Doris Stoppacher

Astrophysics, Cosmology & Big Data

Affiliation: **University of California Santa Cruz (USCS)**
Position: **Postdoctoral researcher**
Citizenship: **Austrian, EU**
CV updated: **January 2021**

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Experience & Skills

Programming Skills ⚙

Python

C & C++ • IDL • bash

SQL • JavaScript • LaTeX

machine learning • HPC

Language Skills

German (native)

English (C2)

Spanish (C1)

Italian (B2)

Soft Skills ☕

Creativeness • Innovation

Communication • Outreach

Project Management

Teaching • Acting • Theatre

Academic Education 🎓

01/2015–12/2019 · Madrid, ESP
PhD in Theoretical Physics
Instituto de Física Teórica (IFT) & Universidad Autónoma de Madrid (UAM)
Thesis: *Semi-Analytical Galaxies in the MultiDark-Universe – A perspective on the evolution of most luminous and massive galaxies throughout cosmic history*

10/2005–03/2013 · Graz, AUT
Diploma studies (Master) of Astrophysics
University of Graz
Thesis: *Analysis of Strategies for Investigating Large-Scale Structures and Dynamics in the Universe*

Further Education, Schools, & Training 📕

Oct. 25–27 2017 · Madrid, ESP
Software Carpentry Workshop — IFT-CSIC/UAM
Software Tools and Programming

Sep. 29–Oct. 4 2016 · La Plata, ARG
Special Curse: SAM Galaxy Formation — IALP
Galaxy formation and evolution modelling incl. software tools

Dec. 6–11 2016 · Tonale, ITA
9th **TRR33 Winter School** — TRR33
Astrophysics and cosmology

April 25–26 2015 · Dublin, IRL
Women in High-Performance Computing — PARC
Initiation in high-performance computing and code parallelisation

2011 & 2013 · Graz, AUT
Software Development — Joanneum Research
Training and subsequently freelance contractor

Awards & Fellowships 🏆

2020–pres. · Santa Cruz, CA, USA
Postdoctoral Fellowship in Computational Astrophysics — UCSC

2015–2019 · Madrid, ESP
Severo Ochoa International Doctoral Fellowship 2014 — IFT-CSIC

Selected Conferences & Workshop Activities 💼

March 9–13 2020 · Innsbruck, AUT
Mock Innsbruck — LOC
University of Innsbruck

April 8–11 2019 · Córdoba, ARG
Mock Cordoba — Invited Talk
OAC

April 23–25 2018 · Madrid, ESP
Simulated skies for new-generation spectroscopic surveys — Talk
ESAC

May 24–26 2017 · Madrid, ESP
14th **MultiDark Meeting** — Talk
IFT-CSIC/UAM

Sep. 26–30 2016 · La Plata, ARG
MultiDark-Galaxies Workshop — Invited Talk
IALP

April 27–29 2016 · Madrid, ESP
MSE Collaboration Meeting — LOC
Escuela Politécnica Superior UAM

Research Interests

Project Overview

A LRG's Life on the Edge of the Assembly Bias 2019–pres
Tracing star formation histories of luminous red galaxies (LRGs) and studying what shapes galaxy properties in different their environment in order to constrain a signal of the galaxy assembly bias

Involvement: 📢 🏃 ⌨
Status:

A SAM Perspective on… 2017–pres
Paper series focusing on different aspects of galaxy formation and evolution with semi-analytical models

Involvement: 📢 🏃 ⌨
Status:

Galaxy Formation Modelling Comparison 2015–pres
Galaxy formation modelling comparison on outputs, implementation, performance, techniques & systematics

Involvement: ☗ �📊 ⌨
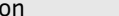Status:

The Three Hundred 2017–pres
Studying 324 galaxy clusters from different modelling approaches

Involvement: 📢 ⊘ ⌨
Status:
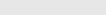
SAM [OII]-Emitter 2016–2020
Investigating the viability in using simple linear scaling relations and general galaxy properties to estimate [OII] luminosities

Involvement: ☗ 📊 ✪
Status:

The MultiDark-Galaxies 2015–2019
Release of semi-analytically modelled (SAM) galaxy catalogues from the $1h^{-1}$ Gpc N-body MultiDark simulation

Involvement: ☗ 🏃 📊 ⊘
Status:

📢 project leader ⌨ pipe-lining/coding
☗ project co-leader ⊘ data release
🏃 main researcher 📊 data analysis
✪ support researcher

Publications

In refereed journals:

Stoppacher, D., Prada, F., Montero-Dorta, A. D., Rodríguez-Torres, S., Knebe, A., Favole, G., Cui, W., Benson, A. J., Behrens, C., & Klypin, A. A. (2019). *A semi-analytical perspective on massive galaxies at $z \sim 0.55$*. MNRAS, *486*, 1316–1331.

Cui, W., Knebe, A., Yepes, G., Pearce, F., Power, C., Dave, R., Arth, A., Borgani, S., Dolag, K., Elahi, P., Mostoghiu, R., Murante, G., Rasia, E., **Stoppacher, D.**, Vega-Ferrero, J., Wang, Y., Yang, X., Benson, A., Cora, S. A., Croton, D. J., Sinha, M., Stevens, A. R. H., Vega-Martínez, C. A., Arthur, J., Baldi, A. S., Cañas, R., Cialone, G., Cunnama, D., De Petris, M., Durando, G., Ettori, S., Gottlöber, S., Nuza, S. E., Old, L. J., Pilipenko, S., Sorce, J. G., & Welker, C. (2018). *The Three Hundred project: a large catalogue of theoretically modelled galaxy clusters for cosmological and astrophysical applications*. MNRAS, *480*(3), 2898–2915.

Knebe, A., **Stoppacher, D.**, Prada, F., Behrens, C., Benson, A., Cora, S. A., Croton, D. J., Padilla, N. D., Ruiz, A. N., Sinha, M., Stevens, A. R. H., Vega-Martínez, C. A., Behroozi, P., Gonzalez-Perez, V., Gottlöber, S., Klypin, A. A., Yepes, G., Enke, H., Libeskind, N. I., Riebe, K., & Steinmetz, M. (2018). *MULTIDARK-GALAXIES: data release and first results*. MNRAS, *474*(4), 5206–5231.

In non-refereed journals or under revision:

Favole, G., Gonzalez-Perez, V., **Stoppacher, D.**, Orsi, Á., Comparat, J., Cora, S. A., Vega-Martínez, C. A., Stevens, A. R. H., Maraston, C., Croton, D., Knebe, A., Benson, A. J., Montero-Dorta, A. D., Padilla, N., Prada, F., & Thomas, D. (2020). [O II] emitters in MultiDark-Galaxies and DEEP2. *497*(4), 5432–5453.

In preparation:

Stoppacher et al., D. (2021a). *A semi-analytical perspective on the clustering and the assembly history of central galaxies at z∼0.1*. in preparation.

Stoppacher et al., D. (2021b). *A semi-analytical perspective on the assembly of luminous red galaxies throughout cosmic history*. in preparation.

Further publications:

Cortés-Contreras, M., Castrillo, A., Rebollido, I., Rodríguez-Baras, M., **Stoppacher, D.**, & Zamora-Arenal, S. (2020). Astro en casa. In *Contributions to the xiv.0 scientific meeting (virtual) of the spanish astronomical society* (p. 253).

Castrillo, A., Zamora, S., Rodríguez-Baras, M., Cortés-Contreras, M., Rebollido, I., Corcho, P., Millán, I., **Stoppacher, D.**, Mérida, R. M., Díaz, A. I., & Ascasibar, Y. (2020). El observatorio astronómico de la UAM. In *Contributions to the xiv.0 scientific meeting (virtual) of the spanish astronomical society* (p. 248).

Outreach Activities

📅	March 2020–pres	**Initiative: *Astronomía desde el sofá* ➜ #AstroEnCasa**	online
📅	Feb. 2019 & 2020	**Charla con una Astrónoma**	📍 Madrid, ESP
📅	May 11 2019	**IV Jornadas de Astronomía en la UAM**	📍 Madrid, ESP
📅	Nov. 5-15 2018	**XVII Semana de la Ciencia y la Innovación (UAM)**	📍 Madrid, ESP
📅	2017–pres	**Participation in outreach ▶ channel: *IFTMadrid***	📍 Madrid, ESP