

Curriculum Vitae

Yong Tian

Contact Information

Office address: **Graduate Institute of Astronomy, National Central University (NCU),**
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Google Scholar: <https://scholar.google.com/citations?user=gf3DgP4AAAAJ&hl=en>

Academic Appointments

Research Scholar, Physics Department, NCU, Taiwan	08/2025 – present
Postdoctoral Fellow, Astronomy and Space Science, Sejong University, Korea	09/2024 – 07/2025
Assistant Research Scholar, Institute of Astronomy, NCU, Taiwan	08/2021 – 07/2024
Postdoctoral Fellow, Institute of Astronomy, NCU, Taiwan	04/2014 – 07/2021
Instructor of General Physics Experiment, Physics Department, NCU, Taiwan	09/2007 – 07/2009
Research Assistant of Physics Education, Physics Department, NCU, Taiwan	06/2006 – 08/2007

Education

Ph.D. in Physics, Physics Department, National Central University, Taiwan	09/2007 – 04/2014
M.S. in Physics, Physics Department, National Taiwan University, Taiwan	09/2002 – 01/2005
B.S. in Physics, Physics Department, National Central University, Taiwan	09/1998 – 06/2002

Funding

Grant – “Investigating Acceleration Scales with Gravitational Lensing and Time Delay”	08/2025 – 07/2028
NSTC 114-2112-M-008-024-MY3 ~\$50,000 USD in three years	
Grant – “Acceleration Relation in Dark Matter Problem”	08/2021 – 07/2024
MOST 110-2112-M-008-015-MY3 ~\$57,000 USD in three years	

Honors and Awards

The Phi Tau Phi Scholastic Honor Member	2014
Outstanding Research Award, National Central University	2013
Admission Scholarship, National Central University	2007

Academic Service

Journal referee for Astronomy & Astrophysics (A&A), The European Southern Observatory, ESO
Journal referee for Journal of Cosmology and Astroparticle Physics (JCAP), UK/Italy
Journal referee for Monthly Notices of the Royal Astronomical Society Letters (MNRASL), UK
Journal referee for Physical Review Journals: D (PRD), American Physical Society, USA

Journal referee for Scientific Reports, Springer Nature, UK
Observing proposal referee for James Clerk Maxwell Telescope (JCMT)
Host, TaoVa & UNAM online Lecture Series, Sept. 2023 – Jun. 2024

Visiting Scholars

Arcetri Astrophysical Observatory (INAF), Florence, Tuscany, IT
Host: Federico Lelli
Period: Mar 1– May 31, 2025 & Nov 17 2025 – Feb 14 2026

Department of Astronomy, Case Western Reserve University, Cleveland, OH, USA
Host: Prof. Stacy McGaugh
Period: May 1–31, 2019

Publications

JOURNAL (listed in descending chronological order)

1. Federico*, Luc Blanchet, Françoise Combes, Erwin De Blok, Antonaldo Diaferio, Benoit Famaey, Jonathan Freundlich, Xavier Hernandez, Stacy McGaugh, Mordehai Milgrom, Tobias Mistele, Marcel Pawlowski, Yong Tian et al., *The MOND research program: A white paper on the current status and future prospects*, (2026) in preparation.
2. Yong Tian*, Federico Lelli, Stacy S. McGaugh, Marcel S. Pawlowski, Yi Duann, Kyu-Hyun Chae, Enrico Di Teodoro, Konstantin Haubner, Meng Hua Kuo, and Chung-Ming Ko, *The Baryonic Faber-Jackson Relation and Fundamental Plane of Galaxy Groups, Elliptical Galaxies, and Dwarf Galaxies*, *Astronomy and Astrophysics Letter* (2026) in submission.
3. Youngsub Yoon, Yong Tian, Kyu-Hyun Chae*, *Probing the Nature of Gravity in the Low-acceleration Limit: Wide Binaries of Extreme Separations with Perspective Effects*, *The Astrophysical Journal*, 992, 102 (2025)
4. Pengfei Li*, Ang Liu, Matthias Kluge, Johan Comparat, Yong Tian, Mariana P. Julio, Marcel S. Pawlowski, Jeremy Sanders, Esra Bulbul, Axel Schwöpe, Vittorio Ghirardini, Xiaoyuan Zhang, Y. Emre Bahar, Miriam E. Ramos-Ceja, Fabian Balzer, and Christian Garrel, *Gas thermodynamics meets galaxy kinematics: Joint mass measurements for eROSITA galaxy clusters*, *Astronomy & Astrophysics*, 692, A253 (2024)
5. Yong Tian, Chung-Ming Ko*, Pengfei Li, Stacy S. McGaugh, and Shemile L. Poblete, *A Distinct Radial Acceleration Relation across Brightest Cluster Galaxies and Galaxy Clusters*, *Astronomy & Astrophysics*, 684, A180 (2024).
6. Pradyumna Sadhu* and Yong Tian*, *Examining Baryonic Faber-Jackson Relation in Galaxy Groups*, *Monthly Notices of the Royal Astronomical Society*, 528, 5612-5623 (2024).
7. Yi Duann*, Yong Tian*, and Chung-Ming Ko*, *Classifying MaNGA Velocity Dispersion Profiles by Machine Learning*, *Royal Astronomical Society Techniques and Instruments*, 2, 649 (2023)
8. Pengfei Li*, Yong Tian, Mariana P. Julio, Marcel S. Pawlowski, Federico Lelli, Stacy S. McGaugh, James M. Schombert, Justin I. Read, Po-Chieh Yu, and Chung-Ming Ko, *Measuring Galaxy Cluster Mass Profiles into the Low Acceleration Regime with Galaxy Kinematics*, *Astronomy & Astrophysics*, 677, A24 (2023)

9. Pengfei Li*, Stacy S. McGaugh, Federico Lelli, **Yong Tian**, James M. Schombert, and Chung-Ming Ko, *The Effect of Adiabatic Compression on Dark Matter Halos and the Radial Acceleration Relation*, The Astrophysical Journal, 927, 198 (2022)
10. **Yong Tian**, Han Cheng, Stacy S. McGaugh, Chung-Ming Ko*, and Yun-Hsin Hsu, *Mass-Velocity Dispersion Relation in MaNGA Brightest Cluster Galaxies*, The Astrophysical Journal Letters, 917, L24 (2021)
11. **Yong Tian**, Po-Chieh Yu, Pengfei Li, Stacy S. McGaugh*, and Chung-Ming Ko, *Mass-Velocity Dispersion Relation in HIFLUGCS Galaxy Clusters*, The Astrophysical Journal, 910, 56 (2021)
12. **Yong Tian***, Keiichi Umetsu*, Chung-Ming Ko*, Megan Donahue, and I-Non Chiu, *The Radial Acceleration Relation in CLASH Galaxy Clusters*, The Astrophysical Journal, 896, 70 (2020)
13. **Yong Tian*** and Chung-Ming Ko*, *Halo Acceleration Relation*, Monthly Notices of the Royal Astronomical Society, 488, L41-L46 (2019)
14. **Yong Tian** and Chung-Ming Ko*, *Mass Discrepancy-Acceleration Relation in Einstein Rings*, Monthly Notices of the Royal Astronomical Society, 472, 765-771 (2017)
15. Wei-Chia Chen*, Hsiang-Ying Chen, Yu-Sheng Chen, **Yong Tian**, and Lin I, *Self-excited multi-scale skin vibrations through optical tracking motions of micro-tracers on arms*, The Journal of Applied Physics, 122, 024701 (2017)
16. **Yong Tian** and Chung-Ming Ko*, *Dynamics of Elliptical Galaxies with Planetary Nebulae in Modified Newtonian Dynamics*, Monthly Notices of the Royal Astronomical Society, 462, 1092-1100 (2016)
17. **Yong Tian*** and Chung-Ming Ko, and Mu-Chen Chiu, *Hubble Constant, Lensing, and Time Delay in Relativistic Modified Newtonian Dynamics*, The Astrophysical Journal, 770, 154 (2013)
18. Mu-Chen Chiu*, Chung-Ming Ko, **Yong Tian**, and HongSheng Zhao, *Mass of Galaxy Lenses in Modified Gravity: Any Need for Dark Mass*, Physical Review D, 83, 063523 (2011)
19. Mu-Chen Chiu*, Chung-Ming Ko, and **Yong Tian**, *Theoretical Aspects of Gravitational Lensing in TeVeS*, The Astrophysical Journal, 636, 565 (2006)

CONFERENCE (listed in descending chronological order)

1. Pengfei Li, **Yong Tian**, Mariana P. Julio, Marcel S. Pawlowski, Federico Lelli, Stacy S. McGaugh, James M. Schombert, Justin I. Read, Po-Chieh Yu, and Chung-Ming Ko, *Measuring the dynamical mass profiles of galaxy clusters with galaxy kinematics*, EAS2023, European Astronomical Society Annual Meeting, held 10-14 July, (2023).
2. Pengfei Li, Stacy S. McGaugh, Federico Lelli, **Yong Tian**, James M. Schombert, and Chung-Ming Ko, *Baryonic feedback required in massive galaxies due to the adiabatic contraction of dark matter halos*, EAS2023, European Astronomical Society Annual Meeting, held 10-14 July, (2023).
3. **Yong Tian** and Chung-Ming Ko, *Dynamics of Elliptical Galaxies in the Framework of Modified Newtonian Dynamics*, Proceedings of 12th Asia-Pacific Regional IAU Meeting, Publications of The Korean Astronomical Society, 30, Issue 2, 375-379 (2015)
4. **Yong Tian** and Chung-Ming Ko, *Finding the Acceleration Parameter in Modified Newtonian Dynamics with Elliptical Galaxies*, Proceedings of 12th Asia-Pacific Regional IAU Meeting, Publications of The Korean Astronomical Society, 30, Issue 2, 381-383 (2015)

5. Ting-Hung Peng, Chung-Ming Ko, **Yong Tian**, and Chen-Hung Chen, *The Evolution of Baryonic Mass of Elliptical Galaxies in the Sloan Digital Sky Survey*, Proceedings of 12th Asia-Pacific Regional IAU Meeting, Publications of The Korean Astronomical Society, 30, Issue 2, 381-383 (2015)
6. **Yong Tian**, Chung-Ming Ko, and Mu-Chen Chiu, *Hubble Constant, Lensing, and Time Delay in TeVeS*, Proceedings of the International Astronomical Union, IAU Symposium, 289, 344-347 (2013)
7. Mu-Chen Chiu, Chung-Ming Ko, and **Yong Tian**, *Gravitational Lensing in TeVeS*, Proceedings of 7th International Conference on Gravitation and Astrophysics, 32, 20-31 (2007)

International Conference Presentations (listed in descending chronological order)

1. **[Invited] talk** in MOND: alternative path in the dark matter problem, Leiden, Netherlands, “*Examining the Shapiro Time Delay in Relativistic MONDian Gravity*”, Sept. 1-5, 2025
2. **Contributed talk** in COSPAR 2024, Busan, Korea, “*Examining the Shapiro Time Delay at Earth-Sun Saddle Point in Relativistic MONDian Gravity*”, Jul. 13-21, 2024
3. **[Invited] talk** in Celebrating 40 years of Milgromian dynamics and charting the road ahead: opportunities and challenges in galaxies and cosmology, St. Andrews, United Kingdom, “*Radial Acceleration Relation and Mass-Velocity Dispersion Relation on BCG-cluster Scales*”, Jun. 5-9, 2023
4. **Contributed eTalk** in XXIX IAU General Assembly, “*Mass-Velocity Dispersion Relation on BCG-cluster Scales*”, BEXCO, Busan, Republic of Korea & Online Platform, Aug. 2-11, 2022
5. **Contributed talk** in Asia-Pacific School and Workshop on Gravitation and Cosmology 2022, “*The Acceleration Relation in Dark Matter Problem*”, virtual conference, Mar. 19-22, 2022
6. **Contributed talk** in Galaxy Evolution Workshop 2021, “*Mass-Velocity Dispersion Relation on MaNGA Brightest Cluster Galaxies*”, virtual conference, Feb. 7-10, 2022
7. **[Invited] talk** in Virtual Institute of Astroparticle Physics (VIA) Lecture, “*The Radial Acceleration Relation in CLASH Galaxy Clusters*”, Apr. 24, 2020
8. **[Invited] talk** in Bonn Gravity Workshop, Bonn, Germany, “*Mass Discrepancy-Acceleration Relation in Einstein Rings*”, Sept. 23-27, 2019
9. **Poster** in XXX IAU General Assembly, Vienna, Austria, “*Mass Discrepancy-Acceleration Relation from Giant Elliptical Galaxies to Dwarf Galaxies*” and “*Strong Gravitational Lensing by Elliptical and Spiral Galaxies in Modified Newtonian Dynamics*”, Aug. 20-31, 2018
10. **Contributed talk** in NCU-ShAO Workshop, Xiamen University, “*The Mass Acceleration-Discrepancy Relation in Dark Matter Problem*”, May 20-22, 2018
11. **Contributed talk** at 13th Asia-Pacific Regional IAU Meeting, Taipei, Taiwan, “*The Discrepancy between Dynamical and Baryonic Surface Density of Elliptical Galaxies*”, Jul. 3-7, 2017
12. **Contributed talk** in XXIX IAU General Assembly, Honolulu, U.S.A, “*Probing the Dynamics of Elliptical Galaxies by Planetary Nebulae in the framework of Modified Newtonian Dynamics*”, Aug. 2015
13. **Contributed talk** in 12th Asia-Pacific Regional IAU Meeting, Daejeon, Korea, “*Dynamics of Elliptical Galaxies in the Framework of Modified Newtonian Dynamics*”, Aug. 2014
14. **Contributed talk** in XXVIII IAU General Assembly, Beijing, China, “*Hubble Constant, Lensing and Time Delay in TeVeS*”, Aug. 2012
15. **Contributed talk** in Modified Gravity Approaches to the Dark Sector, Observatoire Astronomique de Strasbourg, France, “*Hubble Constant, Lensing and Time Delay in TeVeS*”, Jun. 2010

16. Contributed talk in VII Asia-Pacific International Conference on Gravitation and Astrophysics (ICGA 7th), Zhongli, Taiwan, “*Theoretical Aspects of Gravitational Lensing in TeVeS*”, Nov. 2005

Selected Colloquia and Seminars (listed in descending chronological order)

1. **[Invited]** Seminar, Arcetri Astrophysical Observatory - INAF, “*From the Fundamental Plane to the Baryonic Faber–Jackson Relation: An Acceleration-Dependent View of Pressure-Supported Systems*”, Jan. 28, 2026
2. **[Invited]** Colloquium, Nanjing University, “*Dual Acceleration Scales in Dark Matter Problem*”, Jul. 25, 2024
3. **[Invited]** Colloquium, , “*Investigating Dual Acceleration Scales in Dark Matter Problem*”, Dec. 12, 2023
4. **[Invited]** Special Seminar, Leibniz-Institut für Astrophysik Potsdam (AIP), “*Investigating Dual Acceleration Scales in Dark Matter Problem*”, Nov. 21, 2023
5. **[Invited]** MPE CCG Seminar, Max Planck Institute for Extraterrestrial Physics (MPE), “*A Parallel Baryonic Faber-Jackson Relation in Brightest Cluster Galaxies and Galaxies Clusters*”, Nov. 15, 2023
6. **[Invited]** Seminar, Tamkang University, “*Investigating Acceleration Scales in Dark Matter Problem*”, Oct. 24, 2023
7. **[Invited]** Seminar, Mini-workshop, Yuan Ze University, “*Investigating Acceleration Scale in Dark Matter Problem*”, Aug. 10-11, 2023
8. **[Invited]** Lecture, NCTS-TCA Summer Student Program 2023, National Taiwan University, “*Cosmological Structure Formation*”, Jul. 3-5, 2023
9. **[Invited]** Seminar, Workshop on Gravitation, Relativity, and Cosmology, “*Prediction and Falsification of the Dark Matter Hypothesis and Modified Gravity*”, Jan. 8, 2023
10. **[Invited]** Seminar, NCTS Annual Theory Meeting, National Taiwan University, “*The Radial Acceleration Relation and its Implications on BCG-cluster Scales*”, Dec. 15, 2022
11. **[Invited]** Seminar, Taiwanese Theoretical Astrophysics Workshop II, National Taiwan University, “*The Second Acceleration Scale in Dark Matter Problem*”, Nov. 25, 2022
12. **[Invited]** Special Colloquium, Institute of Astronomy, National Central University, “*The Second Acceleration Scale in Dark Matter Problem*”, Nov. 11, 2022
13. **[Invited]** Seminar, Center of Astronomy and Gravitation, National Taiwan Normal University, “*The Connection between Light and Dark – Acceleration Relation in Dark Matter Problem*”, Apr. 7, 2022
14. **[Invited]** Astronomy Colloquium, National Tsing Hua University, “*Mass-Velocity Dispersion Relation in HIFLUGCS Galaxy Clusters*”, Mar. 29, 2021
15. **[Invited]** ASIAA Colloquium, Academia Sinica, “*Mass-Velocity Dispersion Relation in HIFLUGCS Galaxy Clusters*”, Mar. 17, 2021
16. **[Invited]** Seminar, Fundamental Theory Group, Physics Department, National Central University, “*The CLASH Radial Acceleration Relation in Galaxy Clusters*”, Apr. 15, 2020
17. **[Invited]** Colloquium, Institute of Astronomy, National Central University, “*The CLASH Radial Acceleration Relation in Galaxy Clusters*”, Mar. 20, 2020
18. **[Invited]** Special Talk, Institute of Astronomy, National Central University, “*Is Dark Matter REAL?*”, Nov. 2, 2018
19. **[Invited]** Colloquium, Physics Department, National ChengChi University, “*Acceleration Relation in Dark Matter Problem*”, Oct. 15, 2018

- 20.**[Invited]** HEP Seminar, National Chiao Tung University, “*Acceleration Relation of Galaxies in Dark Matter Problem*”, Oct. 2, 2018
- 21.**[Invited]** Colloquium, Institute of Astronomy, National Central University, “*Acceleration Relation in Dark Matter Problem*”, Jun. 14, 2018
- 22.**[Invited]** HEP Seminar, National Center for Theoretical Sciences, National Tsing Hua University, “*Acceleration Relation of Gravitational Lensing in Dark Matter Problem*”, Jun. 4, 2018
- 23.**[Invited]** Colloquium, Tamkang University, “*Mystery Acceleration Relation in Dark Matter Problem*”, May 15, 2018
- 24.**[Invited]** HEP Seminar, Chung Yuan Christian University, “*Acceleration Relation in Dark Matter Problem from Dynamics to Lensing*”, May 1, 2018
- 25.**[Invited]** Special Seminar, High Energy Theory Group, the Institute of Physics, Academia Sinica, “*Acceleration Relation in Dark Matter Problem*”, Mar. 21, 2018
- 26.**[Invited]** HEP Seminar, Physics Department, National Central University, “*Mass Acceleration-Discrepancy Relation*”, Dec. 28, 2016
- 27.**[Invited]** Seminar, Electrical Engineering Department, National Chiayi University, “*The Dark Phantom of the Universe – The Dark Matter Problem*”, Dec. 8, 2016
- 28.**[Invited]** Seminar, LeCosPA, National Taiwan University, “*The Insufficient Dark Matter in High-Surface-Brightness Ellipticals*”, Nov. 14, 2016
- 29.**[Invited]** HEP Seminar, National Chiao Tung University, “*The Alternative to the Dark Mass Problem in Gravitational Lensing*”, May 31, 2016
- 30.**[Invited]** Colloquium, National Cheng Kung University, “*The Dark Side of the Universe – Missing Mass Problem*”, May 13, 2016
- 31.**[Invited]** Colloquium, National Tsing Hua University, “*Gravitational Lensing in Relativistic Modified Newtonian Dynamics*”, May 13, 2015
- 32.**[Invited]** Seminar, Focus Groups on Gravity, National Central University, “*Strong Lensing in Relativistic Modified Newtonian Dynamics*”, Jul. 14, 2014
- 33.**[Invited]** Cosmology/HEP Seminar, National Center for Theoretical Sciences, National Tsing Hua University, “*Gravitational Lensing in Relativistic Modified Newtonian Dynamics*”, Apr. 25, 2014

Teaching Experiences (listed in descending chronological order)

- CPAC lecture, "General Relativity", "Dark Matter Problem", National Central University. Mar. 2026
- Stanford "Designing Your Life" (DYL) Seed Workshop, National Central University Apr. 21, 2026
- Taiwan Top Science Student, General Astronomy, Joint Lectures, High School Online Courses 09/2021-06/2022
- Taiwan Top Science Student, General Astronomy, Joint Lectures, Wu Lin High School 08/2020-07/2021
- General Physics Experiment, Assistant Professor, National Central University 09/2007-07/2009

Students Supervised

Graduate student

You-Lun Lin, National Central University (09/2023-)

Hok-Sum Tam, National Central University (03/2023- 07/2024)

Undergraduate student

Pradyumna Sadhu, India Institute of Technology, Hyderabad (06/2021- present) → Ph.D., UC Riverside University
Oona Kuo, National Central University (07/2021- 09/2021) → M.S., National Yang Ming Chiao Tung University
Yi-Chen Ju, National Central University (07/2021- 09/2021)
Tzuyin Hsu, National Central University (07/2021- 09/2021) → B.S., National Tsing Hua University

Public Press and Public Outreach

- **[Invited]** - , Jun, 2026
- **[Invited]** Public talk, , “ ”, Nov. 1, 2022
- **[Invited]** Public talk, , Yuan Ze University, “ ”, Nov. 9, 2021
- **[Invited]** Public talk, Science Education Center, NCU, “ – ”, Apr. 21 2017
- Public press, ISAAC Newton group of telescope, “*A Deficit of Dark Matter in Elliptical Galaxies*”, Dec. 28 2016,
<http://www.ing.iac.es/PR/press/mond.html>