

Chios, May 2020

**CURRICULUM VITAE**  
**IOANNIS GKIALAS (or GIALAS )**

PROFESSOR  
DEPARTMENT OF FINANCE AND MANAGEMENT ENGINEERING  
UNIVERSITY OF THE AEGEAN

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CONTACT INFORMATION

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STUDIES

Ptychion in Physics	National Univ of Athens	1978-1983
Master of Science in Physics	Univ. of Michigan, Ann Arbor	1983-1985
Ph.D. in experimental High Energy Physics	Univ. of Michigan, Ann Arbor	1985-1990

JOB PLACEMENTS

Columbia University	Associate Research Scientist	1989-1994
Univ of Hamburg / Univ of Bologna	Researcher	1994-1996
Hellenic Armed Forces		1996-1997
Univ o Crete – Physics Dpt	Teaching Staff (PD407)	1997-2000
Univ of the Aegean, FME	Teaching Staff (PD407)	2000-2002
Hellenic Open Univ.	Teaching staff	2000-2016
Univ of the Aegean, FME	Assoc. Professor	2002-2007
Univ of the Aegean, FME	Professor	2007-Present

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**IOANNIS GKIALAS, PhD THESIS**

Measurements of  $A$  and  $A(nn)$  in proton proton elastic scattering at 18.5-  
GeV/c, Ioannis Gialas (1990, PhD Thesis)

## **POSITIONS OF RESPONSIBILITY**

- **Chairman of the Hellenic Society for the Study of High Energy Physics (2018-present)**
- **Member of the General Assembly of ELIDEK (Hellenic Institute of Research and Innovation), 2017-present.**
- **National Representative to European Joint Research Laboratory 2011.**
- **Chairman of the FME Department 2010-2012.**
- **Member of the National Council on Research and Technology (ESET), 2009-2011.**
- **Vice-Rector of Student and External Affairs at Aegean University 2006-2010.**
  
- Following the University Senate's decision, chairman of the Informatics Committee of Aegean University (2005-2010)
- Member of various committees within the Department of Finance and Management Engineering (FME).
- Representative of associate professors in the Senate
- Responsible person of the Applied Physical and Computational Sciences Lab (APCSL), founded in 2005.
- Organization of the FME teaching physics lab, which works since the spring semester 2001. The design, supply of instruments and organization of the APCSL were accomplished starting from zero.
- Representative of the FME in the research committee of Aegean University(2003-2004)
- Responsible for the organization of the research lab for calibration of the ZEUS calorimeter at Fermilab.
- Physicist in charge of the E790 experiment at Fermilab.
- Physicist in charge of the data quality monitoring of the particle detector of the ZEUS calorimeter.

## **RECENT RESEARCH (2012-2020)**

In recent years my research effort is mainly directed towards ATLAS physics and instrumentation. In parallel we have pursued a small experiment

Since 2014 I have been involved in development work on MicroMegas detectors for the New Small Wheel in the ATLAS muon spectrometer to be installed in the 2019-2020 shutdown. In 2012 and 2013, I worked in the study of Cathode Strip Chambers in the Muon System, in particular, general performance of the chambers as well as the particular problem of cross talk between strips. Since then, I have been working on building pilot MicroMegas chambers, electrical connector (zebra) studies, readout electronics testing, detector and electronics radiation hardness testing in Demokritos NCSR and testing of full size MicroMegas counters at CERN. I have developed High Voltage control software based on the WinCC to be used in MicroMegas chamber testing. In physics I have been involved in supersymmetry search which led to a Ph.D. in 2015 by Dr. Athena Charalambidis-Kourkoumeli. During my sabbatical in 2019-2020, I have worked on New Small Wheel Integration involving MicroMegas and small Thin Gap Chamber detectors. (unfortunately interrupted abruptly because of the coronavirus epidemic).

The collaboration of the U of Aegean and Hellenic Open U physics groups have led to the development of a hybrid system of particle scintillator and electromagnetic radiation detectors. The undertaken study focuses on cosmic ray detection based on the emittance of electromagnetic radiation. This work led to the presentation of a Ph.D thesis by my student Ioannis Manthos in 2016 as well as to 8 publications.

## JOURNAL PUBLICATIONS

The results of my research work have been presented in **910** journal publications, and in 21 proceedings (INSPIRE, High Energy Physics Information System). Up to 2012 my surname is spelled “GIALAS” while since 2013 as “GKIALAS”. More specifically my publications concern

- 230 publications from the ZEUS experiment
- 660 publications from the ATLAS experiment (2013-2020)
- I also participated in smaller experiments where I have published 20 journal papers.

**CITATIONS (excluding self-citations)** (INSPIRE HEP database and Scopus)

### 1990-2014 (Ioannis Gialas)

	INSPIRE- HEP	SCOPUS*
<b>PUBLISHED PAPERS</b>	248	244
<b>Total number of citations (excluding self citations):</b>	14960	6741
$h_{\text{HEP}}$ index [2]	65	45

### 2015-present (Ioannis Gialas)

	INSPIRE-HEP	SCOPUS*
<b>PUBLISHED PAPERS</b>		
<b>Total number of citations (excluding self citations):</b>		922
$h_{\text{HEP}}$ index [2]		45

### 1990-2014 (Ioannis Gkialas)

	INSPIRE- HEP	SCOPUS*
<b>PUBLISHED PAPERS</b>	134	103
<b>Total number of citations (excluding self citations)</b>	12532	627
$h_{\text{HEP}}$ index [2]	65	56

### 2015-present (Ioannis Gkialas)

	INSPIRE-HEP	SCOPUS*
<b>PUBLISHED PAPERS</b>	544	554
<b>Total number of citations (excluding self citations):</b>	23762	13258
$h_{\text{HEP}}$ index [2]	77	56

\*The results from SCOPE exclude self-citations of ALL authors. The INSPIRE results exclude self-citations of the single author

## Ph.D THESES

- Supervision of doctoral student **Kostas Theodosiou** with thesis subject «**Aging and breakdown of insulating solid materials under the influence of high tension field**». The thesis was completed and defended on May 12, 2006.
- Supervision of doctoral student **Ioannis Manthos** on astroparticle physics with thesis subject "**Detection and study of extended atmospheric showers using innovative detectors and algorithms**". The thesis was completed and defended on November 30, 2016.
- Member of the 3-member advisory committee in **ATHINA KOURKOU MELI-CHARALAMPIDIS** Ph.D thesis (FME – Completed in 2015) «Search for Supersymmetry through the 3-lepton and large missing transverse momentum process with the ATLAS detector at CERN».
- Main advisor in **KONSTANTINOS MORAITAKIS** Ph.D. work (FME – in Progress)
- Main advisor in **LEONIDAS FOUNTAS** Ph.D. work (FME – in Progress)
- Member of the 3-member advisory committee in **STAVROS NONIS'** Ph.D thesis (FME, in progress)
- Member of the 3-member advisory committee in **PANAGIOTIS PAPPAS-VATHIAS** Ph.D thesis (FME, in progress)
- Member of the 3-member advisory committee in **ELENI SMETI** Ph.D thesis (FME, 2010)
- Member of the 3-member advisory committee in **ALEXANDROS TZANETOS** Ph.D thesis (FME, 2019). «Νοήμονες Υπολογιστικές Μέθοδοι Εμπνευσμένες από τον Φυσικό Κόσμο για την Βελτιστοποίηση Συστημάτων.
- Member of Dr. **GEORGE ZACHARIS** 7-member committee. Ph.D. title: “SEARCH OF SECOND GENERATION LEPTOQUARK PARTICLES IN ATLAS/LHC EXPERIMENT”. It was presented November 26, 2018. (National Technical University of Athens)
- Member of Dr. **AIMILIANOS KOULOURIS** 7-member Committee. Ph. D title “Performance characterization of the NSW Micromegas detector, services design and development of the Slow Control Adapter for the ATLAS upgrade”. It was presented May 13, 2019. (National Technical University of Athens)

## BOOKS

**Introduction to Electromagnetism**, Ioannis Gkialas, Hellenic Open Univ. editions, 2003.

## CONFERENCE ORGANIZATION

- Two-day workshop on «**The role of Finance and Management Engineering in a modern economy**». Chios, June 30 and July 1, 2001.
- Annual Conference of the Hellenic Society for the Study of High Energy Physics. Chios, April 1 to 4, 2004, “**Recent advances in particle and Astroparticle Physics**”.
- Workshop on «**The Curriculum of the department of Finance and Management Engineers**» Chios, May 2003.
- Conference on development of remote agricultural regions, ‘**Ruralearn: Rural Learning for Development in Europe**’, Chios, June 24-28, 2007
- ZEUS group meeting, Chios, September 1 to 5, 2007.
- Science and Technology at CERN – The Greek experience and the University of the Aegean, Chios, April 12 and 13, 2011.
- CERN Summer School on Accelerator Physics, Chios, September 18-20, 2011
- Annual Conference of the Hellenic Society for the Study of High Energy Physics. Chios, April 25 to 28, 2013, “**Recent advances in particle and Astroparticle Physics**”.

- **ATLAS Muon Week**, Chios, September 26-30, 2016, <http://cern2016.aegean.gr>

## **EDUCATION**

- Undergraduate teaching experience at the physics department of University of Michigan (1983-1985) and University of Crete(1997-2000), the general department of Technological Institute of Athens (1998-2001) and Aegean University (from 2000). Teaching of « Statistical Data Analysis» at a graduate program jointly organized by Democritos National Research Institute and the NTUA.
- Supervision of classes at the Hellenic Open University in the study program of «Studies in Physical Sciences» in the courses «Classical Physics I» and «Introduction to Physical Sciences» (2000- 2016).
- Supervision of several undergraduate degree projects (about 20).
- Cosmic Ray array consisting of 12 scintillator particle detectors on top of Chios school buildings “HELYCON” for involvement of both undergraduate and high school students (2006-2012)
- LOFAR-like non-ionizing electromagnetic radiation detection system for the study of the electromagnetic environment and the study of cosmic rays. The system can be used for production of undergraduate theses. Also used a CODALEMA antenna array for the study of cosmic rays which will also be used for educational purposes.
- A solar and wind energy production system consisting of photovoltaic panels of various kinds, wind generator, associated monitoring and control instrumentation, etc., to be used for the production of undergraduate theses and demonstration experiments.
- Two week Teaching of undergraduate and graduate courses on High Energy Physics, Detectors, Accelerators, at the university of Kobe, Japan, (ERASMUS+, June 2016).

## **OUTREACH**

- Presentation of CERN and High Energy Physics in secondary education students either by physical presence or remotely from CERN.
- “The University of the Aegean goes to CERN: Limitless Education” (An event organized in Chios by MBA). Presentation title: “The great experiments of modern Physics: From the hunt of scientific knowledge today to the everyday technology of tomorrow”, Chios, 16th November 2016.
- “The Higgs Boson: The idea and the discover. Talk delivered in front of the Physicists teaching in secondary education schools of Chios, 17th March 2017.
- “From today’s Basic Research to tomorrow’s Technology” or “ The quest for the infinitely small at CERN but why do we care?”, Homerion Cultural Center of Chios, March 15, 2019.

## SCHOLARSHIPS, COMPETITIVE GRANTS

- IKY 1981-1982 Achievement Award
- CERN 1982 Summer Student
- Project Director of NATO Linkage grant with reference number CRG LG 974298 and title «Development of part of the slow control system for the micro vertex detector in ZEUS». Collaboration with the Hamburg University and the University of Moscow (MSU). Duration of grant is two years, 1999 and 2000 (\$20000).
- Financial support for trips to DESY for 1998 and 2003 from the Deutsche **Akademische Austausch Dienst (DAAD)** (9000DEM).
- Covering of the operational expenses at the ZEUS experiment from Bologna University until 1997 and from DESY for the year of 1998-1999 (10000DEM/year). DESY grants for visits for the same time period (15000DEM).
- Participation of Aegean University's Research Committee in the ZEUS experiment (2002-2004). Participation of FME (2005-2006).
- Academic coordinator in project funded by the PYTHAGORAS program of the Ministry of Education with title «Study of silicon particle detector/ Study of proton-electron reaction» May 2004- August 2006 (extended until end of 2007). Budget: 80000 €.
- Scientific coordinator of a ENTEP2004 program titled «Development of socio-economy quantity and modeling of social and environmental impact» (June 2006 - August 2008). Budget: 78000
- RURALEARN Program for the study of the development of remote agricultural regions. Partner (September 2006 – August 2007). APCSL Budget: 32000 €
- Scientific coordinator of INTERREG GREECE-CYPRUS program titled «Particle detection, monitoring and study of the characteristics of the non-ionizing electromagnetic radiation impact on the environment. » (September 2006 - August 2008). Budget: 250000€
- HERACLITOS II program: Funding of a doctoral student, 2012-2014. (National Funding)
- FP7 program: “Innovative Smart Composite Moulds for Cost-Effective Manufacturing of Plastic and Composite Components”, “COEUS-TITAN”, 2012-2014. (National Funding)
- THALIS program: “ASTRONEU” Development and Applications of Novel Instrumentation and Experimental Methods in Astroparticle Physics, 2012-2015
- THALIS program: “DIBOSON” Searches for New Physics at Tevatron, LHC and beyond, 2012-2015. (National Funding)
- Government funding for the upgrade of research laboratories (Regional North Aegean PEP, 200000€, 2010-2014). This funding is being used for the purchase of readout electronics, rf-readout system, and a full solar and energy production system. (National Funding)
- Corresponding Associateship, CERN, July-September 2014
- Corresponding Associateship, CERN, July-August 2015
- “Innovative Smart Composite Moulds for Cost-Effective Manufacturing of Plastic and Composite Components”, “COEUS-TITAN”, matching funds 2016-2017. (National Funding)
- Corresponding Associateship, CERN, September – December 2019.