

# BEHZAD TAHMASEBZADEH

PhD student

Nationality: Iranian

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📍 80 Nandan road, Shanghai, China

## ACADEMIC POSITIONS

University of Michigan

**Postdoc (received the contract offer)**

📅 start date 1st January, 2023

📍 Ann Arbor, USA

Research project: "A census of black holes in compact stellar systems in the Virgo cluster using Schwarzschild dynamical models".

Host-advisor: Monica Valluri

## EDUCATION

Shanghai Astronomical Observatory

**Ph.D. in Astrophysics**

📅 2017 - Currently

📍 Shanghai, China

Thesis: "Schwarzschild dynamical modeling of barred galaxies with IFU observation".

Advisors: Juntai Shen, Ling Zhu

Institute for Advanced Studies in Basic Sciences

**M.S. in Astrophysics**

📅 2013 - 2016

📍 Zanjan, Iran

Thesis: "Inflationary cosmological models in Scalar-tensor gravity"

Advisors: Yousef Sobouti, Kayoomars Karami

Buali-Sina University

**B.S. in physics,**

📅 2009 - 2013

📍 Hamedan, Iran

Thesis: "The properties of Neutron Stars"

## TALKS & POSTERS

talk (online): Orbital origin of CX and OX structures in boxy-peanut bulges

**Seminar talk**

📅 2021

📍 University of Central Lancashire, UK

talk (online): Orbit based dynamical modeling of external barred galaxies

**Dynamics workshop and follow-up on barred galaxies**

📅 2020

📍 University of Cambridge, UK

talk (online): Schwarzschild modeling of barred galaxy

**DYNAMITE v0.0 release event (software for dynamical modelling of galaxies)**

📅 2020

📍 University of Vienna, Austria

talk: Deprojection of barred galaxies from photometry

**MPE-SHAO joint project meeting**

📅 2019

📍 MPE, Germany

## LANGUAGES

- Persian: Native Speaker
- English: Fluent
- Chinese: Basic Conversational

## PROGRAMMING LANGUAGES

Python

FORTAN

Mathematica

Bash

C++



## ASTRONOMICAL SOFTWARE

DYNAMITE

AGAMA

NAFF

Superfreq

GALFIT

Galpy

MGEfit

Astropy

Ds9

## REFEREES

**Prof. Juntai Shen**

@ Shanghai Jiao Tong University

✉ jtshen@sjtu.edu.cn

**Prof. Ling Zhu**

@ Shanghai Astronomical Observatory

✉ lzhu@shao.ac.cn

**Prof. Ortwin Gerhard**

@ Max-Planck-Institut fuer extraterrestrische Physik

✉ gerhard@mpe.mpg.de

**Prof. Monica Valluri**

@ University of Michigan

✉ mvalluri@umich.edu

**Dr. Eugene Vasiliev**

@ University of Cambridge

✉ eugvas@lpi.ru

**Dr. Matt Taylor**

@ University of Calgary

✉ matthew.taylor2@ucalgary.ca

## AWARDS

- ✓ CAS-TWAS Ph.D. scholarship (most competitive scholarship for study Ph.D. in China). 2017-2021
- ✓ First rank as a M.Sc graduate student in astrophysics group at IASBS. 2016.

poster: Extract 3D density profile of barred galaxies from image

#### The art of measuring galaxy physical properties

📅 2019

📍 IASF-Milan, Italy

poster: Brans-Dicke inflation in light of the Planck 2015 data

#### Iranian National Gravity and Cosmology annual meeting, Tehran, 2016.

📅 2016

📍 Tehran, Iran

## WORKSHOPS

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

## RESEARCH COLLABORATIONS

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- **Germany, MPE, Ortwin Gerhard Group:**  
Collaboration to developing barred Chemo-dynamical Schwarzschild method and apply it to sub-sample of CALIFA galaxies.
- **Austria, University of Vienna, Glenn Van De Ven Group:**  
Collaboration to modify and develop the core part of DYNAMITE code for Schwarzschild dynamical modeling, originally written by Van Den Bosch 2008.

## VISITING SCHOLAR

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- **Collaboration visit to MPE, Germany.**  
(22th February - 10th March 2019 )

## PUBLICATIONS

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### 📄 Journal Articles

- Behzad Tahmasebzadeh and et al. (2022). "Orbital origin of CX and OX structures in boxy-peanut bulges". In: *writing stage*.
- Behzad Tahmasebzadeh J. Shen, et al. (2022). "Orbit based dynamical modeling of external barred galaxies". In: *writing stage*.
- C. Yang, et. al +Behzad Tahmasebzadeh (2022). "The milky way halo stars toward the galactic center". In: *Submitted to ApJ*.
- DYNAMITE team, +Behzad Tahmasebzadeh (2022). "Robustness of orbital superposition models towards incorrect orbit mirroring". In: *ready for submitting to A&A*.
- Behzad Tahmasebzadeh, Ling Zhu, et al. (2021). "Deprojection of external barred galaxies from photometry". In: *MNRAS*. DOI: [10.1093/mnras/stab3002](https://doi.org/10.1093/mnras/stab3002).
- Behzad Tahmasebzadeh and Kayoomars Karami (2017). "Generalized Brans-Dicke inflation with a quartic potential". In: *Nuclear Physics B (IF:2.7)*. DOI: [10.1016/j.nuclphysb.2017.02.018](https://doi.org/10.1016/j.nuclphysb.2017.02.018).
- Behzad Tahmasebzadeh, Kazem Rezazadeh, and Kayoomars Karami (2016). "Brans-Dicke inflation in light of the Planck 2015 data". In: *JCAP (IF:5.8)*. DOI: [10.1088/1475-7516/2016/07/006](https://doi.org/10.1088/1475-7516/2016/07/006).

## TEACHING

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Teaching Assistant

#### Computational physics for M.Sc students

📅 Spring 2015

📍 IASBS, Iran

Teaching Assistant

#### Olympiad on Astronomy and Astrophysics

📅 Spring 2012

📍 BASU, Iran

## SOFTWARE DEVELOPMENT

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