XXL-HSC Collaboration Meeting, Ovronnaz, Switzerland, July 4–5, 2019: “*HSC Weak-lensing Analysis of XXL Clusters: the c - M Relation and the T - M Relation*”
7. Splashback Workshop [limited to 20 external participants], Stanford (Stanford University and SLAC), USA, April 29 – May 4, 2019: “*Possible Connection between the Halo Fundamental Plane and the Splashback Radius through Secondary Infall and Accretion*”
8. Panchromatic Panoramic Studies of Galaxy Clusters: from HSC to PFS and ULTIMATE, Taipei (ASIAA), Taiwan, March 11–13, 2019 **[SOC]**: “*HSC Weak-lensing Analysis of XXL-selected Galaxy Clusters*”
9. The 8th KIAS Workshop on Cosmology and Structure Formation, Seoul (Korea Institute for Advanced Study), Korea, November 4–9, 2018 **[SOC]**: “*Discovery of a New Fundamental Plane Dictating Galaxy Cluster Evolution from Gravitational Lensing*”
10. Cosmology Frontier in Particle Physics: Astroparticle Physics and Early Universe, Taipei (NTU), Taiwan, September 27–29, 2018 **[invited]**: “*Testing CDM Predictions with Galaxy Cluster Gravitational Lensing*”
11. The 5th Korea-Japan Workshop on Dark Energy, Daejeon (Korea Astronomy and Space Science Institute), Korea, August 6–10, 2018 **[invited]**: “*Discovery of a New Fundamental Plane Dictating Galaxy Cluster Evolution from Gravitational Lensing*”
12. Hiroshima HSC-XXL Collaboration Meeting, Hiroshima (Hiroshima University), July 16–19, 2018: “*Update on the HSC Weak-lensing Analysis of XXL Galaxy Clusters*”
13. SnowCluster 2018: The Physics of Galaxy Clusters, Snowbird, Utah, USA, March 18–23, 2018 **[invited]**: “*Discovery of a New Fundamental Plane Dictating Galaxy Cluster Evolution from Gravitational Lensing*”
14. 2018 Annual Meeting of the Physical Society of Taiwan, Taipei (NTU), Taiwan, January 24–26, 2018 **[invited]** (one of 4 invited speakers in Astrophysics/Gravity & Cosmology): “*Formation and Growth of Cosmic Giants: Lensing View of Galaxy Cluster Halos*”
15. First of a three-part conference series (Asia/Australia, America, Europe) organized by UCLA: Shedding Light on the Dark Universe with Extremely Large Telescopes, Lanzhou, China, August 30–September 2, 2017 **[invited]**: “*Testing LCDM Predictions with Cluster Lensing in the ELT Era*”
16. Exploring Dark Matter and Dark Ages with Lensing Clusters, Sesto, Italy, July 24–28, 2017 **[invited]**: “*Characterizing Galaxy Clusters with Gravitational Lensing: Halo Shape and Splashback Radius*”
17. ESAC Joint HSC-XXL Workshop, San Lorenzo de El Escorial, Madrid, Spain, May 9–12, 2017: “*HSC Weak-lensing Analysis of XXL Galaxy Clusters*”
18. Subaru International Partnership Science and Instrumentation Workshop, Tokyo (NAOJ), Japan, March 22–24, 2017 **[invited]**: “*Cluster Gravitational Lensing with Subaru*”
19. The 10th East Asian Meeting on Astronomy (EAMA10), Seoul (Seoul National University), Korea, September, 27–30, 2016 **[invited]**: “*Ensemble Mass Distribution of Galaxy Clusters from the CLASH Survey*”
20. European Week of Astronomy and Space Science 2016, Session 6: Exploring the outskirts of galaxy clusters, Athens, Greece, July 4–8, 2016: “*Ensemble Mass Distribution of Galaxy Clusters from the CLASH Survey: Splashback Radius*”
21. RELICS Collaboration Meeting, Tuscon (Steward Observatory), USA, March 2–4, 2016: “*Cluster Weak Gravitational Lensing: CLASH to RELICS*”
22. Clusters with Nick Kaiser Day, Hong Kong (IAS/HKUST), February 17, 2016 **[invited]**: “*Recent Progress in Cluster Weak Lensing*”
23. CLASH-VLT Collaboration Meeting 2015, Florence, Italy, September 23–25, 2015: “*Mass Distribution of CLASH Galaxy Clusters from Full Lensing Analysis*”
24. The 6th KIAS Workshop on Cosmology and Structure Formation, Seoul (Korea Institute for Advanced Study),

- Korea, November 3–6, 2014 **[invited]**: “Subaru Shear-and-Magnification Weak-Lensing Analysis of CLASH Galaxy Clusters”
25. Synergy of HSC and Hiroshima CORE-U Projects, Hiroshima (Hiroshima University), Japan, August 27, 2014 **[invited]**: “Subaru Weak-Lensing Shear and Magnification Analysis of CLASH Galaxy Clusters”
 26. Clusters Paris 2014: Future Directions in Galaxy Cluster Surveys, Paris, France, June 23–27, 2014 **[invited]**: “CLASH: Subaru Weak-Lensing Results”
 27. PASCOS 2013: 19th International Symposium on Particles, Strings and Cosmology, Taipei, Taiwan, November 20–26, 2013 **[invited]**: “Mass Distribution in and around Galaxy Clusters from Gravitational Lensing”
 28. CLASH Collaboration Meeting 2013, London (Royal Astronomical Society), UK, September 16–18, 2013: “CLASH Weak-Lensing Shear+Magnification Analysis”
 29. Copenhagen-Asia-America Network for Dark cosmology (CAANDY) kick-off meeting, Copenhagen (DARK Cosmology Centre), Denmark, August 12–17, 2013 **[invited]**: “Cosmology and Cluster Astrophysics Programs at ASIAA”
 30. Sesto 2013: Tracing Cosmic Evolution with Clusters of Galaxies, Sesto, Italy, July 1–5, 2013 **[invited]**: “Cluster Mass Distribution from Weak-Lensing Shear and Magnification”
 31. CLASH Collaboration Meeting 2012, Bilbao, Spain, October 16–19, 2012: “CLASH Stacked Lensing Analysis”
 32. CLASH Collaboration Meeting 2011, Heidelberg, Germany, October 17–19, 2011: “CLASH Subaru Weak-Lensing and Sunyaev-Zel'dovich Effect Analysis”
 33. SZX HUNTSVILLE 2011: Cosmology with X-ray and Sunyaev-Zeldovich Effect Observations of Galaxy Clusters, Huntsville, USA, September 19–22, 2011 **[invited]**: “Mass and Hot Baryons from Cluster Lensing and SZE Observations”
 34. XXL Consortium Meeting, Corsica, France, May 2–6, 2011 **[invited]**: “Cluster Weak Gravitational Lensing With Subaru Observations”
 35. DENET 2011 Subaru HSC Workshop, Taipei (ASIAA), Taiwan, March 7–8, 2011 **[SOC]**: “Cluster Weak Lensing”
 36. APCTP Topical Research Program 2010: Recent Progress in Dark Universe and Astrophysics, Seoul, Korea, December 16–17, 2010 **[invited]**: “Galaxy Cluster Gravitational Lensing as a Cosmological Probe”
 37. Horiba International Conference: COSMO/CosPA 2010, Tokyo (University of Tokyo), Japan, September 26 – October 1, 2010 **[invited]**: “Probing the Distribution of Mass in Clusters of Galaxies using Weak + Strong Gravitational Lensing”
 38. CLASH Collaboration Meeting 2010, Granada (IAA/CSIC), Spain, September 20-21, 2010: “CLASH Sunyaev-Zel'dovich Effect Observations”
 39. CMB Workshop, Tokyo (NAOJ), Japan, June 7–9, 2010 **[invited]**: “The AMiBA Project and the Cluster Cosmology Program in Taiwan”
 40. Science Opportunities with Wide-Field Imaging and Spectroscopy of the Distant Universe, Princeton, USA, November 9–11, 2009: “Cluster Lensing Science with HSC: Distortion, Depletion, and Dilution”
 41. Japan-Princeton Subaru HSC Science/Survey Workshop, Tokyo (NAOJ), Japan, January 17–20, 2009 **[invited]**: “Cluster Multiwavelength Studies”
 42. Taiwan-Japan Subaru-HSC Science/Survey Mini Workshop, Taipei (ASIAA), Taiwan, December 22, 2008 **[SOC]**: “HSC Weak Lensing and AMiBA SZE Observations of Galaxy Clusters”
 43. Subaru-ASIAA Mini Workshop on Galaxies and Clusters of Galaxies, Taipei (ASIAA), Taiwan, March 5–6, 2008 **[SOC]**: “Weak Gravitational Lensing by Galaxy Clusters and Cluster Subhalos”
 44. Subaru Users Meeting 2007: New Strategy of Subaru (II), Tokyo (NAOJ), Japan, January 29–31, 2008 **[invited]**: “ASIAA Research Highlights and Prospects with HSC”
 45. CosPA 2007: International Symposium on Cosmology and Particle Astrophysics, Taipei (NTU), Taiwan, November 13–15, 2007 **[invited]**: “A Moment Method for Measuring the Higher-Order Weak Lensing Effects”
 46. Asia Science Forum, Sendai (Sendai International Center), Japan, September 10–11, 2007 **[invited]**: “Progress of the AMiBA Project”
 47. The 21st Century Center-of-Excellence Program “Exploring New Science by Bridging Particle-Matter Hierarchy”, Sendai (Tohoku University), Japan, February 14–16, 2007 **[invited]**: “Status of the AMiBA Project”
 48. CosPA 2006: International Symposium on Cosmology and Particle Astrophysics, Taipei (NTU), Taiwan, November 15–17, 2006 **[invited]**: “Probing the Distribution of Mass in Galaxy Clusters using Subaru Weak Lensing Observations”
 49. Zao Cluster Workshop, Zao, Japan, October 24–26, 2006 **[invited]**: “Weak Lensing Analysis of Galaxy Clusters”
 50. AMiBA/WIRCam Project Review Meeting, Hilo, Hawaii, USA, March 9–10, 2006: “SZE Science with AMiBA”
 51. Inaugural Japan-Taiwan ALMA Science Workshop, Taipei, Taiwan, December 15–16, 2005 **[invited]**: “SZ Sci-

ence with AMiBA and ALMA”

52. AMiBA Workshop, Hilo, Hawaii, USA, September 25, 2005 **[SOC]**: “Cluster Science with AMiBA”
53. East Asian Young Astronomers Meeting 2003, Taipei (Tienlai Spring Resort), Taiwan, November 9–12, 2003: “Simulation of a Combined SZE and Weak Lensing Cluster Survey for the AMiBA Experiment”
54. AMiBA 2001: High-z Clusters, Missing Baryons, and CMB Polarization, June 11-15, 2001, Taipei & Hualien, Taiwan: “Weak Lensing Analysis of the High Redshift Cluster MS1054-03”

Selected Colloquia and Seminars (listed in descending chronological order)

1. LeCosPA Seminar, LeCosPA, NTU, Taiwan, October 22, 2018 **[invited]** “Testing Cold Dark Matter Models with Galaxy Cluster Gravitational Lensing”
2. Astronomy Colloquium, Department of Physics and Institute of Astronomy, National Tsing-Hua University, Taiwan, October 5, 2018 **[invited]**: “Testing CDM Predictions with Galaxy Cluster Gravitational Lensing”
3. Seminar, High-Energy Theory Group, Institute of Physics, Academia Sinica, Taiwan, September 19, 2018 **[invited]**: “Testing CDM Predictions with Galaxy Cluster Gravitational Lensing”
4. Colloquium, Institute of Astronomy, National Central University, Taiwan, December 2, 2016 **[invited]**: “Lensing Constraints on the Mass Profile Shape and Splashback Radius of Galaxy Clusters”
5. Seminar, National Astronomical Observatories of China, Chinese Academy of Sciences, China, May 20, 2016 **[invited]**: “Ensemble Mass Distribution of Galaxy Clusters from the CLASH Survey: Concentration–Mass Relation, Stacked Mass Profile, and Splashback Radius”
6. Colloquium, Department of Astronomy, Shanghai Jiaotong University, China, May 16, 2016 **[invited]**: “Ensemble Mass Distribution of Galaxy Clusters from the CLASH Survey: Concentration–Mass Relation, Stacked Mass Profile, and Splashback Radius”
7. Seminar, Key Lab for Astrophysics, Shanghai Normal University, China, May 13, 2016 **[invited]**: “Ensemble Mass Distribution of Galaxy Clusters from the CLASH Survey: Concentration–Mass Relation, Stacked Mass Profile, and Splashback Radius”
8. KIAA-PKU Colloquium, Kavli Institute for Astronomy & Astrophysics, Peking University, China, May 11, 2016 **[invited]**: “Ensemble Mass Distribution of Galaxy Clusters from the CLASH Survey: Concentration–Mass Relation, Stacked Mass Profile, and Splashback Radius”
9. Colloquium, Astronomical Institute, Tohoku University, Japan, June 30, 2015 **[invited]**: “The Full Strength of Cluster Gravitational Lensing: Mass Distribution in and around Cosmic Giants from the CLASH Survey”
10. Seminar, Department of Physics, University of Hong Kong, Hong Kong, December 4, 2014 **[invited]**: “The Full Strength of Cluster Gravitational Lensing: Distribution of Matter in and around Cosmic Giants from the CLASH Survey”
11. HEP Seminar, National Center for Theoretical Sciences, National Tsing-Hua University, Taiwan, September 18, 2014 **[invited]**: “Weak Gravitational Lensing Effects by Galaxy Clusters”
12. Astrophysics Colloquium, NASA Jet Propulsion Laboratory (JPL), USA, April 24, 2014 **[invited]**: “CLASH: Weak-Lensing Shear and Magnification Analysis of 20 Galaxy Clusters”
13. Colloquium, Institute of Astronomy, National Tsing-Hua University, Taiwan, April 20, 2012 **[invited]**: “Clusters of Galaxies as Cosmic Lenses”
14. Colloquium, Institute of Physics, Academia Sinica, Taiwan, June 21, 2011 **[invited]**: “Galaxy Cluster Gravitational Lensing as Cosmological Probes”
15. Colloquium, Department of Physics, Hokkaido University, Japan, June 11, 2010 **[invited]**: “Galaxy Cluster Gravitational Lensing as a Cosmological Probe”
16. Colloquium, Institute of Astronomy, National Central University, Taiwan, April 9, 2010 **[invited]**: “Probing the Dark Matter Density Profile by Galaxy Cluster Gravitational Lensing”
17. Astrophysics Seminar (Fall Semester), Department of Physics, NTU, Taiwan, November 6, 2008 **[invited]**: “Cluster Weak Lensing and Sunyaev-Zel’dovich Effects in AMiBA Galaxy Clusters”
18. Astrophysics Seminar (Spring Semester), Department of Physics, NTU, Taiwan, May 29, 2008 **[invited]**: “Testing LCDM with Cluster Gravitational Lensing”
19. Colloquium, Institute of Astronomy, National Central University, Taiwan, April 20, 2007 **[invited]**: “Gravitational Lensing in Galaxy Clusters”
20. Seminar, National Center for Theoretical Sciences, NTU, Taiwan, November 30, 2006 **[invited]**: “Probing Dark Energy and Dark Matter with Gravitational Lensing”

Accepted Observing Proposals (PI/Co-PI only)

PI,	2020A	"Homogeneous Weak Lensing Masses of the Reference XMM-Heritage Cluster Sample (II)"	(CFHT)
Co-PI,	2019B	"Homogeneous Weak Lensing Masses of the Reference XMM-Heritage Cluster Sample"	(CFHT)
PI,	2010A	"Constraining the Galaxy Population Evolution in Clusters of Galaxies"	(CFHT)
PI,	2007B	"Testing the Cold Dark Matter Paradigm with Cluster Gravitational Lensing"	(CFHT)
PI,	2007A	"Testing the Cold Dark Matter Paradigm with Cluster Gravitational Lensing"	(CFHT)
PI,	2013B	"A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program IV"	(Subaru)
PI,	2013A	"A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program III"	(Subaru)
PI,	2012A	"A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program II"	(Subaru)
PI,	2010B	"A Unique Cluster Mass Profile Dataset from an HST-Subaru Survey Program"	(Subaru)
PI,	2008A	"Subaru Weak Lensing Study of Merging Galaxy Clusters IIb"	(Subaru)
PI,	2007B	"Subaru Weak Lensing Study of Merging Galaxy Clusters II"	(Subaru)
PI,	2000	"Weak Lensing Survey in a High Redshift Supercluster Field"	(Subaru)
PI,	2011B	"Dark Matter and Baryons in Hubble Treasury Clusters (III)"	(CSO)
PI,	2011A	"Dark Matter and Baryons in Hubble Treasury Clusters (II)"	(CSO)
PI,	2010B	"Dark Matter and Baryons in Hubble Treasury Clusters"	(CSO)

Teaching Experience (listed in descending chronological order)

- Guest lecturer, General Astronomy, Yuan-Zhe University, Taiwan, November 21, 2019 [**invited**]: Given a lecture (1.5 hours) entitled "*My Journey through Taiwan: from Gravitational Lensing to Dark Matter*"
- Lecturer, NTU Student Seminar, ASIAA, May 28, 2019 [**invited**]: "*Gravitational Lensing by Galaxy Clusters*"
- Lecturer, NTU Student Seminar, ASIAA, May 4, 2017 [**invited**]: "*Galaxy Clusters as Cosmic Lenses*"
- Lecturer, NTU Student Seminar, ASIAA, November 19, 2015 [**invited**]: "*Gravitational Lensing by Galaxy Clusters*"
- Lecturer, ASIAA Summer Student Program 2011, ASIAA, August 4, 2011: "*Cosmology*"
- Lecturer, ASIAA Summer Student Program 2010, ASIAA, July 27, 2010: "*Gravitational Lensing and Observational Cosmology*"
- Lecturer, TIARA Winter School on Galaxies and Stellar Clusters, NTHU, Taiwan, January 25–29, 2010 [**invited**]: "*Lensing and AMiBA Studies of Galaxy Clusters*"
- Lecturer, Joint LeCosPA-FGCPA Summer School, NTU Taiwan, June 20–23, 2009 [**invited**]:
 - "*The Large-Scale Structure in the Universe (I)*"
 - "*The Large-Scale Structure in the Universe (II)*"
- Lecturer, International School of Physics "Enrico Fermi", Course CLXXII: Astrophysics of Galaxy Clusters, Varenna, Italy, July 15–25, 2008 [**invited**]:
 - "*Cluster Weak Gravitational Lensing*"
 - "*CMB Interferometer*"
- Guest lecturer, Department of Physics, NTU, Taiwan, May 12–14, 2008 [**invited**]: Taught a series of lectures (3 hours) on "*Cosmology and Gravitational Lensing*"
- Lecturer, ASIAA Summer Student Program 2007, ASIAA, July 17, 2007: "*The AMiBA Project*"
- Lecturer, ASIAA Summer Student Program 2006, ASIAA, August 3, 2006: "*Introduction to Gravitational Lensing*"
- Guest lecturer, Astronomical Institute, Tohoku University, June 28–July 2, 2004 [**invited**]: Taught a series of lectures (6 hours) on "*Weak Gravitational Lensing: Theory, Methods, and Applications*"

Education and Public Outreach

- Public lecture [**in Chinese**], Prospect Lecture Series: 100 Years of Spacetime Distortion, NTU, Taiwan, May 31, 2019 [**invited**]: "*Looking at Dark Matter through Gravitational Lenses*"
- Interviewed [**in Chinese**] at the MOST Outstanding Research Award Ceremony by Unique Satellite TV (USTV), Taiwan, May 24, 2019
- Joint press release by Osaka University and ASIAA, April 25, 2018: "*Uncovering the Secret Law of the Evolution of Galaxy Clusters*"

- Public lecture [**in Chinese**], ASIAA Outreach Activity, NTU Azalea Festival 2017, Taiwan, March 11, 2017: "Gravitational Lensing in the Universe"
- Interviewed [**in Chinese**] by Central News Agency, Taiwan, December 2013
- Joint press release by Academia Sinica, NAOJ, and Birmingham, June 13, 2013: "Cosmic Giants Shed New Light on Dark Matter"
- Public lecture [**in Chinese**], Special Open House for NTU undergraduate students, ASIAA, April 11, 2010: "Cosmology and Extragalactic Projects at ASIAA"
- Joint press release by RIKEN and Academia Sinica, April 7, 2010: "Astrophysicists Capture Growth of Galaxy Clusters, the Largest Cosmic Structures"
- Interviewed by Scientific American Taiwan Edition, October 3, 2008
- Public lecture [**in Chinese**], Special Open House for NTU undergraduate students, ASIAA, March 23, 2008: "Introduction to Cosmology"
- Interviewed by Researcher Zukan, February 2008
- Public lecture [**in Chinese**], NCKU/NTNU Students Visit, ASIAA, 2006: "The AMiBA Project: Introduction to Observational Cosmology"

Involvement in International Projects

Scientist,	Local Volume Complete Cluster Survey (LoVoCCS)	(2018 – present)
Scientist,	ALMA Lensing Cluster Survey (ALCS)	(2018 – present)
Scientist,	XMM-Newton Heritage program	(2017 – present)
Scientist,	BUFFALO	(2017 – present)
Scientist,	Galaxy Clusters at Vircam (GCAV)	(2016 – present)
Scientist,	Reionization Lensing Cluster Survey (RELICS)	(2015 – present)
Scientist,	J-PAS	(2013 – present)
Scientist,	Ultimate XMM Extragalactic Survey (XXL)	(2011 – present)
Scientist,	CLASH-VLT survey	(2011 – present)
<u>Principal Investigator,</u>	CLASH-CSO/Bolocam program	(2011 – 2013)
<u>Principal Investigator,</u>	CLASH-Subaru/Suprime-Cam program	(2009 – 2014)
Scientist,	Cluster Lensing And Supernova survey with Hubble (CLASH)	(2009 – present)
Scientist,	Subaru Hyper Suprime-Cam survey (HSC-SSP)	(2007 – present)
Scientist,	Local Cluster Substructure Survey (LoCuSS)	(2005 – 2016)
<u>Science Lead,</u>	AMiBA 7-element project	(2005 – 2010)
Scientist,	Array for Microwave Background Anisotropy (AMiBA)	(2001 – 2016)

International Meetings Organized

Member of SOC,	Panchromatic Panoramic Studies of Galaxy Clusters,	ASIAA	(03/2019)
Member of SOC,	The 8th KIAS Workshop on Cosmology,	Seoul, Korea	(11/2018)
Member of SOC,	TIARA Summer School on Astrostatistics and Big Data,	ASIAA	(09/2017)
Organizer,	Subaru HSC Survey Collaboration Meeting,	ASIAA	(01/2016)
Co-organizer,	Photometric Redshifts for Large Scale Surveys,	ASIAA	(09/2013)
Co-organizer,	DENET Subaru HSC Workshop,	ASIAA	(03/2011)
Member of SOC,	Subaru HSC Sciences on Variable and Transients,	NCU, Taiwan	(12/2009)
Co-organizer,	Taiwan-Japan Subaru HSC Science Mini Workshop,	ASIAA	(12/2008)
Co-organizer,	Subaru-ASIAA Mini Workshop,	ASIAA	(03/2008)
Member of SOC,	AMiBA Workshop,	Hilo, Hawaii, USA	(09/2005)

Languages

Japanese (mother tongue), English (fluent), Chinese (spoken)

Visiting Scholars Hosted

Dr. Adam Amara,	Professor, ICG, University of Portsmouth, UK	(01/2019 – present)
Dr. Sandor M. Molnar,	Full-time Visiting Associate Professor, ASIAA	(01/2016 – present)
Dr. Tom Broadhurst,	Professor, Ikerbasque, Spain	(01/2009 – present)
Mr. Chieh-An Lin,	Ph.D. student, CEA Saclay, France	(02/2016 – 03/2016)
Mr. Chieh-An Lin,	Ph.D. student, CEA Saclay, France	(11/2014 – 01/2015)
Dr. Hiroyuki Ikeda,	JSPS Postdoctoral Fellow, Japan	(04/2014 – 03/2015)

Staff Scientists Mentored (PI only)

Dr. Bau-Ching Hsieh,	Support Scientist, ASIAA	(01/2013 – 04/2019)
Dr. Bau-Ching Hsieh,	Specialist, ASIAA	(05/2019 – present)

Postdoctoral Researchers Supervised (PI only)

Dr. Luis A. Diaz Garcia,	ASIAA	(08/2018 – present)
Dr. Shutaro Ueda,	ASIAA	(04/2018 – present)
Dr. I-Non Chiu,	ASIAA	(06/2016 – present)
Dr. Yuichi Higuchi,	ASIAA	(05/2016 – 01/2019) → Postdoc, Kindai U., Japan
Dr. Nicole Czakon,	ASIAA	(07/2013 – 08/2016) → Now Data Scientist, Slack, USA
Dr. Jean Coupon,	ASIAA	(01/2012 – 09/2013) → Now Data Scientist, Switzerland
Dr. Nobuhiro Okabe,	ASIAA	(06/2009 – 08/2013) → Now Assistant Professor (tenured), Hiroshima U.

Graduate Students Supervised (PI only)

Sut-leng Tam,	Master, NTU/Physics	(10/2014 – 08/2016) → Durham U./Physics
Li-Yen Hsu	Master, NTU/Physics	(01/2009 – 07/2010) → U. Hawaii/Astronomy
Chia-Jung Shih,	Master, NTU/Astrophysics	(07/2007 – 07/2009)
James Hung-Shu Chan,	Post-Master RA, ASIAA	(09/2009 – 12/2010) → NTU/Physics
Yi-Jung Yang,	Post-Master RA, ASIAA	(07/2007 – 10/2007) → NTHU/Astronomy

Undergraduate Students Supervised (PI only)

Fang-Chia Lee,	Undergraduate RA, ASIAA	(10/2006 – 07/2007)
Chia-Jung Shih,	ASIAA summer student, ASIAA	(06/2006 – 08/2006)
Yang-Ting Chien,	ASIAA summer student, ASIAA	(06/2002 – 08/2002)

Selected Publications of Keiichi Umetsu

- An asterisk (*) indicates the corresponding author.
- Citation counts are based on the NASA Astrophysics Data System (ADS).
- Publications are listed in descending chronological order.

1. Keiichi Umetsu*, Mauro Sereno, Maggie Lieu, Hironao Miyatake, Elinor Medezinski, Atsushi J. Nishizawa, Paul Giles, Fabio Gastaldello, Ian G. McCarthy, Martin Kilbinger, Mark Birkinshaw, Stefano Ettori, Nobuhiro Okabe, I-Non Chiu, Jean Coupon, Dominique Eckert, Yutaka Fujita, Yuichi Higuchi, Elias Koulouridis, Ben Maughan, Satoshi Miyazaki, Masamune Oguri, Florian Pacaud, Marguerite Pierre, David Rapetti, & Graham P. Smith, submitted to **The Astrophysical Journal** (arXiv:1909.10524) [4 citations]
“*Weak Lensing Analysis of X-ray-selected XXL Galaxy Groups and Clusters with Subaru HSC Data*”
2. Keiichi Umetsu*, Mauro Sereno, Sut-leng Tam, I-Non Chiu, Zuhui Fan, Stefano Ettori, Daniel Gruen, Tepei Okumura, Elinor Medezinski, Megan Donahue, Massimo Meneghetti, Brenda Frye, Anton Koekemoer, Tom Broadhurst, Adi Zitrin, Italo Balestra, Narciso Benitez, Yuichi Higuchi, Peter Melchior, Amata Mercurio, Julian Merten, Alberto Molino, Mario Nonino, Marc Postman, Piero Rosati, Jack Sayers, & Stella Seitz, **The Astrophysical Journal**, 860(2), 104 (June 2018) [15 citations]
“*The Projected Dark and Baryonic Ellipsoidal Structure of 20 CLASH Galaxy Clusters*”
3. Keiichi Umetsu* & Benedkt Diemer, **The Astrophysical Journal**, 836(2), 231 (February 2017) [34 citations]
“*Lensing Constraints on the Mass Profile Shape and the Splashback Radius of Galaxy Clusters*”
→ [First direct lensing constraints on the splashback radius of galaxy clusters](#)
4. Keiichi Umetsu*, Adi Zitrin, Daniel Gruen, Julian Merten, Megan Donahue, & Marc Postman, **The Astrophysical Journal**, 821(2), 116 (April 2016) [121 citations]
“*CLASH: Joint Analysis of Strong-lensing, Weak-lensing Shear, and Magnification Data for 20 Galaxy Clusters*”
→ [Selected into the Major Achievements of the Subaru Telescope \(2016–2019\)](#)
→ [Won the MOST Outstanding Research Award \(2018\)](#)
→ [Cited more than 100 times](#)
5. Keiichi Umetsu*, Mauro Sereno, Elinor Medezinski, Mario Nonino, Tony Mroczkowski, Jose M. Diego, Stefano Ettori, Nobuhiro Okabe, Tom Broadhurst, & Doron Lemze, **The Astrophysical Journal**, 806(2), 207 (June 2015) [47 citations]
“*Three-dimensional Multi-probe Analysis of the Galaxy Cluster A1689*”
→ [Selected into Academia Sinica Publications of Significant Research Achievements \(2015\)](#)
6. Keiichi Umetsu, Elinor Medezinski, Mario Nonino, Julian Merten, Marc Postman, Massimo Meneghetti, Megan Donahue, Nicole Czakon, Alberto Molino, Stella Seitz, Daniel Gruen, Doron Lemze, Italo Balestra, Narciso Benitez, Andrea Biviano, Tom Broadhurst, Holland Ford, Claudio Grillo, Anton Koekemoer, Peter Melchior, Amata Mercurio, John Moustakas, Piero Rosati, & Adi Zitrin, **The Astrophysical Journal**, 795(2), 163 (November 2014) [174 citations]
“*CLASH: Weak-Lensing Shear-and-Magnification Analysis of 20 Galaxy Clusters*”
→ [Won the MOST Outstanding Research Award \(2018\)](#)
→ [Cited more than 100 times](#)
7. Keiichi Umetsu*, **The Astrophysical Journal**, 769(1), 13 (May 2013) [18 citations]
“*Model-Free Multi-Probe Lensing Reconstruction of Cluster Mass Profiles*”
→ [Selected into Academia Sinica Publications of Significant Research Achievements \(2013\)](#)
8. Keiichi Umetsu*, Elinor Medezinski, Mario Nonino, Julian Merten, Adi Zitrin, Alberto Molino, Claudio Grillo, Mauricio Carrasco, Megan Donahue, Andisheh Mahdavi, Dan Coe, Marc Postman, Anton Koekemoer, Nicole Czakon, Jack Sayers, Tony Mroczkowski, Sunil Golwala, Patrick M. Koch, Kai-Yang Lin, Sandor M. Molnar, Piero Rosati, Italo Balestra, Amata Mercurio, Marco Scodeggio, Andrea Biviano, Timo Anguita, Leopoldo Infante, Gregor Seidel, Irene Sendra, Stephanie Jouvel, Ole Host, Doron Lemze, Tom Broadhurst, Massimo Meneghetti, Leonidas Moustakas, Matthias Bartelmann, Narciso Benitez, Rychard Bouwens, Larry Bradley, Holland Ford, Yolanda Jimenez-Teja, Daniel Kelson, Ofer Lahav, Peter Melchior, John Moustakas, Sara Ogaz, Stella Seitz, & Wei Zheng, **The Astrophysical Journal**, 755(1), 56 (August 2012) [100 citations]
“*CLASH: Mass Distribution in and around the Galaxy Cluster MACS J1206.2-0847 from a Full Cluster Lensing Analysis*”
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"A Precise Cluster Mass Profile Averaged from the Highest Quality Lensing Data"

→ [Highlighted in the 2nd edition of the textbook "Extragalactic Astronomy & Cosmology" by P. Schneider](#)

10. Keiichi Umetsu*, Tom Broadhurst, Adi Zitrin, Elinor Medezinski, & Li-Yen Hsu, **The Astrophysical Journal**, 729(2), 127 (March 2011) [100 citations]
"Cluster Mass Profiles from a Bayesian Analysis of Weak Lensing Distortion and Magnification Measurements: Applications to Subaru Data"
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11. Keiichi Umetsu*, Elinor Medezinski, Tom Broadhurst, Adi Zitrin, Nobuhiro Okabe, Bau-Ching Hsieh, & Sandor M. Molnar, **The Astrophysical Journal**, 714(2), 1479 (May 2010) [76 citations]
"The Mass Structure of the Galaxy Cluster Cl0024+1654 from a Full Lensing Analysis of Subaru and ACS/NIC3 Observations"
12. Keiichi Umetsu*, Mark Birkinshaw, Guo-Chin Liu, Jiun-Huei Protty Wu, Elinor Medezinski, Tom Broadhurst, Doron Lemze, Adi Zitrin, Paul T. P. Ho, Chih-Wei Locutus Huang, Patrick M. Koch, Yu-Wei Liao, Kai-Yang Lin, Sandor M. Molnar, Hiroaki Nishioka, Fu-Cheng Wang, Pablo Altamirano, Chia-Hao Chang, Shu-Hao Chang, Su-Wei Chang, Ming-Tang Chen, Chih-Chiang Han, Yau-De Huang, Yuh-Jing Hwang, Homin Jiang, Michael Kesteven, Derek Y. Kubo, Chao-Te Li, Pierre Martin-Cocher, Peter Oshiro, Philippe Raffin, Tashun Wei, & Warwick Wilson, **The Astrophysical Journal**, 694(2), 1643 (April 2009) [94 citations]
"Mass and Hot Baryons in Massive Galaxy Clusters from Subaru Weak Lensing and AMiBA Sunyaev-Zel'dovich Effect Observations"
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14. Yuki Okura, Keiichi Umetsu*, & Toshifumi Futamase, **The Astrophysical Journal**, 680(1), 1 (June 2008) [48 citations]
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15. Yuki Okura, Keiichi Umetsu*, & Toshifumi Futamase, **The Astrophysical Journal**, 660(2), 995 (May 2007) [57 citations]
"A New Measure for Weak-Lensing Flexion"
16. Keiichi Umetsu* & Toshifumi Futamase, **The Astrophysical Journal Letters**, 539(1), L5 (August 2000) [52 citations]
"Detection of Dark Matter Concentrations in the Field of Cl 1604+4304 from Weak Lensing Analysis"

Complete List of Publications: Keiichi Umetsu (1999 – present)

My research interests and experience encompass the fields of observational cosmology and astrophysics, with the goal of understanding the nature of dark matter and its role in cosmic structure formation. To this end, my research is primarily centered on galaxy clusters and their surrounding large scale structure, by using gravitational lensing in combination with theoretical modeling and complementary data sets from Sunyaev–Zel'dovich effects, X-ray, and dynamical observations.

(A) Publications in Refereed SCI Journals

1. K. Umetsu*, M. Tada, & T. Futamase, **Progress of Theoretical Physics Supplements**, 133, 53-84 (May 1999)
"Cluster mass reconstruction by a weak shear field"
2. K. Umetsu* & M. Hattori, **Advances in Space Research**, 25, 617-620 (February 2000)
"On the origin of the metallicity gradient in clusters of galaxies"
3. M. Hattori & K. Umetsu, **ApJ**, 533, 84-94 (April 2000)
"A possible route to spontaneous reduction of the heat conductivity by a temperature gradient driven instability in electron-ion plasmas"
4. K. Umetsu* & T. Futamas, **ApJL**, 539, L5-L8 (August 2000)
"Detection of dark matter concentrations in the field of Cl 1604+4304 from weak lensing analysis"

5. M. Hattori & K. Umetsu, **Earth, Planets and Space**, 53, 689-693 (June 2001)
 "Spontaneous reduction of the heat conductivity by a temperature gradient-driven instability in electron-ion plasmas"
6. J. Sato, K. Umetsu, T. Futamase & T. Yamada, **ApJL**, 582, L67-L70 (January 2003)
 "The topology of a weak lensing field in the neighborhood of MS1054-03"
7. C.-G. Park, K.-W. Ng, C. Park, G.-C. Liu & K. Umetsu, **ApJ**, 589, 67-81 (May 2003)
 "Observational strategies of CMB temperature and polarization interferometry experiments"
8. T. Broadhurst, M. Takada, K. Umetsu, X. Kong, N. Arimoto, M. Chiba, & T. Futamase, **ApJL**, 619, L143-L146 (February 2005)
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9. T. Kodama, M. Tanaka, T. Tamura, H. Yahagi, M. Nagashima, I. Tanaka, N. Arimoto, T. Futamase, M. Iye, Y. Karasawa, N. Kashikawa, W. Kawasaki, T. Kitayama, H. Matsuhara, F. Nakata, T. Ohashi, K. Ohta, T. Okamoto, S. Okamura, K. Shimasaku, Y. Suto, N. Tamura, K. Umetsu, & T. Yamada, **PASJ**, 57, 309-323 (April 2005)
 "Panoramic views of cluster-scale assembly explored by Subaru wide-field imaging"
10. M. Tanaka, T. Kodama, N. Arimoto, S. Okamura, K. Umetsu, K. Shimasaku, I. Tanaka, & T. Yamada, **MNRAS**, 362, 268-288 (September 2005)
 "The Build-up of the Colour-Magnitude Relation as a Function of Environment"
11. M. Oguri, M. Takada, K. Umetsu, & T. Broadhurst, **ApJ**, 632, 841-846 (October 2005)
 "Can the steep mass profile of A1689 be explained by a triaxial dark halo?"
12. K. Umetsu*, M. Tanaka, T. Kodama, I. Tanaka, T. Futamase, N. Kashikawa, & T. Hoshi, **PASJ**, 57, 877-880 (December 2005)
 "Discovery of a Strongly Lensed Galaxy at $z=3.9$ behind a $z=0.83$ Galaxy Cluster"
13. Y. Okura, K. Umetsu*, & T. Futamase, **ApJ**, 660, 995-1005 (May 2007)
 "A New Measure for Weak Lensing Flexion"
14. E. Medezinski, T. Broadhurst, K. Umetsu, D. Coe, N. Benitez, H. Ford, Y. Rephaeli, N. Arimoto, X. Kong, **ApJ**, 663, 717-733 (July 2007)
 "Using Weak Lensing Dilution to Improve Measurements of the Luminous and Dark Matter in A1689"
15. N. Okabe, K. Umetsu, **PASJ**, 60, 345-375 (April 2008)
 "Subaru Weak Lensing Study of Seven Merging Clusters: Distributions of Mass and Baryons"
16. Y. Okura, K. Umetsu*, T. Futamase, **ApJ**, 680, 1-16 (June 2008)
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 "Combining Lens Distortion and Depletion to Map the Mass Distribution of A1689"
18. T. Broadhurst, K. Umetsu, E. Medezinski, M. Oguri, & Y. Rephaeli, **ApJL**, 685, L9-L12 (September 2008)
 "Comparison of Cluster Lensing Profiles with Lambda CDM Predictions"
19. Paul T.P. Ho, Pablo Altamirano, Chia-Hao Chang, Shu-Hao Chang, Su-Wei Chang, Chung-Cheng Chen, Ke-Jung Chen, Ming-Tang Chen, Chih-Chiang Han, West M. Ho, Yau-De Huang, Yuh-Jing Hwang, Fabiola Ibanez-Romano, Homin Jiang, Patrick M. Koch, Derek Y. Kubo, Chao-Te Li, Jeremy Lim, Kai-Yang Lin, Guo-Chin Liu, Kwok-Yung Lo, Cheng-Jiun Ma, Robert N. Martin, Pierre Martin-Cocher, Sandor M. Molnar, Kin-Wang Ng, Hiroaki Nishioka, Kevin E. O'Connell, Peter Oshiro, Ferdinand Patt, Philippe Raffin, Keiichi Umetsu, Tashun Wei, Jiun-Huei Protty Wu, Tzi-Dar Chiueh, Tzihong Chiueh, Tah-Hsiung Chu, Chih-Wei Locutus Huang, W.Y. Pauchy Hwang, Yu-Wei Liao, Chun-Hsien Lien, Fu-Cheng Wang, Huei Wang, Ray-Ming Wei, Chia-Hsiang Yang, Michael Kesteven, Jeff Kingsley, Malcolm M. Sinclair, Warwick Wilson, Mark Birkinshaw, Haida Liang, Katy Lancaster, Chan-Gyung Park, Ue-Li Pen, & Jeffrey B. Peterson, **ApJ**, 694, 1610-1618 (April 2009)
 "The Yuan-Tseh Lee Array for Microwave Background Anisotropy"
20. J.H.P. Wu, P. T. P. Ho, C. W. L. Huang, P. M. Koch, Y. W. Liao, K. Y. Lin, G. C. Liu, S. M. Molnar, H. Nishioka, K. Umetsu, F. C. Wang, P. Altamirano, M. Birkinshaw, C. H. Chang, S. H. Chang, S. W. Chang, M. T. Chen, T. Chiueh, C. C. Han, Y. D. Huang, Y. J. Hwang, H. Jiang, M. Kesteven, D. Y. Kubo, K. Lancaster, C. T. Li, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, & W. Wilson, **ApJ**, 694, 1619-1628 (April 2009)
 "Array for Microwave Background Anisotropy: Observations, Data Analysis, and Results for Sunyaev-Zel'Dovich Effects"

21. K.-Y. Lin, C.-T. Li, P.T.P. Ho, C.-W.L. Huang, Y.-W. Liao, G.-C. Liu, P.M. Koch, H. Nishioka, K. Umetsu, F.-C. Wang, J.-H.P. Wu, M. Kesteven, M. Birkinshaw, P. Altamirano, C. H. Chang, S. H. Chang, S. W. Chang, M. T. Chen, T. Chiueh, C. C. Han, Y. D. Huang, Y. J. Hwang, F. Ibanez-Roman, H. Jiang, D. Y. Kubo, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, W. Wilson, K.J. Chen, & T. Chiueh **ApJ**, 694, 1629-1636 (April 2009)
 "AMiBA: System Performance"
22. H. Nishioka, F.-C. Wang, J.-H. P. Wu, P.T.P. Ho, C.-W. L. Wang, P.M. Koch, Y.-W. Liao, K.-Y. Lin, G.-C. Liu, S.M. Molnar, K. Umetsu, M. Birkinshaw, P. Altamirano, M. Birkinshaw, C. H. Chang, S. H. Chang, S. W. Chang, M. T. Chen, T. Chiueh, C. C. Han, Y. D. Huang, Y. J. Hwang, H. Jiang, M. Kesteven, D. Y. Kubo, K. Lancaster, C. T. Li, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, & W. Wilson **ApJ**, 694, 1637-1642 (April 2009)
 "Tests for AMiBA Data Integrity"
23. K. Umetsu*, M. Birkinshaw, G.-C. Liu, J.-H. P. Wu, E. Medezinski, T. Broadhurst, D. Lemze, A. Zitrin, P.T.P. Ho, C.-W. L. Huang, P.M. Koch, Y.-W. Liao, K.-Y. Lin, S.M. Molnar, H. Nishioka, F.-C. Wang, P. Altamirano, C. H. Chang, S. H. Chang, S. W. Chang, M. T. Chen, T. Chiueh, C. C. Han, Y. D. Huang, Y. J. Hwang, H. Jiang, M. Kesteven, D. Y. Kubo, K. Lancaster, C. T. Li, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, & W. Wilson, **ApJ**, 694, 1643-1663 (April 2009)
 "Mass and Hot Baryons in Massive Galaxy Clusters from Subaru Weak Lensing and AMiBA Sunyaev-Zel'dovich Effect Observations"
24. M.-T. Chen, C.-T. Li, Y.-J. Hwang, H. Jiang, P. Altamirano, C.-H. Chang, S.-H. Chang, S.-W. Chang, T.-D. Chiueh, T.-H. Chu, C.-C. Han, Y.-D. Huang, M. Kesteven, D. Kubo, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, H. Wang, W. Wilson, P.T.P. Ho, C.-W. Huang, P.M. Koch, Y.-W. Liao, K.-Y. Lin, G.-C. Liu, S.M. Molnar, H. Nishioka, K. Umetsu, F.-C. Wang, & J.-H. Protty Wu, **ApJ**, 694, 1664-1669 (April 2009)
 "AMiBA: Broadband Heterodyne CMB Interferometry"
25. P.M. Koch, M. Kesteven, H. Nishoka, H. Jiang, K.-Y. Lin, K. Umetsu, Y.-D. Huang, P. Raffin, K.-J. Chen, F. Ibanez-Romano, G. Chereau, C.-W. L. Huang, M.-T. Chen, P. T. P. Ho, K. Pausch, K. Willmeroth, P. Altamirano, C.-H. Chang, S.-H. Chang, S.-W. Chang, C.-C. Han, D. Kubo, C.-T. Li, Y.-W. Liao, G.-C. Liu, P. Martin-Cocher, P. Oshiro, F.-C. Wang, T.-S. Wei, J.-H. P. Wu, M. Birkinshaw, T. Chiueh, K. Lancaster, K.-Y. Lo, R. N.Martin, S. M. Molnar, F. Patt, & B. Romeo **ApJ**, 694, 1670-1684 (April 2009)
 "The AMiBA Hexapod Telescope Mount"
26. C.P. Haines, G.P. Smith, E. Egami, N. Okabe, M. Takada, R.S. Ellis, S. Moran, & K. Umetsu, **MNRAS**, 396, 1297-1307 (July 2009)
 "LoCuSS: Luminous infrared galaxies in the merging cluster Abell 1758 at $z = 0.28$ "
27. Adi Zitrin, Tom Broadhurst, Keiichi Umetsu, Dan Coe, Narciso Benitez, Begoa Ascaso, Larry Bradley, Holland Ford, James Jee, Elinor Medezinski, Yoel Rephaeli, & Wei Zheng **MNRAS**, 396, 1985-2002 (July 2009)
 "New Multiply-lensed Galaxies Identified in ACS/NIC3 Observations of Cl0024+1654 using an Improved Mass Model"
28. D. Lemze, T. Broadhurst, Y. Rephaeli, R. Barkana, & K. Umetsu, **ApJ**, 701, 1336 (August 2009)
 "Dynamical Study of A1689 from Wide-Field VLT/VIMOS Spectroscopy: Mass Profile, Concentration Parameter, and Velocity Anisotropy"
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 "AMiBA: Sunyaev-Zeldovich Effect Derived Properties and Scaling Relations of Massive Galaxy Clusters"
30. M. Kawaharada, N. Okabe, K. Umetsu, M. Takizawa, K. Matsushita, Y. Fukazawa, T. Hamana, S. Miyazaki, K. Nakazawa, & T. Ohashi, **ApJ**, 714, 423-441 (May 2010)
 "Suzaku Observation of Abell 1689: Anisotropic Temperature and Entropy Distributions Associated with the Large-Scale Structure"
31. K. Umetsu*, E. Medezinski, T. Broadhurst, A. Zitrin, B.-C. Hsieh, N. Okabe, & S.M. Molnar, **ApJ**, 714, 1470-1496 (May 2010)

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32. E. Medezinski, T. Broadhurst, K. Umetsu, M. Oguri, Y. Rephaeli, & N. Benitez, **MNRAS**, 405, 257-273 (June 2010)
“Detailed Cluster Mass and Light Profiles of A1703, A370, & RXJ1347-11 from Deep Subaru Imaging”
 33. N. Okabe, M. Takada, K. Umetsu, T. Futamase, & G.P. Smith, **PASJ**, 62, 811-870 (June 2010)
“LoCuSS: Subaru Weak Lensing Study of 30 LoCuSS Galaxy Clusters”
 34. Chao-Te Li, Derek Y. Kubo, Warwick Wilson, Kai-Yang Lin, Ming-Tang Chen, P. T. P. Ho, Chung-Cheng Chen, Chih-Chiang Han, Peter Oshiro, Pierre Martin-Cocher, Chia-Hao Chang, Shu-Hao Chang, Pablo Altamirano, Homin Jiang, Tzi-Dar Chiueh, Chun-Hsien Lien, Huei Wang, Ray-Ming Wei, Chia-Hsiang Yang, Jeffrey B. Peterson, Su-Wei Chang, Yau-De Huang, Yuh-Jing Hwang, Michael Kesteven, Patrick Koch, Guo-Chin Liu, Hiroaki Nishioka, Keiichi Umetsu, Tashun Wei, & Jiun-Huei Proty Wu **ApJ**, 716, 746-757 (June 2010)
“AMiBA Wideband Analog Correlator”
 35. C.-W.L. Huang, J.-H.P. Wu, P.T.P. Ho, P.M. Koch, Y.-W. Liao, K.-Y. Lin, G.-C. Liu, S.M. Molnar, H. Nishioka, K. Umetsu, F.-C. Wang, P. Altamirano, M. Birkinshaw, C.-H. Chang, S.-H. Chang, S.-W. Chang, M.-T. Chen, C.-C. Han, Y.-D. Huang, Y.-J. Hwang, H. Jiang, M. Kesteven, D. Kubo, C.-T. Li, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, & W. Wilson **ApJ**, 716, 758-765 (June 2010)
“AMiBA: Scaling Relations between the Integrated Compton-y and X-ray Derived Temperature, Mass, and Luminosity”
 36. G.-C. Liu, M. Birkinshaw, J.-H.P. Wu, P.T.P. Ho, C.-W.L. Huang, Y.-W. Liao, K.-Y. Lin, S.M. Molnar, H. Nishioka, P.M. Koch, K. Umetsu, F.-C. Wang, P. Altamirano, C.-H. Chang, S.-H. Chang, S.-W. Chang, M.-T. Chen, C.-C. Han, Y.-D. Huang, Y.-J. Hwang, H. Jiang, M. Kesteven, D. Kubo, C.-T. Li, P. Martin-Cocher, P. Oshiro, P. Raffin, T. Wei, & W. Wilson **ApJ**, 720, 608-613 (September 2010)
“Contamination of the Central Sunyaev-Zel’dovich Decrements in AMiBA Galaxy Cluster Observations”
 37. N. Okabe, Y.-Y. Zhang, A. Finoguenov, M. Takada, G.P. Smith, K. Umetsu, & T. Futamase, **ApJ**, 721, 875-885 (September 2010)
“LoCuSS: Calibrating Mass-Observable Scaling Relations for Cluster Cosmology with Subaru Weak Lensing Observations”
 38. A. Zitrin, T. Broadhurst, K. Umetsu, Y. Rephaeli, E. Medezinski, L. Bradley, Y. Jimenez-Teja, N. Benitez, H. Ford, J. Liesenborgs, S. De Rijcke, H. Dejonghe, & P. Bekaert **MNRAS**, 408, 1916-1927 (November 2010)
“Full Lensing Analysis of Abell 1703: Comparison of Independent Lens-Modelling Techniques”
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