

In the Name of Allah,
The Compassionate, The Merciful.

Curriculum Vitae

EHSAN MORAVVEJI

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PERSONAL INFORMATION

- **Date of Birth:** July 10, 1981.
- **Place of Birth:** Shiraz, I. R. Iran.
- **Nationality:** Iranian.
- **Religion:** Islam.
- **Marital Status:** Married.

EDUCATION

- **Ph.D:** Admitted to a Ph.D position in Astrophysics at the IASBS¹, Iran.
Supervisors: Prof. Yousef Sobouti, and Prof. Edward F. Guinan.
Title: *Asteroseismology of Red Supergiant α Herculis, and Blue Supergiant β Ori (Rigel)*. [September 2007 to present]
- **Master of Science:** Graduated in physics from Shiraz University², Physics department.
Title: *The Effect of WIMPs on Eigenfrequencies of Oscillations of Composite Polytropic Stars*. [September 2007]
- **Bachelor of Science:** Graduated in Physics, from Shiraz University.
[February 1999 to August 2004]
- **Pre-University Diploma:** Graduated from Imam Khomani School, Shiraz.
[June 1999]
- **Diploma:** Graduated from Khorsandian high school, Shiraz.
[June 1998]

TEACHING EXPERIENCES

- *Introductory Astronomy*, at Soufi University³. References: A series of PowerPoint presentations. [Click](#) [Present]

¹<http://www.iasbs.ac.ir>

²<http://www.shirazu.ac.ir>

³<http://www.sufi.ac.ir>

- *Special Relativity*, at Zanjan University⁴. References: A. P. French, and R. Resnick. The course material can be found here. [Present]
- *Modern Physics*, at Zanjan University. Reference: R. T. Weidner and R. Sells. [Present]
- *Elementary Mechanics and Electromagnetism*, at Zanjan, Sufi University and numerous other universities. [Fall 2005 to present]
- Teaching assistance for the *Modern Quantum Mechanics* graduate course. Reference: J.J. Sakurai, Shiraz University. [Fall 2006]
- Teaching assistance for the *Mathematical Methods in Physics*, undergraduate course. Reference: G. Arfken and H. Weber, at Shiraz University. [Fall 2005]
- Basic Physics Laboratory, at Shiraz University, Physics Department. [Fall 2004 and Winter 2005]
- *Astronomy Olympiad* courses in Shiraz high schools and in the Fars Province Education Administration. Two of my students won the national gold medal. [2005 to present]
- *Astronomy for Public* courses in several institutions in Shiraz. [Fall 2004 to 2007]

PUBICATIONS

- Investigating the Semi-Regular Light Variations of the Bright M5 Supergiant: α Herculis.
Moravveji E., Guinan E. F., Wasatonic R., Sobouti Y. and Nasiri S., 2010, Ap&SS, click.
- On the Mass and Evolution Status of the Bright Red AGB Supergiant α^1 Herculis.
Moravveji E., Guinan E. F., and Sobouti Y. 2010, submitted to ASPCS, .
- *MOST* Photometry and Radial Velocity Monitoring of the Line Profile Variable B8 Ia Supergiant Star: Rigel.
Moravveji E. et al. in preparation .

RESEARCH INTERESTS

- Modeling and fine-tuning stellar interiors,
- Asteroseismology of Luminous Blue Variables, β Cephei stars, Slowly Pulsating Blue Supergiants, Solar-type pulsations in M-type giants/supergiants, Large amplitude variables,
- Conducting space-based observations,
- Future plans: Life in the universe and exoplanets, Cosmological structure formation,

ASTRO SOFTWARES, PACKAGES, AND CODES

- Modeling stellar structure and evolution with the fascinating MESA code.

⁴<http://www.znu.ac.ir>

- Stellar spectral synthesis, and abundance analysis with the MOOG code.
- Plotting: expert with IDL at first hand, and call PGPLOT during Fortran runs. Experienced in using Microcal Origin 6.0, and very beginner with Tioga/Ruby.
- Fourier analysis of time series with Period04, and wavelet analysis of unevenly spaced data with WWZ.

OBSERVATION EXPERIENCES

- 3-year binary star photometry, Biruni Observatory, Shiraz University, Iran.
- Determination of the error and data dispersion for photometric observations, Biruni observatory.
- Measurement of the drift in the telescope tracking for the 20-inch telescope in Biruni observatory.
- Lunar crescent sighting and Messier objects photography.

TELESCOPE TIMES RECEIVED

- 25-minutes service mode high-resolution Echelle spectroscopy at 2-m NOT.
- 28-day dedicated MOST photometry of β Ori (Rigel).

TALKS

- Autocorrelation, A tool to comprehend variable star data, IASBS.
- Triple- α Project: Observing α Her, α Ori, α Sco through BRITE Constellation, in 3rd BRITE workshop, 19-21 June 2009, Vienna.
- Pulsating Red Supergiants, IASBS.
- Observational aspect of Stellar Oscillations, Shiraz University.
- Mathematical aspect of Stellar Oscillations, Shiraz University.
- Measurement of Photometric Data Dispersion in Biruni Observatory, Shiraz Azad Uni.
- Instrumentation in Astronomy, Shiraz University.
- The story of stellar evolution, Shiraz University.

POSTERS

- Modeling the triple system α Herculis, 16-20 August 2010, Vienna, Austria.
- Preliminary Results on Long-Term Photoelectric Monitoring of α Herculis, HELAS Workshop, 22-26 June 2009, Rome, Italy.
- Tracking Live Evolution of Semi-regular Pulsators, 13th National Meeting on Research in Astronomy, IASBS, Zanjan, Iran.

COLLOQUIM/WORKSHOPS/SCHOOLS

- ISYA 2010, Byurakan Observatory, Armenia.
- Azarquiel School, 4-11 July 2010, Granada, Spain.
- Why Galaxies Care about AGB Stars (II), 16-20 August 2010, Vienna, Austria.
- As a marker in: 3rd International Astronomy and Astrophysics Olympiad, IOAA, October 2009, Tehran, Iran,
- Synergies between Solar and Stellar Modelling, 22-26 June 2009, Rome, Italy: [poster].
- 3rd BRITE Workshop, 19-21 June 2009, University of Vienna, Austria: [talk].
- National Astronomy Meeting, IASBS, Zanjan, February 2009.
- National Astronomy Meeting, Kurdistan University, February 2008.
- Annual National Physics Conference, Yasuj University, August 2007.
- Advanced Research workshop on Astronomy and Astrophysics, Mashhad Ferdowsy University, February 2004.
- Advanced Research workshop on Astronomy and Astrophysics, Mashhad Ferdoswy University, February 2003.
- Workshop on Data Processing and Data Resources in Astrophysics and Cosmology, Shiraz University, October 2003.

ENGLISH LANGUAGE ABILITY

Internet-based TOEFL exam with the total scaled score of **105 / 120**.

Test Date: 19 Jan 2007, Reg #: 0000 0000 0299 9462

Reading: 28/30, Listening: 28/30, Speaking: 22/30, Writing: 27/30.

COMPUTER SKILLS

- Operating Systems:
Linux: Ubuntu 9.10: Fully acquainted with.
Microsoft Windows XP: fully installing, modifying, and maintaining.
- Programming:
Excelled in: IDL 7.01, FORTRAN 77, and experienced in MATLAB. Acquainted with Linux bash scripting. Also limited knowledge of HTML.
- Typesetting:
L^AT_EX for English and FarsiTeX for Persian documents; Beamer package for presentations. Also Microsoft Word 2003/2007 and Microsoft Power Point 2003/2007 to design presentations.

- Computer hardware assembly, troubleshooting and maintenance.

SOCIAL ACTIVITIES

- Founding the Astronomy and Astrophysics Association in Shiraz university,
- Publishing *Giti*⁵, the Astronomy magazine of Shiraz University,
- Scientific editorial of the same magazine for seven issues,
- Authoring five articles in the *Giti* magazine,
- Holding more than ten star parties for the Shiraz university students,
- Presenting public astro-tours in the Biruni observatory for three years,
- Member of National Astronomy Teachers.

HOBBIES

- Playing Taar, and listening to traditional Iranian music,
- Mountaineering, volleyball, rock climbing and jogging,
- Amateur astronomy, especially Moon crescent sighting, observing nonstellar objects of the night sky, tracking featured events of amateur astronomy and Astrophotography,
- Watching movies, especially those in psycho and romance genre,
- Reading books, especially on poetry,
- Computer programming for solving physical problems.

⁵which means the cosmos in old persian literature.