

CURRICULUM VITAE

Dr. Karim Ababakr

PERSONAL INFORMATION

Name: Karim Mahmood Ababakr
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Profile

EDUCATION

- Doctor of Philosophy (**PhD**), **Astrophysics** - University of Leeds, UK 2012 – 2016
Thesis: ‘Linear Spectropolarimetry of Herbig Ae/Be stars’
Online thesis:
<http://etheses.whiterose.ac.uk/id/eprint/15447>
- Master of Science (**MSc**), **Physics** - University of Salahaddin, Iraq 2005 – 2007
Thesis: ‘The study and analysis of O’Connell effect for short period eclipsing binary stars’
- Bachelor of Science (**BSc**), **Physics** - University of Salahaddin, Iraq 1997 – 2001
First Class

SCHOLARSHIPS AND FELLOWSHIPS

- **PhD Scholarship: (HCDP)** Human Capacity Development Program 2012 – 2016
University of Leeds, UK
- **Post doctorate Fellowship:** University of Leeds, UK 2016 – 2017

EMPLOYMENT

- **Lecturer:** Erbil Polytechnic University, Erbil, Iraq. 2017 – 2020
- **Postdoctoral Researcher:** University of Leeds, Leeds, UK 2016 – 2017
- **Assistant Lecturer:** Choman Technical Institute, Erbil, Iraq. 2010 – 2012
- **Assistant Lecturer:** Soran Technical Institute, Erbil, Iraq. 2009 – 2010
- **Assistant Lecturer:** Choman Education Directorate, Erbil, Iraq. 2007 – 2009
- **Director of examinations and planning:** Choman Education Directorate, Erbil, Iraq. 2004 – 2005
- **Secondary School Head Teacher:** Choman Secondary School, Erbil, 2003 – 2004

Iraq.

- **Secondary School Teacher:** Choman Secondary School, Erbil, Iraq 2001 – 2003

PUBLICATION

- **K.M. Ababakr**, J. R. Fairlamb, R. D. Oudmaijer, M. E. Van den Ancker. (2015). “Spectroscopy and linear spectropolarimetry of the early Herbig Be stars PDS 27 and PDS 37”. **MNRAS**, **452**, 2566A.
- **K. M. Ababakr**, R. D. Oudmaijer, J. S. Vink. (2016). “Linear spectropolarimetry across the optical spectrum of Herbig Ae/Be stars”. **MNRAS**, **461**, 3089A.
- **K. M. Ababakr**, R. D. Oudmaijer, J. S. Vink. (2017). “A Statistical spectropolarimetric study of Herbig Ae/Be stars”. **MNRAS**, **472**, 854A
- R. D. Oudmaijer, **K. M. Ababakr**, J. R. Fairlamb.(2017). “The formation and evolution of Herbig Ae/Be stars”. **MmSAI**, v.88 p.605
- E. Koumpia, **K. M. Ababakr**, et al. (2019) “Resolving the massive protobinary systems PDS 27 and PDS 37 with PIONIER”. **Astronomy & Astrophysics**, **623**, L5.
A press release was held for the paper at Leeds University
- E. Koumpia, **K. M. Ababakr**, et al. (2020) “Optical and near-infrared observations of the Fried Egg Nebula-Multiple shell ejections on a 100 yr timescale from a massive yellow hypergiant”. **Astronomy & Astrophysics**, **635**, A183.
- C. Wichittanakom, **K. M. Ababakr**, et al. (2020). “The accretion rates and mechanisms of Herbig Ae/Be stars”. **MNRAS**, **493**, 243W.
- I. M. Murad, **K. M. Ababakr**. (2012). “Spot Activity of AK Her Binary Star”. **Al-Nahrain Journal of Science**, **15**, 46-54

OBSERVATIONAL EXPERIENCE

I have written a number of observational proposals and carried out three astronomical observing runs, two of which as a Primary Investigator (PI):

- INT 2.5m Telescope, Spain: “Accretion rate measurements of Herbig Ae/Be stars”, 6 nights, 20/06/2013. In spectroscopic mode, involved in multiple gratings, at optical and near-infrared wavelengths.
- TNG 3.6m Telescope, Spain: “The inner accretion regions of young stars: spectropolarimetry around helium”, (PI), one night, 11/07/2015. In spectropolarimetric and spectroscopic mode, at near-infrared wavelengths around helium line at 1.083 μ m. I was the first investigator to use the telescope in spectropolarimetric mode.

- WHT 4.2m Telescope, Spain: “Spectropolarimetry of Herbig Ae/Be stars- the circumstellar geometry”, (PI), 2 nights, 04/08/2015. In spectropolarimetric mode, at optical wavelengths.

HANDLING DATA & ANALYSIS EXPERIENCE

In my research I use the following data reduction and analysis packages which are related to spectroscopy, echelle spectroscopy, spectropolarimetry, photometry and interferometry:

- **IRAF** “Image reduction and analysis facility”
- **TSP** “Time Series/Polarimetry Package - Starlink”
- **Polmap** “Linear Spectropolarimetry Analysis Package - Starlink”
- **FIGARO** “General Data Reduction System - Starlink”
- **SPLAT** “Spectral Analysis Tool”
- **GAIA** “Graphical Astronomy and Image Analysis Tool - Starlink”
- **DS9** “Astronomical Imaging and Data Visualization Application”
- **GASGANO** “Data File Organiser: developed and maintained by ESO”
- **VLT Pipelines** “FORS Instrument Pipeline”
- **Molecfit** “Correcting Observations for Telluric Absorption”
- **LITpro** “JMMC model fitting software-interferometry”
- **ASPRO** “Astronomical Software to Prepare Observations-interferometry”
- **W-D** “Wilson-Devinney programme: Light curve modeling tool”

CONFRENCES & TALKS

- 2018 – Talk – Erbil Polytechnic University, Iraq. “The Formation of Stars”
- 2016 – Poster – University of Florida, USA – “Multi-wavelength Spectropolarimetry of Herbig Ae/Be Stars”
- 2015 – Summer School – ESO Garching, Germany – “Sixth European Radio Interferometry School”
- 2014 – Poster – Postgraduate Research Symposium, University of Leeds – “Probing the Circumstellar Environment of Herbig Ae/Be Stars”
- 2014 – Poster – Herbig Ae/Be stars: The Missing Link in Star Formation, ESO Chile – “Spectroscopic and Spectropolarimetric Observations of Herbig Ae/Be Stars PDS 37 and PDS 27”
- 2013 – Talk – University of Leeds – “Spectropolarimetry of Herbig Ae/Be Stars”
- 2009 – Conference – University of Padua, Italy – “The Inspiration of Astronomical Phenomena Celebrating the 400th Anniversary of Galileo’s First Astronomical Use of Telescope”

TEACHING

Courses Taught

- **General Physics**, Erbil Technical Health College, Erbil Polytechnic University, Iraq. 2017 – 2020
- **General Physics**, Erbil Technical Medical Institute, Erbil Polytechnic University, Iraq. 2017 - 2018
- **Mathematics**, IT Department, Choman Technical Institute, Erbil, Iraq. 2010 – 2012
- **Mathematics**, IT Department, Soran Technical Institute, Erbil, Iraq. 2009 – 2010
- **Physics**, Choman Secondary School, Erbil, Iraq. 2001 – 2004
- **Mathematics**, Choman Secondary School, Erbil, Iraq. 2001 – 2004

Laboratory

- **Lab Supervision**, Erbil Technical Health College- Physics Lab, Erbil Polytechnic University, Iraq. 2017 – 2020
- **Lab Demonstrator**, University of Leeds, Leeds, UK 2012 – 2016
 - Introduction to the Spectrometer Experiment.
 - Advanced Quantitative Spectrophotometry Experiment.
 - Diffraction and Interference Experiment.
- **Lab Demonstrator**, University of Leeds, Leeds, UK 2012 – 2016
 - Open days

Student Supervision

- Assisting final year BSc and MSc students with their projects by providing data and helping them with data reduction and analysis, University of Leeds, UK. 2015 – 2017
- Assisting first year PhD students with their projects, University of Leeds, UK 2016 – 2017
- BSc final year project supervision, Erbil Polytechnic University, Iraq. 2017-2020

Other Responsibilities

- First Aider: Holding first aid certificate at school of Physics and Astronomy, University of Leeds. First aider at postgraduate office. 2014 – 2017
- Intercultural Ambassador, University of Leeds, Leeds, UK 2013 – 2014
- ‘Astromeet’ organizer (Group meetings & journal club), University of Leeds. 2014- 2015
- Editorial board member of Erbil Polytechnic University Journal, Iraq. 2017 – 2019

- Member of Journal Accreditation committee, Erbil Polytechnic University Journal, Iraq. 2017 – 2019
- Conference Organizer, “(ITEC18) The Impact of Information Technology on the Quality of Education and Learning Process” Erbil, Iraq 2018
- Member of Royal Astronomical Society, UK. 2015 – Present

COMPUTING SKILLS

- Operating systems: UNIX/LINUX, Windows.
- Applications: LATEX, Microsoft Office.
- Languages: Python, Matlab