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Research field

- Computational astrophysics and simulation (N-body Code)
- Dense star clusters and binary compact objects
- Stellar dynamics, evolution and its magnetic field in star clusters
- Data analysis of stellar atmospheres

Publications

- "Unraveling the Origins and Development of the Galactic Disk through Metal-Poor Stars"
Published in: Communications of the Byurakan Astrophysical Observatory (ComBAO)
 Volume 70, pp. 306-309
[2023arXiv:2402.07045](https://arxiv.org/abs/2023arXiv2402.07045) **Maria Rah et al., 2023.**
- "Metal-poor Stars Observed with the Automated Planet Finder Telescope. III. The CEMP-no Stars are the Descendant of Population III Stars"
Published in: Astronomische Nachrichten (AN)
[2021arXiv210201076A](https://arxiv.org/abs/2021arXiv210201076A) **Nour et al., 2021.**
- "Simulation of the orbit and spin period evolution of the double pulsars PSR J0737-3039 from their birth to coalescence induced by the gravitational wave radiation"
Published in: Research in Astronomy and Astrophysics (RAA),
 Vol 21, No 4 (2021) / Liu
[2020arXiv201110193L](https://arxiv.org/abs/2020arXiv201110193L) **Peng Liu et al., 2020.**
- "Stellar spectra analysis of giant stars: ARCTURUS"
Published in: Communications of the Byurakan Astrophysical Observatory (ComBAO)
 Volume 67, 2020, pp.347-348
[2020CoBAO..67..347R](https://arxiv.org/abs/2020CoBAO..67..347R) **Maria Rah, 2020.**
- "Number count of 2MRS galaxies in the J, H, and K bands 0.2 MBS"
Published in: Communications of the Byurakan Astrophysical Observatory (ComBAO)
 Volume LXV, Issue 1, 2018, pp.385-391
[2018CoBAO..65..385A](https://arxiv.org/abs/2018CoBAO..65..385A) **Arbabi Bidgoli et al., 2018.**

Education

- | | |
|------------------|--|
| 09/2022- Present | <p>PhD candidate in Astronomy-Astrophysics
 At Byurakan Astrophysical Observatory, Armenia (BAO)
 Thesis Title: "Analyzing of pulsars in star clusters via Direct N-body simulation"
 Score: No defense yet</p> |
| 09/2011-09/2014 | <p>M.Sc. in Physics-Astrophysics
 At Islamic Azad University, Central Tehran Branch, Iran
 G.P.A.: 3.52/4 (Major=4/4, Compulsory=3.16/4, Elective=3.4/4)
 Thesis Title: "Stellar Atmosphere Simulating and Spectral Analysis Using ATLAS Software on Linux; Spectra of ARCTURUS"
 Score: 4 (Out of 4)
 Supervisor: Prof. Mohammad Taghi Mirtorabi
 Advisors: Prof. Sepehr Arbabi Bidgoli</p> |
| 09/2004-07/2008 | <p>B.Sc. in Physics
 Islamic Azad University, Rasht, Iran
 G.P.A.: 3.37/4 (Basic=3.44/4, Specialty=3.19/4, Elective=3.15/4)</p> |

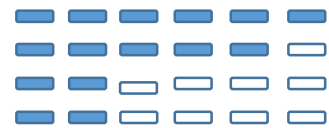
Consultant professors

Prof. Areg M. MICKAELIAN (President of BAO)

Prof. Rainer Spurzem (APL. Prof. at ZAH-ARI, Univ. of Heidelberg)

Language Proficiency

- **Persian:** Native
- **English:** Fluently
- **German:** Level A2
- **Arabic:** Level A2 is finished



Computer Skills

- Operating System: **Windows, Ubuntu**
- Programming and Scripting Language: **Python, FORTRAN, C++**
- Scientific and Technical Software:
 - **N-Body6++GPU Codes** (By Rainer Spurzem)
 - **ATLAS-WIDTH-SYNTH2009** (Stellar Atmosphere Simulation)
 - **PHOEBE** (Atmospheric modeling of binary stars)
 - **DS9** (Data reduction)

Work Experience and Teaching

- **Teacher and CEO of Astronomy Courses and Workshops** (In Schools and at Universities) 07/2002-**NOW** (Part time)
- **Research Assistant in RIAAM** 02/2017-12/**2019** (Part time)
- **Assistant in ASI** (Organizer of Astronomy Courses and Workshops) 07/2016-07/**2018** (Part time)
- **Astrophysics Teacher** (in Rasht City) 08/2004-07/**2018** (Part time)
- **Chief Executive Officer (CEO)** of Astronomy Society of Guilan 07/2016 -07/**2017**(Part time)
- **Chief Executive Committee** (Iranian Conference on Amateur Astronomy (**ICAA**)) 07/2016 -07/**2017**(Part time)
- **Project Planner in Sepehr Research & Knowledge Development Co.** 09/2014 -08/**2017**(Part time)
- **Teacher Assistant in Gravitation and Astrophysics Courses** (At Azad University, Tehran) 10/2013-06/**2015**(Part time)

Visits

- The Silk Road Project at National Astronomy Observatories of Chinese Academy of Sciences (**NAOC**), **China**
Nov. 11, 2019 - Jan. 09, 2020
- Korea Astronomy and Space Science Institute (**KASI**), Daejeon, **Rep. of Korea**
Dec. 10-14, 2019
- The Silk Road Project at National Astronomy Observatories of Chinese Academy of Sciences (**NAOC**), **China**
Nov. 30 - Dec. 10, 2018
- Byurakan Astrophysical Observatory (**BAO**), **Armenia**
Sep. 9-22, 2018

Presentations

Conferences:

- **"Pulsars (x-ray & Gamma-ray) on the Galactic Field vs. Globular Clusters"**
International Conference "Non-Stable Phenomena in the Universe", Byurakan Observatory **Armenia, 2023**
- **"Astronomy Dragons"**
TEDxGilSquare, MiM Institute, Rasht **Iran, 2021**
- **"Number count of 2MRS galaxies in the J, H, and K bands II"**
Instability Phenomena and Evolution of the Universe, Byurakan Observatory **Armenia, 2018**
- **"Number count of 2MRS galaxies in the J, H, and K bands I"**
20th Meeting on Research in Astronomy, Zanzan University (IASBS) **Zanzan, 2017**
- **"Stellar spectral analysis using ATLAS software, Giant star: ARCTURUS"**
7th National Conference on Physics of Payame Noor University **Tabriz, 2016**
- **"Studies of Variations in the views Abul wafa Albuzdjani and Tycho Brahe"**
The Astronomical center of Holiness AbdolAzim Holy Sheine **Tehran, 2014**

•”Investigation of historical astronomical instruments and their applications”

Governmental University of Rasht

Giulan, 2011

•”The Moon”

The Whole Official Department of Meteorology, Rasht

Giulan, 2007

Workshops:

• “Recent Progress and Outstanding Questions in Millisecond Pulsar”

South West & Central Asian (SWCA) 4th Regional Astronomical Workshop (4RAW), Byurakan Observatory Armenia, 2024

•”Applicability of the results of NBODY simulation in ATLAS simulation”

11th KCK workshop on stellar dynamics and related fields,

Korea Astronomy and Space Science Institute (KASI)

Rep. of Korea (KASI- Daejeon), 2019

•”Stellar Atmosphere Simulating & Spectral Analysis Using ATLAS Software”

10th KCK workshop on stellar dynamics and related fields,

Xian Jiao tong Liverpool University (XJTLU)

China (NAOC-Beijing-Suzhou), 2018

• “Executive Committee Manager Two-day National Amateur Astronomy Workshop”

Rasht (before ICAA)

Rasht, 2017

•”Observatories and their facilities”

Islamic Azad University, Lahijan

Giulan, 2011

•”2 Dimensional Stellarum”

10th physics education conference, Rasht

Giulan, 2007

Posters:

•”Stellar spectra analysis of giant stars” **Online**

Instability Phenomena and Evolution of the Universe, Byurakan Observatory

Armenia, 2020

•”Structure and Processing of historical astronomical instruments: sextant and quadrant”

4th national astronomy and astrophysics conference Sistan and Baluchistan UNI.

Zahedan, 2011

•”The effect both of Rey and Maraqa Observatories on new Observatories”

The Astronomical center of Holiness AbdolAzim Holy Sheine

Tehran, 2011

•”The philosophy of Kepler’s principles with Relation to Solar systems mechanism”

Islamic Azad University, Varamin-Pishva

Tehran, 2007

•”The accidents on Moon and how observing them”

5th conference on basic sciences, Islamic Azad University, Ghaemshahr

Mazandaran, 2006

Participations

Conferences:

• **MODEST24 (Modeling and Observing DENSE STellar systems) Online**

Nicolaus Copernicus Astronomical Center, Warsaw

Poland, 2024

• **Triennial meeting of the Marcel Grossmann (on Gravitation and Relativistic Theories) Online**

16th Marcel Grossmann Meeting

Rome, 2021

• **Annual Meeting of the Astronomische Gesellschaft Online**

German Astronomical society

Germany, 2020

• **11th national astronomy and astrophysics conference**

Ferdowsi University of Mashhad

Mashad, 2018

• **10th national astronomy and astrophysics conference**

Sistan and Baluchistan university

Zahedan, 2017

• **19th meeting on Research in Astronomy**

Institute for Advanced Studies in Basic Sciences (IASBS)

Zanjan, 2016

• **National conference on “Venus Transit”**

Milad tower

Tehran, 2012

• **International conference on”Khaj-e-Nasir-el-din-e Toosi”**

Milad tower

Tehran, 2011

Workshops & Schools:

• **9th Byurakan International Summer School (9BISS)**

Byurakan Astrophysical Observatory

Armenia, 2024

• **3rd Byurakan Regional and 1st Inter-Regional Astronomical Summer School (3RASS/1IRASS)**

Byurakan Astrophysical Observatory

Armenia, 2023

• **NBODY2023 workshop on gravitational N-body simulations Online**

Univ. of Heidelberg

Germany, 2023

• **VII Byurakan International Summer School (8BISS) Online**

Byurakan Astrophysical Observatory

Armenia, 2022

• NBODY2021 workshop on gravitational N-body simulations Online Univ. of Heidelberg	Germany, 2021
• MODEST-21a: AMUSE Online a community effort for an Astrophysical Multipurpose Software Environment	Germany, 2021
• VII Byurakan International Summer School (7BISS) Online Byurakan Astrophysical Observatory	Armenia, 2020
• NBODY2019 workshop on gravitational N-body simulations The Silk Road Project at NAOC, Beijing	China, 2019
• Recent Finding in the Cosmology Rayan Institute for Astronomy and Astrophysics	Tehran, 2019
• Advanced Astrophysics Workshop OF Maragha The Research Institute for Astronomy and Astrophysics of Maragha (RIAAM)	Maragha, 2019
• VI Byurakan International Summer School (6BISS) Byurakan Astrophysical Observatory	Armenia, 2018
• Observational Astronomy Ferdowsi University of Mashhad	Mashhad, 2018
• IPM Radio Astronomy School Institute for Research in Fundamental Sciences (IPM)	Tehran, 2017
• International School on Star Clusters with Gaia Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan university	Zanjan, 2017
• 2th winter school Astronomy Society of Iran (ASI), Sistan and Baluchistan university	Zahedan, 2017
• Quasar Absorption Lines Workshop Institute for Research in Fundamental Sciences (IPM)	Tehran, 2017
• 8th Advanced Astrophysics Workshop OF Maragha The Research Institute for Astronomy and Astrophysics of Maragha (RIAAM)	Maragha, 2016
• Observational Astronomy Summer School Institute for Research in Fundamental Sciences (IPM)	Tehran, 2013
• Publishing International Scientific articles Islamic Azad University, Rasht, Young Researchers Club, Rasht branch, (YRC)	Guilan, 2014
• Scientific and Professional Ethics Islamic Azad University, Rasht, Young Researchers Club, Rasht branch, (YRC)	Guilan, 2014
• Principles and basics of scientific literature Islamic Azad University, Rasht, Young Researchers Club, Rasht branch, (YRC)	Guilan, 2013

Extra Courses and Skills

• Training online course on "Introduction to the programming and usage of the supercomputer resources at Jülich" , 2020	Rainer Spurzem, APL. Prof. (Univ. Heidelberg), 2020
• Online lecture on computational physics,	Prof. Sepehr Arbabi Bidgoli, 2012
• Gravitation,	Prof. Sepehr Arbabi Bidgoli, 2012
• Computational Physics,	Prof. Mohammad Taghi Mirtorabi, 2011
• Spectroscopy in astronomy,	Lecturer Shirvani, 2011
• Relativities,	Prof. Mohammad Bagheri, 2011
• Translating professional texts,	Lecturer Ali Razeghi, 2011
• Study of constellations,	Lecturer Mohammad Reza Noroozi, 2005
• Astrophysics,	Lecturer Mohsen Iraj, 2005
• Observational astronomy,	Prof. Soheil Khoshbin Far, 2004
• Meteor shower,	Lecturer Amir Hasanzadeh, 2004
• Observation of new Moon,	Lecturer Ali Razeghi, 2001-2002
• An Introduction to Astronomy,	

Memberships

• Byurakan Astrophysical Observatory, Armenia (BAO)	09/ 2022 -Present
• The Silk Road Project at National Astronomy Observatories of Chinese Academy of Sciences, China (NAOC)	12/ 2018 -Present
• Research Institute for Astronomy and Astrophysics of Maragha, Iran (RIAAM)	12/ 2016 - 12/2019
• Physics Society of Iran (PSI)	06/ 2014 -Present
• Young Researchers Club, Iran , Rasht branch (YRC)	12/ 2006 -12/2018
• Astronomy Society of Iran (ASI)	12/ 2005 -Present
• Astronomy Society of Guilan, Rasht, Iran (ASG)	07/ 1999 - Present

Extracurricular Activities and Hobbies

Reading (Sociology, Psychology, Poem, Literature), Art (Wood, Glass, Pottery, Paraffin), Sport (Pilates, Fitness, Power lifting, Swimming, Yoga), Dancing (Iranian National and Local Dances), Nature (mountaineering,

Awards and Honors

- First rank: **The best Astrophysics Teacher**
In National Examination at Astronomy Society of Iran (ASI) **Winter 2017**
- First rank: **researcher of amateur astronomy**
In National Conference "publicizing science" at The Astronomical center of Holiness AbdolAzim Holy Sheine, Tehran **Winter 2014**
- Third rank: **researcher of amateur astronomy**
In National Conference "publicizing science" at The Astronomical center of Holiness AbdolAzim Holy Sheine, Tehran **Winter 2011**
- First rank: **researcher of amateur astronomy**
In Rasht, Giulan **Spring 2010**
- First rank: **The best researcher**
In YRC (between 3 Provinces in North of Iran) **Spring 2008**
- **The best astronomy Teacher**
In Rasht, Giulan **Spring 2008**
- **Top young researcher**
In YRC (Rasht), Giulan (4 semesters) **Spring and Autumn 2006 and 2007**