

MASAMUNE OGURI

Curriculum Vitae

CONTACT INFORMATION

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EDUCATION

University of Tokyo, Tokyo, Japan *Apr 2002 – Jul 2004*
Ph.D. in Physics, July, 2004
Dissertation: “Strong Gravitational Lenses in a Cold Dark Matter Universe”
Adviser: Yasushi Suto

University of Tokyo, Tokyo, Japan *Apr 2000 – Mar 2002*
M.S. in Physics, March, 2002
Dissertation: “Resolving the Central Density Profile of Dark Matter Halos with Gravitational Lensing Statistics”
Adviser: Yasushi Suto

University of Tokyo, Tokyo, Japan *Apr 1996 – Mar 2000*
B.A. in Physics, March, 2000

PROFESSIONAL EXPERIENCE

May 2014 – present	Assistant Professor (with tenure)	Research Center for the Early Universe, University of Tokyo
Oct 2013 – present	Associate Scientist	Kavli Institute for the Physics and Mathematics of the Universe, University of Tokyo
Aug 2013 – present	Assistant Professor (with tenure)	Department of Physics, University of Tokyo
Apr 2011 – Aug 2013	Assistant Professor	Kavli Institute for the Physics and Mathematics of the Universe, University of Tokyo
Jul 2009 – Apr 2011	Postdoctoral Fellow	National Astronomical Observatory of Japan
Jul 2006 – Jun 2009	Research Associate	Kavli Institute for Particle Astrophysics and Cosmology, Stanford University
Sep 2005 – Jun 2006	Postdoctoral Fellow	Department of Astrophysical Sciences, Princeton University
Sep 2004 – Aug 2005	Visiting Research Fellow	Department of Astrophysical Sciences, Princeton University
Apr 2004 – Aug 2005	JSPS Research Fellow	Department of Physics, University of Tokyo

RESEARCH INTERESTS

Cosmology, Astrophysics, Cosmological Structure Formation, Gravitational Lensing

PROFESSIONAL SOCIETIES

- Astronomical Society of Japan
- Physical Society of Japan
- Association of Japanese Theoretical Astronomy and Astrophysics
- Group of Optical and Infrared Astronomers
- International Astronomical Union

PRIZES AND AWARDS

Mar 2019 Hayashi Chushiro Prize, Astronomical Society of Japan
Mar 2009 Young Scientist Award, Physical Society of Japan
Feb 2006 Inoue Research Award for Young Scientists
Mar 2005 President’s Prize of the University of Tokyo

TEACHING EXPERIENCE

University of Tokyo

- Course on *Exercise in Physics* (quantum mechanics, analytic mechanics) in 2014–2017, 2019–2020
- Course on *Senior Projects in Theoretical Physics* (astrophysics) in 2014–2016, 2018, 2020
- Teaching assistant (general relativity, astrophysics) in 2002, 2003

Invited Lectures

- Lecture on weak lensing given in summer school at ITB, Bandung, West Java, Indonesia (Sep 2020)
- Intensive lecture on weak lensing cosmology given in winter school at KEK (Jan 2020)
- Intensive lecture on gravitational lensing given at Kyoto University (Mar 2017)
- Intensive lecture on gravitational lensing given in summer school at Beijing Normal University (Jul 2012)

External Examining

- Examined Master's theses at PCU of Chile (2013), Univ. of Hong Kong (2018)

GRADUATE STUDENTS SUPERVISED

- Ryoma Murata (Univ. of Tokyo, Ph.D. in Physics in 2020)
- Taizo Okabe (Univ. of Tokyo, Ph.D. in Physics in 2020, as a co-supervisor)
- Akinari Hamabata (Univ. of Tokyo, M.S. in Physics in 2018)
- Ryota Kawamata (Univ. of Tokyo, Ph.D. in Astronomy in 2018, as a co-supervisor)
- Xiangchong Li (Univ. of Tokyo, M.S. in Physics in 2018, as a co-supervisor)
- Masafumi Ishigaki (Univ. of Tokyo, M.S. in Physics in 2015, as a co-supervisor)
- Shohei Omote (Univ. of Tokyo, M.S. in Physics in 2015)
- Cristian E. Rusu (Univ. of Tokyo, Ph.D. in Astronomy in 2014)
- Yuichi Higuchi (Univ. of Tokyo, Ph.D. in Astronomy in 2014)
- Yozo Kawano (Nagoya University, Ph.D. in Physics in 2006)

UNDERGRADUATE STUDENTS SUPERVISED

- Kai-Feng Chen (National Taiwan Univ., B.Sc. in Physics and Math in 2020, went to MIT for Ph.D.)

POSTDOCTORAL RESEARCHERS MENTORED

- Kenneth C. Wong (Univ. of Tokyo, 2018–present)
- Anupreeta More (Univ. of Tokyo, 2012–2018, now a research faculty at IUCAA, Pune, India)

EXTERNAL GRANTS

Ongoing

- Co-I (PI: S. Miyazaki), 152,750,000 JPY, Grant-in-Aid for Transformative Research Areas (A), FY2020–FY2024
- Co-I (PI: S. Miyazaki), 44,200,000 JPY, Grant-in-Aid for Scientific Research (A), FY2020–FY2022
- PI, 2,600,000 JPY, Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area), FY2020–FY2021
- Co-I (PI: N. Okabe), 16,510,000 JPY, Fund for the Promotion of Joint International Research (Fostering Joint International Research (B)), FY2019–FY2024
- PI, 4,420,000 JPY, Grant-in-Aid for Scientific Research (C), FY2018–FY2021

Finished

- PI, 2,340,000 JPY, Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area), FY2018–FY2019
- Co-I (PI: S. Miyazaki), 127,790,000 JPY, Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area), FY2015–FY2019
- PI, 3,640,000 JPY, Grant-in-Aid for Young Scientists (B), FY2014–FY2017
- PI, 4,290,000 JPY, Grant-in-Aid for Young Scientists (B), FY2011–FY2013
- Science PI (Budget PI: R. Blandford), 49,063 USD, Chandra grant, FY2010

SERVICE

2013–2018 Library Committee, Univ. of Tokyo
2013–2017 Editorial Board, The Astronomical Herald, Astronomical Society of Japan

PEER REVIEWS

- Regular referee of papers submitted to ApJ, MNRAS, A&A, JCAP, PTEP, PASJ, PRL, PRD, Nature Astronomy (100+ papers)
- Reviewer of grant proposals for NSF (USA), FNRS (Belgium), NCN (Poland), FWF (Austria), NWO (Netherlands)
- Reviewer of observing proposals for HST, Subaru, CFHT

CONFERENCES, WORKSHOPS, AND MEETINGS ORGANIZED

- 2021 SOC co-chair, “Time-domain cosmology with strong gravitational lensing”, Kavli IPMU, Jan 25–Feb 2, 2021
- 2019 SOC, “Gravity meets Plasma”, Yunnan, China, August 19–21, 2019
- 2019 SOC, “Panchromatic Panoramic Studies of Galaxy Clusters: from HSC to PFS and ULTIMATE”, ASIAA, Taiwan, March 11–13, 2019
- 2018 SOC, “Shedding Light on the Dark Universe with Extremely Large Telescopes at Trieste”, Trieste, Italy, July 2–6, 2018
- 2018 SOC, “Shedding Light on the Dark Universe with Extremely Large Telescopes at UCLA”, UCLA, USA, April 2–6, 2018
- 2017 SOC, “Shedding Light on the Dark Universe with Extremely Large Telescopes at Lanzhou”, Lanzhou, China, August 30–September 2, 2017
- 2016 LOC, “HSC collaboration meeting 2016 August”, Kavli IPMU, August 23–25, 2016
- 2015 SOC, “The Frontier Fields: Transforming our understanding of cluster and galaxy evolution”, Honolulu, USA, August 5–7, 2015
- 2014 LOC chair/SOC, “Galaxy and Cosmology in Light of Strong Lensing”, Kavli IPMU, November 17–21, 2014
- 2014 LOC, “HSC collaboration meeting 2014 August”, Hiroshima, August 25–26, 2014
- 2014 LOC, “HSC collaboration meeting 2014 March”, Hilo, USA, March 9–10, 2014
- 2013 LOC, “HSC collaboration meeting 2013 August”, NAOJ, August 30–September 1, 2013
- 2013 LOC, “4th PFS collaboration meeting”, Kavli IPMU, March 25–28, 2013
- 2012 LOC, “2nd PFS collaboration meeting”, Kavli IPMU, January 8–12, 2012
- 2010 LOC, “CL J2010: from Massive Galaxy Formation to Dark Energy”, Kavli IPMU, June 28–July 2, 2010

MAJOR INVOLVEMENT IN LARGE PROJECTS

Euclid satellite mission

- Lead, Japanese Euclid Consortium (2021–present)
- PI, WISHES (an intensive program of Subaru telescope for Euclid) (2020–present)
- Member, Steering Group of UNIONS (consortium of Subaru, CFHT, and Pan-STARRS) (2020–present)

Hyper Suprime-Cam Subaru Strategic Program (HSC-SSP)

- ‘Builder’ status (2014–present)
- Co-chair, Cluster Working Group (2009–2017)
- Co-chair, Strong Lensing Working Group (2015–2017, 2021–present)
- Member, eROSITA-DE-HSC-SSP Collaboration Board (2018–present)

Sloan Digital Sky Survey (SDSS)

- Co-PI, SDSS Quasar Lens Search (SQLS, a survey of gravitationally lensed quasars in SDSS) (2002–2012)

MAJOR CODE DEVELOPMENTS

GLAFIC

2008 – present

- Public software for analyzing gravitational lensing. It is available at <https://www.slac.stanford.edu/~oguri/glafic/> and is widely used in the community.

- Code for optical cluster finding and is used in SDSS and HSC-SSP.

PUBLICATIONS

As of Feb 2021, more than 240 papers are published in international peer-reviewed journals, and the total number of citations to these papers is approximately 12,000 according to ADS. The h-index is 61. These publications include 49 first-author papers, and the total number of citations to my first-author papers is approximately 3,200, again according to ADS. Check <https://oguri.github.io/paper.html> for the latest status. The full list is provided separately.

PRESENTATIONS AT CONFERENCES, WORKSHOPS, AND MEETINGS

As of Feb 2021, more than 30 invited talks at international conferences and workshops are given. The full list is provided separately.

PRESS RELEASES

- 2020 “More than Meets the Eye: Complete Imaging of a Cluster Collision”, Nov 12, 2020
- 2020 “Can Black Hole Fire Up Cold Heart of the Phoenix?”, Aug 30, 2020
- 2020 “Rare Encounters between Cosmic Heavyweights”, Aug 27, 2020
- 2020 “Artificial Intelligence tool developed to predict the structure of the Universe”, Feb 5, 2020
- 2019 “Subaru Telescope helps determine that dark matter is not made up of tiny primordial black holes”, Apr 2, 2019
- 2019 “Astronomers Discover 83 Supermassive Black Holes in the Early Universe”, Mar 13, 2019
- 2018 “Cosmological constraints from the first-year Subaru Hyper Suprime-Cam survey”, Sep 26, 2018
- 2018 “The Farthest Star Ever Seen”, Apr 3, 2018
- 2018 “Unprecedentedly Wide and Sharp Dark Matter Map”, Mar 1, 2018
- 2016 “Ancient Eye in the Sky”, Jul 26, 2016
- 2015 “Dark Matter Map Begins to Reveal the Universe’s Early History”, Jul 2, 2015
- 2015 “ALMA uses ‘Natural Telescope’ to Image Monstrous Galaxy near the Edge of the Universe”, Jun 9, 2015
- 2014 “Confirming a 3-D Structural View of a Quasar Outflow Conclusions drawn from additional observations”, Oct 28, 2014
- 2014 “Cosmic Illusion Revealed: Gravitational Lens Magnifies Supernova”, Apr 25, 2014
- 2013 “‘Standard Candle’ Supernova Extraordinarily Magnified by Gravitational Lensing”, Apr 23, 2013
- 2013 “3-D Observations of the Outflow from an Active Galactic Nucleus”, Feb 19, 2013
- 2012 “‘Cosmic Mirages’ Confirm Accelerated Cosmic Expansion”, Apr 10, 2012
- 2012 “Precise measurement of dark matter distribution with strong and weak gravitational lensing”, Jan 17, 2012
- 2011 “Laser Guide Star Adaptive Optics Sharpens Subaru Telescope’s Eyesight and Opens a New Vision of the Distant Universe”, July 6, 2011
- 2010 “Research Illuminates the Shape of Dark Matter’s Distribution”, April 26, 2010
- 2009 “Mysterious Space Blob Discovered at Cosmic Dawn”, April 22, 2009
- 2007 “Distant quasars live in massive dark matter halos”, Feb 9, 2007
- 2006 “Hubble captures a five-star rated gravitational lens”, May 23, 2006
- 2003 “Visual ‘Mirages’ Probe Distribution of Dark Matter”, Dec 18, 2003