



**SULEIMAN M BARAKA**  
AL –Aqsa University, Gaza,  
Gaza Strip, Palestine  
P.O. Box 4051  
UNESCO Chair (Chairholder)  
Astronomy, Astrophysics and Space Science  
Islamic University of Gaza 2011-2014

## **PERSONAL:**

**Name:** Suleiman M. Baraka  
**Birth:** May, 1<sup>st</sup>, 1965, Gaza, Palestine.  
**Area of Specialization:** Space Plasma Physics-Astrophysics  
**Nationality:** Palestinian  
**Martial Status:** Married  
**Children** 3 boys [Mohammad 16 yrs, Daoud 8 yrs, Idris 2 yrs],  
One girl [Waad 13 yrs]  
**Languages:** Fluent in English, Arabic, French and Hebrew.  
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## **HIGHLIGHTS OF QUALIFICATIONS**

- 2004-2007 **PhD** Astrophysics and Space Plasma physics ,  
Institut d’Astrophysique de Paris. Université Pierre et  
Marie Curie, Paris, France.
- 2000-2003 **MS** Theoretical Physics, Department of Physics, IUG,  
Gaza, Palestine
- 1997-1998 Grad. Diploma. Public Administration, Pennsylvania  
State University, Stage College, PA, ,USA
- 1995-1996 Certificate in Western Business Protocol, Derbyshire  
Chamber of Commerce, Chesterfield, United  
Kingdom.
- 1983-1987 **BS** Theoretical Physics, College of Science and  
Technology AlQuds University, Jerusalem, West  
Bank

## DISSERTATION AND THESIS TITLES:

1. **PhD Dissertation Title** « *Study the interaction between the Solar Wind and the Earth Magnetosphere: Theoretical Model and applications for the analysis of data of the Halloween event of October 2003* »
2. **Master Thesis Title** « *Study of the Onset of the Earth Magnetosphere under the Influence of the Solar Wind.*

## RESEARCH VISITS

- Feb 2012 Participation in 10<sup>th</sup> meeting of the Arab Union for Astronomy and Space Sciences, Muscat, Oman
- October 2011 Finalizing a publication at Institut d'Astrophysique de Paris, Paris, France
- July 2011 Institut d'Astrophysique de Paris, Paris, France
- November, 2010 Instituto de astrofisica de Andulocia , Granada, Spain
- November, 2010 PIC code comparison to MHD simulated by CCMC in determining the position of the Bow Shock. IAP, UPMC-CNRS, Paris, France.
- May-July, 2010 Experiments on Modifications of PIC codes in terms of grid cell sizes and number of particles. IAP, UPMC CNRS, Paris, France.
- Oct.2008-Oct.2009 Post Doctoral associate-Virginia Tech, VA affiliated with NIA- NASA , Hampton Virginia USA
- April-2009 Research Visit to IAP-UPMC-CNRS, Paris France
- September-2008 Research visit, Institut d'Astrophysique de Paris, Paris France
- April-2007 Introduction to Space Weather, Department of Astronomy, Cairo University, Cairo, Egypt.
- Jan-2007 Presentation of Solar Wind depression at Centre d'Etude Environnement Terrestres et Planétaires. Velizy, France
- Aug-2006 Research work at Space Research Center, Warsaw, Poland

- Nov-2005 Research work at Space Research Center, Warsaw, Poland
- Jan-2005 Presentation on space simulation and solar wind-Earth magnetosphere interaction, Université Pierre et Mar Curie, Paris, France
- Nov-Dec-2004 Presented a poster in the First European Meeting on Space Weather, ESTEC-Noordwijk, Holland
- July-2004 Presentation in space weather simulation-Ifrane, Morocco.
- May-2004 Research work at Space Research Center , Warsaw, Poland

### CONFERENCES AND SUMMER SCHOOLS

- January, 2012 Conference of the Deans of Scientific Research in Arab Universities, Al Aqsa University, Gaza, Palestine.
- December, 2011 AGU-Fall Meeting,2011, San Francisco, USA
- June, 2011 CEDAR-GEM 2011, Santa Fe, NM, USA
- November, 2010 PEACE conference, Barcelona , Spain
- November,2010 Euroarab association, Granada, Spain
- Sept.14-16,2009 Participation in THEMIS Scientific Working Group, Maryland, USA
- GEM 2009 participated at GEM 2009 with a poster and a talk about the ability of PIC EM code to simulate the Earth's bow shock.
- April 2007-Now Public outreach and public lectures (ppt presentations) to promote/teach astronomy in universities, colleges, and public institutions in Gaza, Palestine.
- May-Nov-2007 Several public lectures and power point presentations to promote Astronomy and Astrophysics in local universities, colleges and community institutions
- Nov., 2006 Workshop on magnetosphere physics, Centre d'Etude Spatiale des Rayonnements, Toulouse France
- May-2006 Presentation at American Geophysical Union-Joint Assembly, Baltimore, US
- Sept-2005 Work visit to Lunar Planetary Laboratory, University of Arizona, USA
- July-2004 Summer school in Astrophysics, Ifrane ,Morocco

## AWARDS RECEIVED

- 1995-1996 The Chevening Scholarship, Chesterfield, UK
- 1997-1998 Hubert Humphrey Fellowship, Penn State University, PA , USA
- 2004-2007 Scholarship of the government of France.
- 2011-2012 Joint Franco-Palestinian Research grant-20000 Euros
- 2011-2014 Project leader UNESCO chair of astronomy, Astrophysics and Space Sciences, Gaza, Palestine

## PROFESSIONAL MEMBERSHIPS

- Member of American Geophysical Union since 2005.
- Member of Arab Union for Astronomy and Space Sciences since 2007.
- Member of European Geosciences Union, 2011
- Chair-holder, UNESCO chair of Astronomy, Astrophysics, and Space Sciences

## PUBLICATIONS

Baraka, S., and L. Ben-Jaffel (2007), Sensitivity of the Earth's magnetosphere to solar wind activity: Three-dimensional macroparticle model, *J. Geophys. Res.*, *112*, A06212, doi:10.1029/2006JA011946.

Baraka, S., L. Ben Jaffel, Impact of Solar Wind Depression on the Dayside Magnetosphere under Northward Interplanetary Magnetic Field: *Ann. Geophys.*, *29*, 31–46, 2011, doi:10.5194/angeo-29-31-2011

Ben-Jaffel, L., S. Baraka, Earth Magnetosphere: Comparison between PIC and MHD 3D simulations, *Geophys. Res. Lett.*, in press

Baraka, S. , L. Jaffel(2011), Electromagnetic Relativistic Code simulation of the Earth bow shock, AGUFMSM231-2032

Baraka, S., L. Jaffel (2012), Shock Physics of the day side magnetosphere, proceedings - AUASS, Oman

## **ONGOING RESEARCH ACTIVITIES**

- a. Learning to run MHD codes (SWMF) and CCMC website to simulate the polar cap saturation potential
- b. Working on THEMIS data analysis using themis new updated software
- c. Working on atypical events inside the inner-magnetosphere during abrupt increase in Solar Wind dynamic pressure (compression of the magnetopause).
- d. Study of dynamic processes inside cusp of the Earth during disturbances in solar wind dynamic pressure.
- e. The dayside Magnetopause expansion/recovery and the analogy to Hot Flow Anomalies, analytical study
- f. Analytical study of the Earth Bow shock configuration during disturbed/undisturbed Solar Wind flow during a steady flow of Northern Interplanetary Magnetic Field

## **TEACHING**

Introduction to Astronomy and astrophysics, 3<sup>rd</sup> year undergraduate level, Physics Department , Al Aqsa University, Gaza, Palestine

## **EXTRACURRICULUM EXPERIENCE**

- 6 years experience in Public and International Relations.
- Conference management, protocol and conflict resolutions.

## **PERSONAL INTERESTS AND HOBBIES**

Soccer, Reading, Music, I am highly interested in alternative medicine using Energyinformatic Science. Inter-cultural bridging.