

# Curriculum Vitae

## April 2020



### Personal

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### Degrees

- Ph.D. (Astrophysics), Universidad Andrés Bello, Chile, 2019
- Master (Astrophysics), Pontificia Universidad Católica de Chile (PUC), 2013
- Bachelor (Astronomy), PUC, 2011

### Primary research interest

SNe II as distance indicators. SNe II host galaxy extinction. Ejecta-CSM interaction in SNe II. Observations at optical and near-IR wavelengths. Statistical analysis.

### Conferences and meetings

- Massive Stars and Supernovae Conference, Bariloche, Argentina, November 2018  
Contributed talk: Near-IR Hubble Diagrams of SNe II
- IV MAS workshop, Machalí, Chile, January 2018  
Contributed talk: SNe II as distance indicators at near-IR
- South American Supernovae (SAS), La Serena, Chile, April 2017  
Contributed talk: SNe II as distance indicators at near-IR  
Discussion: Extinction Laws for SNe II
- Supernovae Through the Ages Conference, Eastern Island, Chile, August 2016  
Poster: Type II supernovae as distance indicators at near-IR wavelengths
- SAS, La Plata, Argentina, May 2016  
Contributed talk: Luminous SNe II with unusually low expansion velocities
- XIII Annual SOCHIAS Meeting, Antofagasta, Chile, March 2016  
Contributed talk: Type II supernovae as distance indicators at near-IR wavelengths
- MAS SN workshop, Santiago, Chile, January 2016  
Contributed talk: Luminous type II SNe with unusually low expansion velocities
- SAS, Santiago, Chile, April 2015  
Contributed talk: SNe II distances with near-IR data
- XII Annual SOCHIAS Meeting, Puerto Varas, Chile, March 2015  
Poster: Distance measurements using near-IR photometry of CATS type II plateau supernovae

- XI Annual SOCHIAS Meeting, Los Andes, Chile, January 2014  
Contributed talk: Distances from SNe II
- SNe II workshop, Santiago, Chile, August 2013  
Contributed talk: Distances from SNe II

### **Invited talks**

ESO Thirty minutes talk, Santiago, Chile, December 2018  
Talk: Near-IR Hubble diagrams of SNe II

### **Grants**

CONICYT grant for Ph.D. studies

### **Observational experience**

- 26 nights in telescopes: 2.2m MPG+GROND (4 nights), 2.5m du Pont+WFCCD/RetroCam (12 nights), 3.6m NTT+EFOSC2/SOFI (9 nights), and 6.5m Clay+LDSS3 (1 night).
- 8 half nights of remote observations with the 4.1m SOAR+Spartan/Goodman.
- 68 hours on the 8.1m Gemini-S, triggering GMOS and FLAMINGOS-2.
- Experience scheduling observations on: 0.6m REM (80 hours), 0.6m TRAPPIST (60 nights), 0.8m IRIS (50 hours), 1.3m SMARTS (80 hours), and 1.0–2.0m LCO (110 hours) telescopes.

*All of the above telescope time were obtained from original proposals I wrote, as part of my PhD thesis.*

- In addition, with the 3.6m NTT telescope I carried out observations of transients (8 nights, EFOSC2/SOFI, as part of the PESSTO/ePESSTO survey) and lensed quasars (3 nights, EFOSC2). I also have experience scheduling observations on 0.4–1.0m PROMPT telescopes as part of the Chilean Automatic Supernova Search (CHASE).

### **Code development experience**

- Author of the [Automated Loess Regression \(ALR\) code](#) (written in R and Python).
- Author of the [SN II Explosion Time from Optical Spectra \(SNII-ETOS\)](#) code (written in Python).
- In addition, I have experience creating reduction pipelines (using PyRAF) for optical and near-IR images.
- Experience in the following programming codes: Python, R, IRAF/PyRAF, FORTRAN, C, Java.

### **Participation in projects**

- ePESSTO/ePESSTO+ science project: “Testing SNe II as distance indicators at near-IR wavelengths” (PI)
- ePESSTO+ science project: “Spectral follow-up of ATLAS SNe II: tying early-time to ‘plateau’ properties” (co-I)
- DES-GW project (member of the Chilean observing team)
- CHASE survey (co-I)

**Astronomical society membership**

Chilean Society of Astronomy (SOCHIAS), 2017-present