

# ACADEMICIAN

FELIX ALBERT AHARONIAN



## CURRICULUM VITAE

**Birth day/place:** May 23, 1952, Yerevan, Armenia (former USSR)

**Current Positions:** Professor of Astrophysics, Dublin Institute  
for Advanced Studies, Dublin, Ireland  
and  
Head of High-Energy Astrophysics Theory Group,  
Max-Planck-Institut für Kernphysik, Heidelberg, Germany

**Fields of Research:** High-Energy Astrophysics, Astroparticle Physics, Cosmology

**Education and Degrees:** 1975: Master (Moscow Engineering-Physics Institute)  
1979: PhD (Moscow Engineering-Physics Institute)  
1987: Doctor of Science (Yerevan Physics Institute)

**Involvement in major Projects:**

Member (representative of ESA) of the Science Working Group

of the JAXA-NASA X-ray mission ASTRO-H (*X-ray Astronomy*)

Member of the H.E.S.S. Collaboration Board (*gamma-ray astronomy*)

Member of the KM3NeT Consortium Board (*neutrino astronomy*)

Co-PI of the ROTSE network of optical telescopes (*GRB afterglows*)

### **Panels, Committees, Schools, ...**

Co-director of LEA - European Associated Laboratory on High-Energy Astrophysics  
jointly supported by CNRS (France) and MPG (Germany)

Member of the International Review Board of the Helmholtz Association on  
"Astroparticle Physics"

Member of the European ASTRONET Infrastructure Roadmap Panel A:  
"High-energy astrophysics, astro-particle physics and gravitational waves"

Adjunct Professor of the Intern. Center for Relativistic Astrophysics, Rome/Pescara

Member ("Supervisor") of the Heidelberg Graduate School of Fundamental Physics

Editor of the International Journal of Modern Physics D

### **Current PostDocs and Students**

- three *MPG* postdoctoral fellows (MPIK/Heidelberg)
- an *Alexander von Humboldt* postdoctoral fellow (MPIK/Heidelberg)
- three *Marie Curie* postdoctoral fellows (DIAS/Dublin and MPIK/Heidelberg)
- two *LEA* postdoctoral fellows (MPIK/Heidelberg)
- two *Schroedinger* postdoctoral fellows (DIAS, Dublin)

- an *IRCSET* postdoctoral fellow (DIAS, Dublin)
- one *PhD student* in Heidelberg and three *PhD students* in Dublin

**Lectures:**

*Introduction to Gamma Ray Astronomy*

(University College Dublin, Spring 2007)

*Radiation processes in High-Energy Astrophysics*

(Trinity College Dublin, Winter 2008)

*High-energy processes in relativistic Outflows,*

(La Plata University, Argentina, March 2008)

*High-Energy Phenomena on Galactic and Extragalactic Scales,*

(Nagoya University Winter School, Japan, February 2009)

*Astrophysics at Very High Energies*

(40th Saas-Fee advanced course, Grindelwald, Switzerland, March 2010)

**Publications:** more than 270 papers in peer review journals

(see <http://www.mpi-hd.mpg.de/astrophysik/HEA/1024.html>)

*Recent invited review articles:*

F.A. Aharonian, J. Buckley, T. Kifune, G. Sinnis “High-energy astrophysics with ground based gamma ray detectors”, *Reports on Progress in Physics*, 2008, **71**,096901

F.A. Aharonian, “Motivations and Objectives of VHE Gamma Ray Astronomy”, *Physics Reports*, to be submitted soon

F.A. Aharonian, W. Hofmann, S. Ritz “High-Energy Gamma-Ray Astronomy”, *Annual Review of Nuclear and Particle Science*, in preparation

*Recent articles for broad audience:*

F.A. Aharonian, "The Very-High-Energy Gamma Ray Sky", *Science*, 2007, **315**, 70

F.A. Aharonian, "High-Energy Astrophysics", *UNESCO Encyclopedia*, 2009

F.A. Aharonian and M. Chernyakova "Gamma Asronomiya" (in Russian)

*Zemlya i Vselennaya*, 2009, in press

**Books:**

F. A. Aharonian "Very-high-energy cosmic gamma radiation: a crucial window on the extreme Universe", River Edge, NJ: World Scientific Publishing (512pp), 2004

F. A. Aharonian and S.R. Kelner "Radiation Processes in High Energy Astrophysics", Oxford University Press, in preparation

F. A. Aharonian "Very-high-energy cosmic gamma radiation: a crucial window on the extreme Universe", World Scientific Publishing, second edition, in preparation

**Conference Proceedings:**

H.J. Völk and F.A. Aharonian (editors): "TeV Gamma Ray Astrophysics",  
Kluwer, Academic Publishers, Dordrecht, 1996

F.A. Aharonian and H.J. Völk (editors): "High-Energy Gamma-Ray Astronomy-1",  
AIP Conf. Proc., vol. 559, Melville, New York, 2001.

F.A. Aharonian, H.J. Völk, D. Horns (editors): "High-Energy Gamma Ray Astronomy-2",  
AIP Conf. Proc., vol. 745, Melville, New York, 2005.

F.A. Aharonian, F. Rieger, J.M. Paredes, G. Romero (editors): "High-Energy Phenomena in Relativistic Outflows", *International Journal of Modern Physics*,  
World Scientific, vol. 17 (no 9&10), 2008

F.A. Aharonian, W. Hofmann, F. Rieger (editors): "High-Energy Gamma Ray Astronomy-3",  
AIP Conf. Proc., vol. 1085, Melville, New York, 2009

E. Resconi, F.A. Aharonian (editors): "High-Energy Neutrinos from Extragalactic  
sources", International Journal of Modern Physics, in preparation

### **Organization of International Workshops, Symposia, Conferences (2006-2009)**

2006: Convener of three sessions on "Astroparticle Physics", "Gamma Ray  
Astronomy" and "Neutrino Astronomy" during the XXIII Symposium on  
Relativistic Astrophysics, Melbourne, Australia, December 2006

2007: Chair of SOC of the International workshop High-Energy Phenomena in  
Relativistic Outflows", Dublin, September 2007

2008: Co-Chair of OC of the International workshop on Nonthermal hadronic  
processes in Galactic Sources", Heidelberg, January 2008

Chair of SOC of the 4th International Symposium on High-Energy Gamma Ray  
Astronomy, Heidelberg, July, 2008

2009: Co-Chair of OC of the International workshop on High-Energy Gamma Rays  
and Neutrinos from Extragalactic sources, Heidelberg, January 2009

Convener of the session on Gamma Ray Astronomy" during the 12th Marcel  
Grossmann Meeting on Relativistic Astrophysics, Paris, France, July 2009

### **Member of Scientific Organizing Committees (SOC) of scientific meetings:**

*The variable gamma-ray sources: their identifications and counterparts* (Elba Island,

Italy, June 2006); *Challenges of Relativistic Jets* (Cracow, Poland, June 2006); ***The Multi-Messenger Approach to High-Energy Gamma-Ray Sources*** (Barcelona, Spain, July 2006); ***The light of the dark: solving the mysteries of the Universe*** (Villa Mondragone, Frascati, Italy, June 2007); ***RICAP'07: Roma International Conference on Astro-Particle physics*** (Roma, Italy, June 2007); ***High-Energy Astrophysics: the keV-TeV connections***, JENAM 2007 Symposium No. 4 (Yerevan, Armenia, August 2007); ***TeV Particle Astrophysics III*** (Venice, Italy, August 2007); ***Non-Thermal Hadronic Processes in Galactic Sources*** (Heidelberg, January 2008); ***High-Energy Acceleration Processes in Supernova Remnants, PWNe, MicroBlazars and Binaries: the keV to TeV Connection and Astrophysical Studies of Neutron Stars from Multi-wavelength Observations*** (both symposia as part of the 37th COSPAR Scientific Assembly, Montreal, Canada, July 2008); ***TeV Particle Astrophysics IV*** (Beijing, China, September 2008), ***Science with the New Generation of High-Energy Gamma Ray Experiments*** (Padova, Italy, September 2008); ***Thirty Years of Magnetars: New Frontiers*** (Aspen, USA, February 2009); ***International Conference in honor of Ya. B. Zeldovich 95th anniversary*** (Minsk, Belarus, April 2009); ***RICAP'09: Roma International Conference on Astroparticle Physics*** (Villa Mondragone, Frascati, Italy, May 2009); ***Testing Astroparticle with New GeV/TeV observations*** (Paris, France, May 2009); ***High-Energy Phenomena in Relativistic Outflows II*** (Buenos Aires, Argentina, October 2009)