

FRANCISCO G. MAION

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EDUCATION

PhD <i>Computational Cosmology</i> Donostia International Physics Center Supervisor - Prof. Dr. Raúl E. Angulo	Sep. 2021 – Present Donostia/San Sebastián, Spain
Master of Science <i>Cosmology</i> Universidade de São Paulo Supervisor - Prof. Dr. L. Raul W. Abramo	Apr. 2019 – Aug. 2021 São Paulo, Brazil
Bachelor Degree <i>Physics</i> Universidade de São Paulo	Mar. 2015 – Jan 2019 São Paulo, Brazil

PUBLICATION LIST

Probabilistic Lagrangian bias estimators and the cumulant bias expansion. Stucker J., Pellejero-Ibañez M., Angulo R., Maion F. , Voivodic R. <i>arXiv:2405.01950</i>	2024
HYMALAIA: A Hybrid Lagrangian Model for Intrinsic Alignments. Maion F. , Angulo R. E., Bakx T., Chisari N. E., Kurita T., Pellejero-Ibañez M. <i>Monthly Notices of the Royal Astronomical Society</i> , Volume 531, Issue 2, May 2024, Pages 1365-2966	2023
Suppressing variance in 21 cm signal simulations during reionization. Giri S., Schneider A., Maion F. , Angulo R. E. <i>Astronomy & Astrophysics</i> 669 A6 (2023)	2023
The bacco simulation project: bacco hybrid Lagrangian bias expansion model in redshift space Pellejero Ibañez M., Angulo R. E., Zennaro M., Stucker J., Contreras S., Aricò G., Maion F. <i>Monthly Notices of the Royal Astronomical Society</i> , Volume 520, Issue 3, April 2023, Pages 3725–3741	2023
Statistics of biased tracers in variance-suppressed simulations Maion F. , Angulo R. E. and Zennaro M. <i>Journal of Cosmology and Astroparticle Physics</i> , IOP Publishing, 2022 , 2022, 036	2022
Priors on Lagrangian bias parameters from galaxy formation modelling. Zennaro M., Angulo R. E., Contreras S., Pellejero-Ibañez M. and Maion F. <i>Monthly Notices of the Royal Astronomical Society</i> , Volume 514, Issue 4, August 2022, Pages 5443–5456	2022

COMPUTATIONAL ALLOCATIONS

Hydrodynamical resimulations for cosmological inferences Allocation of 4.6 million CPU-hours. Co-PI with Raul Angulo Barcelona Supercomputing Center	Jul.-Nov. 2024
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GRANTS AND AWARDS

Prêmio Vídeo Pós-Graduação USP Prize given to best outreach video made by a graduate student in the area of Exact and Earth Sciences.	2019
FAPESP M.Sc. Fellowship Highly competitive grant given by state funding agency.	2019-2021
FAPESP Undergraduate Fellowship Highly competitive grant given by state funding agency.	2017-2018

SKILLS

Programming: Python, C, Latex

High-Performance Computing: slurm, bash, globus

Machine Learning: Gaussian Processes

Cosmological Codes: Arepo, Gadget4, L-Gadget3, CAMB, CLASS, emcee, pymultinest, BACCO (Co-developer)

Languages: Portuguese (Native), English (C1), Spanish (Fluent), Euskera (Beginner)

SELECTED TALKS

Intrinsic-Alignment Modelling: how much is too much?

Newcastle University Cosmology Meeting June 2024

echoIA LILAC Workshop. CfA Harvard May 2024

HYMALAIA: A Hybrid Lagrangian Model for Intrinsic Alignments

Theoretical Modelling of LSS. Edinburgh, Scotland June 2024

IX Fundamental Cosmology Meeting. La Laguna, Spain November 2023

Oxford Cosmology Journal Club October 2023

UCL Cosmology Seminar October 2023

echo-IA meeting. Online October 2023

Statistics of Biased Tracers in Variance-Suppressed Simulations

Midwest Cosmology Network Journal Club. Online May 2022

MIAPbP. Munich, Germany May 2022

IFT-Unesp AC/JC. Online May 2022

TEACHING EXPERIENCE

Cosmology (5 Day Workshop) Aug. 2021
Universidade de São Paulo São Paulo, Brazil

Physics I (Teaching Assistant) Jan. 2019 - Jul. 2019
Universidade de São Paulo São Paulo, Brazil

Physics I (Teaching Assistant) Jan. 2020 - Jul. 2020
Universidade de São Paulo São Paulo, Brazil

COMMUNITY INVOLVEMENT & OUTREACH

Zientzia Astea Dec. 2023
Explorando el mundo de los materiales. Donostia, Spain

El Palo de Eratóstenes Jul. 2023
DESI Survery: Liberación de 1% de los datos. Donostia, Spain

Preparatory Course for Underprivileged Students Jan. 2019 – Aug. 2020
Physics teacher at a preparatory course focusing on university admission exams. São Paulo, Brazil

REFERENCES

Prof. Raul E. Angulo

Leader of DIPC Computational Cosmology Group

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Donostia International Physics Center

Prof. Volker Springel

MPA Director

Contact:

Max Planck Institute for Astrophysics

Prof. N. Elisa Chisari

Assistant Professor at the Institute for Theoretical Physics

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University of Utrecht

Prof. L. Raul Abramo

Professor at the Mathematical Physics Department

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University of São Paulo