Dr. Gráinne Costigan

An extended portfolio can be found at gcostigan.com
grainne@gcostigan.com

Working in the most competitive and notable astronomy institutes in Europe, and the largest current European space telescope has given me strong team working skills, with a focus on attaining the end goal using innovative techniques and tools. I am looking forward to the next challenge of using my scientific knowledge and outreach and teaching experience to make an impact in the field of data science.

EXPERIENCE

Research Associate
Leiden University &
ESA's Gaia spacecraft
April 2014 - Current

- Member of data processing consortium of Gaia (European big data driven space observatory).
- Participated in the development of the data archive & the validation of data.
- Took a lead role in beta testing of archive and the development of the long term data and software preservation plan.
- As a researcher in Leiden University I also had the opportunity to design and supervise multiple student projects.

PhD Student
ESO, Munich
DIAS, Dublin
Dec. 2009 – Nov. 2013

- By the end of my PhD I was affiliated with 4 different institutes, with a supervisor in each. This forced me to develop effective communication skills, independent work ethic and good project development skills.
- Presented scientific results at multiple international conferences.
- Learnt to work as an effective team member locally and remotely.

Research Associate
Dundee University, UK
Oct. 2008 – Aug. 2009

- Implemented and developed computer vision algorithms for planetary rover navigation.

City Astronomer
Dundee, Scotland
Oct. 2008 – Aug. 2009

- Lead the outreach program in the local public observatory.
- Gave weekly public lectures, with night sky and planetarium tours.
- Wrote a monthly astronomy column in local newspaper.
- Held astronomy and art workshops for children in conjunction with local artists.

EDUCATION

PhD Dec. 2014
Graduated Queen's University Belfast (Northern Ireland), PhD in Star formation. Title: Accretion Variability in Young Stellar Objects

Masters 2007 – 2008
Cambridge University (UK) , Master of Mathematics. CASM Part III

Bachelors 2003 – 2007
Trinity College Dublin (Ireland), Theoretical Physics, BA (mod)

TECHNICAL SKILLS

Python. MATLAB/Octave. MIDAS (FORTRAN based). ADQL (astronomical SQL). IDL. Bash. Latex. Unix.

Github accout: twotonnetess.github.io

COMMUNITY INVOLVEMENT

Feb. 2017 – Now
DataKind, Dublin.

DataKind is a group of data science volunteers working together to help NGOs. Part of the work is to demonstrate and educate the NGOs on the power of data science and what it can be learnt from it.

March 2017 – Now
Open Knowledge Ireland.

A non-profit organisation working for the promotion and use of open data. Currently I am working within a multi-discipline group of volunteers to analyse data on hospital waiting lists.

Sept. 2016
Bogotá, Colombia.

Science teaching in a primary school as part of a three week voluntary placement. Designed and implemented program for all classes from 7 to 12 years old. Full class outline (gcostigan.com/communication).

PROFESSIONAL SERVICE

Feb 2016
Leiden, NL.

Invited talk at workshop 'For Stone Age to Space Age: Discussing Common Grounds in Archaeology and Astronomy'.

Oct. 2015
Leiden, NL.

Co-Organiser of Interdisciplinary seminar on Medical Imaging and Astronomy. In connection with Erasumus Medical centre (Rotterdam)

Oct. 2015
ESA (ESTEC), NL.

Co-organiser of the 'Accretion and Outflows: Exchanging Mass, Momentum and Ideas' workshop at the European Space Agency.

SELECT PUBLICATIONS

2017

'Gaia Data Release 1: Catalogue validation' Arenou, F & The validation team (35 members). (A&A)

2016

'The disappearing act: a dusty wind eclipsing RW Aur' .
Bozhinova, I.; Scholz, A.; **Costigan, G.**; et al. (MNRAS).

2015

'Temperaments of young stars: rapid mass accretion rate changes in T Tauri and Herbig Ae stars'
Costigan, G.; Vink, Jorick S.; Scholz, A.; Ray, T.; Testi, L. (MNRAS)

2014

'Time Monitoring of Radio Jets and Magnetospheres in the Nearby Young Stellar Cluster R Coronae Australis' .
Liu, H. B.; Galván-Madrid, R.; Forbrich, J.; Rodríguez, L.s F.; Takami, M.; **Costigan, G.**; Manara, C. F.; + (ApJ)

2012

'LAMP: the long-term accretion monitoring programme of T Tauri stars in Chamaeleon I' .
Costigan, G.; Scholz, A.; Stelzer, B.; Ray, T.; Vink, J. S.; Mohanty, S. (MNRAS)

SUCCESSFUL OBSERVATION PROPOSALS

2015

30 hours of VLT-KMOS to survey the entire star forming region of the Flame nebula

2013

'Connecting Accretion with Stellar Rotation': VLT-KMOS Science verification. Successful but not observed.

2012

'Monitoring Magnetic Fields: Searching for the connection between variable magnetic fields and accretion variability': VLT-CRIRES