

CURRICULUM VITAE

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POSITION: Professor of Physics, University of Ioannina, Greece.

BIRTH: January 14, 1958

NATIONALITY: GREEK

EDUCATION:

- Ph.D.** Physics, Columbia University, New York, 1989.
Thesis: Neutrino Production of Opposite Sign Dimuon Events at the FNAL Tevatron. Advisor: Prof. M. Shaevitz
- M.Phil.** Physics Columbia University, New York, 1986.
- M.A.** Physics Columbia University, New York, 1984.
- Diploma** Physics University of Ioannina Greece, 1981.

EMPLOYMENT:

- 2009- **Professor of Physics - Head of HEP Group at the Univ. of Ioannina.**
- 2000-2010: **Reader in HEP**, Imperial College London (tenured - June 2001).
- 1991-2000: **Assistant Scientist (staff)**, Physics Department, University of Wisconsin.
- 1989-1991: **Research Associate**, Physics Department, University of Wisconsin.
- 1984-1989: **Graduate Research Assistant**, Nevis Laboratory, Columbia University.
- 1982-1984: **Teaching Assistant**, Columbia University.
- 1981-1982: **Teaching Assistant**, Hunter College, CUNY.

PHYSICS:

- **Jet Cross Sections at the LHC**
- **Searches for Fundamental Interactions at the LHC**
- **Jet Physics and pQCD in ep and γp deep Inelastic Scattering**
- **Neutrino-Nucleon Deep Inelastic Scattering**

TEACHING:

2017-	Electricity , Physics, first year, University of Ioannina, Greece
2015-	Microcontrollers , Physics, Master, University of Ioannina, Greece
2014-2015:	Introduction to VHDL , Physics, Master, University of Ioannina, Greece
2012- 2016:	Modern Physics II , 2nd year, University of Ioannina, Greece.
2010-	Standard Model , 1 st year PhD, University of Ioannina, Greece.
2010-	Digital Electronics , Physics, Master, University of Ioannina, Greece.
2010-2013:	Modern Physics I , Physics, 2 nd year, University of Ioannina, Greece.
2010-2014:	Optics Lab , Physics, 2nd year, University of Ioannina, Greece
2006-2007:	Advanced Particle Physics , MSci, 4 th year, Imperial College, London.
2002-2005:	Standard Model , 1 st year PhD, Imperial College, London.
2001-2006:	Microprocessors and Electronics , 3 ^d year, Imperial College, London.
2002-2009:	21 MSci Theses Students , Imperial College, London (21 complete).
2001-2009:	Physics Tutorials at Imperial College, London.
1985-1987:	Physics Labs , Columbia University, New York.
1983-1984:	Physics and Mathematics , Fordham University, New York.
1982-1984:	Physics Labs , Columbia University, New York.
1981-1982:	Physics Labs , Hunter College, CUNY, New York.

PhD STUDENTS:

2002-Present: Supervision of **9 PhD students** at Imperial College and Ioannina:

- 1) **Maiko Takahashi-Imperial College:** *CMS Potential for discovering the Higgs Boson Produced in Vector Boson Fusion and Decaying via $H^0 \rightarrow \tau^+ \tau^- \rightarrow e + jet$, (completed).*
- 2) **Stefanos Dris-Imperial College:** *Performance of the CMS Tracker Optical Links and Future Upgrade Using Bandwidth Efficient Digital Modulation, Common Supervision with Dr. J. Troska, CERN. (completed).*
- 3) **Andrew Rose-Imperial College:** *The Level-1 Trigger of the CMS Experiment at the LHC and the SuperLHC (completed).*
- 4) **Jad Marrouche-Imperial College:** *A study of $W + Jet$ -Production at the LHC using the CMS Jet and Missing Transverse Energy Triggers (completed).*
- 5) **Anastasios Papageorgiou-Imperial College:** *Applications of Jet Trigger Algorithms in discovering the Higgs Boson from the decay, $H^0 \rightarrow \tau^+ \tau^- \rightarrow e + jet$, (completed).*
- 6) **Dimitris Kolotouros-Ioannina:** *Development of a new TTC system for LHC experiments, common supervision with Dr. Sophie Baron, CERN. (writing).*
- 7) **Dimitrios Tsitsonis-Ioannina:** *Inclusive jet cross-sections at 13 TeV centre of mass energy with CMS at the LHC (MS, to continue for a PhD).*

- 8) **Maria Prapa-Ioannina:** *A Jet finder using boosted decision tree algorithm* and a Xilinx Virtex-7 FPGA (**MS, to continue for a PhD**).
- 9) **Panagiotis Katsoulis:** **MS Student to continue for a PhD.**

1995-1999: Guidance of thesis work of **10 PhD Students** (completed at DESY).

1990-1994: Guidance for four University of Wisconsin PhD Students working on the ZEUS Calorimeter Trigger.

ELECTRONICS:

CMS:

- 2016-2012-2016: Development of the **Barrel Muon Trigger** (CMS Phase-II Upgrades).
- 2012-2016: Development of the Upgraded **Barrel Muon Track Finder** using Virtex-7 FPGAs and 10 GBps optical links.
- 2007- 2010: Development of a generic trigger system for CMS at LHC and SLHC based on **uTCA technology**, Xilinx-V5 FPGAs and 3.2 GBps optical links.
- 2005–2010: Design and implementation of the **CMS Global Calorimeter Trigger (GCT)** using Xilinx Virtex-II-Pro FPGAs and 1.2 Gbps optical links. Responsible for the GCT project.
- 2003- 2008: R&D towards a **First Level Tracking Trigger** for CMS at Super-LHC.
- 2004–2005: Design of testing and zero suppression algorithms for the **CMS Silicon Tracker Front End Driver (FED)**.
- 2003-2004: Testing and integration of the **CMS Tracker FED S-LINK64** Interface.
- 2002-2003: Design of a prototype **FED Tester Card** for testing the CMS FEDs.
- 2000-2003: Member of the **CMS Tracker FED Design** team.
- 2001-2002: Participation in the design of the **CMS APV25 Emulator** Trigger Card.

ZEUS:

- 1991-1993: Design of **Fast Trigger Electronics** using ECL and biCMOS devices for **ZEUS** at HERA.
- 1992-1994: Responsible for **Testing and Commissioning** of the Trigger electronics for the **ZEUS** Experiment at HERA.
- 1989-1991: Design of several 9U **VME Cards** for **Trigger Card test set-ups**.

CCFR:

- 1984-1987: Responsible for testing and Commissioning of the **FADC Data Acquisition Electronics** for the **CCFR** experiment at FNAL.

PROFESSIONAL POSITIONS:

- 2014-2016: **CMS Trigger Project Manager**
- 2014-2016: **Member of the CMS Management Board**
- 2014-2016: **Member of the CMS Executive Board**
- 2007-2011: **Leading the CMS Trigger Upgrade Programme (SLHC)**
- 2007-2011: **Member of the CMS Upgrades Management Board**
- 2006-2010: **CMS Global Calorimeter Trigger Project Manager**
- 2005-2009: **Member of the CMS Tracker Institution Board**
- 2003-2009: **Member of the UK CMS steering committee**
- 2001-2005: **Head CMS Internal referee for Trigger and DAQ**
- 1995-1998: **Convener of the ZEUS Jets and High E_T Phenomena Physics Group**
- 1991-1995: **ZEUS Calorimeter First Level Trigger Coordinator**

COMMITTEES :

- 2016 - **Delegate of Greece to the CERN council.**
- 2013- **Representing Greece at the Resource Review Board (RRB) at CERN.**
- 2013- **Member of the CERN-Greece Working Group.**
- 2012- **Representing Greece at the ECFA (European Committee for Future Accelerators).**
- 2012- **Member of the Greek Committee for CERN.**
- 2017- **Member of the Scientific Advisory Panel to the region of Epirus, Greece.**
- 2015- **Organising Committee of the Common ATLAS and CMS Electronics Workshop (ACES).**
- 2016-2017 **Member of the CMS Track Trigger Panel.**
- 2012- **Member of the CMS Finance Subcommittee for Upgrades.**
- 2012-2013: **Heading the CMS Cost-Book Review Panel for Pixel, HCAL and CSC detector upgrades.**
- 2012-2013: **Member of the CMS Pub. Subcommittee for Standard Model Physics.**
- 2010 - **Representing Ioannina at the CMS Trigger Institution Board.**
- 2010- **Representing CMS-Greece in the CMS Finance Board.**
- 2010- **Representing Ioannina at the CMS Collaboration Board.**
- 2010: **Member of US CMS HCAL-RCT Review Panel.**
- 2010: **Neutrino 2010 organising Committee.**
- 2010-2009: **ATLAS-UK Detector Upgrades Review Panel (PPRP).**
- 2004-2007: **Particle Physics Grants Panel (PPGP).** PPGP reviews the Particle Physics Grants (Rolling Grants) for the various departments in the UK.
- 2001-2007: **Particle Physics Advisory Committee (PPUAC).** PPUAC advises. PPARC on particle physics resource as well as laboratory user issues.
- 2002-2003: **Member of the CMS Global Calorimeter Trigger Review Panel.**
- 2003: **Member of the CMS Resistive Plate Chamber Trigger Review Panel.**
- 2002-2003: **Member of the CMS Global Trigger Review Panel.**

RESEARCH GRANTS:

- 2004-2008: CMS Imperial College e-Science grant.
2006-2008: UK CMS GCT grant.
2008: UK CMS Trigger SLHC grant
2012-2015: Thalys grant with Profs. P. Sphicas (Univ. of Athens) and G. Tsipolitis (National Technical University of Athens).
2012-2015: Aristia grant with Prof. P. Sphicas (Univ. of Athens).
2017- Principal Investigator of the DeTAnet, Research Infrastructure

CONFERENCE TALKS:

CMS:

1. **The CMS L1 Trigger for LHC RUN-II**, TWEPP 2017, Santa Cruz, USA, September 2017.
2. **The CMS L1 Trigger for RUN-II**, ICHEP 2015, Vienna, Austria, July 2015.
3. **CMS Trigger Upgrades**, ICHEP 2013, Stockholm, Sweden, July 2013.
4. **CMS Trigger Upgrades**, ACES Workshop, CERN, March 2011.
5. **Trigger Studies using Calorimeter Muon and Tracking Triggers**, ACES Workshop, CERN, March 2009.
6. **The CMS Trigger at the LHC and the SuperLHC**. ICHEP08, Philadelphia, Pennsylvania, Aug. 2008.
7. **First Results on the Performance of the CMS Global Calorimeter Trigger**, TWEPP 2007, Prague, September 2007.
8. **Overview of the LHC Triggers and Plans for the LHC Startup**, LHC-Forum, Coseners House, Apr. 2007.
9. **Overview of the CMS Trigger and Plans for LHC Startup**, HEP 2007, Athens, Mar. 2007.
10. **Results from Studies for a Tracking Trigger for CMS at SLHC**, SLHC Workshop, CERN, Mar. 2007.
11. **LHC Startup - Trigger commissioning**, UK Institute of Physics Workshop on LHC Startup, London, Oct. 2006.
12. **Triggering at LHC and SLHC**, HEP 2006, Ioannina, Apr. 2006.
13. **The CMS Silicon Tracker Readout System**, Nuclear Science Symposium, Rome, Oct. 04.

ZEUS:

14. **Jet Production at High Transverse Energies at HERA**, Deep Inelastic Scattering 2002, DIS2002, Krakow, Apr. 2002.
15. **Jet Physics at HERA**, 2001 Meeting of the Hellenic Society for High Energy Physics, HEP2002, Heraklion, Greece 2001.
16. **Photon Structure, Review talk**, International Conference on Hadron Structure, Hadron Structure 2000, Stara Lesna, Slovakia 2-8 Oct. 2000.
17. **Photon Structure at HERA, Review talk**, at the XIV International Workshop on High Energy Physics and Quantum Field Theory (QFTHEP 99), Moscow 27 May - 2 June 1999.

18. **QCD in the Photon Structure at HERA, Rapporteur talk** at QCD98, Montpellier, France, July 1998.
19. **Probing the Photon Structure via Di-Jet Production with ZEUS at HERA.** Low-x workshop. Berlin-Zeuthen, Germany, June 1998.
20. **Deep Inelastic ep Scattering at HERA, Review talk,** Electromagnetic Interactions with Nucleons and Nuclei, Santorini, Greece, October 1997.
21. **Jet Physics with ZEUS at HERA,** 1997 Meeting of the Hellenic Society for High Energy Physics, Heraklion, Greece, April 1997.
22. **Jet Physics at HERA, Review talk,** Meeting of the Division of Particles and Fields of the American Physical Society, Indianapolis, Indiana. USA, 1997.
23. **Direct and Resolved Photoproduction at HERA with Virtual and Real Photons,** Deep Inelastic Scattering and Related Phenomena, Rome, Italy, 1996.
24. **The Zeus Detector Calorimeter First Level Trigger,** Computing in High Energy Physics, San Fransisco, USA, April 1994.
25. **The ZEUS Detector Calorimeter First Level Trigger,** 1991 IEEE Nuclear Science Symposium, Santa Fe, New Mexico, USA, 1991.

CCFR:

26. **Neutrino Production of Opposite Sign Dimuons at Tevatron Energies,** 1990 Meeting of the Division of Particles and Fields of the American Physical Society, Dallas, USA, 1990.
27. **Neutrino Production of Charm Quarks,** Banf Summer School, Banf, Canada, Aug. 1988.
28. **Opposite Sign Dimuon Production at the FNAL Tevatron,** Meeting of the American Physical Society, Baltimore, USA, April 1988.