

Program First Stars VI

Sunday, March 01

18:00 Welcome cocktail @ Diego de Almagro Hotel

Monday, March 02

Session 1: Population III stars: formation, IMF, multiplicity and evolution

08:15 - 09:00 Registration
09:00 - 09:30 Welcome
09:30 - 10:00 Invited talk (*Formation of First Stars with various masses - Shingo Hirano*)
10:00 - 10:15 Contributed talk (*Primordial chemistry - Simon Glover*)
10:15 - 10:30 Contributed talk (*The influence of streaming velocities and Lyman-Werner radiation on the formation of Pop. III stars. - Anna Schauer*)

10:30 - 11:00 Coffee break

11:00 - 11:30 Highlight talk (*Primordial & Extremely Metal-poor high-mass star formation in the early universe. - Takashi Hosokawa*)
11:30 - 11:45 Contributed talk (*The impact of magnetic field strength on the primordial initial mass function - Piyush Sharda*)
11:45 - 12:00 Contributed talk (*Radiation feedback in a high resolved Population III star formation - Ondrej Jaura*)
12:00 - 12:15 Contributed talk (*Number of population III stars per minihalo. - Hajime Susa*)

Session 2: Transition to second-generation star formation

12:15 - 12:30 Contributed talk (*Is there significance to the critical metallicities? - Britton Smith*)

12:30 - 14:30 Lunch

14:30 - 15:00 Invited talk (*The mass transition from Population III to Population II stars - Gen Chiaki*)
15:00 - 15:30 Highlight talk (*Metal mixing in primordial minihaloes. - Mattis Magg*)
15:30 - 16:00 Coffee break

- 16:00 - 16:15** **Contributed talk** (*Metallicity Dependence of Massive Star Formation.* - **Kei Tanaka**)
- 16:15 - 16:30** **Contributed talk** (*Star-cluster formation in low-metallicity massive clouds under radiative feedback.* - **Hajime Fukushima**)

Session 3: First supernovae and gamma-ray bursts; Pop. III star fates; abundance patterns at high redshift

- 16:30 - 17:00** **Invited talk** (*The First cosmic explosions.* - **Daniel Whalen**)

Tuesday, March 03

- 09:00 - 09:15** **Contributed talk** (*Rotations of first stars: need of a theory anchored on present-day observational constraints.* - **Georges Meynet**)
- 09:15 - 09:30** **Contributed talk** (*State-of-the-art of chemodynamical simulations: The origin of elements and their evolution in galaxies.* - **Chiaki Kobayashi**)
- 09:30 - 09:45** **Contributed talk** (*Rotation, explosion and nucleosynthesis in early massive stars and the abundances of metal-poor stars.* - **Arthur Choplin**)
- 09:45 - 10:00** **Contributed talk** (*Chemical abundances in metal-poor quasar absorption line systems.* - **Trystyn Berg**)
- 10:00 - 10:15** **Contributed talk** (*Probing the high redshift Universe with Long Gamma-Ray Bursts.* - **Emeric Le Floc**)
- 10:15 - 10:30** **Contributed talk** (*Discrimination of heavy elements originating from Pop. III stars in $z = 3$ intergalactic medium.* - **Takanobu Kiriwara**)
- 10:30 - 11:00** **Coffee break**
- 11:00 - 11:30** **Highlight talk** (*Searches for Population III pair-instability supernovae with upcoming near-infrared transient surveys* - **Takashi Moriya**)

Session 4: Gravitational waves as a new probe of the high- z Universe

- 11:30 - 12:00** **Invited talk** (*Remnants of first stars for gravitational wave sources.* - **Tomoya Kinugawa**)
- 12:00 - 12:30** **Highlight talk** (*Exploring new frontiers with gravitational waves from massive black holes.* - **Tilman Hartwig**)
- 12:30 - 14:30** **Lunch**
- 14:30 - 14:45** **Contributed talk** (*Gravitational wave signals of Pop. III-seeded binary black holes formed by dynamical capture.* - **Boyuan Liu**)

Session 5: Stellar archeology as a powerful probe of the high-*z* Universe

- 14:45 - 15:15** **Highlight talk** (*Interpreting spectroscopic survey data for metal-poor stars with supernova yield models.* - **Miho Ishigaki**)
- 15:15 - 15:30** **Contributed talk** (*Characterizing the origin and properties of the halo *r*-process star population with data collected by the R-Process Alliance.* - **Anna Frebel**)
- 15:30 - 16:00** **Coffee break**
- 16:00 - 16:15** **Contributed talk** (*Looking for the first stars: back to the Lithium plateau.* - **David Aguado**)
- 16:15 - 16:30** **Contributed talk** (*The age of Halo metal-poor stars.* - **Marica Valentini**)
- 16:30 - 16:45** **Contributed talk** (*A search for the oldest stars in the inner galaxy with the Pristine survey.* - **Anke Arentsen**)
- 16:45 - 17:00** **Contributed talk** (*Accurate abundances at the lowest detected iron abundance: SMSS 1605-1443.* - **Thomas Nordlander**)
- 20:00** **Conference dinner**

Wednesday, March 04

- 09:00 - 09:15** **Contributed talk** (*The most metal-poor stars in the Large Magellanic Cloud.* - **Kevin Schlaufman**)
- 09:15 - 09:30** **Contributed talk** (*The Oldest Extremely Metal-poor Stars.* - **Henrique Reggiani**)
- 09:30 - 09:45** **Contributed talk** (*The Ancient Bulge Globular Clusters.* - **Doug Geisler**)
- 09:45 - 10:00** **Contributed talk** (*Spectroscopic follow-up of metal poor candidates from the Pristine survey with Narval at TBL* - **Aroa del Mar Matas Pinto**)
- 10:00 - 10:15** **Contributed talk** (*The extreme enhancement in carbon, nitrogen, and oxygen of the iron-poor star J0815+4729.* - **Jonay González Hernández**)
- 10:15 - 10:30** **Contributed talk** (*Constraining nucleosynthesis in CEMP-s progenitors using Fluorine.* - **Aldo Mura-Guzman**)
- 10:30 - 11:00** **Coffee break**
- 11:00 - 11:15** **Contributed talk** (*Life on the fast lane: chemistry of Halo (?) stars on extreme orbits.* - **Luca Sbordone**)
- 11:15 - 11:30** **Contributed talk** (*Clues on the lithium meltdown in dwarf stars using the red giant branch stars.* - **Lorenzo Monaco**)

11:30 - 11:45 **Contributed talk** (*Near-field cosmology with metal-poor stars: Births and deaths of stars in the Magellanic Clouds.* - **Venu Kalari**)

Session 6: From the first galaxies to the epoch of reionization

11:45 - 12:15 **Invited talk** (*Probing cosmic dawn with the 21-cm signal.* - **Anastasia Fialkov**)

12:15 - 14:00 **Lunch**

14:00 - 20:00 **Excursions** (Lota / Reserva Nonguén)

Thursday, March 05

09:00 - 09:30 **Highlight talk** (*Physical and observable properties of the first galaxies and black holes.* - **John Wise**)

09:30 - 09:45 **Contributed talk** (*Galaxy formation in quasar fields during reionization.* - **Huanqing Chen**)

09:45 - 10:00 **Contributed talk** (*A new formation channel for globular clusters.* - **Yeou Chiou**)

10:00 - 10:15 **Contributed talk** (*Modelling X-ray feedback from binaries at the early universe.* - **Nina Sanches Sartorio**)

10:15 - 10:30 **Contributed talk** (*Understanding the physical conditions of high-redshift ($z \sim 6$) metal absorption lines.* - **Teresita Suarez Noguez**)

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

11:00 - 11:30 **Highlight talk** (*Probing Cosmic Dawn with current and future facilities.* - **Nicolas Laporte**)

Session 7: Dwarf galaxies as a potential probe of the early Universe

11:30 - 12:00 **Invited talk** (*Signatures of the First Stars in Relics of the First Galaxies* - **Alexander Ji**)

12:00 - 12:15 **Contributed talk** (*Detection of a spatially extended population of extremely metal-poor stars in the Tucana II ultra-faint dwarf galaxy.* - **Anirudh Chiti**)

12:15 - 12:30 **Contributed talk** (*What conditions shape the Eu abundances of stars in UFDs?* - **Yuta Tarumi**)

12:30 - 14:30 **Lunch**

14:30 - 15:00 **Highlight talk** (*Dwarf galaxies and their hidden treasures.* - **Stefania Salvadori**)

- 15:00 - 15:15 **Contributed talk** (*Constraining the low-mass end of the first stars.* - **Martina Rossi**)
- 15:15 - 15:30 **Contributed talk** (*Dynamical relics of the ancient galactic halo.* - **Zhen Yuan**)
- 15:30 - 16:00 **Coffee break**
- 16:00 - 16:15 **Contributed talk** (*The stellar populations of high-redshift dwarf galaxies.* - **Viola Gelli**)

Session 8: Formation, growth and observational constraints on the first supermassive black holes

- 16:15 - 16:45 **Invited talk** (*The first quasars in cosmological hydrodynamic simulations.* - **Tiziana Di Matteo**)
- 16:45 - 17:00 **Contributed talk** (*Life and death of supermassive stars.* - **Lionel Haemmerle**)
- 17:45 - 19:45 **Inclusive astronomy workshop at hotel Diego de Almagro**

Friday, March 06

- 09:00 - 09:30 **Highlight talk** (*Stellar black holes at cosmic dawn.* - **Felix Mirabel**)
- 09:30 - 10:00 **Highlight talk** (**Ezequiel Treister**)
- 10:00 - 10:15 **Contributed talk** (*Super-Eddington gas accretion onto intermediate-mass seed black holes.* - **Daisuke Toyouchi**)
- 10:15 - 10:30 **Contributed talk** (*Formation of the massive seed BHs in the low-metallicity environment.* - **Sunmyon Chon**)
- 10:30 - 11:00 **Coffee break**
- 11:00 - 11:30 **Highlight talk** (*Highlights of direct collapse black holes from the past decade* - **Muhammad Latif**)
- 11:30 - 11:45 **Contributed talk** (*Pulsational instability of very massive stars with various metallicities.* - **Daisuke Nakauchi**)
- 11:45 - 12:00 **Contributed talk** (*Making a supermassive star by stellar bombardment.* - **Hiromichi Tagawa**)
- 12:00 - 12:15 **Contributed talk** (*Formation of massive black hole seeds following collapse and fragmentation of atomic cooling halos.* - **Bastian Reinoso**)

Session 9: Current and future surveys and observational facilities

- 12:15 - 12:30 **Contributed talk** (*The R-Process Alliance – Progress and Preview.* - **Timothy Beers**)
- 12:30 - 14:30 **Lunch**

14:30 - 15:00	Highlight talk (<i>Searching for the first generations of stars at high redshift with JWST.</i> - Andrew Bunker)
15:00 - 15:15	Contributed talk (<i>A global 21-cm Chilean experiment: MIST.</i> - Ricardo Bustos)
15:15 - 15:30	Contributed talk (<i>The LAGER survey: Studying Reionization with Ly-alpha emitters.</i> - Jorge Gonzalez Lopez)
15:30 - 16:00	Coffee break
16:00 - 16:30	Highlight talk (Else Starckenburg)
16:30 - 16:45	Contributed talk (<i>The 4MOST Milky Way Halo High-Resolution Survey.</i> - Norbert Christlieb)
16:45 - 17:00	Award best posters & Farewell

List of posters

- Alex Alarcon: A chemo-kinematic analysis of Leo I
- Bidisha Bandyopadhyay: Investigating Neutral Hydrogen Structures During The Epoch of Reionization using Fractal Dimension
- Shantanu Basu: The Mass Function of supermassive black holes in the direct collapse scenario
- Yashpal Bhulla: Detection of the thermonuclear X-ray bursts and dips from the X-ray binary 4U 1323-62
- Claudio Bravo: Investigating the 21 cm signal from the reionization epoch
- Corey Brummel-Smith: Children of the first star: birth from a Pop III supernova
- Li-Hsin Chen: Population III Supernovae in The First Galaxies. I. Gas, Metals, and Stars
- Li-Hsin Chen: Interpreting the abundance patterns of metal-poor stars with A-SLOTH
- Igor Chernykh: Numerical simulation of astrochemical problems
- Lia Corazza: Chemical evolution in the early universe and the abundances of Globular Clusters
- Patricio Correa: Star formation History in the Outskirt of the SMC
- Marcelo Cortes Vergara: Stellar collisions in flattened and rotating Pop. III systems
- Sukra Dahal: IRAS Survey on ambient ISM around C-rich AGB star
- Arpan Das: Luminosity Functions of Supermassive Black Holes at high redshifts
- Vanesa Diaz: Impact of radiation backgrounds on the formation of massive black holes
- Mariano Dominguez: First stars and reionization on ULDM models
- Andres Escala: The Role of Gas Fragmentation During the Formation of Supermassive Black Holes
- Amanda Ibsen: Applying Deep Learning to Super Luminous Supernovae
- Leopoldo Infante: tbd
- Lochan Khanal: Dust interaction with ISM around AGB star.

- Kazutaka Kimura: Evolution of Accretion Disk around Pop III Star : comparisons between models and simulations
- Daegene Koh: Lagrangian Coordinates in an Eulerian Framework
- Mihir Kulkarni: A critical mass for Pop. III stars: dependence on Lyman-Werner radiation, baryon/dark-matter streaming, and redshift
- Igor Kulikov: The numerical simulation of supernovae Ia by means a new AVX-512 optimizes hydrodynamic code
- Nimisha Kumari: Chemical properties of Blue Compact Dwarf Galaxies: local analogues of high-redshift galaxies
- Wei-Ting Liao: Large Scale Dynamo in a Primordial Accretion Flow {An Interpretation from Hydrodynamic Simulation
- Mattis Magg: Public Release of A Sloth: Ancient Star formation and Local Observable by Tracing Haloes
- Ryoki Matsukoba: Disk fragmentation and intermittent accretion onto supermassive stars
- Kazu Omukai: Ionization evolution in low-metallicity star-forming clouds
- Hyunbae Park: Impact of small-scale structure on the cosmic reionization
- Rafeel Riaz: Initial Mass Function (IMF) under the processes of fragmentation and accretion
- Lorenzo Roberti: Evolution, nucleosynthesis and explosion of zero and very low metallicity massive stars.
- Kenji Eric Sadanari: Magnetohydrodynamic effects on rst star formation
- Kazuhiro Shima: The Pop III disk fragmentation: disentangling the numerical and physical effects
- Danielle Skinner: Lyman Werner background and Pop. III formation
- Francisca Soto Bravo: Compact Starburst Dwarf Galaxies at 150 MHz: Strong Magnetic Fields in Proxies for Proto-Galaxies.
- Paulina Troncoso: First detection obtained with the ALMA of the [N II] 122 m line emission from a galaxy group BRI 1202-0725 at $z = 4.69$
- Fernanda Urrutia Zapata: The formation of UCDs
- Anton Vikaeus: Predictions for JWST, Euclid and WFIRST
- Haruka Washinoue: Heating of Coronal Loops on Low-mass Pop III Stars
- Benjamin Wehmeyer: Galactic chemical evolution
- Gao-Yuan Zhang: NEI evolution in SNRs