Cameron P. M. Bell

Contact Details

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Research Interests

Star formation; stellar evolution; pre-main-sequence stars; environmental effects on star and planet formation.

Colour-magnitude diagrams; evolutionary models; age spreads.

Research Positions

University of Rochester, Rochester, US **Sept. 2013 – present**

Postdoctoral Associate

Education

University of Exeter, Exeter, UK **2007 – 2012**

Ph.D. completed November 2012

Thesis title: *A Critical Assessment of Ages Derived Using Pre-Main-Sequence Isochrones in Colour-Magnitude Diagrams*

Supervisor: Prof. Tim Naylor

Interruption to Ph.D. (personal reasons) 2010 – 2011

University of St. Andrews, St. Andrews, UK **2002 – 2007**

M.Phys. Astrophysics (Hons.) First Class

Project title: *Coronal X-Ray Activity of Rapidly Rotating Late-Type Stars*

Supervisor: Dr. Gaitee Hussain

Madras College, St. Andrews, UK **1996 – 2002**

Research Publications

Refereed

First author

Pre-main-sequence isochrones – II. Revising star and planet formation time-scales, 2013, MNRAS, 434, 806
Cameron P. M. Bell, Tim Naylor, N. J. Mayne, R. D. Jeffries, and S. P. Littlefair

Pre-main-sequence isochrones – I. The Pleiades benchmark, 2012, MNRAS, 424, 3178
Cameron P. M. Bell, Tim Naylor, N. J. Mayne, R. D. Jeffries, and S. P. Littlefair

Co-author

A lithium depletion boundary age of 22 Myr *for NGC 1960*, 2013, MNRAS, 434, 2438
R. D. Jeffries, Tim Naylor, N. J. Mayne, **Cameron P. M. Bell**, and S. P. Littlefair

No evidence for intense, cold accretion onto YSOs from measurements of Li in T-Tauri stars, 2013, MNRAS, 434, 966
D. J. Sergison, N. J. Mayne, Tim Naylor, R. D. Jeffries, and **Cameron P. M. Bell**

In Preparation

Pre-main-sequence isochrones – III. An internet server for semi-empirical pre-main-sequence isochrones
Cameron P. M. Bell, Tim Naylor, N. J. Mayne, R. D. Jeffries, and S. P. Littlefair

Conferences and Meetings

Protostars & Planets VI, Heidelberg, $14^{\text{th}} - 20^{\text{th}}$ July 2013
Poster: *Revising star and planet formation timescales*

The Formation and Early Evolution of Stellar Clusters, Sexten, $23^{\text{th}} - 27^{\text{th}}$ July 2012
Talk: *Pre-main-sequence stars: older than we thought?*

Cool Stars XVII, Barcelona, $24^{\text{th}} - 29^{\text{th}}$ June 2012
Poster: *Pre-main-sequence stars: older than we thought?*

UK-Germany National Astronomy Meeting 2012, Manchester, $27^{\text{th}} - 30^{\text{th}}$ March 2012
Talk: *A revised pre-main-sequence age scale*

Cool Stars XVI, Seattle, 29^{th} August – 2^{nd} September 2010
Poster: *New evidence that pre-main-sequence stars are older than we thought*

IAU Symposium 258: The Ages of Stars, Baltimore, $13^{\text{th}} - 17^{\text{th}}$ October 2008

National Astronomical Meeting 2008, Belfast, 31^{st} March – 4^{th} April 2008

Telescope Proposals

I am co-investigator on a proposal, the data of which I have been working on as part of my Ph.D. thesis (*Testing Pre-Main-Sequence Isochrones*; Naylor P.I.). The aim of this proposal was to test pre-MS isochrones using clusters ranging from $1 - 30\,\mathrm{Myr}$ in an attempt to allow us to choose between these models and hence derive consistent ages.

I am co-investigator on a series of proposals to obtain data that can be used to test the predictions from the latest simulations of spiral arm star formation (*Testing Models of Spiral Arms*; Naylor P.I.).

I am co-investigator on a proposal to study the low-mass Taurus star-forming region (*Is Environment Important for Young Stars?*; Naylor P.I.). The aim of this proposal is to test our understanding of star formation physics by contrasting star formation in low-density regions which lack high-mass stars with massive, dense regions such as Orion.

I am co-investigator on a proposal (*Do Starspots Explain Discrepant Pre-Main-Sequence Ages?*; Naylor P.I.) to test whether starspots could be responsible for a large fraction of the observed luminosity spread in colour-magnitude diagrams of young star-forming regions.

Telescope Experience

***Isaac Newton* Telescope** **October 2007**
Six nights using the WFC to obtain data for the *Testing Pre-Main-Sequence Isochrones* proposal.

***Isaac Newton* Telescope** **September 2008**
Seven nights using the WFC to obtain data for a combination of the proposals *Testing Pre-Main-Sequence Isochrones* and *Testing Models of Spiral Arms*.

***William Herschel* Telescope** **November 2008**
Four nights using the AF2/WYFFOS multi-object fibre-fed spectrograph to obtain data for the proposal *Testing Models of Spiral Arms*.

Teaching Experience

University of Exeter

Teaching Assistant: Stage II Astrophysics **2008 – 2010** and **2011 – 2012**
Involves demonstrating laboratory practicals, marking student's reports and evaluating final project presentations. I have also run observing sessions for the undergraduates to gather data for their projects.

Teaching Assistant: Stage II Physics **2007 – 2008**
Involves demonstrating the experiments, marking student's projects and evaluating end-of-year presentations.

Computing Skills

Languages: Fortran; C-shell scripting; IRAF (basics); Python (basics); HTML (basics)

Programs: TOPCAT; LaTeX

Operating systems: Mac OS X; Unix/Linux

Academic References

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