

Xuening Bai

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Employment

- 2019.7-present Adjunct professor, Department of Astronomy, Tsinghua University
- 2017.9-present Research Professor, Institute for Advanced Study, Tsinghua University
- 2015.8-2017.7 Research Associate and Lecturer, Harvard University
- 2012.9-2015.7 Hubble Fellow, Smithsonian Astrophysical Observatory

Education

- 2012.8 Ph.D. Astrophysics, Princeton University (with Prof. James M. Stone)
- 2007.7 B.S. Mathematics and Physics, Tsinghua University, Beijing

Research Interests

Planet formation: gas dynamics, chemistry and evolution of protoplanetary disks, dust dynamics and transport, planetesimal formation, core accretion, planet-disk interaction

Plasma astrophysics: accretion disks, magnetized disk winds, pulsar physics, particle acceleration in collisionless shocks, cosmic-ray transport

Computational astrophysics: magnetohydrodynamics, particle-in-cell methods

Selected Honors and Awards

- 2018 Youth Thousand Talent Program, China
- 2012.2 Hubble Fellowship & ITC (Harvard) Fellowship (5 years total)
- 2012.2 Miller & TAC (Berkeley) Fellowships (5 years total, declined)
- 2011.9-2012.8 Charlotte E. Procter Honorific Fellowship, Princeton University
- 2010.4 Young Scientist Award, at the 1st Sant Cugat forum in Astrophysics
- 2009.9-2012.8 The NASA Earth and Space Science Fellowship (NESSF)
- 2007.7 Graduate with Distinguished Honor, Tsinghua University
- 2007.7 Chi-Sun YEH Award, Tsinghua University

Teaching

- 2019.9-2020.1 Co-Instructor, Statistics and Numerical Methods, Tsinghua Univ.
- 2018.9-2019.6 Organizer, Special Topics in Obs./Theoretical Astrophysics, Tsinghua Univ.

- 2018.2 Main lecturer, Winter School on Computational Astrophysics, Shanghai
 2017.9-2018.6 Organizer, THCA Student Seminar, Tsinghua Univ.
 2017.7 Lecturer, Astrophysics Summer School for College Students, Tsinghua Univ.
 2016.1-5 Co-Instructor, Astronomy 253 - *Plasma Astrophysics*, Harvard Univ.
 2014.5 Lecturer, Spring School on Protoplanetary Disks and Planet Formation, Institute for Advanced Study, Tsinghua Univ.

Students Supervised

- Xihui Zhao 2020.1-present (UGS at USTC -> GS at IASTU)
 Chris Bambic 2019.9-present (GS at Princeton Univ., w/Prof. E. Ostriker)
 Weihang Jia 2019.8-present (UGS -> GS at Southwest Jiaotong Univ.)
 Zhenghao Xu 2019.7-present (UGS at Peking Univ. -> Intern at IASTU)
 Shengtang Wang 2018.10-present (UGS at Beijing Normal Univ. -> GS at IASTU)
 Xinyu Zheng 2018.9-present (UGS -> GS at Tsinghua Univ./IASTU)
 Zitao Hu 2018.6-present (UGS -> GS at Tsinghua Univ./DoA)
 Can Cui 2018.2-present (GS at Shanghai Observatory)
 Xiaochen Sun 2017.9-present (UGS at Fudan Univ. -> GS at IASTU)
 Ziyang Xu 2014.10-present (GS at Peking Univ.)
 Runcheng Liu 2019.4-9 (UGS at Tsinghua Univ.)
 Xiaosheng Zhao 2019.1-2019.9 (GS at DoA)
 Zhanbo Zhang 2018.6-2019.6 (UGS at Peking Univ. -> Intern at IASTU -> Industry)
 Lile Wang 2017.8-2018.11 (GS at Princeton Univ. -> CCA, w/Prof. J. Goodman)
 Shoji Mori 2017.4-2018.11 (GS at Tokyo Tech -> Univ. of Tokyo, w/Prof. S. Okuzumi)
 Rui Xu 2014.5-2018.6 (UGS at Peking Univ -> GS at Princeton)
 Jiani Ye 2014.5-2015.12 (GS at Shanghai Observatory -> GS at SUNY Stony Brook)

Postdocs Supervised

- Prason Dhang 2019.9-present
 Pinghui Huang 2019.9-present
 Yuhiko Aoyama 2019.9-present
 Haifeng Yang 2018.9-present

Professional Activities & Service

- Member, Academic and Teaching committees, Department of Astronomy (2019.8-present)
 Chair, Academic Activity Committee, Tsinghua Center for Astrophysics (2017.9-2018.11)
 Director of the Graduate Student Activities, Physics Dept., Tsinghua Univ. (2018.3-2019.1)
 Panelist/Reviewer at NSF, NASA ATP/EW/XRP, NESSF (2013-2017)

Referee for Nature, Science Advances, ApJ, ApJL, MNRAS, A&A, EPSL, RAA and ApSS (since 2010)

Organizer of the ITC Pizza Lunch series at Harvard CfA on Magnetic Fields and Turbulence in Astrophysics (2015 Spring, with B. Burkhardt & A. Pillepich)

Outreach

- 2018.6 Public talk at TEDxTHU
- 2015.4 Volunteer at Cambridge Explores the Universe
- 2014.4 Volunteer for the "Astronomy for Everyone" program at Harvard University
- 2009.10-2012.6 Public observing nights, Princeton University

Selected Recent Invited Talks

- Invited talk, Magnetic Fields in the Universe 7 Conference, Quy Nhon, Vietnam, Feb. 2020
- Review talk, Planet Formation Workshop, NAOJ, Tokyo, Japan, Nov. 2019
- Colloquium talk, Shanghai Astronomical Observatory, Shanghai, Nov. 2019
- Invited talk, International Workshop on Laboratory Astrophysics, Shanghai, Oct. 2019
- Invited talk, Connecting Micro and Macro Scales, Acceleration, Reconnection and Dissipation in Astrophysical Plasmas, KITP conference, Santa Barbara, CA, USA, Sept. 2019
- Review talk, Great Barriers in Planet Formation, Palm Cove, Australia, July 2019
- Invited talk, European Week of Astronomy and Space Science (EWASS) annual meeting, Lyon, France, June 2019
- Colloquium, Canadian Institute for Theoretical Astrophysics, Toronto, Canada, May 2019
- Review talk, Theoretical and Computational Challenges in Planet Formation, Flation Institute, New York, USA, May 2019
- Invited talk, Annual Meeting on Planetary Science of Chinese Astronomical Society, Yixing, Jiangsu, Dec. 2018
- Planery talk, 2nd Asia-Pacific Conference in Plasma Physics, Kanazawa, Japan, Nov. 2018
- Invited talk, Accretion in Stellar Systems, Cambridge, MA, USA, Aug. 2018
- Colloquium, Dept. of Physics, Univ. of Bern, Switzerland, Nov. 2017
- Invited talk, Special Session at the 16th AAS HEAD meeting, Sun Valley, ID, Aug. 2017
- Colloquium, Dept. of Astronomy, University of Maryland, College Park, Apr. 2017
- Colloquium, Dept. of Astronomy, University of Virginia, Charlottesville, Mar. 2017
- Colloquium, Dept. of Physics, McGill University, Montreal, Canada, Mar. 2017
- Colloquium, Dept. of Physics, Univ. of California, Santa Barbara, CA, Feb 2017
- Review talk, KITP conference on "Disks, Dynamos, and Data: Confronting MHD Accretion Theory with Observations", KITP, University of California, Santa Barbara, Feb. 2017