

TAWEEWAT SOMBOONPANYAKUL

CONTACT Kavli Institute for Particle Astrophysics & Cosmology (KIPAC), Stanford University
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EMPLOYMENT

Stanford University *Aug 2021 - present*
Kavli Fellow - Institutional fellowship at KIPAC

EDUCATION

Massachusetts Institute of Technology *Aug 2015 - Aug 2021*
Ph.D. in Physics, Advisor: Prof. Michael McDonald
Thesis: The Clusters Hiding in Plain Sight (CHiPS) survey
University of Chicago *Sept 2011 - Jun 2015*
BA in Physics with specialization in Astrophysics
Honor Thesis Advisor: Prof. Hsiao-Wen Chen

AWARDS

2021 **The Kavli Fellowship**, Postdoctoral Research Fellowship, Stanford University
2019 Representative to Lindau Nobel Laureate Meetings, Lindau, Germany
2015 **MIT Clark Fellow**, Graduate Research Fellowship, MIT
2015 **Phi Beta Kappa, Dean's List**, The University of Chicago
2014 **The FOTI Global Leadership Award**, The University of Tokyo
2014, 2015 **The Maroon Key Society**, The University of Chicago
2013 **Walter and Fay Selove Prize in Physics**, The University of Chicago

SELECTED PRESS

- Daily Galaxy – “690 Trillion Suns-new look at an ancient quasar so bright it obscured a massive galaxy cluster”, Oct. 2021
- MIT News Press – “MIT astronomers discover galaxy clusters hiding in plain sight”, Mar. 2021
- NASA Press – “A weakened black hole allows its galaxy to awaken”, Nov. 2019
- MIT News Press – “Sprawling galaxy cluster found hiding in plain sight”, Aug. 2018
- Space.com Press – “Huge Galaxy Cluster Found Hiding in Plain Sight”, Jun. 2018

OBSERVING

Successful Telescope Proposal as PI or as the majority contributor

- Chandra, 2022, 89ks, “Deep X-ray Observations of a new, highly luminous cool-core galaxy cluster at $z \sim 0.6$ ”
- Hubble, 2019 Mid Cycle, 2 orbits, “Imaging a Rare Starburst Central Galaxy in a Merging Cluster”
- Magellan, 2018B, 3 nights, “Spectroscopic Follow Up for the CHiPS galaxy clusters candidates”
- Chandra, 2018, 137 ks, “A Unique Sample of Extreme-BCG Clusters at $0.2 < z < 0.6$ ”
- Magellan, 2017B, 3 nights, “The CHiPS Surveys: Clusters Hiding in Plain Sight”
- Magellan, 2016A, 3 nights, “The CHiPS Surveys: Clusters Hiding in Plain Sight”

Observing Experience

- Magellan Telescope, Las Campanas Observatory (LCO), Long-slit spectroscopy with LDSS3, 2018
- Magellan Telescope, (LCO), Optical imaging with PISCO, 2017B
- Magellan Telescope, (LCO), Optical imaging with PISCO, 2017A
- Magellan Telescope, (LCO), Optical imaging with PISCO, 2016B

TEACHING AND MENTORING

Mentoring

- Tutoring low income high school students at Peninsula Bridge programs, Palo Alto, Fall 2022
- Supervising undergraduate students for summer research projects, Stanford, 2022
- Mentoring 6 undergraduate students in Physics at MIT for academic and social supports, MIT, 2020 (Austin Chin, Sydney Kim, Michael Kraus, Armando Martinez, Sarah Zhao, Amanda Zheng)

Undergraduate/Graduate Taught Courses

- Graduate Teaching Assistant in 8.01 Physics I - Mechanics at MIT, Fall 2020
- Graduate Teaching Assistant, for Prof. Michael McDonald in 8.902 graduate-level Astrophysics II at MIT, Fall 2019
- Graduate Teaching Assistant, for Prof. Kiyoshi Masui in 8.01 Physics I - Mechanics at MIT, Fall 2018
- College Core Tutor Program for Physics at the University of Chicago, 2015

SERVICE

- Chandra Peer Review Panel, NASA, Cycle 24, 2022
- Astrophysics Graduate Admission Committee, Stanford University, 2022
- Session Chair, “Galaxy Cluster I”, 235th Meeting American Astronomical Society, 2020

OUTREACH

- Volunteer at College of San Mateo, “Family Science Day”, San Mateo, CA, Sep. 2022
- Speaker in the Benjamin Dean Astronomy Lecture series, “Decoding the Mystery of Dark Matter Using Galaxy Clusters”, California Academy of Sciences, San Francisco, CA, Aug. 2022
- Guest Speaker at Sacred Heart Prep School, Atherton, CA, May. 2022
- Guest Speaker at BASIS Independent Silicon Valley School, San Jose, CA, Mar. 2022 (virtual)
- Member of MIT Astrogazers, Observing with the public on the sidewalk, 2017-2021
- Volunteer at Vattino STEM Alliance Science Festival, Apr. 2019
- Volunteer at Cambridge Science Festival, “Solar Observing”, Apr. 2018
- Volunteer at MIT Museum, “Nautical Day with Celestial Navigation”, Mar./Nov. 2018
- Volunteer at MIT Museum, “Mathernoon Day”, Mar./Nov. 2018
- Public Speaker at Mahidol University, “Impact of Active Galaxies on Clusters”, Aug. 2017
- World Wide Telescope Ambassadors at Harvard University, 2016
- Organizer for a Yerkes Observatory Weekend Workshop, WI, 2014
- President of Ryerson Astronomical Society at the University of Chicago, 2013-2014

RESEARCH PRESENTATION

Contributed Talks (Conferences)

- 237th Meeting American Astronomical Society, AAS, Jan. 2021, “Galaxy Clusters and AGN Feedback” (virtual)
- 235th Meeting American Astronomical Society, AAS, Honolulu, HI, Jan. 2020, “Clusters Hiding in Plain Sight (CHiPS)”
- Planetary Systems: A Synergistic View, ICISE, Quy Nhon, Vietnam, Jul. 2015, “Transiting Exoplanet’s Impact Parameter: Long vs Short Cadence”
- UChicago-Northwestern Exoplanet Workshop, Alder Planetarium, IL, 2014, “Transiting Exoplanet’s Impact Parameter: Long vs Short Cadence”

Seminars

- University of Southampton, Southampton, UK, Mar. 2022 (virtual)
- University of North Texas, Denton, TX, Feb. 2022 (virtual)
- University of California, Santa Cruz, Santa Cruz, CA, Feb. 2021 (virtual)
- The Center for Astrophysics | Harvard & Smithsonian, Cambridge, MA, Feb. 2021 (virtual)

- California Institute of Technology, Pasadena, CA, Feb. 2021 (virtual)
- Stanford University, Stanford, CA, Dec. 2020 (virtual)
- Space Telescope Science Institute, Baltimore, MD, Nov. 2020 (virtual)
- University of Michigan, Ann Arbor, MI, Oct. 2020 (virtual)
- The University of Missouri–Kansas City, Kansas City, MO, Aug. 2020 (virtual)
- National Astronomical Research Institute of Thailand, Chiang Mai, Thailand, Jan. 2019
- Chiang Mai University, Chiang Mai, Thailand, Jan. 2019
- Kasetsart University, Bangkok, Thailand, Jan. 2019
- Mahidol University, Bangkok, Thailand, Jan. 2019
- Carnegie Observatories, Pasadena, Dec. 2018

Conference Posters

- 19th Meeting High Energy Astrophysics Division (HEAD), Pittsburgh, PA, Mar. 2022
- Tracing Cosmic Evolution with Clusters of Galaxies, Sesto (BZ), Italy, Jul. 2019
- 69th Lindau Nobel Laureate Meeting, Lindau, Germany, Jul. 2019
- 17th Meeting High Energy Astrophysics Division (HEAD), Monterey, CA, Mar. 2019
- SnowCluster – The Physics of Galaxy Clusters, Snowbird, UT, Mar. 2018
- Chandra Science for the Next Decade, Cambridge, MA, Aug. 2016
- 227th Meeting American Astronomical Society, AAS, Kissimmee, FL, Jan. 2016

REFEREED PUBLICATIONS

1. Olivares, V., Su, Y., Nulsen, P., ..., **Somboonpanyakul, T.**, et al. 2022, MNRAS, 516, L101. “AGN feedback duty cycle in Planck SZ selected clusters using Chandra observations”
2. Hernández-Lang; D., Zenteno; A., Diaz-Ocampo, A.; ..., **Somboonpanyakul, T.**; et al., 2022, MNRAS, 517, 4355. “Clash of Titans: a MUSE dynamical study of the extreme cluster merger SPT-CLJ0307-6225”, arXiv:2111.15443
3. ***Somboonpanyakul, T.**; McDonald, M.; Noble, A.; Bayliss, M.; Calzadilla, M.; Ruppén, F.; et al., 2022, ApJ, 163, 146, “The Evolution of AGN Activity in Brightest Cluster Galaxies”
4. ***Somboonpanyakul, T.**; McDonald, M.; Bayliss, M.; Voit, M.; Donahue, M.; Gaspari, M.; Dahle, H.; Rivera-Thorsen E.; Stark, A., 2021, ApJL, 907, L12, “The Clusters Hiding in Plain Sight (CHiPS) Survey: CHIPS1911+4455, a Rapidly Cooling Core in a Merging Cluster”
5. ***Somboonpanyakul, T.**; McDonald, M.; Gaspari, M.; Stalder, B.; Stark, A., 2021, ApJ, 910, 60, “The Clusters Hiding in Plain Sight (CHiPS) Survey: Complete Sample of Extreme BCG Clusters”
6. McDonald, M.; McNamara, B. R.; Voit, G. M.; ..., **Somboonpanyakul, T.**; et al., 2019, ApJ, 885, 63, “Anatomy of a Cooling Flow: The Feedback Response to Pure Cooling in the Core of the Phoenix Cluster”
7. ***Somboonpanyakul, T.**; McDonald, M.; Lin, H. W.; Stalder, B.; Stark, A., 2018, ApJ, 863, 122, “The Clusters Hiding in Plain Sight (CHiPS) Survey: A First Discovery of a Massive Nearby Cluster Around PKS1353-341”