

## Contact Details

Address: Department of Astronomy and Space,  
College of Science,  
University of Baghdad,  
Jadiriya, Baghdad, Iraq  
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## Personal Details

Nationality: Iraqi  
Date of Birth: 13/11/1982  
Place of Birth: Baghdad, Iraq  
Languages: English, Arabic

## Research Interests:

Gravitational Lensing, Cosmology, Dark Matter & Dark Energy, Formation & Evolution of Structures in the Universe.

## EDUCATION

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### PhD Physics, The University of Sydney, 2016

- Topic: probing Galaxy Clusters in Non-standard Cosmologies with Gravitational Lensing
- Supervisors: Prof. Geraint F. Lewis (SIFA - USYD) and Prof. Chris Power (ICRAR - UWA).

### M.Sc Astronomy, University of Baghdad, 2010

- Topic: Searching for Dark Matter in the Galactic Halo Using Microlensing towards LMC and SMC
- Supervisor: Prof. Layth M. Karim
- Graduation grade: 91.22% (**Excellent** marks on Iraqi grading system )
- Graduation rank: 1<sup>st</sup> out of 7 students.

### B.Sc Astronomy, University of Baghdad, 2004

- Graduation Project Topic: Mathematical Modelling and Computer Simulation using Matlab
- Graduation grade: 84.98% (**Very good** marks on Iraqi grading system)
- Graduation rank: 2<sup>nd</sup> out of 24 students.

## PUBLICATIONS

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1. Topic : *Determination of the Influence Forces Affecting the Surface Layers of the Rotating Magnetic Neutron Stars*  
Author: Abdullah, S.A., Kadhim, Z.F., **Mahdi, H. S.**  
BIB : 2018, **ICOASE 2018** - International Conference on Advanced Science and Engineering.
2. Topic : *Matter in the Beam: Weak Lensing, Substructures and the Temperature of Dark Matter*  
Author: **Mahdi, H. S.**, Elahi, P. J., Lewis, G. F., Power, C.  
BIB : 2016, APJ, 826, 212.
3. Topic : *Warm Dark Haloes Accretion Histories and their Gravitational Signatures*  
Author: Elahi, P. J., **Mahdi, H. S.**, Power, C., Lewis, G. F.  
BIB : 2014, MNRAS, 444, 2333.
4. Topic : *Gravitational Lensing in WDM cosmologies: the cross-section for giant arcs*  
Author: **Mahdi, H. S.**, van Beek, M., Elahi, P. J., Lewis, G. F., Power, C., Killedar, M.  
BIB : 2014, MNRAS, 441, 1954.

## AWARDS AND SCHOLARSHIPS

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University of Sydney International Scholarship (2012-2016)  
Postgraduate Research Support Scheme, The University of Sydney (2015)  
Postgraduate Research Support Scheme, The University of Sydney (2014)  
Postgraduate Research Support Scheme, The University of Sydney (2013)  
Student conference support funding, Instituto D Astrofisica Canarias, Spain (2012)

## SKILLS/EXPERIENCE

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Operating systems	Linux, Windows
Programming/Web languages	Visual basic, C++, Parallel programing using OpenMp, AWK and SED
Scientific packages	Matlab, gnuplot, Mathematica
Large instrument usage	NCI (Raijin), iVEC (Magnus)
Typesetting and word processing	LaTeX, all Microsoft/Open Office packages
Scientific communication	Published first author articles in top scientific journals Editor/ member of Editorial board of the Iraqi Journal of Science

## CONFERENCE & WORKSHOP PARTICIPATIONS

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2015/06 Chalonge Meudon Workshop, Paris, France  
2015/03 Perth Simulated Galaxy Clusters Workshop, Perth, Australia  
2014/07 The 18th Paris Cosmology Colloquium, Paris, France  
2014/02 ANITA workshop, Sydney, Australia  
2012/11 Astrophysical Applications of Gravitational Lensing, Tenerife, Spain

## TEACHING AND RELEVANT EXPERIENCE

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2016 – current: Lecturer - University of Baghdad.  
Undergraduate Teaching (Extragalactic Astronomy, Statistical Mechanics and Programming),  
Supervising graduation projects  
Postgraduate seminars and special topics.

2005-2012 : Laboratory Supervisor and Demonstrator, University of Baghdad:

- Numerical Analysis Laboratory
- Mathematical Modelling and Computer Simulation Laboratory
- Computer Skills Laboratory
- Programming Laboratory
- Observational Techniques Laboratory
- Mechanics Laboratory

## Professional Memberships

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- International Astronomical Union (IAU).
- The Astronomical Society of Australia.
- Arab Union for Astronomy and Space Sciences (AUASS).
- Iraqi Academic Syndicate.