



Marwan Gebran

Associate Professor

O#: 09.208737

T: 09.218950, Ext. 2618

E: mgebran@ndu.edu.lb

Biography

I am an observational astrophysicist. My research interests include the chemical composition of stars in open clusters and in the field, rotation of A stars, peculiar stars, binary stars, synthetic spectra and model atmospheres. I am also interested in the determination of fundamental parameters of F and A stars. I got my PhD from Université de Montpellier II in 2007 where I worked on the Chemical composition of A/F stars in open clusters. From 2008 till 2010 I was a postdoctoral fellow at the University of Barcelona working on the calibration of the Gaia space telescope. I am a member of: the POLLUX team (<http://pollux.graal.univ-montp2.fr/>); The Gaia ESO Survey (node in the Working Group WG 13); The WEAVE science team.

Peer-reviewed Journals

International

- 2016: The Rotation-Activity Correlations in K and M dwarfs. I. Stellar parameters, compilations of $v \sin i$ and $P/\sin i$ for a large sample of late-K and M dwarfs (Houdebine, E.R.; Mullan, D.J.; Paletou, F.; and Gebran, M.) (The Astrophysical Journal, Volume 822, Issue 2, article id. 97, pp. 2016).
- 2016: A new method for the inversion of atmospheric parameters of A/Am stars (Gebran, M.; Farah, W.; Paletou, F.; Monier, R.; and Watson, V.) (A&A, vol 589, 2016, A83).
- 2016: The nature of the late B-type stars HD 67044 and HD42035 (Monier, R.; Gebran, M.; and Royer, F.) (Astrophysics & Space Science, Vol 361, 139).
- 2015: Principal component analysis-based inversion of effective temperature for late-type stars (Paletou, F.; Gebran, M.; Houdebine, E. R.; and Watson, V.) (A&A, vol 580, 2015, A78).
- 2015: The Gaia spectrophotometric standard stars survey – II. Instrumental effects of six ground-based observing campaigns. (Altavilla, G. et al.) (Astronomische Nachrichten, Vol.336, Issue 6, p.515).
- 2015: The signature of diffusion in the binary system of omicron Leonis: a key for Am/Fm scenarios? (Gebran, M.; Hadrava, P.; Jasiewicz, G.; and Richard, O.) (Astrophysics & Space Science, Vol 357, 137).
- 2015: Four new HgMn stars: HD 18104, HD 30085, HD 32867, HD 53588 (Monier, R.; Gebran, M.; and Royer, F.) (A&A, vol 577, 2015, A96).
- 2014: Normal A0-A1 stars with low rotational velocities I - Abundance determination and classification. (Royer, F.; Gebran, M.; Monier, R.; Adelman, S.; Smalley, B.; Pintado, O.; Reiners, A.; Hill, G.; and Gulliver, A.) (A&A, vol 562, 2014, A84).
- 2012: The Gaia spectrophotometric standard stars survey - I. Preliminary results (Pancino, E et al.) (Monthly Notices of the Royal Astronomical Society, Volume 426, Issue 3, pp. 1767-1781).
- 2010: Gaia broad band photometry (Jordi, C.; Gebran, M.; Carrasco, J. M.; de Bruijne, J.; Voss, H.; Fabricius, C.; Knude, J.; Vallenari, A.; Kohley, R.; and Mora, A.) (A&A, vol 523, 2010, A48).
- 2010: Chemical composition and evolution of A and F dwarfs members of the Hyades open cluster (Gebran, M.; Vick, M.; Monier, R., and Fossati, L.) (A&A, vol 523, 2010, A71).
- 2010: POLLUX: a database of synthetic stellar spectra (A. Palacios, M. Gebran, E. Josselin, F. Martins, B. Plez, M. Belmas and A. Lebre) (A&A, vol 516, 2010, A13).

- 2009: Looking for pulsations in HgMn stars through CoRoT lightcurves (G. Alecian, M. Gebran, M. Auvergne, O. Richard, R. Samadi, W. W. Weiss and A. Baglin) (A&A, vol 506, 2009, pp.69-78).
- 2008: The effect of rotation on the abundances of the chemical elements of the A type stars in Praesepe cluster (Fossati, L.; Bagnulo, S.; Landstreet, J.; Wade, G.; Kochukhov, O.; Monier, R.; Weiss, W. and Gebran, M) (A&A, vol 483, 2008, pp.891-902).
- 2008: Chemical composition of A and F dwarfs members of the Coma Berenices open cluster (Gebran, M., Monier, R. and Richard, O.) (A&A, vol 208, 2008, pp.189-206).
- 2008: Chemical composition of A and F dwarfs members of the Pleiades open cluster (Gebran, M. & Monier, R.) (A&A, vol 483, 2008, pp.567- 570).

Peer-reviewed Conference Proceedings

Regional

- 2015: Preliminary determination of Fe abundances for B and A stars members of the young cluster NGC3293; Aydi, E., Gebran, M. and Monier, R. (MEARIMIII)
- 2015: Fundamental parameters of B and A stars in the NGC3293 cluster; Aydi, E. , Gebran, M., Monier, R., Royer, F., Lobel, A. and Blomme, R. (MEARIMIII)

International

- 2016: HR8844: A new hot Am star ? : a new HgMn star; Monier, R. Gebran, M. Royer, F. (SF2A 2016)
- 2016: HD 30963: a new HgMn star; Monier, R. Gebran, M. Royer, F. (SF2A 2016)
- 2015: Abundance determination for the F dwarfs members of the Hyades from SOPHIE high resolution spectra; Kilicoglu, T., Monier, R., Gebran, M. (2015sf2a.conf..389K)
- 2015: Estimating Stellar Fundamental Parameters Using PCA: Application to Early Type Stars of GES Data; Farah, W., Gebran, M., Paletou, F., Blomme, R. (2015sf2a.conf....3F)
- 2015: Discovery of new chemically peculiar late B-type star: HD 67044; Monier, R., Gebran, M., Royer, F. (2015sf2a.conf..411M)
- 2015: The peculiar abundance pattern of the new Hg-Mn star HD30085; Monier, R., Gebran, M., Royer, F., Griffin, E. (2015sf2a.conf..407M)
- 2014: HD 30085: a new Pt-Hg rich late B-type star; Monier, R.; Gebran, M.; Royer, F.; Griffin, E. (2014sf2a.conf..497M)
- 2014: Automated procedure to derive fundamental parameters of B and A stars: Application to the young cluster NGC 3293; Aydi, E.; Gebran, M.; Monier, R.; Royer, F.; Lobel, A.; Blomme, R. (2014sf2a.conf..451A)
- 2014: Evolution of the chemical element abundances with age in open clusters: The Hyades, Pleiades, Coma Berenices and M6; Kilicoglu, T.; Monier, R.; Gebran, M.; Fossati, L. (2014sf2a.conf..479K)
- 2014: Are low vsini normal A0-A1 stars fast pole-on rotators ?; Royer, F.; Monier, R.; Gebran, M.; Hill, G.; Gulliver, A.; Adelman, S.; Smalley, B.; Pintado, O.; Reiners, A. (Submitted to the conference in Natal, Brazil)
- 2014: Microturbulence in A/F Am/Fm stars; Gebran, M.; Monier, R.; Royer, F.; Lobel, A.; Blomme, R. (2014psce.conf..193G)
- 2014: Normal low v sin i A0-A1 stars; Royer, F.; Gebran, M.; Monier, R.; Caraty, Y.; Kilicoglu, T.; Pintado, O.; Adelman, S.; Smalley, B.; Reiners, A.; Hill, G.; Gulliver, A. (2014psce.conf..265R)
- 2012: Rotational velocity distribution of A stars: Searching for intrinsic slowly rotating normal A0-A1 stars; Royer, F.; Gebran, M.; Monier, R.; Caraty, Y.; Kilicoglu, T.; Pintado, O.; Adelman, S.; Smalley, B.; Reiners, A.; Hill, G.; Gulliver, A. (2012sf2a.conf..389R)
- 2012: Diffusion in Binary Systems as a Key for AmFm Scenarios; Gebran, M.; Jasiewicz, G. and Richard, O. (2012AfrSk..16..117G)
- 2011: Gaia broad-band photometry; Carrasco, J.M.; Gebran, M.; Jordi, C.; Voss, H.; Fabricius, C. (2011hsa6.conf..529C)
- 2010: Chemically peculiar A/F stars in open clusters of the Milky Way; Gebran, M.; Monier, R. (2010sf2a.conf..353G)
- 2008: Abundance determination of A, Am and F stars in the Pleiades and Coma Berenices clusters, Gebran, M., Monier, R. and Richard, O. (2008CoSka..38..405G)
- 2007: Microturbulent Velocities and Abundances for A and F Dwarfs in Open Clusters; Gebran, M. & Monier, R. (2007IAUS..239..160G)
- 2005: Preliminary abundances of Fe, Ti, Cr, Mg and He in a sample of ten stars in the Alpha Persei open cluster; Gebran, M. & Monier, R. (2005MSAIS...8..200G)
- 2005: Chemical abundances for ten stars in the Alpha Persei open cluster; Gebran, M. & Monier, R. (2005EAS....17..313G)

Specialized Reports

International

- 2010: Testing the a i j model for the internal BP/RP calibration (J.M. Carrasco, M. Gebran, C. Fabricius, C. Jordi, F. Figueras) (GAIA-C5-TN-UB-JMC-008)
- 2009: Absolute wavelength calibration for BP/RP using Chi-squared minimisation II (M. Gebran, F. Figueras, C. Jordi, J.M. Carrasco, C. Fabricius, H. Voss) (GAIA-C5-TN-UB-MG-003)
- 2009: Absolute wavelength calibration of BP/RP spectra using the centroiding procedure (M. Gebran, F. Figueras, C. Jordi, J.M. Carrasco, C. Fabricius, H. Voss) (GAIA-C5-TN-UB-MG-002)
- 2009: Absolute wavelength calibration for BP/RP using Chi-squared minimisation (M. Gebran, F. Figueras, C. Jordi, J.M. Carrasco, C. Fabricius, H. Voss) (GAIA-C5-TN-UB-MG-001)
- 2009: Proposal for internal calibration of XP spectra (C. Fabricius, C. Jordi, F. van Leeuwen, J.M. Carrasco, F. De Angeli, D.W. Evans, F. Figueras, M. Gebran, H. Voss) (GAIA-C5-TN-UB-CF-012-01)
- 2009: A simple calibration model for BP/RP spectra (J.M. Carrasco, C. Fabricius, C. Jordi, F. Figueras, M. Gebran, H. Voss) (GAIA-C5-TN-UB-JMC-006)
- 2009: Sources with spectral features as seen by GAIA BP/RP (Lopez Marti, B., Figueras, F., Jordi, C., Carrasco, J.M., Gebran, M)

Exhibitions, Competitions and Creative Work

Local

Participating in Science Days in October 2010, October 2011 : topics related to astronomy
Public lectures related to Astronomy in schools and universities (Saint Gregoire Achrafieh, Deutsche Schule Jounieh, College Elite Francais, NDU, NINAR ...)
Radio interview in January 2012 related to astronomy (Voix Liban Libre)
TV interview in March 2012 related to solar flares and CME (ART)
TV interview in April 2012 related to the end of the world (LBC)
TV interview in December 2012 related to the end of the world (LBC)
TV interview in February 2013 related to near earth meteors (LBC)
TV interview in August 2014 related to meteor showers and supermoon (OTV)
Writing reports, related to astronomical events, in newspapers

Esteemed indicators

Member of the WEAVE spectrograph science team since 2016
Member of the Gaia-Eso survey since 2012 (<http://www.gaia-eso.eu/>). Became a node in 2015.
Member of the CNRS Task Force for Astronomy and Astrophysics since 2010.
Member of the POLLUX team since 2008 (<http://pollux.graal.univ-montp2.fr/>)
Member of the Organizing committee of the Third Middle-East And Africa Regional IAU Meeting (MEARIMIII).
Crown Plaza Hotel, Beirut-Lebanon September 1-6, 2014
Member of the Organizing committee of the IAU MENA summer school 2014: Astronomy with small telescopes.
NDU, August 25-31, 2014
Member of the Local Organizing Committee for the Second Azarqui School. AUB, Beirut June 19-26, 2011
From 2010 to 2016: Supervised 3 senior projects, 6 Masters Thesis and one PhD

CV

https://www.researchgate.net/profile/Marwan_Gebran

