

# IAU Symposium 395: Stellar populations in the Milky Way and beyond

Overall structure of the symposium (minor changes are applied to each day):

Morning 1: 9:00 - 10:30

Coffee break + posters 10:30 - 11:00

Morning 2: 11:00-12:30

Lunch break 12:30 - 14:00

Afternoon 1: 14:00 - 15:30

Coffee break + posters 15:30 - 16:00

Afternoon 2: 16:00 - 17:30

**IR:** invited review (30 [25+5] min); **IT:** invited talk (20 [15+5] min); **CT:** contributed talk (15 [12+3] min)

## Sunday 17 / Nov

Registration 17:00 - 18:40

Opening talk. **Chair: Paula Coelho** (Brazil, LOC)

18:45 - 19:15 **Cristina Chiappini** (Germany), SOC co-chair: **Challenges and opportunities in stellar populations.**

## Monday 18 / Nov

08:00 Registration

08:50 **Welcome instructions** [Bruno Castilho, Brazil, LOC]

09:00 Jorge Meléndez (Brazil), SOC co-chair: Scientific contributions of Beatriz Barbuy

09:20 Helio Rocha Pinto (President of the Brazilian Astronomical Society): Contributions of Beatriz Barbuy for the development of Astronomy in Brazil

**SESSION 1: The building blocks of the Halo & accretion history of the early Milky Way.**

**Chair: Kim Venn** (backup: Katia Cunha)

09:40 - IR - Ting Li (Canada): Metal-poor stars of the Milky Way and ultra-faint dwarf galaxies

10:10 - IT - Wako Aoki (Japan): The Milky Way halo population studied with LAMOST and Subaru

**10:30 - 11:00 Coffee break + posters**

11:00 - IR - Amina Helmi (Netherlands): Streams and accretion history

11:30 - CT - Anirudh Chiti [M] Post-Doc (USA) Early results from the DECam MAGIC Survey:

Mapping the Ancient Galaxy in CaHK

11:45 - CT - Guilherme Limberg [M] Post-Doc (USA) The Rise of the r-Process in Dwarf Galaxies

12:00 - IT - Danny Horta (USA): The accretion history of the Galaxy via field and GC populations

**12:20 - 14:00 Lunch break**

14:00 - IT - Else Starckenburg (Netherlands): The Pristine Survey

14:20 - CT - Yangming Lin [M] PhD student (China) Exploring the origin of neutron-capture elements through heavy-element enhanced metal-poor stars

14:35 - CT - Heitor Ernandes [M] Post-Doc (Sweden) Neutron-capture Elements Tracing the GSE's Star Formation History.

14:50 - CT - Paolo Molaro [M] Researcher (Italy) The riddle of the lithium origins

15:05 - CT - Eduardo Balbinot [M] Post-Doc (The Netherlands) The 33 Msun black hole Gaia-BH3 belongs to the disrupted ED-2 star cluster.

15:20 - CT - Maddie Lucey [F] Post-Doc (USA) The Galactic Halo's Contribution to Inner Galaxy Stellar Populations.

## **15:35 Coffee break + posters**

### **SESSION 2: Globular clusters.**

**Chair: Francesca Primas** (backup: Rodolfo Smiljanic)

16:00 - IR - Carmela Lardo (Italy): Multiple populations in globular clusters

16:30 - CT - Tuila Ziliotto [F] PhD student (Italy) Unraveling multiple stellar populations in globular clusters with JWST

16:45 - CT - Davide Massari [M] Researcher (Italy) The age of GCs as a crucial tool to reconstruct their accreted or in-situ origin

17:00 - CT - Angeles Pérez-Villegas [F] Faculty member (Mexico). The Galactic globular clusters populations based on dynamics and chemistry

17:15 - CT - Steffani Grondin [F] PhD student (Canada) Lost and Found: The discovery of hundreds of extra-tidal candidate stars from 25 globular clusters with APOGEE and Gaia

17:30 - CT - Stefano Souza [M] Post-Doc (Germany) A chrono-chemo-dynamical analysis of Globular Clusters: Looking for the fossils of the Galactic bulge formation

17:45 end of the sessions

## **Welcome cocktail [with live music] 19:00 - 20:00**

## **Tuesday 19 / Nov**

### **SESSION 3: The central parts of the galaxy.**

**Chair: Thomas Bensby** (backup: Katia Cunha)

09:00 - IR - Sergio Ortolani (Italy): Globular clusters in the galactic bulge

09:30 - CT - Doug Geisler [M] Faculty member (Chile) Galactic Archeology with Bulge Globular Clusters

09:45 - IR - Beatriz Barbuy (Brazil): The Galactic Bulge

10:15 - CT - R. Michael Rich [M] Faculty member [USA] Metallicity, Structure, and Age of the Galactic bulge from the Blanco DECam Bulge Survey

## **10:30 - 11:00 Coffee break + posters**

11:00 - IT - Anna Barbara Queiroz (Spain): Dissecting the bulge, bar and inner disk

11:20 - IT - Anke Arentsen (UK): The ancient central population

11:40 - CT - Elena Valenti [F] Faculty member (Germany) The RRL population in the inner Galactic bulge

11:55 - CT - Govind Nandakumar [M] Post-Doc (Sweden) M giants with IGRINS: Exploring the highly extinct inner Milky Way regions with near infrared spectroscopic observations

12:10 - CT - Nils Ryde [M] Faculty member (Sweden) First detail abundance study of 20 elements in the Nuclear Star Cluster

12:25 - CT - Manuela Zoccali [F] Faculty member (Chile) On the MW Nuclear Stellar Disk

## **12:40 - 14:00 Lunch break**

### **SESSION 4: The Galactic disk.**

**Chair: Sofia Randich** (backup: Rodolfo Smiljanic)

14:00 - IR - Anthony Brown (Netherlands): Gaia: Taking the Galactic Census

14:30 - CT - Alejandra Recio-Blanco [F] Researcher (France) The chemistry of the Milky Way disc with the Gaia space mission

14:45 - CT - Samir Nepal [M] PhD student (Germany) From metal-poor to metal-rich: new insights on Milky Way bar, bulge and discs with machine learning and Gaia

15:00 - CT - Carme Gallart [F] Researcher (Spain) Title: Chronology of our Galaxy from Gaia color-magnitude diagram fitting (ChronoGal): spatially resolved star formation histories of the Milky Way disk and halo

15:15 - CT - Nadège Lagarde [F] Researcher (France) The evolution of galactic disks: New insights with the Gaia-APOGEE-Kepler giant stars and the Besançon galaxy mode

### **15:30 Coffee break + posters**

16:00 - IT - Norbert Przybilla (Austria): Present-day abundances from B stars

16:20 - CT - Jacques Lepine [M] Researcher (Brazil) The spiral arm structure of the Galaxy and metallicity distribution

16:35 - CT - C.Clare Worley [F] Faculty (New Zealand) Chemical signatures of the galactic disk with PCA

16:50 - CT - Grazina Tautvaisiene [F] Faculty member (Lithuania) Applicability of elemental abundance ratios as age indicators in evolved stars

17:05 - CT - Maren Brauner [F] PhD student (Spain) Chemical abundance inventory in phosphorus-rich stars.

17:20 end of the sessions

17:30 - 18:00 **Special session. Chair: Camila de Sá Freitas**

**Career development and EDI principles**, by Francesca Primas (ESO)

*For early-career scientists only, i.e. graduate students and young post-docs*

## **PUBLIC OBSERVATION WITH TELESCOPES**

(weather permitting)

### **Night observations:**

Nov. 19, 19:00 - 22:00 At the Largo de Santa Rita, in front of SESC

### **Day (solar) observations:**

Nov. 20, at Paraty's downtown

## **Wednesday 20 / Nov**

### **SESSION 5: Spectroscopic surveys**

**Chair: Katia Cunha** (backup: Rodolfo Smiljanic)

09:00 - IR - Vanessa Hill (France): Spectroscopic surveys in the Gaia era

09:30 - IT - Haining Li (China): Exploring the Milky Way with LAMOST Survey

09:50 - IT - Sofia Randich (Italy): The Gaia-ESO Survey, its legacy, and new perspectives

10:10 - IT - Ricardo Schiavon (UK): The APOGEE survey

### **10:30 - 11:00 Coffee break + posters**

11:00 - IT - Sarah Martell (Australia): The GALAH survey

11:20 - IT - Jennifer Johnson (USA): Stellar Populations in SDSS-V/Milky Way Mapper

11:40 - IT - Marica Valentini (Germany): 4MOST: 4-metre Multi-Object Spectroscopic Telescope

12:00 end of the sessions

### **Free Afternoon**

We suggest you enjoy outdoor activities on Wednesday afternoon.

Boat tour (4 boats) leaves at 1pm from the Cais do Paraty (Cais de Turismo)

## PUBLIC TALKS (in Portuguese, at the Villas Paraty venue)

**Chair: Fabrícia Barbosa** (IAG-USP)

19:00 - 19:30 Prof. Dr. Helio Rocha Pinto (Observatório do Valongo - UFRJ, Brasil):

**Constelações e cosmogonia tupi-guarani**

19:30 - 20:00 Prof. Dr. Ricardo Schiavon (Liverpool John Moores University, Inglaterra):

**Por que você está aqui**

## Thursday 21 / Nov

### SESSION 6: Methods for abundance analysis and population synthesis

**Chair: Claus Leitherer** (backup: Lucimara Martins)

09:00 - IR - Carlos Allende Prieto (Spain): Automated methods for abundance determination

09:30 - CT - Guillaume Guiglion [M] Post-Doc (Germany) Realising the potential of large spectroscopic surveys with machine-learning

09:45 - IR - Paula Coelho (Brazil): Stellar Spectral Libraries for Stellar Populations Studies

10:15 - CT - Emilio Zanatta [M] Post-Doc (Brazil) Unveiling Extragalactic Globular Clusters: Insights from X-Shooter Spectra and NIR Abundances

#### **10:30 - 11:00 Coffee break + posters**

11:00 - IR Alexandre Vazdekis (Spain): Stellar populations model developments

11:30 - CT - Francesco La Barbera [M] Researcher (Italy) Stellar populations and chemical abundance ratios for the bulge of M31

11:45 - CT - Francesca Pinna [F] Post-Doc (Spain) Stellar populations of thick and thin disks in Milky Way-mass galaxies: observations from the GECKOS survey and simulations

### SESSION 7: Cosmological simulations and chemical evolution.

**Chair: Anthony Brown** (backup: Kim Venn)

12:00 - IR - Chiaki Kobayashi (UK): Chemical evolution with hydrodynamical cosmological simulations

#### **12:30 - 14:00 Lunch break**

14:00 - IT - Andrew Wetzel (USA), FIRE/Latte simulations of Milky Way-like galaxies

14:20 - CT - Alice Mori [F] PhD student (Italy) Metallicity distributions of halo stars: do they trace the Galactic accretion history?

14:35 - CT - Kaley Brauer [F] Post-Doc (USA) Highly-Resolved Chemical Abundances of Individual Stars from Simulated Dwarf Galaxies

14:50 - CT - Patricia Tissera [F] Faculty member (Chile) A secondary dependence of the MZR on the metallicity gradients

15:05 - CT - Martina Rossi [F] Post-Doc (Italy) The early chemical evolution of CNO elements through different environments and cosmic epochs

#### **15:20 - 15:50 Coffee break + posters**

## SESSION 8: Resolved extragalactic stellar populations.

**Chair: Marina Trevisan** (backup: Roberto Cid Fernandes)

15:50 - IR - Nitya Kallivayalil (USA): Local Group Cosmology: lessons from mapping the stellar populations in the nearby universe

16:20 - IT - Maria Celeste Parisi (Argentina): The interaction history of the Magellanic Clouds as told by their stellar populations

16:40 - CT - Bruno Dias [M] Faculty member (Chile): The VISCACHA survey reveals the SMC in 8D

16:55 - CT - Julio Chanamé [M] Faculty member (Chile) The predicted and measured impact of the LMC's Passage through the Milky Way Halo

17:10 - IT - Mario Gennaro (USA): The low-mass IMF: a review and an illustration of future prospects with JWST

17:30 - CT - Conor Nally [M] PhD student (Scotland) The stellar content of NGC 6822 with JWST

17:45 end of the sessions

## 19:30 Conference dinner at the Margarida Cafe

Entries, main dish (meat, fish or vegetarian), desert and 3 drinks. Live music

## Friday 22 / Nov

### SESSION 9: Unresolved extragalactic stellar populations / JWST / Euclid

**Chair: Roberto Cid Fernandes** (backup: Marina Trevisan)

09:00 - IR - Gustavo Bruzual (Mexico): Stellar populations in distant galaxies

09:30 - IT - Grazyna Stasinska (France): Modeling emission lines in early type galaxies

09:50 - CT - Giacomo Bortolini [M] PhD student (Sweden) Unveiling IZw18 age's mystery: Resolved Stellar Populations and Star Formation History Study with JWST/NIRCam

10:05 - CT - Jess Howell [F] PhD student (United Kingdom) First science with Euclid - the star cluster systems of local group galaxies IC 10 and NGC 6822

**10:20 - 10:50 Coffee break + posters**

### SESSION 10: Future instrumentation

**Chair: Francesca Primas** (backup: Verne Smith)

10:50 - IR - Bruno Castilho (Brazil): Future instrumentation for Galactic Archaeology

11:20 - CT - Luca Pasquini [M] Faculty member (Germany) ESO & stellar population studies

11:35 - CT - Dante Minniti [M] Faculty member (Chile) Dreaming the next generation Galactic plane survey with the Nancy Roman Space Telescope

11:50 - IR - Alvio Renzini (Italy): Conference summary

Closing - last announcements 12:15

**12:30 Boarding of the first bus to Rio de Janeiro (GIG + ON) and São Paulo (GRU, then VM)**

**12:40 Departure**

**14:00 Boarding of the second bus to Rio de Janeiro (ON) and São Paulo (GRU, then VM)**

**14:10 Departure**