Felipe Eduardo Gran Merino

Ph.D. student at Instituto de Astrofísica Pontificia Universidad Católica de Chile

Millenium Institute of Astrophysics (MAS) graduate student European Southern Observatory (ESO Chile) graduate alumnus fegran@uc.cl fgran@astro.puc.cl

PERSONAL DETAILS

Birthday: July 20, 1989 Citizenship: Chilean Webpage: fegran.github.io

ORCID: orcid.org/0000-0002-9252-6899 Family status: 1 child born September 4, 2012

EDUCATION

Ph.D. in Astrophysics:

March 2016 - Present

Pontificia Universidad Católica de Chile Ph.D. candidate: approved May 2018

ESO Chile Studentship programme: since September 2019

Expected thesis defense: before March $4^{\rm th}$ 2022

B.Sc. and M.Sc. in Astrophysics:

March 2008 - August 2015

Pontificia Universidad Católica de Chile

Both grades: "Distinción Máxima" (summa cum laude)

EXPERIENCE

Ph.D. Thesis:

March 2017 - Present

Unleashing the proper motions: revolution in the inner Galaxy.

Advisors: Manuela Zoccali (PUC, Chile) and Ivo Saviane (ESO Chile)

Short internship:

January 2019 - March 2019

European Southern Observatory (ESO), Garching bei Munich, Germany.

Advisor: Elena Valenti (ESO, Germany)

M.Sc. Thesis:

March 2015 - August 2015

Mapping the outer bulge with RR Lyrae stars from the VVV survey.

Advisors: Manuela Zoccali (PUC, Chile) and Dante Minniti (UNAB, Chile)

B.Sc. Thesis: Long-Period variable stars in the VVV survey.

Advisors: Dante Minniti (PUC, Chile) and Roberto Saito (UFS, Brazil)

FONDECYT projects technical staff:

December 2012 - July 2015

March 2013 - August 2013

- 3D Structure, 3D Kinematics and Chemical Abundances

of the Spheroid and Bar in the Inner Milky Way

- Stellar Evolution and Variability Studies in the Era of Large Surveys

- VVV Templates Project

Proyecto FONDECYT Regular 1110326, 1141141, and 1150345

Advisors: Márcio Catelan (PUC, Chile) and Manuela Zoccali (PUC, Chile)

Assistantships

Multiple assistanships since 2012: Astronomy 101, Stellar and Experimental Astrophysics, Data Analysis, and Scientific Assistant at PUC Observatory.

ACADEMIC GRANTS

"CONICYT: Beca de asistencia a eventos": October 2018 - December 2018 Selected for a grant to atend two conferences: IAC XXX Canary Islands Winter School of Astrophysics: Big Data Analysis in Astronomy (November 2018, Spain) and The Galactic Bulge at the crossroads (December 2018, Chile)

March 2017 - December 2019

"CONICYT: Concurso Becas de Doctorado en Chile":

Selected for a grant to continue Ph.D. studies

March 2014 - July 2015

"CONICYT: Concurso Becas de Magíster en Chile":

Selected for a grant to continue M.Sc. studies

SKILLS Languages: Spanish (native language)

English (IELTS certification B2/6.5 overall, 2018)

Programming Language: Python (advanced level, total experience: 8 years)

ADQL, HTML, C# for Unity (intermediate level)

Frequently Used Software: TOPCAT, STILTS, LaTeX

Community service: MNRAS referee

Graduate student representative (2017-2019)

Outreach activities: MAS sticker album: scientific development (MAS, 2022),

Live interview "Astronomy in your live" (MAS, 2020),

Science Party and Solar Eclipse stands (MAS and GMTO, 2019-2020)

CONFERENCES – Star Clusters: the Gaia Revolution: Online presentation.

AND SELECTED - Virtual EAS 2021 Annual Meeting: Online poster.

WORKSHOPS

- Gaia EDR3 Early Science and Best Practices: Online workshop.
- Two Thirty Minute Talks at ESO Chile: Oral and Online presentations.
- SOCHIAS XVI Annual Meeting 2020: Online presentation.
- Nice WG4 Workshop: A Dynamical View of the Sky: Oral presentation.
- Galactic Bulge at the Crossroads: Oral presentation.
- XXX Canary Islands Winter School of Astrophysics:

Big Data Analysis in Astronomy: Poster presentation.

- Second La Serena School for Data Science
- Harvard-Chile Special Workshop on Data Science
- Multiple VISTA Variables in the Vía Láctea Science Meetings

APPROVED OBERVING PROGRAMS

GSAOI at Gemini South Observatory

PI: F. Gran, December 2020; 10 hours (not observed due pandemic situation).

FEROS at La Silla Observatory

PI: F. Gran, February 2020: 3 nights (observing experience: 10 days, July 2021).

MUSE at Paranal Observatory

PI: F. Gran, December 2018, 2019: 14 hours.

SPARTAN at SOAR Observatory

PI: F. Gran, June 2019; 1 night.

PUBLICATIONS – First author:

Hidden in the Haystack:

Low-luminosity globular clusters towards the Milky Way bulge **Gran**, **F.** et al. 2022, MNRAS, 509, 4962 (arXiv:2108.11922)

APOGEE view of the globular cluster NGC 6544

Gran, F. et al. 2021, MNRAS, 504, 3494 (arXiv:2104.05865)

Globular cluster candidates in the Galactic bulge:

Gaia and VVV view of the latest discoveries

Gran, F. et al. 2019, A&A, 628, 45, 30 (arXiv:1904.10872)

Mapping the outer bulge with RRab stars from the VVV Survey

Gran, F. et al. 2016, A&A, 591, 145 (arXiv:1604.01336)

Bulge RR Lyrae stars in the VVV tile b201

Gran, F. et al. 2015, A&A, 575, 114 (arXiv:1501.00947)

- Complete list of publications: link to <u>ADS</u>¹, h-index: 15. Publications as a first author: 5, as a co-author: 31, refereed: 23, and non-refereed: 13.

- Latest three co-author publications:

Variable stars in the VVV globular clusters. II. NGC 6441, NGC 6569, NGC 6626 (M 28), NGC 6656 (M 22), 2MASS-GC 02, and Terzan 10 Alonso-García, J. (incl. Gran, F.) 2021, A&A, 651, 47 (arXiv:2105.05825)

CAPOS: The bulge Cluster APOgee Survey I. Overview and initial ASPCAP results Geisler, D. (incl. Gran, F.) 2021, A&A, 652, 157 (arXiv:2106.00024)

How many components? Quantifying the complexity of the metallicity distribution in the Milky Way bulge with APOGEE

Rojas-Arriagada, A. (incl. Gran, F.) 2020, MNRAS, 499, 1037 (arXiv:2007.13967)

 $^{^1} ADS \ library: \ https://ui.adsabs.harvard.edu/public-libraries/sxdI6LnxS7mbdg2sye8mNQ$