

**CURRICULUM VITA**  
**Prof. Nidhal Guessoum**

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**CONTACT INFO**

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*Current Position/Rank:* Professor of Physics & Astronomy

**EDUCATION**

1988: Ph.D. in Theoretical Astrophysics, University of California at San Diego, USA

1984: M.Sc. in Physics, University of California at San Diego, USA

1982 (*Dec.*): American Language Center Diploma, UCLA Extension, USA

1982 (*Jun.*): Bachelor of Science (with honors) in Theoretical Physics, Université des Sciences et de la Technologie d'Alger, Algeria

**PROFESSIONAL HISTORY AND EXPERIENCE**

Work Experience:

2008 (*June*)-*present*: Professor, Physics Department, College of Arts & Sciences, AUS

2004 (*June*)-2008 (*June*): Associate Professor, Physics Department, CAS, AUS

2002 (*June*)-2004 (*June*): Associate Professor and Chair, Physics Department, AUS

2001 (*Aug*)-2002 (*June*): Coordinator of the Physics Unit, AUS

2000 (*Aug*)-2002 (*June*): Assistant Professor, College of Arts & Sciences, AUS, UAE

1994 (*Nov*)-2000 (*Aug*): Assistant Professor, College of Technological Studies, Kuwait

1993-1994: Maitre de Conférences, University of Blida, Algeria

1991-1993: Maitre-Assistant and Department Chairman, University of Blida, Algeria

1990-1991: Maitre-Assistant, University of Blida, Algeria

1988-1990: Research Associate, NASA-Goddard Space Flight Center, Maryland, USA

Awards:

- **2<sup>nd</sup> Research Prize in Sciences, Engineering, and Architecture, AUS, June 2003**
- **Grants (totaling over 1 million dollars): (a) 6 research grants from the AUS; many AUS conference travel grants; two-year Emirates Foundation grant; several John Templeton Foundation and University Interdisciplinaire de Paris grants; etc.**
- **Visiting Professor at Université Paul Sabatier, Toulouse, France: Jan.-Feb. 2000**
- **Invited Visiting Researcher (most with full expenses paid) by several international academic institutions (17 times total) in the USA, UK, France, and the Arab world.**

Other Professional Experience:

*Professional Organizations*

1. International Astronomical Union
2. International Society for Science and Religion (member of the executive committee)
3. Islamic Crescents Observation Project (vice-president)

*Research Visits (in reverse chronological order):*

1. Center for Space Radiation Studies, Toulouse (France): July 4 – July 17, 2010
2. Center for Space Radiation Studies, Toulouse (France): July 20 – July 31, 2009
3. University of Bahrain, Physics Department: March 2009
4. University of Bahrain, Physics Department: March 2008
5. Center for Space Radiation Studies, Toulouse (France): July 3 – July 21, 2007
6. Center for Space Radiation Studies, Toulouse (France): July 10 – July 31, 2006
7. Center for Space Radiation Studies, Toulouse (France): June 22 – July 25, 2005
8. Center for Space Radiation Studies, Toulouse (France): June 24 – July 31, 2004
9. Center for Space Radiation Studies, Toulouse (France): July 1 – 31, 2003
10. Center for Space Radiation Studies, Toulouse (France): July 1 – 31, 2002
11. Center for Space Radiation Studies, Toulouse (France): July 1 – 31, 2001
12. Center for Space Radiation Studies, Toulouse (France): July 1 – 31, 2000
13. Center for Space Radiation Studies, Toulouse (France): 20 Jan – 10 Feb 2000  
(*Visiting Professor* invitation from Université Paul Sabatier, Toulouse)
14. NASA/Goddard Space Flight Center (Maryland, USA): 25 July -- 31 August 1998
15. NASA/GSFC: 1 -- 28 February 1998
16. NASA/GSFC: July -- September 1996
17. NASA/GSFC: July -- September 1995
18. Center for Atomic Studies, Saclay (France): 15 September -- 15 October 1993

*Scientific Research Workshops (in reverse chronological order):*

1. “Positrons in Astrophysics”, Murren, Switzerland, March 19-24, 2012
2. “COSPAR 38<sup>th</sup> Scientific Assembly”, Bremen, Germany, July 18 - 25, 2010
3. “Second Emirates Astronomical Conference – The Role of Astronomy in the Islamic Society: Applications in Islam, Education, and Environment”, Center for Documentation and Research, Abu-Dhabi, United Arab Emirates, 30 May – 1 June 2010
4. “New Vision 400: Templeton–Xiangshan Science Conference”, Beijing, China, Oct. 12–15, 2008
5. “COSPAR 37<sup>th</sup> Scientific Assembly”, Montréal, Canada, July 13-20, 2008
6. “First Middle East-Africa, Regional IAU (International Astronomical Union) Meeting”, Cairo, Egypt, April 5-10, 2008
7. “2<sup>nd</sup> Team Workshop on Galactic Positrons”, International Space Science Institute (ISSI), Bern, Switzerland, October 24-27, 2007

8. "1<sup>st</sup> Team Workshop on Galactic Positrons", International Space Science Institute (ISSI), Bern, Switzerland, January 24-27, 2007
9. "First Emirates Astronomical Conference – Applications of Astronomical Calculations", Center for Documentation and Research, Abu-Dhabi, United Arab Emirates, 13-14 Dec. 2006
10. "The 6<sup>th</sup> INTEGRAL workshop – The Obscured Universe", ESA & Space Research Institute, Moscow, Russia, July 2-8, 2006
11. IAU Symp. 233 "Solar Activity and its Magnetic Origin", Cairo (Egypt), Mar. 31-Apr. 4, 2006
12. UN/ESA/NASA Workshop on International Heliophysical Year, Al-Ain (UAE), Nov 20-23, 2005
13. 5<sup>th</sup> International APC Workshop "High Energy Phenomena in the Galactic Center", Paris, June 6-24, 2005
14. 10<sup>th</sup> Slow Positron Beams for Solids and Surfaces International Workshop; Doha, Qatar, March 19-24, 2005.
15. "The 5<sup>th</sup> INTEGRAL workshop – The Integral Universe", ESA & Max-Planck-Institut für Extraterrestrische Physik, Munich, Feb 16-20, 2004
16. "The Restless High-Energy Universe" International Conference, University of Amsterdam – Institute of Astronomy, Amsterdam, May 5-8, 2003.
17. International Online Conference on Teaching Online in Higher Education, Nov. 12-14, 2002
18. Online Learning Conference, Higher College of Technology, Sharjah, April 11, 2001
19. Gamma Ray Astrophysics 2001 symposium, Baltimore, USA, April 4-6, 2001, hosted by NASA Goddard Space Flight Center
20. NATO Advanced Research Workshop on "Cosmic Radiation: from Astronomy to Particle Physics", Oujda (Morocco), March 2001
21. International Online Conference on Teaching Online in Higher Education, Nov. 13-15, 2000
22. 9<sup>th</sup> UN/ESA Int'l Workshop on Basic Space Sciences, Toulouse (France), June 2000
23. 8<sup>th</sup> UN/ESA Int'l Workshop on Basic Space Sciences, Al al-Bayt Univ. (Jordan), March 1999
24. Third INTEGRAL Workshop on Gamma-Ray Astrophysics, Taormina (Italy), Sept. 1998
25. First Int'l Astrophysics and Space Sciences Workshop, Al al-Bayt U. (Jordan), May 1998
26. 25<sup>th</sup> Int'l Conf. on Cosmic Rays, Durban (South Africa), August 1997
27. First GLAST Mission Int'l Workshop on High-Resolution Gamma-Ray Detection, Greenbelt (USA), August 1996
28. Second INTEGRAL Int'l Workshop on Gamma-Ray Astrop., Saint-Malo (France), Sept. 1996
29. International Workshop on Solar Physics, Greenbelt (USA), August 1995
30. First Regional Astrophysics and High-Energy Physics Workshop, Blida (Algeria), June 1993
31. Second Int'l Astrophysics & High-Energy Physics Workshop, Constantine (Algeria), Nov. 1991
32. General American Physical Society Meeting, Washington (USA), April 1990
33. 21<sup>st</sup> International Conference On Cosmic Rays, Adelaide (Australia), January 1990
34. Int'l Workshop on Very Hot Plasmas in Astrophysics, Baltimore (USA), April 1989
35. Int'l Workshop on High-Resolution Gamma-Ray Astrophysics, Los Angeles (USA), Nov. 1988
36. Int'l Workshop on Nuclear Spectroscopy of Astrophysical Sources, Washington (USA), Dec. 1987
37. Int'l Workshop on Solar Neutrinos, Santa Barbara (USA), May 1987

### *Training:*

- “Master of Online Teaching” Certificate with the Univ. of Illinois Online Network: 1999-2006
- Workshop for Physics Consortium Project, UNESCO Cairo Office, Ismailia (May. 1998)
- Workshop on the Embedment of Computers in the Teaching of University Physics, UNESCO Cairo Office & UCLA/Center for Digital Innovation, Ismailia (Egypt, Nov. 1998)

### *Selected Committees and Organizations:*

- Chair of the Scientific Organizing Committee of the “2<sup>nd</sup> Emirates Astronomical Conference – The Role of Astronomy in the Islamic Society: Applications in Islam, Education, and Environment”, Center for Documentation and Research, Abu-Dhabi, United Arab Emirates, 30 May – 1 June 2010.
- Member of the Scientific Organizing Committee of the “First Middle East-Africa, Regional IAU (International Astronomical Union) Meeting”, Cairo, Egypt, April 5-10, 2008
- Member of the Eurasian Board of Advisors of the John Templeton Foundation, 2006 –2008
- Chair of the Scientific Organizing Committee of the “Applications of Astronomical Calculations” Conference, Abu Dhabi, December 2006.
- Member of the local organizing committee for the Workshop on Int’l Heliophysical Year organized by UN, ESA, and NASA and hosted by the UAE Univ., November 2005.
- AUS Faculty Senate Member and Senate Executive Committee Member, Sept 2004—present; *Senate Vice-President*: May 2005-April 2006; *Senate President*: May 2006-April 2007.
- Chair, Senate Standing Committee on Faculty Evaluations and Standards of Performance, Sept 2004—June 2006.
- Chair, UAE Ministry of Education’s National Commission on Science Textbooks: 2004-2006.
- Chair, UAE Ministry of Education’s Commission on Physics for the Non-Science Track: Feb 2002—June 2004.
- Organizing Committee (Member or Chair), 1<sup>st</sup> to 7<sup>th</sup> “*Astronomy in the Gulf*” Colloquia (2000-2007), UAE, Oman, Bahrain
- Organizing Committee Member, AUS-UNESCO Workshop on Online Learning; Sharjah, Mar. 9 – 13, 2003
- Advisor to the Students' Science Club, College of Tech. Studies, Kuwait -- 1996 and 1999
- Member of the Kuwait College of Tech Studies’ Performance Evaluation Committee -- 1997
- Member of the Kuwait National Observatory Project Committee (1996 - 2000)
- Founding Member and President of the Association of Algerian Scientists (1990 - 1994)

### *Editorial Experience:*

- 1998-2003: Member of the Editorial Board of the *Arab Journal of Science*, published by the Arab League Organization for Education, Culture, and Science.
- 1998-2000: Chief Editor of the Quarterly Publication of the Kuwaiti Chemical Society.
- 1991-1994: Member of the Editorial Board of the *Algerian Scientist* bimonthly magazine.

## **RESEARCH INTERESTS**

### *Gamma-Ray Astrophysics:*

- Accretion Disks around Black Holes, Neutron Stars, and White Dwarfs
- Positron-Electron Annihilation in the Galaxy and in Solar Flares
- Gamma-Ray Bursts

*Nuclear Astrophysics:*

- Nuclear Breakup (Fission) in Accretion Disks
- Cosmic Rays from Nuclear Reactions

*Astronomy: History and Heritage*

- Crescent Visibility and Islamic Calendar
- Popularization of Astronomy and Science

*Education:*

- Science Education
- Online Teaching
- International Higher Education

**PUBLICATIONS** (*in chronological order*)

**Ph.D. Thesis**

“*Thermonuclear Reactions of Light Nuclei in Astrophysical Plasmas*”, N. Guessoum, University of California at San Diego, Conferred: March 1988.

**Refereed Journal Papers**

1. “*Thermonuclear Breakup Reactions of Light Nuclei: I. Processes and Effects*”, N. Guessoum & R.J.Gould, The Astrophysical Journal, **345**, 356 (1989).
2. “*Thermonuclear Breakup Reactions of Light Nuclei: II. Gamma-Ray Line Production and Other Applications*”, N. Guessoum, The Astrophysical Journal, **345**, 363 (1989).
3. “*Neutron Viscosity in Accretion Disks*”, N. Guessoum and D. Kazanas, The Astrophysical Journal, **358**, 525 (1990).
4. “*Stochastic Fermi Acceleration in Solar Flares*”, J. M. Miller, N. Guessoum, and R. Ramaty, The Astrophysical Journal, **361** 701 (1990).
5. “*The Cross Section for  $p + p \rightarrow d + e^+ + \nu_e$* ”, R. J. Gould & N. Guessoum, The Astrophysical Journal Letters, **359**, L67 (1990).
6. “*Positron Annihilation in the Interstellar Medium*”, N. Guessoum, R.Ramaty, R. E. Lingenfelter, The Astrophysical Journal, **378**, 170 (1991).
7. “*Production of Li, Be, B in the Companion of X-Ray Novae*”, N. Guessoum, D. Kazanas, R.Ramaty, Astrophysical Letters & Communications, **38**, 415 (1999).
8. “*Lithium Production in Companions of Accreting X-Ray Binaries by Neutron Spallation of C,N,O Elements*”, N. Guessoum & D. Kazanas, The Astrophysical Journal, **512**, 332 (1999).
9. “*Gamma-Ray Lines from the Galaxy: the GRO Revolution*”, N. Guessoum, in Astrophysics & Space Science, **273**, 171-185 (2001).

10. “*Visibility of the Thin Lunar Crescent: The Sociology of an Astronomical Problem (A Case Study)*”, N. Guessoum & K. Meziane, *Journal of Astronomical History and Heritage*, **4**, 1-14 (2001).
11. “*Neutron-Capture and 2.22 MeV Emission in the Atmosphere of the Secondary of an X-ray Binary*”, P. Jean & N. Guessoum, *Astronomy & Astrophysics*, **378**, 509-521 (2001).
12. “*Detectability and Characteristics of the 2.223 MeV Line Emission from Nearby X-Ray Binaries*”, N. Guessoum & P. Jean, *Astronomy & Astrophysics*, **396**, 157-169 (2002).
13. “*Models of the Positive Latitude e-e+ Annihilation Feature*”, P. von Ballmoos, N. Guessoum, P. Jean, and J. Knoedlseder; *Astronomy & Astrophysics*, **397**, 635-643 (2003).
14. “*Detecting 2.223 MeV Line Emission from X-Ray Novae with INTEGRAL*”, N. Guessoum & P. Jean, *Nuclear Physics B (Proceedings Supplements)*, **132C**, 396-399 (2004).
15. “*The Lives and Deaths of Positrons in the Interstellar Medium*”, N. Guessoum, P. Jean, W. Gillard, *Astronomy & Astrophysics*, **436**, 171 (2005).
16. “*The All-Sky Distribution of 511 keV Electron-Positron Annihilation Emission*”, J. Knoedlseder et al., *Astronomy & Astrophysics*, **441**, 513 (2005).
17. “*Spectral Analysis of the Galactic e+e- Annihilation Emission*”, P. Jean, et al., *Astronomy & Astrophysics*, **445**, 579 (2005).
18. “*Relevance of slow positron beam research to astrophysical studies of positron interactions and annihilation in the interstellar medium*”, N. Guessoum, P. Jean, W. Gillard, *ApSS*, **252**, 3352 (2006)
19. “*First View of the All-Sky Distribution of Positronium Annihilation Continuum Emission with SPI/INTEGRAL*”, G. Weidenspointner et al., *Astronomy & Astrophysics*, **450**, 1013 (2006).
20. “*Microquasars as Sources of Positron Annihilation Radiation*”, N. Guessoum, P. Jean, and N. Prantzos, *Astronomy & Astrophysics, A&A*, **457**, 753 (2006).
21. “*Copernicus and Ibn Al-Shatir: does the Copernican revolution have Islamic roots?*”, N. Guessoum, *The Observatory*, Vol. 128, p. 231-239 (2008)
22. “*Evolution of the Time-Lag and Variability Luminosity Relations for Long Gamma-Ray Bursts*”, W. J. Azzam, M. J. Allothman, N. Guessoum, *Adv. Sp. Res.*, **44**, 1354 (2009).
23. “*The Determination of Islamic Fasting and Prayer Times at High-Latitude Locations: Historical review and New Astronomical Solutions*”, K. Meziane & N. Guessoum, *Archaeoastronomy, The Journal of Astronomy in culture*, Vol. XXII, pp. 96-111 (2009).
24. “*Positron Annihilation on PAHs in the ISM*”, N. Guessoum, W. Gillard, and P. Jean, *MNRAS*, **402**, 1171 (2010).
25. “*The 511 keV emission from positron annihilation in the Galaxy*”, Prantzos, N.; Boehm, C.; Bykov, A. M.; Diehl, R.; Ferrière, K.; Guessoum, N.; Jean, P.; Knoedlseder, J.; Marcowith, A.; Moskalenko, I. V.; Strong, A.; Weidenspointner, G., *Reviews of Modern Physics*, vol. 83, Iss. 3, pp. 1001-1056 (2011).

**International Conference Proceedings Papers:**

1. “*Nuclear Breakup Reactions and Gamma-Ray Lines in High-Temperature Plasmas*”, N. Guessoum, in Nuclear Spectroscopy of Astrophysical Sources, AIP vol. **170**, page 338 (1988)
2. “*Properties of Hydrogen/Helium Accretion Plasmas*”, N. Guessoum & C.D. Dermer, in Nuclear Spectroscopy of Astrophysical Sources, AIP vol. **170**, page 332 (1988).
3. “*The Excess Flux in the Submillimeter Background Radiation and the Primordial Deuterium Abundance*”, C. D. Dermer and N. Guessoum, in Proc. XXI International Cosmic Ray Conference, vol. **3**, 26 (1990).
4. “*Thermonuclear Breakup Reactions of Light Nuclei: Gamma-Ray Line and Neutron Production*”, N.Guessoum, in Proc. XXI International Cosmic Ray Conference, vol. **1**, 166 (1990).
5. “*Ion Acceleration by Alfv'en Turbulence in Solar Flares*”, J. M. Miller, R.Ramaty, & N. Guessoum, in Proc. XXI International Cosmic Ray Conference, vol. 5, 36 (1990).
6. “*Positron Annihilation Processes Update*”, N. Guessoum, J.G. Skibo, and R. Ramaty, in 2<sup>nd</sup> INTEGRAL Workshop "The Transparent Universe", eds. C. Winkler, T. J.-L. Courvoisier, and P. Durouchoux (ESA SP-382), 113 (1996)
7. “*Nuclear Gamma-Ray Lines and Lithium Production in Pure-Helium Accretion Disks*”, N.Guessoum, R. Ramaty, and B. Kozlovsky, in Proc. XXVth International Cosmic Ray Conference, vol. **3**, 145 (1997).
8. “*Positron Annihilation in the Orion Cloud*”, N. Guessoum, J. G. Skibo, and R. Ramaty, in Proc. XXVth International Cosmic Ray Conference, vol. **3**, 149 (1997).
9. “*Nuclear Reactions and Gamma-Ray Line Production in Accretion Disks*”, N. Guessoum, in Proc. First International Conference on Astronomy and Space Sciences (4-6 May 1998), eds. H.M.K. Al-Naimiy and R. Kandalyan, Al al-Bayt University Publ., vol. 66, pp. 149-172, 2000.
10. “*Study of Electron-Positron Annihilation in the Galaxy in the INTEGRAL era*”, N. Guessoum, in NATO Science Series, vol. 42, ed. G. Giacomelli, M. Spurio, J. E. Derkaoui, p. 297, 2001.
11. “*A Round Table on the Future of Particle Astrophysics*”, P. Lipari et al., in NATO Science Series, vol. 42, ed. G. Giacomelli et al., p. 335, 2001.
12. “*Can INTEGRAL Detect 0.511 MeV Radiation from Giant Molecular Clouds?*”, N. Guessoum et al., in Proc. Gamma2001 Astrophysics, ed. S. Ritz, N. Gehrels, C. R. Shrader, p. 16, 2001.
13. “*Can INTEGRAL Detect 2.223 MeV Radiation from X-Ray Binary Sources?*”, N. Guessoum et al., in Proc. Gamma2001 Astrophysics, ed. S. Ritz, N. Gehrels, C. R. Shrader, p. 86, 2001.
14. “*The Flux of the 2.22 MeV Gamma-Ray Line from Nearby X-Ray Binaries*”, P. Jean & N. Guessoum, in Proceedings of the XXXVIIth Rencontres de Moriond series; "The Gamma-ray Universe", Eds. A. Goldwurm, D. N. Neumann & J. Tran Thanh Van, p. 525, 2002.
15. “*Testing Positive Latitude Annihilation Models*”, P. von Ballmoos, N. Guessoum, P. Jean, in Proceedings of the XXXVIIth Rencontres de Moriond series; "The Gamma-ray Universe", Eds. A. Goldwurm, D. N. Neumann & J. Tran Thanh Van, p. 293, 2002.
16. “*Modeling the Early Annihilation Radiation Spectrum from INTEGRAL/SPI*”, N. Guessoum et al., in Proc. of 5<sup>th</sup> INTEGRAL International Workshop; "The Integral Universe", Eds. V. Schönfelder, G. Lichti, C. Winkler, ESA Publications, p. 57, 2004.

17. “*SPI Observations of Positron Annihilation Radiation from the 4<sup>th</sup> Galactic Quadrant: Spectroscopy*”, V. Lonjou et al., in Proc. of 5<sup>th</sup> INTEGRAL International Workshop; "The Integral Universe", Eds. V. Schönfelder, G. Lichti, C. Winkler, ESA Publications, p. 129, 2004.
18. “*SPI Observations of Positron Annihilation Radiation from the 4<sup>th</sup> Galactic Quadrant: Morphology*”, G. Weidenspointner et al., in Proc. of 5<sup>th</sup> INTEGRAL International Workshop; "The Integral Universe", Eds. V. Schönfelder, G. Lichti, C. Winkler, ESA Publications, p. 133, 2004.
19. “*Status of the 511 keV Line from the Galactic Center Region*” – P. Jean et al., in Proc. of 5<sup>th</sup> INTEGRAL International Workshop; "The Integral Universe", Eds. V. Schönfelder, G. Lichti, C. Winkler, ESA Publications, p. 51, 2004.
20. “*The first year of INTEGRAL/SPI: status of 511 keV positron annihilation line observations*”; Weidenspointner, G. et al.; SF2A-2004: Semaine de l'Astrophysique Francaise, Paris, France; Eds.: F. Combes, D. Barret, T. Contini, F. Meynadier and L. Pagani EdP-Sciences, Conference Series, p.98; 2004
21. “*Galactic Positron Annihilation Radiation as observed with INTEGRAL/SPI*”; Weidenspointner, G. et al.; American Astronomical Society, HEAD meeting #8, #28.03; 2004.
22. “*A Mystery of the Galactic Bulge: SPI Observations of Positron Annihilation*”; G. Weidenspointner et al., in SF2A-2005: Semaine de l'Astrophysique Francaise, Strasbourg, France, June 27 - July 1, 2005, edited by F. Casoli, T. Contini, J.M. Hameury and L. Pagani; EdP-Sciences, Conf. Series, 2005, p. 471
23. “*Ion acceleration and positron production and annihilation in solar flares*”, N. Guessoum, Proc. of IAU Symposium 233, vol. 2, eds. V. Bothmer & A. A. Hady, pp. 377-380, 2006.
24. “*Progress in Solving the Problem of the Crescent-based Islamic Calendar*”, N. Guessoum, Proc. of 1st Emirates (International) Astronomical Conference, eds. N. Guessoum & M. Odeh, pp. 77-86, 2007
25. “*Microquasars' contribution to the galactic positron annihilation radiation*”, N. Guessoum, P. Jean, N. Prantzos, Proc. of “The 6<sup>th</sup> INTEGRAL workshop – The Obscured Universe”, ESA & Space Research Institute, Moscow, Russia, 2007, pp. 57-64.
26. “*Positron annihilation radiation fluxes light curves and spectra from misaligned microquasars*”, P. Jean, N. Guessoum, N. Prantzos, Proc. of “The 6<sup>th</sup> INTEGRAL workshop – The Obscured Universe”, ESA & Space Research Institute, Moscow, Russia, 2007, pp. 51-56.
27. “*Positron production and propagation at the center of our galaxy*”, N. Guessoum, 37<sup>th</sup> COSPAR Scientific Assembly, 13-20 July 2008, Montréal, Canada., # E19-0015-08, p.1103 (paper given and abstract published)
28. “*Evolution of the Time-Lag and Variability Luminosity Relations for Long Gamma-Ray Bursts*”, W. Azzam, M. Alothman, N. Guessoum, 38<sup>th</sup> COSPAR Scientific Assembly, 18-25 July 2010, Bremen, Germany, # E18-0045-08, p. 151 (paper given and abstract published)
29. “*The missing host galaxies of (some) gamma-ray bursts*”, N. Guessoum, S. Al-Dallal, W. Azzam, 37<sup>th</sup> COSPAR Scientific Assembly, 13-20 July 2008, Montréal, Canada., # E18-0051-08, p. 1104 (paper given and abstract published)



30. “*Positron Annihilation Radiation from the Center of our Galaxy*”, N. Guessoum & P. Jean, Proc. of the MEARIM 2008 (1<sup>st</sup> Middle East - Africa Regional IAU Meeting), Cairo University Press, 2009, pp. 45-53.
31. “*The bi-zonal calendar and the definition of the Islamic month*”, to appear in Proc. of 2<sup>nd</sup> Emirates (International) Astronomical Conference, eds. N. Guessoum & M. Odeh, 2010.
32. “*New astronomical method for calculating prayer times everywhere*”, N. Guessoum, to appear in Proc. of 2<sup>nd</sup> Emirates (International) Astronomical Conference, eds. N. Guessoum & M. Odeh, 2010.
33. “*Does the Amati relation for GRBs depend on the host galaxies?*”, H. Hamidani and N. Guessoum, The Third Algerian Workshop on Astronomy and Astrophysics, Constantine, Algeria, June 2010, American Institute of Physics (AIP) Proceedings Series, vol. 1295, N. Mebarki & J. Mimouni (eds.), in press, 2010.
34. “*Gamma-Ray Bursts and Host Galaxies*”, N. Guessoum, W. J. Azzam, M. J. Alothman, and S. Al Dallal, The Third Algerian Workshop on Astronomy and Astrophysics, Constantine, Algeria, June 2010, American Institute of Physics (AIP) Proceedings Series, vol. 1295, N. Mebarki & J. Mimouni (eds.), in press, 2010.
35. “*Are there any physical differences between GRBs with and GRBs without host galaxies?*”, N. Guessoum, W. Azzam, M. Alothman, 38<sup>th</sup> COSPAR Scientific Assembly, 18-25 July 2010, Bremen, Germany, # E16-0046-10, p.4 (paper given and abstract published)
36. “*Extrinsic Scatter in the Time-Lag and Variability Relations for Gamma-Ray Bursts*”, W. Azzam, M. Alothman, N. Guessoum, 38<sup>th</sup> COSPAR Scientific Assembly, 18-25 July 2010, Bremen, Germany, # E16-0048-10, p.4 (paper given and abstract published)
37. “*Does the Amati relation for GRBs depend on the host galaxies?*”, N. Guessoum, H. Hamidani, W. Azzam, 38<sup>th</sup> COSPAR Scientific Assembly, 18-25 July 2010, Bremen, Germany, # E16-0049-10, p.4 (paper given and abstract published)
38. “*New moon on the horizon: An astronomer's guide to solving the start of Ramadan*”, *Nature Middle East* (online), Aug. 2010
39. “*Modeling the spatial and spectral distributions of the annihilation emission of positrons produced by <sup>26</sup>Al*”, Alexis, A.; Jean, P.; Martin, P.; Ferrière, K.; Guessoum, N.; von Ballmoos, P., Proc. 8<sup>th</sup> INTEGRAL Workshop “The Restless Gamma-ray Universe” (INTEGRAL 2010), Dublin, Ireland (Sept. 27-30, 2010).
40. “*How many clusters for GRBs, two or three?*”, W. J. Azzam, N. Guessoum, H. Hamidani, MEARIM II (2<sup>nd</sup> Middle-East and Africa Regional IAU Meeting), Cape Town, South Africa, 10 – 15 April 2011 (paper given and abstract published).
41. “*Can the Amati Relation be used as a discriminator between Short & Long GRBs*”, H. Hamidani, N. Guessoum, W. J. Azzam, MEARIM II (2<sup>nd</sup> Middle-East and Africa Regional IAU Meeting), Cape Town, South Africa, 10 – 15 April 2011 (in press).

#### Books:

- “*The Determination of Lunar Crescent Months and the Islamic Calendar*” (in Arabic), Dar al-Oumma, Algiers (Algeria), 1993; Dar al-Taliaa, Beirut (Lebanon), 1997

- “*The Story of the Universe*” (in Arabic), Dar al-Maarifa (Algeria): 1<sup>st</sup> edition 1998; 2<sup>nd</sup> edition 2002; 3<sup>rd</sup> edition 2007; 4<sup>th</sup> edition: Dar al-Multaqa (Lebanon), 2006.
- “*Applications of Astronomical Calculations to Islamic Issues*”, Proceedings of the First Emirates (International) Astronomical Conference, N. Guessoum & M. Odeh (editors), Center for Documentation and Research, Abu Dhabi, 2007
- “*Réconcilier l’Islam et la Science Moderne: l’esprit d’Averroès*”, Presses de la Renaissance, Paris, 2009
- “*Islam’s Quantum Question: Reconciling Muslim Tradition and Modern Science*”, IB Tauris, London, November 2010
- “*Astronomy for the Islamic Society*”, Proceedings of the second Emirates (International) Astronomical Conference, N. Guessoum & M. Odeh (editors), National Center for Documentation and Research (Abu Dhabi, UAE), 2011
- “*Kalam’s Necessary Engagement with Modern Science*”, N. Guessoum, KRM (Dubai, UAE), Feb. 2011

#### Non-Technical Publications:

##### ***Over 100 general science articles written:***

- about 60 in Arabic, many in highly-respected and/or refereed publications such as the *Arab Journal of Science* (Tunis), *Al-Majalla al-Falakiyya* (Italy), *Alam al-Fikr* (Kuwait), *Dirassat Arabiyya* (Lebanon), *Turjuman* (Morocco), *Al-Arabi* (Kuwait), *Al-Majalla*, etc.;
- about 20 in English, in magazines such as *eLearn Magazine* (ACM), *Mercury* (the publication of the Astronomical Society of the Pacific), *African Skies / Cieux Africains* (the publication of the Working Group on Space Sciences in Africa), *Algerian Scientist*; *The National*; etc.
- about 20 in French, in magazines such as *La Recherche* (the premiere science and research magazine in France) and others (e.g. *Etudes Orientales*, *PhiloScience*).

#### Other noteworthy activities:

- Member of the Board of Trustees, John Templeton Foundation: 2012 – present
- Member of the Board of Advisors, John Templeton Foundation: 2006-2008, 2010-2012
- Member of the Review Committee for the Templeton Prize: 2009, 2010
- Invited “University Lecture Series” at Cornell University, April 2009
- Invited Lectures at the University of Wisconsin at Madison, April 2009
- Interviews in international media outlets: BBC Arabic, BBC World Service, Al-Jazeera, Al-Hurra TV, Le Monde; Radio France International; France 2; France Culture; etc.
- Popularization of science through numerous lectures, newspaper articles, and TV and Radio interviews

#### Other Notable Articles (in reverse chronology):

- ❖ *“Does the Arab world (not) need basic science?”*, Nature Middle East, 8 April 2012; doi:10.1038/nmiddleeast.2012.52
- ❖ *“Religious Literalism and Science-related Issues in Contemporary Islam”*, Zygon, Vol. 45, Issue 4, pp. 817–840, Dec. 2010
- ❖ *“New moon on the horizon: An astronomer's guide to solving the start of Ramadan”*, Nature Middle East, 9 August 2010; doi:10.1038/nmiddleeast.2010.186
- ❖ *“Science, Religion, and the quest for Knowledge and Truth: an Islamic perspective”*, Cultural Studies of Science Education; 5:55-69, (2010)
- ❖ *“Progress on Solving the Islamic Calendar Problem”* (in Arabic), N. Guessoum, in “Beginning of Lunar Months and the Islamic Calendar”, proceedings of the first and second experts meeting held at ISESCO, Rabat, Morocco 2006 & 2008, pp. 56-69, 2010.
- ❖ *“E-Learning in the United Arab Emirates”*, M. Ati & N. Guessoum, in “Challenges facing e-learning and national development: Institutional Studies and Practices”, ed. U. Demiray, Anadolu Univ., ISBN 978-975-98590-9-1, pp.1009-1028 (2010)
- ❖ *“Scriptural Literalism and Issues of Science in Islam Today”*, Transdisciplinary Studies 2011-1, pp. 99-116, Proc. *Romanian International Congress on the Dialogue between Science and Spirituality in the Contemporary World*, October 18-20, 2009.
- ❖ *“T'jaz `Ilmiy : la ‘miraculosité scientifique’ du Coran”*, [Part 1](#) (Nov 13, 2008), [Part 2](#) (Nov 24, 2008).
- ❖ *“The Qur’an, science, and the (related) contemporary Muslim discourse”*, Zygon, Vol. 43, No. 2., June 2008, pp. 411-431.
- ❖ *“Un Kepler pour le calendrier islamique : Le problème du calendrier islamique et la solution Kepler”*, <http://oumma.com/Le-probleme-du-calendrier,2513>, Sept. 2007.
- ❖ *“Un Kepler pour le calendrier islamique : Vers une résolution du problème du calendrier islamique”*, <http://oumma.com/Le-probleme-du-calendrier>, Sept. 2007.
- ❖ *“Progress in Solving the Problem of the Crescent-based Islamic Calendar”*, [http://science-islam.net/article.php3?id\\_article=733&lang=en](http://science-islam.net/article.php3?id_article=733&lang=en), January 2007.
- ❖ *“Émergence : Le nouveau paradigme est-il doté d’une connotation philosophique ? Un commentaire du livre ‘A Different Universe’ de Robert B. Laughlin”*, PhiloScience, 2007.
- ❖ *“Online Learning in the Arab World”*, eLearn Magazine, Nov. 2006, <http://www.elearnmag.org/subpage.cfm?section=articles&article=40-1>
- ❖ *“L’Univers a-t-il été créé pour l’homme ? Les réponses de la science moderne et de l’Islam”*, <http://www.oumma.com/spip.php?article2146>, September 2006.
- ❖ *“Une histoire déformée de la Raison en Islam: Critique de ‘L’Islam et la Raison’ de Malek Chebel”*, <http://www.oumma.com/spip.php?article2102>, July 2006.
- ❖ *“Science and Religion in Dan Brown’s ‘Angels and Demons’,”* [http://www.science-islam.net/article.php3?id\\_article=632&lang=en](http://www.science-islam.net/article.php3?id_article=632&lang=en)
- ❖ *“A Century of Religion-Science-Philosophy Debates”*, Review of Larry Witham’s ‘The Measure of God’ (Harper San Francisco), 2005, [http://www.science-islam.net/article.php3?id\\_article=583&lang=en](http://www.science-islam.net/article.php3?id_article=583&lang=en)
- ❖ *“Emergence: Any philosophical overtones to the new scientific paradigm?”*, Review of Robert B. Laughlin’s ‘A Different Universe’ (Basic Books), 2005, [http://www.science-islam.net/article.php3?id\\_article=482&lang=en](http://www.science-islam.net/article.php3?id_article=482&lang=en)

- ❖ **“La cosmologie islamique peut-elle être moderne?”** (with K. Meziane), Etudes Orientales, vol. 23/24, 2005, p. 145.
- ❖ **“Fine-Tuning, Principe Anthropique et Multivers: Perspectives Islamiques sur une Question Controversée”**, Etudes Orientales, vol. 23/24, 2005, p. 126.
- ❖ **“North-South Mediterranean Bridge-Building in Astroparticle Physics and F. Dyson as a Role Model for Scientists”** (with J. Mimouni), African Skies / Cieux Africains, May 2005.
- ❖ **“The role and impact of American universities in the Arab world,”** paper presented at the Aga-Khan University Conference on *“Higher Education in Developing Countries: with a Focus on Muslim Contexts”*, London, 24–25 February 2005.
- ❖ **Review of John Gribbin’s “Science: A History, 1543-2001”** (Penguin Books), 2002, [http://www.science-islam.net/article.php3?id\\_article=371&lang=en](http://www.science-islam.net/article.php3?id_article=371&lang=en)
- ❖ **Review of Freeman Dyson’s “The Sun, the genome, and the Internet”** (in Arabic), Al-Arabi, January 2001
- ❖ **La Visibilité du Croissant Lunaire et le Ramadan**, Karim Meziane & Nidhal Guessoum, La Recherche, Jan. 1999, p.66-71. <http://www.larecherche.fr/data/316/03160661.html>
- ❖ **“The place of humans in the universe”**(in Arabic), Aalam al-Fikr (refereed), Sept. 1998
- ❖ **Review of John Horgan’s “The end of science”** (in Arabic), Al-Arabi, January 1998