

# Behzad Tahmasebzadeh, Ph.D.

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🌐 <https://behzadtahmaseb.github.io>

## Research Interests

Galaxy Formation and Evolution, Galaxy Photometry, N-body simulation, IFU Observation.

## Professional Experience

2023 – ... 📖 **Postdoctoral Fellow**, University of Michigan, Ann Arbor, USA.

## Education

- 2017 – 2022 📖 **Ph.D. in Astrophysics**, Shanghai Astronomical Observatory, Shanghai, China.  
Thesis title: *Schwarzschild dynamical modeling of barred galaxies with IFU observation.*
- 2013 – 2016 📖 **M.Sc. in Astrophysics**, Institute for Advanced Studies in Basic Sciences, Zanjan, Iran.  
Thesis title: *Inflationary cosmological models in Scalar–tensor gravity.*
- 2009 – 2013 📖 **B.Sc. in physics**, BuAli-Sina University, Hamedan, Iran.

## Awards

- 2022 📖 **CAS talent**, awarded as Excellent International Student by the Chinese Academy of Science.
- 2017 📖 **CAS-TWAS**, Ph.D. scholarship (most competitive scholarship for study Ph.D. in China).
- 2016 📖 **First rank** as a M.Sc graduate student in astrophysics group at IASBS.

## Visiting Scholar

Feb – March 2019 📖 Collaboration visit to MPE, Munich, Germany.

## Skills

### Programming

Coding 📖 Python, Fortran, Bash, Mathematica.

Software 📖 DYNAMITE, AGAMA, NAFF, SUPERFREQ, GALFIT, GALPY, MGEFIT, ASTROPY, PPXF, GIST, DS9.

### Software Development

- 📖 Member of collaboration team for DYNAMITE. A tool for orbit-superposition dynamical modelling of stellar systems.
- 📖 I modified the core part of DYNAMITE code to be applicable for modeling of barred galaxies.









### Teaching

- TA 📖 Computational physics for M.Sc students, Spring 2015, IASBS, Iran.
- Lecture 📖 An introduction on Astronomy and Astrophysics, Spring 2012, BASU, Iran.




## Colloquium

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### Talk & Poster

- 2023     **talk**, *Schwarzschild Modeling of Barred So Galaxy NGC4371 with TIMER Survey*, TIMER team virtual meeting.
- 2022     **talk**, *Dynamical orbit decomposition of barred galaxies*, DYNAMITE workshop, ICRAR, Australia.
- 2021     **talk**, *Orbital origin of CX and OX structures in boxy-peanut bulges*, Seminar talk, University of Central Lancashire, UK.
- 2020     **talk**, *Orbit-based dynamical modeling of external barred galaxies*, Dynamics workshop and follow-up on barred galaxies, University of Cambridge, UK.
-  **talk**, *Schwarzschild modeling of barred galaxy*, DYNAMITE release event (software for dynamical modelling of galaxies), University of Vienna, Austria.
- 2019     **talk**, *Deprojection of barred galaxies from photometry*, MPE, Germany.
-  **poster**, *Extract 3D density profile of barred galaxies from image*, The art of measuring galaxy physical properties, Milan, Italy.
- 2016     **poster**, *Brans-Dicke inflation in light of the Planck 2015 data*, Gravity and Cosmology annual meeting, Zanzan, Iran.

### Workshops

- 2020     Dynamical Reconstruction of Galaxies, Leiden University, Netherlands.
- 2019     5th Scientific Writing for Young Astronomers, Kunming observatory, China.
-  Summer school on galactic dynamics, Shanghai Astronomical Observatory, China.

## References







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|------------------------|---|
| Prof. Juntao Shen      |  Shanghai Jiao Tong University  <a href="mailto:jtsen@sjtu.edu.cn">jtsen@sjtu.edu.cn</a>            |
| Prof. Ling Zhu         |  Shanghai Astronomical Observatory  <a href="mailto:lzhu@shao.ac.cn">lzhu@shao.ac.cn</a>            |
| Prof. Ortwin Gerhard   |  MPE, Germany  <a href="mailto:gerhard@mpe.mpg.de">gerhard@mpe.mpg.de</a>                           |
| Prof. Monica Valluri   |  University of Michigan  <a href="mailto:mvalluri@umich.edu">mvalluri@umich.edu</a>                 |
| Dr. Eugene Vasiliev    |  University of Cambridge  <a href="mailto:eugvas@lpi.ru">eugvas@lpi.ru</a>                          |
| Prof. Glenn van de Ven |  University of Vienna  <a href="mailto:glenn.vandeven@univie.ac.at">glenn.vandeven@univie.ac.at</a> |

## Research Publications

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### Journal Articles

- 1 **Tahmasebzadeh, Behzad**, J. Shen, M. Valluri, L. Zhu, and et al., “Orbital Origin of CX/OX Structures in Boxy-Peanut Bulges,” *in-prep*, 2023.
- 2 **Tahmasebzadeh, Behzad**, L. Zhu, J. Shen, D. Gadotti, and et al., “Schwarzschild Modeling of Barred So Galaxy NGC4371 with TIMER Survey,” *in-prep*, 2023.
- 3 **Tahmasebzadeh, Behzad**, L. Zhu, J. Shen, O. Gerhard, and G. v. d. Ven, “Orbit-superposition Dynamical Modeling of Barred Galaxies,” *ApJ*, 2022.  DOI: 10.3847/1538-4357/ac9df6.
- 4 S. Thater, P. Jethwa, **Tahmasebzadeh, Behzad**, *et al.*, “Testing the robustness of DYNAMITE triaxial Schwarzschild modelling: The effects of correcting the orbit mirroring,” *A&A*, 2022.  DOI: 10.1051/0004-6361/202243926.
- 5 C. Yang, L. Zhu, **Tahmasebzadeh, Behzad**, X.-X. Xue, and C. Liu, “Constructing the Milky Way Stellar Halo in the Galactic Center by Direct Orbit Integration,” *AJ*, 2022.  DOI: 10.3847/1538-3881/ac9900.
- 6 **Behzad Tahmasebzadeh**, L. Zhu, J. Shen, O. Gerhard, and Y. Qin, “Deprojection of external barred galaxies from photometry,” *MNRAS*, 2021.  DOI: 10.1093/mnras/stab3002.
- 7 **Behzad Tahmasebzadeh** and K. Karami, “Generalized Brans-Dicke inflation with a quartic potential,” *Nuclear Physics B*, 2017.  DOI: 10.1016/j.nuclphysb.2017.02.018.
- 8 **Behzad Tahmasebzadeh**, K. Rezazadeh, and K. Karami, “Brans-Dicke inflation in light of the Planck 2015 data,” *JCAP*, 2016.  DOI: 10.1088/1475-7516/2016/07/006.