

DR. AMIDOU SORGHO



Postdoctoral researcher dedicated to studying galaxy evolution, with a particular interest in programming and data science. Throughout my young academic career, I have accumulated years of experience in using data science tools to tackle problems in astrophysics.

CONTACT

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- NASA/ADS publication list

SKILLS

Programming

Python

Bash

R

LaTeX

SQL

Operating Systems

MacOS

Linux

Windows

Software & Tools

Data handling & analysis
(Numpy, Pandas, etc)

Visualisation
(Matplotlib, Seaborn, etc)

ML modeling
(Scikit-learn, Keras, etc.)

Git

Docker

Office

Languages

French

English

Spanish

Moré

Dioula

- Other skills
- Elaborating and conducting a study
 - Communicating scientific results
 - Fast learner
 - Bayesian inference
 - Machine learning techniques
 - Convolutional Neural Networks

WORK HISTORY

- 10/2020 – present

CSIC Instituto de Astrofísica de Andalucía (CSIC-IAA)
Granada, Spain

Postdoctoral researcher

Tasks involve studying kinematic scaling relations of large samples of galaxies, to highlight the underlying physics governing them.
- 05/2019 – 09/2020

IAU Office of Astronomy for Development (IAU-OAD)
Cape Town, South Africa

Research fellow

Project: Sustainable Local Socio-Economic Development Through Astronomy
- 07/2019 – 11/2019

University of Cape Town,
South Africa

Part-time lecturer

Course: Galactic and Extragalactic astronomy, 3rd year Undergraduate

EDUCATION

- 07/2015 – 12/2019

University of Cape Town,
South Africa

PhD Astronomy
- 02/2013 – 06/2015

University of Cape Town,
South Africa

MSc Astrophysics
- 02/2012 – 12/2012

University of Cape Town,
South Africa

BSc. Hons. Astrophysics & Space Science
- 09/2009 – 01/2012

Université de Ouagadougou,
Burkina Faso

DEA Applied Physics
- 09/2008 – 07/2009

Université de Ouagadougou,
Burkina Faso

Maîtrise Pure Physics

HONOURS AND AWARDS

- IAU-OAD grant for project “Education for All: Promoting Education in Internally Displaced Communities in Burkina Faso” (2022)
- South African Research Chair (SARChI) PhD bursary (2018-2019)
- SKA South Africa Research PhD bursary (2015-2017)
- National Astrophysics and Space Science Programme (NASSP) MSc bursary (2013-2014)
- National Astrophysics and Space Science Programme (NASSP) BSc Hns bursary (2012)

GENERAL SKILLS

Python

Data Analytics

Matplotlib

Machine Learning

Pandas

R

Seaborn

Scikit-learn

Data Mining

Research

Methodology

Jupyter



Keras

Git


PUBLICATIONS

The AMIGA sample of isolated galaxies – Effects of Environment on Angular momentum

 **A. Sorgho**, L. Verdes-Montenegro, K. M. Hess, M. G. Jones, T. H. Jarrett, S. Sanchez-Expósito, J. Garrido

 2023  The Monthly Notices of the Royal Astronomical Society, *submitted*


A Census of the Extended Neutral Hydrogen Around 18 MHONGOOSE Galaxies



 A. Sardone, D.J. Pisano, N. M. Pingel, **A. Sorgho**, C. Carignan, W. J. G. de Blok

 2021  The Astrophysical Journal, Vol. 910, id.69

 [ADS](#), [arXiv](#)


A $5^\circ \times 5^\circ$ deep HI survey of the M81 group: II. HI distribution and kinematics of IC 2574 and HIJASS J1021+68



 **A. Sorgho**, L. Chemin, S. Z. Kam, T. Foster, C. Carignan

 2020  The Monthly Notices of the Royal Astronomical Society, Vol. 493, id. 2618

 [ADS](#), [arXiv](#)


Distribution of luminous and dark matter in spiral and irregular nearby galaxies using $H\alpha$ and HI rotation curves and WISE photometry



 M. Korsaga, B. Epinat, P. Amram, C. Carignan, P. Adamczyk, **A. Sorgho**

 2019  The Monthly Notices of the Royal Astronomical Society, Vol. 490, id. 2977

 [ADS](#), [arXiv](#)


A $5^\circ \times 5^\circ$ deep HI survey of the M81 group



 **A. Sorgho**, T. Foster, C. Carignan, L. Chemin

 2019  The Monthly Notices of the Royal Astronomical Society, Vol. 486, id. 504

 [ADS](#), [arXiv](#)


Early Observations of the MHONGOOSE Galaxies: Getting ready for MeerKAT



 **A. Sorgho**, C. Carignan, D. J. Pisano, T. Oosterloo, W. J. G. de Blok, M. Korsaga, N. M. Pingel, Amy Sardone, S. Goedhart, S. Passmoor, A. Dikgale and S. K. Sirothia

 2019  The Monthly Notices of the Royal Astronomical Society, Vol. 482, id. 1248

 [ADS](#), [arXiv](#)

HI observations of galaxies in the southern filament of the Virgo Cluster with the SKA Pathfinder KAT-7 and the WSRT

 **A. Sorgho**, K. M. Hess, C. Carignan, T. A. Oosterloo

 2017  The Monthly Notices of the Royal Astronomical Society, Vol. 464, id. 530

 [ADS](#), [arXiv](#)

An Overview of the MHONGOOSE Survey: Observing Nearby Galaxies with MeerKAT


 W. J. G de Blok, E. A. K. Adams, ... , **A. Sorgho** et al.

 2016  Proceedings of Science (MeerKAT2016)

 [ADS](#), [arXiv](#)

SELECTED RELEVANT WORKSHOPS


Severo Ochoa Advanced School of Galaxy Evolution

 Granada, Spain

 May 2022

 [Link](#)


ESCAPE Summer School: Data Science for Astronomy, Astroparticle and Particle Physics

 online

 June 2021

 [Link](#)

IAA-CSIC Severo Ochoa School on Machine Learning, Big Data, and Deep Learning in Astronomy

 online

 April 2021

 [Link](#)

Galactic Dynamics in the Era of Large Surveys

 Shanghai, China

 June 2019

 [Link](#)


CRAQ Summer School 2018: Large-scale astrophysics: galaxies and beyond

 Montreal, Canada

 June 2018

 [Link](#)

3rd Generation of Calibration - HI Fidelity Workshop

 Port Alfred, South Africa

 October & November 2016

 [Link](#)