# Emma Dodd

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#### **EDUCATION**

#### PhD - Kapteyn Institute, University of Groningen

2020-Current

Assembly history of the Milky Way using Gaia and spectroscopic surveys

Supervisor: Prof. Dr. Amina Helmi

#### MPhys - Lancaster University

2016-2020

Can we observe young globular clusters forming at high redshift?

Supervisor: Dr. David Sobral

#### OTHER RESEARCH EXPERIENCE

Internship - Lancaster University, Dr. David Sobral

Summer 2019

Lyman alpha haloes across cosmic time

Internship - ESA ESTEC/Leiden University, Dr. Alice Zocchi

Summer 2018

The dynamical origin of the flattening of globular clusters  $\,$ 

Internship - Lancaster University, Dr. David Sobral

Using Hubble and ALMA to unviel the nature of CR7

Summer 2019

#### **PUBLICATIONS**

- [1] E. Balbinot, A. Helmi, T. Callingham, T. Matsuno, **E. Dodd**, and T. Ruiz-Lara, "Ed-2: A cold but not so narrow stellar stream crossing the solar neighbourhood", arXiv preprint arXiv:2306.02756, 2023.
- [2] **E. Dodd**, T. M. Callingham, A. Helmi, T. Matsuno, T. Ruiz-Lara, E. Balbinot, and S. Lövdal, "The Gaia DR3 view of dynamical substructure in the stellar halo near the Sun", *arXiv e-prints*, arXiv:2206.11248, arXiv:2206.11248, Jun. 2022. arXiv: 2206.11248 [astro-ph.GA].
- [3] **E. Dodd**, A. Helmi, and H. H. Koppelman, "Substructures, resonances, and debris streams. A new constraint on the inner shape of the Galactic dark halo",, vol. 659, A61, A61, Mar. 2022. arXiv: 2105.09957 [astro-ph.GA].
- [4] S. S. Lövdal, T. Ruiz-Lara, H. H. Koppelman, T. Matsuno, **E. Dodd**, and A. Helmi, "Substructure in the stellar halo near the Sun. I. Data-driven clustering in integrals-of-motion space", *Astronomy & Astrophysics*, vol. 665, A57, A57, Sep. 2022. arXiv: 2201.02404 [astro-ph.GA].
- [5] T. Matsuno, E. Dodd, H. H. Koppelman, A. Helmi, M. N. Ishigaki, W. Aoki, J. Zhao, Z. Yuan, and K. Hattori, "High-precision chemical abundances of Galactic building blocks. II. Revisiting the chemical distinctness of the Helmi streams",, vol. 665, A46, A46, Sep. 2022. arXiv: 2203.11808 [astro-ph.GA].
- [6] T. Ruiz-Lara, T. Matsuno, S. S. Lövdal, A. Helmi, **E. Dodd**, and H. H. Koppelman, "Substructure in the stellar halo near the Sun. II. Characterisation of independent structures", *Astronomy & Astrophysics*, vol. 665, A58, A58, Sep. 2022. arXiv: 2201.02405 [astro-ph.GA].
- [7] **Dodd, Emma**, H. Baker, H. Child, T. Harrison, M. Hodge, A. Hackett-Evans, and D. Sobral, "On the nature of globular and open clusters (goc): A study of m16, m67, m3 & m71", *Notices of Lancaster Astrophysics (NLUAstro)*, vol. 1, pp. 1–20, 2019.

## Teaching

<b>Teaching Assistant</b> at Kapteyn Institute, University of Groningen  Physics of Galaxies	Spring 2022, 2023
Including assistance in the design of a computational project using galaxy data	
Teaching Assistant at Kapteyn Institute, University of Groningen  Numerical Methods	Spring 2021
Shared Supervision of Honours student at Kapteyn Institute, University of Groningen	Autumn 2023
Awards	
MW-GAIA COST Action Grant	202
• Research Academy Prize for Masters Thesis	202
• DEX XVI Best Talk	202
• Ogden Trust Intern of the Year	201
Ogden Trust Undergraduate Science Scholarship	2016-202
• Ogden Trust Year 12 Physicist of the Year	2015
Talks	
Invited	
• Towards Real-Time Galactic Dynamics, Lorentz Centre, Leiden	July 202
• Invited seminar at Istanbul University	March 202
$\operatorname{Contributed}$	
• Group seminar at University of Chicago	September 202
• MODEST-23: Star Clusters in the Post Pandemic Era	August 202
• Group seminar at University of Granada	March 202
• Lunch talk at Kapteyn Institute	March 202
• IAUS 377: Early Disk-Galaxy Formation from JWST to the Milky Way	February 202
• Kapteyn science day 2022	December 202
• Nova NW1 meeting 2022	September 202
• Nova NW1 meeting 2021	October 202
• Lunch talk at Kapteyn Institute	September 202
• Galaxy cookies, informal talk at Kapteyn Institute	November 202
• DEX XVI: 2020 vision: progress and tensions in astronomy	January 202
• LEAPS final presentations	August 201
Posters	
• EAS 2022	June 202
• EAS 2021	June 202

## OTHER ACADEMIC ACTIVITIES

Chair and organisation of weekly lunch talks at the department	2022 –Current
Young Minds Groningen: secretary, now vice president, organise scientific and outreach events	2021 –Current
PI of ESO proposal 0111.D-0263(A) "Nature of accreted streams populating the local halo" UVES/	VLT (16.4 hrs)
Previous observing: Joint PI of small survey with INT, 2 nights experience observing with INT	2018 - 2022
Outreach: Heavily involved with the XGAL outreach team during my undergraduate degree	2017 -2020
	Young Minds Groningen: secretary, now vice president, organise scientific and outreach events PI of ESO proposal 0111.D-0263(A) "Nature of accreted streams populating the local halo" UVES/Previous observing: Joint PI of small survey with INT, 2 nights experience observing with INT

## LANGUAGES AND SOFTWARE

- Python (including numpy, scipy, agama, vaex) : High level
- Gadget Nbody: Good level of experience

## References

Available upon request