

Xian-Yu Wang

PhD in Astrophysics

Indiana University, Bloomington, IN 47405

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CURRENT POSITION

Indiana University

Postdoctoral Research Associate

Bloomington, IN

Feb. 2023 - present

EDUCATION

University of Chinese Academy of Sciences (UCAS)

Beijing, China

National Astronomical Observatories, Chinese Academy of Sciences (NAOC)

Ph.D in Astrophysics

Jan. 2023

Thesis: *Study of exoplanets based on high-precision
photometric and spectroscopic observations*

Advisor: Zhen-Yu Wu

Shandong University

Weihei, Shandong, China

B.S in Space Science and Technology

Jun. 2018

AWARDS

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| 2025 | Sullivan Prize Postdoctoral Fellowship |
| 2023 | UCAS Outstanding Ph.D. Graduate Award |
| | Awarded to the top 5% of Ph.D. graduates from the same graduating year at UCAS |
| 2023 | Beijing Outstanding Ph.D. Graduate Award |
| | Awarded to the top 5% of Ph.D. graduates from the same graduating year in Beijing |
| 2023 | National Scholarship |
| | Highest scholarship given by Ministry of Education of the People's Republic of China |
| 2022 | Joint PhD Training Program Scholarship, UCAS |
| | Scholarship provided by UCAS to fund one year-long visit to Indiana University |
| 2021 | Pacemaker to Merit Student, NAOC |
| | Awarded to the top 1% of students |
| 2019 | Excellent Student Leader, NAOC |
| 2019 | Merit Student, NAOC |
| | Awarded to the top 20% of students |
| 2018 | National Astronomical Observatory Scholarship |
| | Scholarship for outstanding undergrads in astronomy research |
| 2018 | Outstanding Undergraduate Thesis Award, Shandong University |
| | Awarded to 1 student per major |
| 2015-18 | Academic scholarship, Shandong University |
| | Awarded to the top 30% of students |

OBSERVING PROGRAMS

TNG, HATPS-N, AOT52 (2025B), 10 hours,

Scientific PI: Probing stellar obliquities in the underpopulated Warm Sub-Saturn population

CAHA, CARMENES, 2025B, 1 nights, Scientific PI: Solving the Stellar Obliquity of sub-Saturns

ESO 3.6m, HARPS, P116, 1 nights,

PI: Explore the Unknown: The Stellar Obliquity of Sub-Saturns Around Hot Stars

JWST Cycle 4, 59.6 Primary Spacecraft Hours, CoI:

The Warm Jupiter Opportunity for Understanding Giant Exoplanet Evolution

WIYN, NEID, 2025B, 11 nights, PI: Toward Understanding the 3D Architecture of Warm Giants

WIYN, NEID, 2025A, 12 nights, PI: Characterizing Angles for Warm Giants
 WIYN, NEID, 2024B, 12 nights, PI: 3D Architecture of Warm Jupiters
 TNG, HARPS-N, 2023B, 1 nights, Scientific PI: HD 80606 b's Spin-Orbit Misalignment Revisited
 WIYN, NEID, 2022B, 5 nights, Co-I: Probing Stellar Obliquities with NEID
 LCOGT-1m, 2020A, 30 hours, PI, Photometric Follow-Up of Apparent Decaying Orbital WASP-12 b
 LCOGT-1m, 2021A, 30 hours, PI, Understanding the shortening period of WASP-12 system

STUDENTS MENTORING

Undergraduate:






Colton Romines (second-year undergraduate student at Indiana University) co-supervised with Songhu Wang	2024 - present
Jace Rusznak (now post-baccalaureate fellowship researcher at Indiana University) co-supervised with Songhu Wang	2023 - present

Graduate




Emma Dugan (second-year graduate student at Indiana University) co-supervised with Songhu Wang	2023 - present
Jiamei Yang (now PhD Candidate at Beijing Normal University)	2021





PUBLICATIONS (5 First Author, 7 Second Author, 28 in total, H index=14, Citations=504,)

First Author:

- * *Single-Star Warm-Jupiter Systems Tend to Be Aligned, Even Around Hot Stellar Hosts: No T_{eff} - λ Dependency* 
Xian-Yu Wang, Malena Rice, Songhu Wang, et al. 2024, **The Astrophysical Journal Letters**, 973, L21, as featured by **AAS Nova**.
- * *The Aligned Orbit of WASP-148b, the Only Known Hot Jupiter with a Nearby Warm Jupiter Companion, from NEID and HIRES* 
Xian-Yu Wang, Malena Rice, Songhu Wang, et al. 2022, **The Astrophysical Journal Letters**, 926, L8
- * *Transiting Exoplanet Monitoring Project (TEMP). VI. The Homogeneous Refinement of System Parameters for 39 Transiting Hot Jupiters with 127 New Light Curves* 
Xian-Yu Wang, Yong-Hao Wang, Songhu Wang, et al. 2021, **The Astrophysical Journal Supplement Series**, 255, 15
- * *Transiting Exoplanet Monitoring Project (TEMP). IV. Refined System Parameters, Transit Timing Variations and Orbital Stability of the Transiting Planetary System HAT-P-25* 
Xian-Yu Wang, Songhu Wang, Tobias Hinse, et al. 2018, **The Publications of the Astronomical Society of the Pacific**, 130, 064401
- * *New analysis of the fraction of observable nights at astronomical sites based on FengYun-2 satellite data* 
Xian-Yu Wang, Zhen-Yu Wu, Jing Liu, et al. 2022, **Monthly Notices of the Royal Astronomical Society**, 511, 4






Second Author:

- * *From Misaligned Sub-Saturns to Aligned Brown Dwarfs: The Highest M_p/M_* Systems Exhibit Low Obliquities, Even around Hot Stars* 
 Jace Rusznak, **Xian-Yu Wang**, Malena Rice, Songhu Wang, **The Astrophysical Journal Letters**, 983, L42, as featured by **AAS Nova**.
- * *The SNR of idealised radial velocity signals* 
 David Kipping & **Xian-Yu Wang**. 2024, **Monthly Notices of the Royal Astronomical Society**, 532, 604
- * *TOI-1670 c, a 40 day Orbital Period Warm Jupiter in a Compact System, Is Well Aligned* 
 Jack Lubin, **Xian-Yu Wang**, Malena Rice, et al. 2023, **The Astrophysical Journal Letters**, 295, 5

- * *Evidence for Low-Level Dynamical Excitation in Near-Resonant Exoplanet Systems* 
Malena Rice, **Xian-Yu Wang**, Songhu Wang, et al. 2023, **The Astronomical Journal**, 166, 266
- * *The Spin-Orbit Misalignment of TOI-1842b: The First Measurement of the Rossiter-McLaughlin Effect for a Warm Sub-Saturn around a Massive Star* 
Kyle Hixenbaugh, **Xian-Yu Wang**, Malena Rice, Songhu Wang, 2023, **The Astrophysical Journal Letters**, 949, 35, as featured by **AAS Nova**.
- * *Photometric follow-up observations and transit timing analysis of HAT-P-37b* 
Jia-Mei Yang, **Xian-Yu Wang**, Kai Li, et al. 2021, **Publications of the Astronomical Society of Japan**, 73, 1010
- * *Transiting Exoplanet Monitoring Project (TEMP). I. Refined System Parameters and Transit variations of HAT-P-29* 
Songhu Wang, **Xian-Yu Wang**, Yong-Hao Wang, et al. 2018, **The Astronomical Journal**, 156, 181

Contributing Author:

- * *Evidence for Primordial Alignment II: Insights from Stellar Obliquity Measurements For Hot Jupiters in Compact Multi-planet Systems* 
Brandon T. Radzom, Jiayin Dong, Malena Rice, **Xian-Yu Wang**, et al 2025, **The Astronomical Journal**, 169, 189
- * *SOLES XII. The Aligned Orbit of TOI-2533 b, a Transiting Brown Dwarf Orbiting an F8-type Star* 
Thiago Ferreira, Malena Rice, **Xian-Yu Wang**, Songhu Wang, 2024, **The Astronomical Journal**, 168, 145
- * *Evidence for Primordial Alignment: Insights from Stellar Obliquity Measurements for Compact Sub-Saturn Systems* 
Brandon T. Radzom, Jiayin Dong, Malena Rice, **Xian-Yu Wang**, et al 2024, **The Astronomical Journal**, 168, 116
- * *The PFS view of TOI-677 b: A spin-orbit aligned warm Jupiter in a dynamically hot system* 
Qingru Hu, Malena Rice, **Xian-Yu Wang**, et al 2024, **The Astronomical Journal**, 167, 175
- * *The GAPS Programme at TNG L – TOI-4515 b: An eccentric warm Jupiter orbiting a 1.2 Gyr-old G-star* 
I. Carleo, L. Malavolta, S. Desidera, and 68 coauthors including **Xian-Yu Wang**, 2023, **Astronomy & Astrophysics**, 682, 138
- * *SOLES VII: The Spin-Orbit Alignment of WASP-106 b, a Warm Jupiter Along the Kraft Break* 
Josette Wright, Malena Rice, **Xian-Yu Wang**, et al 2023, **The Astronomical Journal**, 166, 217
- * *The Orbital Architecture of Qatar-6: A Fully Aligned Three-body System?* 
Malena Rice, Songhu Wang, Konstantin Gerbig, and 5 coauthors including **Xian-Yu Wang**, 2023, **The Astronomical Journal**, 165, 65
- * *TOI-1136 is a Young, Coplanar, Aligned Planetary System in a Pristine Resonant Chain* 
Fei Dai, Kento Masuda, Corey Beard and 60 coauthors including **Xian-Yu Wang**, 2023, **The Astronomical Journal**, 165, 33
- * *A Tendency Toward Alignment in Single-star Warm-Jupiter Systems* 
Malena Rice, Songhu Wang, **Xian-Yu Wang** et al. 2022, **The Astronomical Journal**, 164, 104
- * *Revisiting the Full Sets of Orbital Parameters for the XO-3 System: No evidence for Temporal Variation of the Spin-Orbit Angle* 
Keduse Worku, Songhu Wang, Jennifer Burt, and 14 coauthors including **Xian-Yu Wang**, 2022, **The Astronomical Journal**, 163, 158
- * *SOLES I: The Spin–Orbit Alignment of K2-140 b* 
Malena Rice, Songhu Wang, Andrew W. Howard, and 8 coauthors including **Xian-Yu Wang**, 2021, **The Astronomical Journal**, 162, 182

- * *The Aligned Orbit of the Eccentric Warm Jupiter K2-232b* 
Songhu Wang, Joshua N. Winn, Brett C. Addison, and 8 coauthors including **Xian-Yu Wang**, 2021, **The Astronomical Journal**, 162, 50
- * *The Youngest Planet to Have a Spin-Orbit Alignment Measurement AU Mic b* 
Brett C. Addison, Jonathan Horner, Brett C. Addison, and 8 coauthors including **Xian-Yu Wang**, 2021, **The Astronomical Journal**, 162, 50
- * *TOI 564 b and TOI 905 b: Grazing and Fully Transiting Hot Jupiters Discovered by TESS* 
Allen B. Davis, Songhu Wang, Matias Jones, and 54 coauthors including **Xian-Yu Wang**, 2020, **The Astronomical Journal**, 160, 229
- * *HD 202772A b: A Transiting Hot Jupiter Around a Bright, Mildly Evolved Star in Discovered by TESS* 
Songhu Wang, Matias Jones, Avi Shporer, and 57 coauthors including **Xian-Yu Wang**, 2018, **The Astronomical Journal**, 157, 51
- * *A possible giant planet orbiting the cataclysmic variable LX Ser* 
Li Kai, Hu Shaoming, Zhou Jilin and 6 coauthors including **Xian-Yu Wang**, 2017, **Publications of the Astronomical Society of Japan**, 69, 28

SELECTED TALKS AND CONFERENCES

Conference Talks:

- * Know Thy Star, Know Thy Planet 2, Caltech, Pasadena Feb. 2025
Single-Star Warm-Jupiter Systems Tend to Be Aligned, Even Around Hot Stellar Hosts:
No $T_{\text{eff}} - \lambda$ Dependency
- * 245th AAS Annual Winter Meeting, National Harbor, Maryland Jan. 2025
Single-Star Warm-Jupiter Systems Tend to Be Aligned, Even Around Hot Stellar Hosts:
No $T_{\text{eff}} - \lambda$ Dependency
- * TESS Science Conference III (plenary session), MIT Aug. 2024
Warm Jupiters Tend to Be Aligned, Even Around Hot Stars,
- * Emerging Researchers in Exoplanet Science Symposium IX, Cornell University Jul. 2024
Warm Jupiters Tend to Be Aligned, Even Around Hot Stars,
- * Exoplanet V, Netherland Jun. 2024
Tri-Angles: 0° , 90° , 180° — Hot Jupiters' Signature Spin-Orbit Angles
- * 243th AAS Annual Winter Meeting (thesis talk), New Orleans Jan. 2024
Violence or Quiescence Probing Hot Jupiters' Migration Theories Using Photometric
and Spectroscopic Observations
- * Asia Oceania Geosciences Society (AOGS) Annual Meeting, Aug. 2023
Observational and Theoretical Aspects of Exoplanets, Singapore
3D Configuration of a Compact Multi-giant System Lying at the Stability Boundary
- * Emerging Researchers in Exoplanet Science VII, The Pennsylvania State University Aug. 2022
*The Aligned Orbit of WASP-148b and the statistic implications from the distribution
of stellar sky-projected obliquities*
- * Annual Conference of the Chinese Astronomical Society, Nanchong, China Dec. 2021
Transiting Exoplanet Monitoring Project (TEMP)
- * Annual Conference of the Chinese Astronomical Society, Nanchong, China Dec. 2021
The Aligned Orbit of WASP-148b

Seminar and Lunch Talks:

- * Astronomy Seminar, Westlake University, Zhejiang June. 2025

* ZJU IA Spring Seminar, Zhejiang University, Zhejiang	June. 2025
* TDLI Seminar, Tsung-Dao Lee Institute, Shanghai	June. 2025
* SHAO lunch talk, Shanghai Astronomical Observatory, Shanghai	June. 2025
* PMO Youth Forum, Purple Mountain Observatory, Nanjing	June. 2025
* Exoplanet lunch talk, Nanjing University, Nanjing	June. 2025
* Astrop-ph Seminar, Peking University, Beijing	May. 2025
* PDS Seminar, Tsinghua University, Beijing	May. 2025
* Youth Innovation Promotion Association academic Seminar, NAOC, Beijing	May. 2025
* CIERA - Northwestern University, Evanston, IL	Mar. 2025
* Harvard CfA Exoplanet Pizza Lunch, Cambridge, MA	Nov. 2024
* David Charbonneau Group Meeting, Cambridge, MA	Nov. 2024
* Tea Talk, Indiana University Bloomington	Apr. 2024
* Tea Talk, Indiana University Bloomington	Sep. 2022
* Lunch talk, South-Western Institute For Astronomy Research, Kunming, China	Mar. 2022

Conference Posters:

* Poster, Emerging Researchers in Exoplanet Science Symposium VIII, New Heaven Homogeneous Studies on the Stellar Obliquities	Jun. 2023
* Poster, 54 th Division on Dynamical Astronomy, Michigan 3D configuration of a compact multi-giant system lying at the stability boundary	May. 2023

SERVICE AND OUTREACH

* AAS 243, Session Chair for <i>Exoplanet Searches and Surveys II</i>	Jan. 2024
* AAS 243, judge for <i>Chambliss Astronomy Achievement Student Award</i> poster competition	Jan. 2024
* GLEAM 2023 Conference, Member of SOC & LOC, and Session Chair	Jul. 2023
* Donation Organizer organized a successful donation drive, providing 200+ astronomy books to underprivileged students in rural areas.	Jun. 2021
* Member of the Graduate Student Council organized communication activities between graduate students of National Astronomical Observatory of China and Beijing Institute of Genomics	2021

TEACHING

Indiana University Bloomington

* AST-A 100 The Solar System	2024
* AST-A 100 The Solar System	2023

University of Chinese Academy of Sciences

* Stellar Structure and Evolution, Teaching assistance	2019
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Shandong University

* Optics, Teaching assistance	2015
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