

## CURRICULUM VITAE

### Teymoor Saifollahi

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### Education

- **PhD in Astronomy** (*March 2022*)  
Kapteyn Astronomical Institute, University of Groningen, the Netherlands  
Dissertation: [Understanding the extreme classes of dwarf galaxies](#)  
Advisors: Profs. R.F. Peletier, E.A. Valentijn, J.H. Knapen
- **MSc in Astronomy and Physics** (*May 2017*)  
Amirkabir University of Technology, Tehran, Iran  
Dissertation: Luminosity function of the fossil galaxy groups  
Advisors: Profs. Habib Khosroshahi, Davoud Kamani
- **BSc in Mechanical Engineering** (*May 2014*)  
(*admitted as exceptional Talent*)  
KNT University of Technology, Tehran, Iran

### Awards and Honors

- EU Marie Skłodowska-Curie early stage researcher (ESR), SUNDIAL-ITN (2017-2021)
- Leids Kerkhoven-Bosscha Fonds (LKBF) to attend the general assembly of IAU (600 euro, 2018) and the European Astronomical Conference (400 euro, 2022) in Valencia
- Maria Sibylla Merian scholarship (2000 euro) to visit Kapteyn Astronomical Institute for 2 months (2017)
- Ranked member of **Iran National Foundation of Elites**
- Awarded **Silver medal** in 3<sup>rd</sup> National Olympiad on Astronomy and Astrophysics in Iran (2007)

### Research and Work Experience

- **Postdoctoral Researcher** (*November 2021 - present*)  
OmegaCEN Group, Kapteyn Astronomical Institute, University of Groningen, the Netherlands
- **PhD researcher** (*September 2017 - August 2021*)  
Kapteyn Astronomical Institute, University of Groningen, the Netherlands
- **Visitor** (*September 2019 - November 2019*)  
Instituto de Astrofísica de Canarias, Canary islands, Tenerife
- **Visiting student** (*March 2017 - May 2017*)  
Kapteyn Astronomical Institute, University of Groningen, the Netherlands
- **Research Assistant** (*September 2015 - March 2017*)  
School of Astronomy, Institute for Research in Fundamental Sciences, Tehran, Iran
- **Astronomical instruments developer** (*April 2011 - September 2013*)  
Technical Development Division, Institute for Research in Fundamental Sciences, Tehran, Iran

### Computer Skills

- Computer Languages: *Python, Bash, C++, Matlab, R*
- Astronomical Software including: *SExtractor, Scamp, Swarp, IRAF, Aladin, DS9*
- Programming Libraries and Toolboxes including: *Numpy, Scipy, matplotlib, pandas, scikit-learn, Keras, PyTorch, OpenCV, SQL, Git*

## Talks and Seminars

- 2022** General Assembly of the International Astronomical Union (IAU-GA), Busan, South Korea (*2 talks*)  
VST Early-type Galaxy Survey (VEGAS) meeting, Napoli, Italy  
European Astronomical Society Annual Meeting (EAS), Valencia, Spain (*2 talks*)  
Netherlands Astronomical Conference (NAC), Blankenberge, Belgium  
Planetary Defence Office, European Space Agency (ESA)
- 2021** European Astronomical Society Annual Meeting (EAS) 2021, Leiden, the Netherlands (*3 talks*)  
National Astronomy Meeting (NAM) 2021, Bath, UK  
238th meeting of the American Astronomical Society (AAS)  
Netherlands Astronomical Conference (NAC) 2021, Leiden, the Netherlands  
Galaxy Formation and Evolution Workshop, Iranian National Observatory, Tehran, Iran (*invited*)  
Astronomy tea talk, California Institute of Technology, California, United States  
Weekly Journal Club, University of Stockholm, Sweden  
Galaxy Formation and Evolution Weekly Group Meeting, University of Bonn, Germany  
*Euclid* Netherlands science day, Kapteyn Astronomical Institute, Groningen, the Netherlands
- 2020** Systematically Measuring Ultra Diffuse Galaxies (SMUDGes) meeting, University of Arizona  
Weekly Colloquium, Strasbourg Observatory, France (*invited*)  
Weekly Colloquium, Birouni Observatory, Shiraz, Iran (*invited*)  
School of Astronomy, Institute for Research in Fundamental Science (IPM), Tehran, Iran (*invited*)
- 2018** Low-surface brightness galaxies workshop, Groningen, the Netherlands
- 2017** Fornax deep survey (FDS) meeting, Groningen, the Netherlands

\* All the talks during 2020 and 2021 have been taken place remotely.

## Observing Experience

### Observing Proposals

- *Confirmation of ultra-compact dwarf galaxies in the outskirts of the Fornax galaxy cluster*, program ID: 110.23PH, 3n, ESO/NTT/EFOSC2 (slit-spectroscopy) (**PI**)
- *An independent mass measurement of a dark-matter deficient galaxy*, proposal ID: SW2021a16, 4h in July 2021 with the William Herschel Telescope (WHT), PF-QHY camera (**PI**)
- *The Hydra I cluster with VIRCAM: deep near-IR observations to map globular clusters around NGC 3311*, program ID: 0109.B-0519(A), 58.5h with ESO/VISTA/VIRCAM (**co-I**)
- *Panchromatic view of galaxies across different cluster environments – Near-infrared observations of the in-falling galaxy group around NGC 1316 at the edge of the Fornax cluster: disentangling nature versus nurture*, program ID: 0102.A-0316(A), 27.8h with ESO/VISTA/VIRCAM (**co-I**)

### Observing Nights

- 2022, ESO/NTT/EFOSC2 (slit spectroscopy), 3n
- 2018 and 2019, Isaac Newton telescope (INT), Wide Field Camera (WFC), 12n
- 2018, various telescopes and instrument at the Asiago Astrophysical Observatory, 7n (during the NEON observing school)

### Data Reduction

- Developing a near-infrared pipeline within the *Astro-WISE* environment and subsequently, using the developed pipeline to reduce the VISTA/VIRCAM near-infrared wide-field images of the Fornax Galaxy Cluster (in  $J$  and  $K_s$ ).
- Reducing the INT/WFC wide-field optical images of a sample of nearby galaxy groups (in  $g$ ,  $r$  and  $i$ ) using the *THELI* pipeline

### **Teaching and Supervision**

- Astronomical Data Science Tutorial, MSc course, University of Groningen (2022)
- La Palma Observing Trip, MSc course, University of Groningen and Isaac Newton Telescope (INT), La Palma, Canary Islands (2018 and 2019)
- Introduction to Astronomy Tutorials, BSc course, University of Groningen (2018 and 2019)
- Supervision of 3 MSc and 4 BSc projects in Astronomy and Computer Science, University of Groningen

### **Outreach and Education**

- Invited article in the ZENIT magazine, the Dutch astronomy magazine (January 2021) on dark matter in ultra-diffuse galaxies (UDGs)
- Two Press releases (October 2020 and April 2022) and several interviews about my research and findings, including the published interview in *de Volkskrant*, the Dutch daily newspaper, about the future of studies on dwarf galaxies and dark matter.
- Contribution to [Space-fluff](#), a Zooniverse citizen science project to identify and classify the dwarf and low-surface brightness galaxies
- Popularizing astronomy activities in Groningen including International Asteroid days Pub Quiz, University of Groningen open days, national stargazing days (since 2017)

### **Schools and Training**

- NEON observing School, Asiago Observatory, Asiago, Italy (2018)
- Lyon 2D-3D spectroscopy school, Lyon, France (2018)
- SUNDIAL Schools in Machine learning, mathematical morphology, professional programming, project management, data visualization and version control, various place (2018-2020)
- AI in Astronomy, European Southern Observatory (ESO), Garching, Germany (2019)
- JWST data reduction workshop, Leiden, the Netherlands (2022)
- Advanced course in publishing, Public speech

## Publications

### *First author*

- "*Implications for galaxy formation models from observations of globular clusters around ultra-diffuse galaxies*", **T. Saifollahi**, D. Zaritsky, I. Trujillo, R. F. Peletier, J. H. Knapen, N. Amorisco, M. A. Beasley and R. Donnerstein, Monthly Notices of the Royal Astronomical Society (**2022**), [10.1093/mnras/stac328](https://doi.org/10.1093/mnras/stac328)
- "*Ultra-compact dwarfs beyond the centre of the Fornax galaxy cluster: Hints of UCD formation in low-density environments*", **T. Saifollahi**, J. Janz, R.F. Peletier, M. Cantiello, M. Hilker, S. Mieske, E.A. Valentijn, A. Venhola, G.A. Verdoes Kleijn, Monthly Notices of the Royal Astronomical Society (**2021**), [10.1093/mnras/stab1118](https://doi.org/10.1093/mnras/stab1118)
- "*The number of globular clusters around the iconic UDG DF44 is as expected for dwarf galaxies*", **T. Saifollahi**, I. Trujillo, M. A. Beasley, R. F. Peletier, and J. H. Knapen, Monthly Notices of the Royal Astronomical Society (**2021**), [10.1093/mnras/staa3016](https://doi.org/10.1093/mnras/staa3016)

### *co-author*

- "*Detection of extragalactic ultra-compact dwarfs and globular clusters using explainable AI techniques*", M. Mohammadi, J. Mutatiina, **T. Saifollahi**, K. Bunte, Journal of Astronomy and Computing (**2022**), [10.1016/j.ascom.2022.100555](https://doi.org/10.1016/j.ascom.2022.100555)
- "*The Fornax Cluster VLT Spectroscopic Survey. IV. Cold kinematical substructures in the Fornax core from COSTA*", N. Napolitano, M. Gatto, C. Spiniello, M. Cantiello, M. Hilker, M. Arnaboldi, C. Tortora, A. Chaturvedi, R. D'Abrusco, R. Li, M. Paolillo, R. Peletier, **T. Saifollahi**, M. Spavone, A. Venhola, M. Capaccioli, and G. Longo, Astronomy and Astrophysics (**2022**), [10.1051/0004-6361/202141872](https://doi.org/10.1051/0004-6361/202141872)

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