

CV of Eiichiro Komatsu

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Residence

Westfalenstr. 2
80805 München
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Education

Tohoku University, Sendai, Japan	Astronomy	Ph.D. 2001
Tohoku University, Sendai, Japan	Astronomy	M.Sc. 1999
Tohoku University, Sendai, Japan	Astronomy	B.Sc. 1997

Professional Experience

Aug 2012 – present	Director (full-time)	Max Planck Institute for Astrophysics, Garching, Germany
Apr 2012 – present	Honorary Professor	Ludwig Maximilians University, Munich, Germany
Jan 2012 – Aug 2012	Director (part-time)	Max Planck Institute for Astrophysics, Garching, Germany
Apr 2017 – present	Principal Investigator	Kavli Institute for the Physics and Mathematics of the Universe, Tokyo, Japan
Sep 2010 – Mar 2017	Visiting Senior Scientist	Kavli Institute for the Physics and Mathematics of the Universe, Tokyo, Japan
Feb 2008 – Aug 2010	Visiting Scientist	Kavli Institute for the Physics and Mathematics of the Universe, Tokyo, Japan
Sep 2012 – Aug 2013	Adjunct Professor	University of Texas at Austin, TX, USA
Sep 2010 – Aug 2012	Professor	University of Texas at Austin, TX, USA
Jan 2009 – May 2012	Director, Texas Cosmology Center	University of Texas at Austin, TX, USA
Sep 2008 – Aug 2010	Associate Professor	University of Texas at Austin, TX, USA
Sep 2003 – Aug 2008	Assistant Professor	University of Texas at Austin, TX, USA
Sep 2001 – Aug 2003	WMAP Postdoctoral Research Fellow	Princeton University, NJ, USA
Sep 2000 – Aug 2001	Visiting Member	Institute for Advanced Study, NJ, USA
Sep 1999 – Aug 2000	Visiting Student Research Collaborator	Princeton University, NJ, USA
Apr 1997 – Mar 1998	Teaching Assistant	Tohoku University, Sendai, Japan

Title of Dissertation

The Pursuit of Non-Gaussian Fluctuations in the Cosmic Microwave Background

Dissertation Advisors

Toshifumi Futamase (Tohoku University) and David N. Spergel (Princeton University)

Current Research Interests

Theoretical and observational cosmology

Professional Societies

- Astronomische Gesellschaft (AG)
- The American Astronomical Society (AAS)
- The American Physical Society (APS)
- The Astronomical Society of Japan (ASJ)
- The Physical Society of Japan (JPS)

Grants (Japan)

2015 PI, 29M JPY, *Ultimate Physics Analysis*, as a sub-group D01 of the bigger proposal on studying Cosmic Acceleration (PI: Hitoshi Murayama), Grant-in-Aid for Scientific Research on Innovative Areas, 9/1/15–3/31/20.

Grants (USA)

2010 PI, \$56,240, *Sunyaev-Zel'dovich Effect in the WMAP 9-year Data*, NASA/Astrophysics Data Analysis, 7/1/11–8/31/12.

2010 Sub-contract, \$79,216, *WMAP P.I. and Data Analysis Activities Based on the 2010 NASA Astrophysics Senior Review*, Johns Hopkins University, 8/10/10–8/9/12

2009 Sub-contract, \$94,298, *Analysis of the Temperature and Polarization Data from the Wilkinson Anisotropy Probe (WMAP)*, Johns Hopkins University, 11/12/2008–11/11/2010

2009 Co-PI, \$80,000, *Anisotropy and Energy Spectrum of the Gamma-ray Background as Probes of Dark Matter and Astrophysical Sources*, NASA/Fermi Guest Investigator Program, 8/14/2009–9/13/2010. [PI: Vasiliki Pavlidou, California Institute Of Technology]

2008 PI, \$90,000, *The Physics of Inflation: Non-Gaussianity, Reheating and Preheating*, NSF/Theoretical Physics, 10/15/2008–9/30/2011.

2008 PI, \$327,918, *Theory of Large-Scale Structure: Understanding Non-linearities, Bias, and Systematics in the Baryon Acoustic Oscillations as a Probe of Dark Energy*, NSF/Astronomy & Astrophysics, 9/15/2008–8/31/2011.

2008 PI, \$344,761, *Modeling the Power Spectrum in High-Redshift Surveys*, NASA/ATFP (Astrophysics Theory and Fundamental Physics), 6/1/2008–5/31/2011. [With Co-Is Volker Bromm and Avi Loeb]

2008 Sub-contract, \$146,325, *Inflation Studies with One- and a Two-Channel CIP*, the Smithsonian Astrophysical Observatory, 6/1/2008–4/15/2009. [With Co-Is Karl Gebhardt and Dan Jaffe]

- 2007 PI, \$74,999, *Anisotropy in the Cosmic Near Infrared Background: Simulations vs Observations*, California Institute Of Technology, & Jet Propulsion Laboratory, 10/1/2007–9/31/2008. [With Co-Is Paul R. Shapiro and Elizabeth R. Fernandez]
- 2007 Sub-contract, \$51,379, *Mission Operations Oversight, Data Analysis, Systematic Error Analysis, Foreground Analysis, and Other Principal Investigator Functions for the Wilkinson Microwave Anisotropy Probe*, Johns Hopkins University, 6/1/2007–5/31/2008
- 2006 Sub-contract, \$33,066, *Mission Operations Oversight, Data Analysis, Systematic Error Analysis, Foreground Analysis, and Other Principal Investigator Functions for the Wilkinson Microwave Anisotropy Probe*, Johns Hopkins University, 6/1/2006–5/31/2007
- 2005 PI, \$45,000, *Alfred P. Sloan Research Fellowship*, Alfred P. Sloan Foundation, 9/16/2005–9/15/2009

Publications

See attached.

Prizes, Awards and Honors

- | | |
|-------------|---|
| 2017 | The 2018 Breakthrough Prize in Fundamental Physics (for Charles L. Bennett, Gary Hinshaw, Norman Jarosik, Lyman Page, Jr., David N. Spergel, and the WMAP Science Team) |
| 2015 | Fellow of American Physical Society (for “Pioneering use of the bispectrum to study the physics of the early universe and for playing a leading role in the analysis of WMAP data”) |
| 2015 | The Astronomical Society of Japan Chushiro Hayashi Prize (for “Precision Cosmology based on the Cosmic Microwave Background”) |
| 2013 | The American Astronomical Society Lancelot M. Berkeley - New York Community Trust Prize for Meritorious Work in Astronomy (for the WMAP 7-year cosmological interpretation paper) |
| 2012 | Gruber Cosmology Prize (for Charles L. Bennett and the WMAP Science Team) |
| 2010 – | Sophie and Tycho Brahe Visiting Professor, University of Copenhagen, Denmark |
| 2010 | Nishinomiya-Yukawa Memorial Prize, Nishinomiya-city, Japan |
| 2008 | The International Union of Pure and Applied Physics (IUPAP) Young Physicist’s Prize |
| 2007 | NASA Group Achievement Award (for WMAP) |
| 2007 | College of Natural Sciences Teaching Excellence Award, University of Texas at Austin |
| 2006 | Morita Memorial Award, Tohoku University, Japan |
| 2005 – 2009 | Alfred P. Sloan Research Fellow |
| 2004 | The Astronomical Society of Japan Young Astronomer Award |
| 2004 | NASA Group Achievement Award (for WMAP) |
| 1999 – 2001 | Japan Society for the Promotion of Science Fellow |
| 2000 | Aoba Society of Promotion of Science Prize, Tohoku University, Japan |

Service (University of Texas at Austin)

- Graduate Advisor, Department of Astronomy (2010–2012)
- Assistant Undergraduate Advisor, Department of Astronomy (2009–2010)
- Astrophysics Theory Group Chair, Department of Astronomy (2006–2012)
- Faculty Evaluation Committee, Department of Astronomy (2007–2009)
- Recruiter, Graduate Admissions Committee, Department of Astronomy (2004–2008)

Service (Max-Planck-Institut für Astrophysik)

- Managing Director (2015–2017)

- Perspektivenkommission (PK) of the Max Planck Society (2019–)

Selected List of Invited Lectures/Talks/Colloquia Since 2004

- 2019 Public Lecture, COSMO-19, RWTH Aachen
- 2019 Colloquium, Max-Planck-Institut für Radioastronomie
- 2019 Colloquium, University of Portsmouth
- 2019 Colloquium, Universität Bonn
- 2018 Plenary Talk, COSMO-18, Institute for Basic Science (IBS), Daejeon, Korea
- 2018 Colloquium, Universität Zürich
- 2018 Colloquium, Universität zu Köln
- 2018 Colloquium, Universite Catholique de Louvain, Belgium
- 2018 Colloquium, University of Manchester
- 2018 Colloquium, Laboratoire d’Astrophysique de Marseille
- 2018 Invited Lecture, Laboratoire de l’Accelérateur Lineaire, Universit Paris-Sud, Orsay, France
- 2018 Invited Lecture, Summer School on Cosmology, ICTP, Trieste, Italy
- 2017 After-reception Talk, 100th anniversary of the MPI f. Physik
- 2017 Plenary Talk, Meeting of the Fundamental Cosmology, Teruel, Spain
- 2017 Plenary Talk, Understanding Cosmological Observations, Benasque, Spain
- 2017 Invited Presentation, Gravity and Black Holes (Stephen Hawking 75th Birthday Conference), University of Cambridge
- 2017 Invited Presentation, New Directions in Theoretical Physics 2, the Higgs Center for Theoretical Physics, University of Edinburgh
- 2017 Invited Lecture, The 13th School of Cosmology “CMB from A to Z” (IESC, Cargese)
- 2017 Colloquium, IFIC-Valencia
- 2017 Physikalisches Kolloquium, Universität Tübingen
- 2017 ISAS Space Science Colloquium, JAXA, Sagami-hara, Japan
- 2017 AlbaNova and Nordita Colloquium, University of Stockholm
- 2017 Oskar Klein Center Colloquium, University of Stockholm
- 2016 Opening Talk, COSMO-16, University of Michigan, Ann-Arbor
- 2016 Invited Presentation, Physical Society of Japan, Tohoku-Gakuin University
- 2016 Colloquium, University of Milan
- 2016 Colloquium, University of Toronto
- 2016 Colloquium, Universität Bielefeld
- 2015 Opening Talk, B-mode from Space, Kavli IPMU, Univ. of Tokyo
- 2015 Invited Lecture, Simons Lecture, Simons Foundation, New York
- 2015 Invited Lecture, Elitenetzwerk FORUM, LMU
- 2015 Invited Presentation, General Relativity and Gravitation: A Centennial Perspective, Penn State University
- 2015 Invited Presentation, Astronomical Society of Japan, Osaka University
- 2015 Invited Presentation, Deutsche Physikalische Gesellschaft, TU Berlin
- 2015 Colloquium, The Instituto de Astrofísica de Canarias (IAC), Tenerife, Spain
- 2015 Colloquium, Universitet Utrecht, The Netherlands
- 2015 Colloquium, Max-Planck-Institut für Radioastronomie
- 2015 Colloquium, University of Groningen
- 2015 Colloquium, Universität Leipzig
- 2015 Colloquium, Higgs Center, University of Edinburgh
- 2015 Colloquium, Columbia University
- 2014 Invited Participant, 26th Solvay Conference on Physics “Astrophysics and Cosmology,” Brussels, Belgium
- 2014 Invited Presentation, International Conference “Zel’dovich 100” Cosmology and Relativistic Astrophysics, Moscow, Russia
- 2014 Invited Lecture, Schule für Astroteilchenphysik 2014, Obertrubach

2014 Invited Lecture, Challenges in Modern Cosmology: Dark Matter and Dark Energy,
 International Institute of Physics, Natal, Brazil
 2014 Invited Lecture, The 18th Paris Cosmology Colloquium, Paris, France
 2014 Colloquium, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy
 2014 Colloquium, Max-Planck-Institut für Physik
 2014 Colloquium, Yukawa Institute for Theoretical Physics, Kyoto, Japan
 2014 Colloquium, Leibniz-Institute für Astrophysik Potsdam, Potsdam, Germany
 2014 Colloquium, Heidelberg Joint Astronomy Colloquium, Heidelberg, Germany
 2013 Plenary Talk, 19th International Symposium on Particles, Strings and Cosmology (PASCOS 2013),
 Taipei, Taiwan
 2013 Invited Lecture, The 17th Paris Cosmology Colloquium, Paris, France
 2013 Invited Presentation, American Astronomical Society, Long Beach
 2013 Colloquium, Münchner Physik Kolloquium, Munich, Germany
 2013 Colloquium, Scuola Normale Superiore, Pisa, Italy
 2013 Colloquium, SISSA, Trieste, Italy
 2013 Colloquium, Universite Catholique de Louvain, Belgium
 2013 Colloquium, University of Geneva, Geneva, Switzerland
 2013 Colloquium, University College London, London, UK
 2013 Colloquium, Mullard Space Science Laboratory, Surrey, UK
 2013 Colloquium, Cardiff University, Cardiff, UK
 2013 Colloquium, University of Oxford, Oxford, UK
 2013 Colloquium, University of Cambridge, Cambridge, UK
 2013 Colloquium, European Southern Observatory, Garching, Germany
 2012 Invited Presentation, Astronomische Gesellschaft, Hamburg, Germany
 2012 Astrophysics Seminar, Institute for Advanced Study
 2012 Colloquium, Institut d'Astrophysique de Paris, France
 2012 Colloquium, Academia Sinica, Taipei, Taiwan
 2012 Colloquium, Texas A&M University
 2011 Invited Lecture, School on Cosmology and Gravity Waves, IUCAA, Pune, India
 2011 Colloquium, Tata Institute for Fundamental Research (TIFR), Mumbai, India
 2011 Colloquium, Arizona State University
 2011 Plenary Talk, The 21st Workshop on General Relativity and
 Gravitation in Japan (JGRG), Tohoku University, Sendai, Japan
 2011 Plenary Talk, Future of Large Scale Structure Formation, Korea Institute for Advanced Study (KIAS),
 Seoul, Korea
 2011 Opening Talk, Aspects of Inflation, Texas A&M University
 2011 Colloquium, University of Texas at Austin
 2010 Colloquium, University of Texas at Dallas
 2010 Colloquium, Max-Planck Institute for Physics
 2010 Colloquium, Florida State University
 2010 Colloquium, Yale University
 2010 Colloquium, Texas Tech University
 2010 Astrophysics Seminar, Institute for Advanced Study
 2010 Invited Lecture, The 14th Paris Cosmology Colloquium
 2010 Invited Lecture, The 10th School of Cosmology (IESC, Cargese)
 2009 Opening Talk, Solvay Workshop, Brussels, Belgium
 2009 Colloquium, Solvay Institutes, Brussels, Belgium
 2009 Colloquium, Tohoku University, Sendai, Japan
 2009 Colloquium, University of Tokyo, Tokyo, Japan
 2009 Colloquium, University of Delaware
 2009 Colloquium, University of California, Berkeley
 2009 Invited Lecture, The 13th Paris Cosmology Colloquium
 2009 Invited Lecture, The 3rd Asian School of Particles, Strings and Cosmology (Kusatsu, Japan)

- 2008 Plenary Talk, XXIV Texas Symposium on Relativistic Astrophysics, University of British Columbia, Vancouver, Canada
- 2008 Plenary Talk, 3rd Biennial Leopoldina Conference, “Dark Energy,” Ludwig-Maximilians-University Munich, Germany
- 2008 Colloquium, University of Nevada, Las Vegas
- 2008 Colloquium, Space Telescope Science Institute
- 2008 Colloquium, Princeton University
- 2008 Invited Lecture, The 12th Paris Cosmology Colloquium
- 2008 Colloquium, University of California, Davis
- 2008 Colloquium, Iowa State University
- 2008 Plenary Talk, The Interconnection Between Particle Physics and Cosmology, University of New Mexico
- 2008 Plenary Talk, Novel Theories of the Early Universe, Perimeter Institute
- 2008 Colloquium, University of Oklahoma
- 2007 Invited Presentation on the Future of Cosmology, Science Council of Japan
- 2007 Colloquium, Kyoto University
- 2007 Invited Lecture, String Theory and Cosmology, Kavli Institute for Theoretical Physics, Chinese Academy of Science, Beijing, China
- 2007 Plenary Talk, XI Mexican Workshop on Particles and Fields 2007, Tuxtla Gutierrez, Mexico
- 2007 Plenary Talk, Cosmology and Strings, the Abdus Salam International Centre for Theoretical Physics, Trieste, Italy
- 2007 Colloquium, Carnegie Observatory
- 2007 Colloquium, Columbia University
- 2007 Public Lecture, The Academy of Medicine, Engineering and Science of Texas
- 2006 Public Lecture, Austin Astronomical Society
- 2006 Public Lecture, Natural Sciences Council, University of Texas
- 2006 Plenary Talk, XXIII Texas Symposium on Relativistic Astrophysics, University of Melbourne, Australia
- 2006 Plenary Talk, TeV Particle Astrophysics II, University of Wisconsin
- 2006 Plenary Talk, Non-Gaussianity from Inflation, University of Cambridge
- 2006 Colloquium, University of Florida
- 2006 Colloquium, University of Minnesota
- 2006 Colloquium, Fermilab
- 2006 Colloquium, University of Texas at San Antonio
- 2005 Plenary Talk, The Next Chapter in Einstein’s Legacy, Kyoto University
- 2005 Colloquium, University of Illinois at Urbana-Champaign
- 2005 Colloquium, Tohoku University
- 2004 Invited Lecture, International Summer School, Background Microwave Radiation and Intracluster Cosmology (Varenna, Lake Como, Italy)
- 2004 Colloquium, Universita di Roma “Tor Vergata”

Professional Services

Meetings/Conferences/Workshops

- 2019 Scientific Organizing Committee, “CosmoGold IAP 2019,” IAP, Paris, June 24-28, 2019.
See http://www.iap.fr/vie_scientifique/colloques/Colloque.IAP/2019/
- 2018 Co-organizer, “ICM Physics and Modeling II,” MPA/ESO, October 8-10, 2018.
See <https://wwwmpa.mpa-garching.mpg.de/conf/icm2018/>
- 2018 Co-organizer, “Summer School on Large-Scale Structure,” Harnackhaus, Berlin-Dahlem, July 22-28, 2018. See <http://wwwmpa.mpa-garching.mpg.de/~fabians/LSSschool.html>

- 2018 Scientific Organizing Committee, “Gravity and Cosmology 2018,” Yukawa Institute for Theoretical Physics, January 29-March 9, 2018. See <http://www2.yukawa.kyoto-u.ac.jp/~gc2018/>
- 2018 Organizer, “CMB in Germany,” MPA, January 31 and February 1, 2018. See <http://wwwmpa.mpa-garching.mpg.de/~komatsu/meetings/cmb2018/>
- 2017 Organizer, “PFS Collaboration Meeting,” MPA, August 7-10, 2017. See <http://wwwmpa.mpa-garching.mpg.de/~komatsu/meetings/pfs2017/>
- 2017 Scientific Organizing Committee, IAU Symposium 333 on “Peering towards Cosmic Dawn,” Dubrovnik, Croatia, October 2-6, 2017. See <http://iaus333.irb.hr>
- 2016 Advisory Committee, “Schwartz/Reisman ITP workshop: Cosmological Probes of Fundamental Physics,” Weizmann Institute of Science, Israel, May 29-June 10, 2016. See <http://www.weizmann.ac.il/conferences/CPFP2016/home>
- 2015 Scientific Organizing Committee, “International Conference on Gravitation and Cosmology (ICGC) 2015,” Indian Institute of Science Education and Research Mohali (IISERM), December 14-18, 2015. See <http://icgc2015.in/>
- 2015 Scientific Organizing Committee, “CosmoCruise 2015” on *Allure of the Seas* cruising on the Mediterranean Sea, September, 2015. See <http://max.ifca.unican.es/CosmoCruise2015/>
- 2015 Organizer, MPA/MPE/ESO/EXC Conference on “Theoretical and Observational Progress on the Large-scale Structure of the Universe,” ESO, Garching, Germany, July 20-24, 2015. See <http://www.mpa-garching.mpg.de/~komatsu/meetings/lss2015/>
- 2015 Co-organizer, “Workshop at the Aspen Center for Physics for the Summer of 2015: Primordial Physics,” Aspen, Colorado, USA, June 14-July 4, 2015.
- 2015 Scientific Organizing Committee, “Cluster Symposium” in Kloster Irsee, June 22-25, 2015.
- 2015 Co-organizer, “ICM Physics and Modeling,” MPA, June 15-17, 2015. See <http://www.mpa-garching.mpg.de/~xun/icm2015/>
- 2015 Co-organizer, “The Near Infrared Background II: From the First Stars to the Present,” MPA, June 1-3, 2015. See <http://www.mpa-garching.mpg.de/nirb2015/>
- 2015 Scientific Organizing Committee, “The 3rd Workshop on Large Aperture Sub/mm Telescope in the ALMA Era” NAOJ, Tokyo, March 10-11, 2015. See <http://www.ioa.s.u-tokyo.ac.jp/~ytamura/WS/LSTWS2015/Welcome.html>
- 2014 Scientific Organizing Committee, “Planck 2014: The Microwave Sky in Temperature and Polarization,” Ferrara, Italy, December 1-5, 2014. See <http://www.consortioferrraricerche.it/Eventi/eventi-in-programmazione-nel-2014/planck-2014-the-microwave-sky-in-temperature-and-polarization/>
- 2014 Co-organizer, “Galaxies and Cosmology in Light of Strong Lensing,” Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU), November 17-21, 2014. See <http://indico.ipmu.jp/indico/conferenceDisplay.py?confId=38>
- 2014 Organizer, “Workshop on CLASS and MontePython,” Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU), October 27-31, 2014. See <http://indico.ipmu.jp/indico/conferenceDisplay.py?ovw=True&confId=37>
- 2014 Scientific Organizing Committee, “EWASS 2014: European Week of Astronomy and Space Science,” Geneva, Switzerland, June 30-July 4, 2014. See <http://eas.unige.ch/EWASS2014/>
- 2014 Co-organizer, “MIAPP Workshop on Cosmology after Planck,” Excellence Cluster Universe, Munich, Germany, August 25-September 19, 2014. See <http://www.munich-iapp.de/scientific-program/workshop-program-2014/cosmology/>

- 2014 Organizer, “Workshop on CLASS and MontePython,” Max-Planck-Institut für Astrophysik, Munich, Germany, March 17-21, 2014. See <http://www.mpa-garching.mpg.de/~komatsu/lectureseries/special-workshop-on-class.html>
- 2013 Scientific Organizing Committee, “10th Symposium on Cosmology and Particle Astrophysics (CosPA),” Honolulu, Hawaii, USA, November 12-15, 2013. See <http://www.phys.hawaii.edu/cospa2013/>
- 2013 Co-organizer, “The Return of de Sitter II,” Max-Planck-Institut für Astrophysik, Munich, Germany, October 13-18, 2013. See <http://www.mpa-garching.mpg.de/~komatsu/meetings/ds2013/>
- 2013 Scientific Organizing Committee, “New Challenges for Early Universe Cosmologists,” Lorentz Center, Leiden, The Netherlands. See <http://www.lorentzcenter.nl/lc/web/2013/584/info.php3?wsid=584&venue=Oort>
- 2013 Co-organizer, “New Horizons for Observational Cosmology,” Varenna, Italy, June 30-July 6, 2013. See <http://oberon.roma1.infn.it/varenna/index.html?includi=home>
- 2013 Scientific Organizing Committee, “Exploring the Physics of Inflation,” Santander, Spain, June 24-27, 2013. See <http://http://max.ifca.unican.es/EPI2013>
- 2013 Scientific Organizing Committee, “Cosmic Microwave Background,” Okinawa Institute of Science and Technology Graduate University (OIST), Japan, June 10-14, 2013. See <http://www-conf.kek.jp/cmb/2013/index.html>
- 2012 Scientific Organizing Committee, “New Trends of Radio Astronomy in the ALMA Era - The 30th Anniversary of Nobeyama Radio Observatory,” Hakone, Japan, December 3-8, 2012. See <http://www.nro.nao.ac.jp/nro30/Symposium2012/Welcome.html>
- 2012 Organizer, “Polarized Foreground for Cosmic Microwave Background,” Max-Planck-Institut für Astrophysik, November 26-28, 2012. See <http://www.mpa-garching.mpg.de/~komatsu/meetings/fg2012/>
- 2012 Organizer, “Critical Tests of Inflation Using Non-Gaussianity,” Max-Planck-Institut für Astrophysik, November 5-8, 2012. See <http://www.mpa-garching.mpg.de/~komatsu/meetings/ng2012/>
- 2012 Organizer, “Near Infrared Background and the Epoch of Reionization,” Univ. of Texas at Austin, May 14-15, 2012. See http://www.as.utexas.edu/tcc_nir_wkshp/
- 2012 Co-organizer, “Dark Matter Signatures in the Gamma-ray Sky,” Univ. of Texas at Austin, May 7-8, 2012. See http://www.as.utexas.edu/tcc_gray_wkshp/
- 2010 Scientific Organizing Committee, “Primordial Features and Non-Gaussianities,” Harish-Chandra Research Institute, Allahabad, India, December 14-18, 2010. See <http://www.hri.res.in/~pfng/index.html>
- 2010 Scientific Organizing Committee, “COSMO/CosPA 2010,” Univ. of Tokyo, Japan, September 27 - October 1, 2010. See <http://www.resceu.s.u-tokyo.ac.jp/symposium/cosmocospa2010/>
- 2009 Organizer, “Texas Cosmology Network Meeting 2009,” Univ. of Texas at Austin, November 5-6, 2009. See <http://www.as.utexas.edu/texascosmo09/>
- 2009 Scientific Organizing Committee, Institute of Physics and Mathematics of the Universe Conference, “Dark Energy,” IPMU, Kashiwa, Japan, June 22-26, 2009. See <http://member.ipmu.jp/darkenergy09/top.html>
- 2008 Scientific Organizing Committee, 3rd Biennial Leopoldina Conference, “Dark Energy,” Ludwig-Maximilians University, Munich, Germany, October 7-11, 2008. See <http://www.mpe.mpg.de/events/dark-energy-2008/>
- 2007 Scientific Organizing Committee, the Frank N. Bash Symposium 2007, “New Horizons in Astronomy,” Univ. of Texas at Austin, October 14-16, 2007. See http://www.as.utexas.edu/new_horizons/
- 2006 Organizer, “Texas Cosmology Network Meeting,” Univ. of Texas at Austin, September 15, 2006. See <http://www.as.utexas.edu/texascosmo/>

Peer Reviews

1. Peer Review Panel, Grant Proposal, NASA Astrophysics Theory
2. Peer Review Panel, Einstein Fellowship
3. Peer Review, Grant Proposal, NSERC Discovery Grant
4. Peer Review, Grant Proposal, NSF Astronomy and Astrophysics Research Grant
5. Peer Review, Grant Proposal, NSF CAREER Award
6. Peer Review, Grant Proposal, NSF Physics Frontier Center
7. Peer Review, Grant Proposal, NSF Advanced Technologies & Instrumentation
8. Peer Review, Grant Proposal, Grants-in-Aid for Specially Promoted Research, Japan Society for the Promotion of Science (JSPS)
9. Peer Review, Grant Proposal, France Research Agency
10. Peer Review, Astronomy Rolling Grants, Science and Technology Facilities Council (STFC)
11. Peer Review, ERC Advanced Grant, European Research Council
12. Peer Review, ERC Consolidator Grant, European Research Council
13. Peer Review, ERC Starting Grant, European Research Council
14. Peer Review, NASA Postdoctoral Program, Oak Ridge Associated Universities (ORAU)
15. Peer Review, UKRI Future Leaders Fellowships
16. Editor, Astronomy and Astrophysics Review
17. Editor, Journal of Cosmology and Astro-particle Physics
18. Editor, International Journal of Modern Physics D
19. Referee, Advances in Astronomy
20. Referee, Astrophysical Journal
21. Referee, Astrophysical Journal Letters
22. Referee, Astrophysical Journal Supplement Series
23. Referee, Astronomy & Astrophysics
24. Referee, Europhysics Letters
25. Referee, Journal of Cosmology and Astro-particle Physics
26. Referee, Journal of High Energy Physics
27. Referee, Modern Physics Letters A
28. Referee, Monthly Notices of the Royal Astronomical Society
29. Referee, Nature
30. Referee, Physical Review D
31. Referee, Physical Review Letters

32. Referee, Science

Committee Work

1. Review panel for the “Gravity and Cosmology” program of the Canadian Institute for Advanced Research (CIFAR), September 23–25, 2016
2. External Advisory Committee (EAC) for the Simons Observatory, February 2017–present
3. International Scientific Advisory Committee (ISAC) for SISSA, November 20–22, 2017
4. Senior Committee for ESA’s “Voyage 2050”, December 2018–September 2020

Teaching Experience (Univ. of Texas at Austin)

2012, Spring	AST309R	“Galaxies, Quasars, & Universe”	undergraduate (non-science majors)
2011, Spring	AST396C/ PHY396T	“Elements of Cosmology”	graduate
2010, Fall	AST376	“Cosmology”	undergraduate (science majors)
2008, Fall	AST376	“Cosmology”	undergraduate (science majors)
2008, Spring	AST309R	“Galaxies, Quasars, & Universe”	undergraduate (non-science majors)
2007, Fall	AST376	“Cosmology”	undergraduate (science majors)
2007, Spring	AST309R	“Galaxies, Quasars, & Universe”	undergraduate (non-science majors)
2006, Fall	AST376	“Cosmology”	undergraduate (science majors)
2006, Spring	AST309R	“Galaxies, Quasars, & Universe”	undergraduate (non-science majors)
2005, Fall	AST376	“Cosmology”	undergraduate (science majors)
2005, Spring	AST309R	“Galaxies, Quasars, & Universe”	undergraduate (non-science majors)
2004, Fall	AST301	“Introduction to Astronomy”	undergraduate (non-science majors)

Teaching Experience (Max-Planck-Institut für Astrophysik)

2017, Spring	IMPRS	“Cosmic Microwave Background”	graduate
2015, Spring	IMPRS	“Cosmic Microwave Background”	graduate
2013, Spring	IMPRS	“Cosmic Microwave Background”	graduate

Ph.D. Students Supervised (Univ. of Texas at Austin)

1. Elizabeth Fernandez, Astronomy, obtained Ph.D. in 2008. Recipient of the University Continuing Fellowship (2006–2007); Postdoc at the University of Colorado at Boulder (2008–2010); Postdoc at Institut d’Astrophysique Spatiale, Orsay, France (2010–2012); Postdoc at Kapteyn Astronomical Institute, University of Groningen, The Netherlands (2012–2015). Currently a freelance science writer in San Francisco.

[<http://sparkdialog.com>]

- “The Cosmic Near Infrared Background: Remnant Light from Early Stars,” *Astrophysical Journal*, 646, 703-718 (2006 August 1)
- “Mass-to-light Ratio of Ly α Emitters: Implications of Ly α Surveys at Redshifts $z = 5.7, 6.5, 7,$ and $8.8,$ ” *Monthly Notices of the Royal Astronomical Society*, 384, 1363-1376 (2008 March 15)
- “The Cosmic Near Infrared Background II: Fluctuations,” *Astrophysical Journal*, 710, 1089-1110 (2010 February 20)

2. Yuki Watanabe, Physics, obtained Ph.D. in 2009; Postdoc at the Ludwig-Maximilians University, Munich, Germany (2009–2012); Postdoc at the University of Tokyo (2012–2014); JSPS Fellow (2014–2015). Currently Associate Professor at National Institute of Technology, Gunma College.
[<http://www.gunma-ct.ac.jp/gakka/09-07-14.htm>]
 - “Improved Calculation of the Primordial Gravitational Wave Spectrum in the Standard Model,” *Physical Review D* 74, 123515 1-18 (2006 June 12)
 - “Reheating of the Universe After Inflation with $f(\phi)R$ Gravity,” *Physical Review D* 75, 061301(R) 1-5 (2007 March 7)
 - “Gravitational Inflaton Decay and The Hierarchy Problem,” *Physical Review D* 77, 043514 1-6 (2008 February 14)
3. Donghui Jeong, Astronomy, obtained Ph.D. in 2010. Recipient of Dean’s Excellence Award (2005); the Board of Visitor Best Second Year Research Project (2007); Wendell Gordon Endowed University Fellowship (2008–2009); Frank N. Edmonds Memorial Fellowship (2008); David Benfield Memorial Scholarship in Astronomy (2009); Prize postdoc at Caltech (2010–2011); Postdoc at Johns Hopkins University (2011–2014). Currently a junior faculty member at Penn State University.
[<http://www.personal.psu.edu/duj13/>]
 - “Perturbation Theory Reloaded: Analytical Calculation of Non-linearity in Baryonic Oscillations in the Real Space Matter Power Spectrum,” *Astrophysical Journal*, 651, 619-626 (2006 November 10)
 - “Perturbation Theory Reloaded II: Non-linear Bias, Baryon Acoustic Oscillations and Millennium Simulation in Real Space,” *Astrophysical Journal*, 691, 569-595 (2009 January 16)
 - “Primordial non-Gaussianity, scale-dependent bias, and the bispectrum of galaxies,” *Astrophysical Journal*, 703, 1230-1248 (2009 October 1)
 - “Galaxy-CMB and galaxy-galaxy lensing on large scales: sensitivity to primordial non-Gaussianity,” *Physical Review D* 80, 123527 1-25 (2009 December 22)
4. Masatoshi Shoji, Astronomy, obtained Ph.D. in 2011 (fall). Went to ABeam Consulting company, Tokyo, Japan. Currently at Boston Consulting Group.
[<https://www.linkedin.com/in/masa-masatoshi-shoji-531412141/>]
 - “Extracting Angular Diameter Distance and Expansion Rate of the Universe from Two-dimensional Galaxy Power Spectrum at High Redshifts: Baryon Acoustic Oscillation Fitting versus Full Modeling,” *Astrophysical Journal*, 693, 1404-1416 (2009 March 10)
 - “Third-order Perturbation Theory With Non-linear Pressure,” *Astrophysical Journal*, 700, 705-719 (2009 July 20)
 - “Massive Neutrinos in Cosmology: Analytic Solutions and Fluid Approximation,” *Physical Review D* 81, 123516 1-26 (2010 June 15)
5. Jonathan Ganc, Physics, obtained Ph.D. in 2013. Postdoc at the Centre for Cosmology and Particle Physics Phenomenology (CP³-Origins), the University of Southern Denmark in Odense (2013–2016). Currently a Backend and DevOps Developer at CoachCare.
[<https://www.coachcare.com/team/>]
 - “A New Method for Calculating the Primordial Bispectrum in the Squeezed Limit,” *Journal of Cosmology and Astro-particle Physics*, 12, 009 1-19 (2010 December 9)
 - “Calculating the Local-type f_{NL} for Slow-roll Inflation with a Non-vacuum Initial State,” *Physical Review D*, 84, 063514 (2011 September 15)

- “Scale-dependent Bias of Galaxies and μ -type Distortion of the Cosmic Microwave Background Spectrum from Single-field Inflation with a Modified Initial State,” *Physical Review D*, 86, 023518 (2012 July 10)

Ph.D. Students Supervised (Max-Planck-Institut für Astrophysik)

1. Chi-Ting Chiang, obtained Ph.D. in 2015. Postdoc at C.N. Yang Institute for Theoretical Physics, Stony Brook University (2015–2018); Currently a postdoc at Brookhaven National Laboratory.
[<https://ctchiang.bitbucket.io>]
 - “Galaxy Redshift Surveys with Sparse Sampling,” *Journal of Cosmology and Astro-particle Physics*, 12, 030 (2013 December 13)
 - “Position-dependent Power Spectrum of the Large-scale Structure: A Novel Method to Measure the Squeezed-limit Bispectrum,” *Journal of Cosmology and Astro-particle Physics*, 05, 048 (2014 May 29)
 - “Position-dependent Correlation Function from the SDSS-III Baryon Oscillation Spectroscopic Survey Data Release 10 CMASS Sample,” *Journal of Cosmology and Astro-particle Physics*, 09, 028 (2015 September 9)
2. Philipp Wullstein, left the Ph.D. program for KUKA on January 31, 2015.
[https://www.xing.com/profile/Philipp_Wullstein]
3. Inh Jee, Astronomy, obtained Ph.D. in 2017. Postdoc at MPA (2017–2018). Went to Data Science in Chicago.
[<https://www.linkedin.com/in/inh-jee-34a5174a>]
 - “Measuring Angular Diameter Distances of Strong Gravitational Lenses,” *Journal of Cosmology and Astro-particle Physics*, 11, 033 (2015 November 19)
 - “Time-delay Cosmography: Increased Leverage with Angular Diameter Distances,” *Journal of Cosmology and Astroparticle Physics*, 04, 031 (2016 April 15)
 - “Measurements of Angular Diameter Distances to Gravitational Lenses and the Hubble Constant,” to appear in *Science*
4. Aniket Agrawal, anticipated Ph.D. 2018. Recipient of the Kippenhahn Award (2018). Currently a postdoc at Institute of Astronomy & Astrophysics, Academia Sinica (ASIAA)
[<https://www.asiaa.sinica.edu.tw/people/cv.php?i=aagrawal>]
 - “Generating Log-normal Mock Catalog of Galaxies in Redshift Space,” *Journal of Cosmology and Astroparticle Physics*, 10, 003 (2017 October 3)
 - “Large Tensor non-Gaussianity from Axion-gauge Fields Dynamics,” *Physical Review D*, 97, 103526 (2018 May 29)
 - “Tensor Non-Gaussianity in Axion-Gauge-Fields Dynamics: Parameter Search,” *Journal of Cosmology and Astroparticle Physics*, 06, 027 (2018 June 18)
 - “Non-Gaussianity of Inflationary Gravitational Waves from the Field Equation,” *International Journal of Modern Physics D*, 28, 1950036 (2018 November 27)
5. Aoife Boyle, anticipated Ph.D. 2019
 - “Deconstructing the Neutrino Mass Constraint from Galaxy Redshift Surveys,” *Journal of Cosmology and Astroparticle Physics*, 03, 035 (2018 March 21)

- “Understanding the Neutrino Mass Constraints Achievable by Combining CMB Lensing and Spectroscopic Galaxy Surveys,” *Journal of Cosmology and Astroparticle Physics*, 04, 038 (2019 April 23)

6. Leila Mirzaghali, anticipated Ph.D. 2020

Undergraduate Students Supervised (Univ. of Texas at Austin)

- Farhan S. Amanullah (2006), “Cosmology Website”
- Galen C Carter-Jeffrey (2006), “Cosmology Website”
- Chad W. Gardner (2006–2007), “Mass Function of Dark Matter Halos”
- Sung Ju Kang (2007), “WMAP Cold Spot and Void” (went to Iowa State University for graduate school; currently a postdoc at Korea Astronomy and Space Science Institute (KASI))
- Brianne C. Herrera (2007–2008), “Scalar Field Dark Energy” (currently a graduate student at the Ohio State University)
- Joyce B. Byun (2007–2009), “Baryon Acoustic Oscillations” (Recipient of the 2009 Outstanding Senior Award for this work; went to Cornell University for graduate school; currently a postdoc at the University of Sussex)
- Davis Varghese (2009–2011), “Cosmic Near Infrared Background and CMB Polarization” (went to University of Pennsylvania for graduate school)
- Nicolas Canac (2010–2011), “Two-point Correlation Function” (went to University of California, Irvine for graduate school; currently a data scientist at Neural Analytics in Irvine)
- Austin E. Gatlin (2012), “History of Discovery of the Expansion of the Universe”

Internship Students Supervised (Max-Planck-Institut für Astrophysik)

- Christina Kreisch (2015; Washington Univ., on DAAD fellowship; went to Princeton University for graduate school; NSF Graduate Research Fellowship), “Effects of Modified Gravity on B-mode Polarisation and Implications for LiteBIRD”
 - “Cosmological Constraints on Horndeski Gravity in Light of GW170817”, *Journal of Cosmology and Astroparticle Physics*, 12, 030 (2018 December 18)
- Takuya Inoue (2018; Internship from École centrale de Lille; went to Doshisha University for graduate school), “Calculation of Solar System, Milky Way, and Local Group kinematics for precision measurements of the expansion velocity of the Universe with Sandage Test”
 - “The Effect of Our Local Motion on the Sandage-Loeb Test of the Cosmic Expansion”, submitted to PASJ
- Yansong Yun (2018; Internship from Beijing University), “Reconstruction of CMB lensing”

Major Involvement in Large-scale Projects

- Wilkinson Microwave Anisotropy Probe (2001–2012) [PI: Charles L. Bennett, Johns Hopkins University]
- Hobby-Eberly Telescope Dark Energy Project (HETDEX) (2004–present; Chairing the cosmology working group since 2019) [PI: Gary J. Hill, the University of Texas at Austin]

- Lite (Light) satellite for the studies of B-mode polarization and Inflation from cosmic background Radiation Detection (LiteBIRD) (2008–present; Project Scientist for Phase A1 since 2016)
[PI: Masashi Hazumi, KEK]
- Prime Focus Spectrograph (PFS) (2014–present; Co-chairing the cosmology working group since 2015)
[PI: Hitoshi Murayama, Kavli IPMU]