PROCEEDINGS OF SCIENCE

Foreword to the Proceedings of the Corfu Summer Institute "School and Workshops on Elementary Particle Physics and Gravity" (CORFU2016)

Dedicated to the memory of Ioannis Bakas,

an internationally outstanding scientific figure,
a great teacher, a beloved friend, EISA's General Secretary

1. Foreword

These are the Proceedings of the scientific activities of CORFU2016, the 16th Hellenic School and Workshops on Elementary Particle Physics and Gravity, which took place from August 31st till September 23rd, 2016. The School and Workshops were hosted by the European Institute for Sciences and their Applications (EISA) at the conference center of the ex-Royal Palace garden of Mon Repos in Corfu, Greece. The scientific activities consisted of a series of three events, the *Summer School and Workshop on the Standard Model and Beyond*, the *Recent Developments in Strings and Gravity*, the *ATLAS Hadronic Calibration Workshop 2016* and a rich set of outreach activities (TV and radio interviews, Master Classes, series of lectures to High School teachers and talks for the public).

We refer to the website:

http://www.physics.ntua.gr/corfu2016

for the various organizational and practical details.

These proceedings are dedicated to our beloved friend and colleague Giannis (Ioannis) Bakas who passed away on Tuesday, Aug 30, 2016.

Giannis was an outstanding mathematical physicist, a great academic teacher and a real gentleman and generous person. His scientific work and presence honoured the Greek scientific community and we have all been devastated by his sudden loss. We express our deepest sympathy to the members of his family. The scientific community lost an excellent scientist and EISA lost its General Secretary, who was one of its main cornerstones. The Physics Department, The School of Applied Mathematics and Physics and the National Technical University lost an internationally outstanding scientific figure, a great teacher and an excellent scientific meeting's organizer. It is a duty of his colleagues to do their best to find new very qualified colleagues who could collectively replace all these talents that were gathered in Giannis unique personality.

Several meetings have been already dedicated to the memory of Ioannis Bakas and in many others colleagues referred to his excellent scientific qualities. The Workshops that explicitly were dedicated to honour the memory of Ioannis Bakas are:

- Workshop on Recent Developments in Strings and Gravity, September 12 - 17, 2016, Corfu
  http://www.physics.ntua.gr/corfu2016/st.html

- Workshop on Geometry and Physics, November 20 – 25, 2016, Ringberg Castle, Tegernsee

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http://homepages.physik.uni-muenchen.de/~Michael.Haack///Geometry_Physics_Website/geom_phys_announcement.html

- NINTH CRETE REGIONAL MEETING IN STRING THEORY, 09-16 July 2017, Kolymbari, Greece
  http://hep.physics.uoc.gr/mideast9/index.html

Ioannis Bakas was one of the main organizers of the first two Workshops above and the main organizers of all the series of the above Workshops.

The organizers of the last of the above Workshops have produced a page, where several of the condolence messages for Ioannis Bakas have been collected:
http://hep.physics.uoc.gr/mideast9/bakas.html

The next Meeting dedicated to the memory of Ioannis Bakas will take place in the National Technical University in Athens around ten days before the Orthodox Easter during the HEP 2018. Details will be announced in due time, among others, from EISA' homepage:
http://eisa.institute/corfu

The Corfu Summer Institute has a very long, interesting and successful history. The Corfu Meetings started in 1982 as a Summer School on EPP mostly for Greek graduate students and since then it has developed into a leading international Summer Institute in the field of elementary particle physics (covering both experimental and theoretical advances) and more recently of gravity. In addition, it launched a very rich outreach program to teachers and school students that has been widely appreciated by the local society and scientific community over the years.

The structure of the “Summer Institute on EPP and Gravity 2016” was based on the general format developed and established and tested in all previous Corfu Meetings. This year was hosted again by the European Institute for Science and their Applications (EISA). The new Institute aims to serve as permanent extension of the Corfu Summer Institutes with the additional target to attract first class scientists that can stay for a long period and produce locally a significant research output. The scientific activities of CORFU2016 were held in the conference hall of the garden of Mon Repos in the town of Corfu, which is the permanent basis of EISA.

Moreover we had a very exciting development the last year. An application of the Municipality of Corfu in a call of the central Goverment to renovate three old buildings in the garden of Mon Repos is approved! This means that soon the dream of having buildings in Mon Repos which will host the EISA's scientific activities participants by providing them office space and the rest infrastructure will be realised!

As in previous events organized in Corfu, there were a number of European Research Networks, European Grants, Institutes and Universities that joined forces organizationally and contributed financial and human resources that led to the success of the Corfu Meetings.

The first event, ***Summer School and Workshop on the Standard Model and Beyond*** (took place from August 31st to September 12th, 2016). It was organized and supported by the: COST: Action CA15108 Connecting insights in fundamental physics, the ITN’s: HiggsTools, Invisibles, the ERC grants: LHCtheory

- Theoretical Predictions and Analyses of LHC Physics: "Advancing the Precision Frontier", HICCUP, and the Institutes: Max Planck Institute for Physics, CERN, SAMPS - National Technical University of Athens, Deutsches Elektronen-Synchrotron (DESY), IPPP Durham, LAPP, IFT Madrid, Sommerfeld Center for Theoretical Physics, U. Uppsala, SISSA, LPTENS, ICTP, LAPTH, University of Warsaw, University of Granada, CFTP/IST, U. Lisboa, IFIC Valencia, Oxford University, Universidad Autonoma de Madrid, Scuola Normale Superiore, Pisa, NCSR "Demokritos"

The Scientific Organizers were:

F. del Aguila (Granada U.)
J. A. Aguilar Saavedra (Granada U.)
I. Antoniadis (Paris, LPTHE & U. Bern, AEC)
R. Barbieri (SNS, Pisa)
M. B. Gavela (Autonoma U., Madrid)
N. Glover (Durham U., IPPP)
W. Hollik (MPI, Munich)
J. Kalinowski (Warsaw U.)
G. Koutsoumbas (NTU Athens)
C. Papadopoulos (NCSR Demokritos)
R. Pittau (U. Granada)
M. N. Rebelo (CFTP/IST, U. Lisboa)
A. Ringwald (DESY)
G. Rodrigo (IFIC Valencia)
S. Sarkar (Oxford U.)
E. Tsesmelis (CERN & Oxford U.)
G. Zanderighi (CERN & Oxford U.)

The second event, ***Recent Developments in Strings and Gravity*** (took place from September 12 - 17, 2016). It was coorganized and supported by the ERC grants UV-Completion through Bose-Einstein Condensation: A Quantum Model of Black Holes, Strings and Gravity, and the Institutes: Barcelona U., Bremen Univ., CERN, Cyprus U., NCSR Demokritos, ENS Paris, Ecole Polytechnique, Geneva U., U. Groningen, Imperial College, U. Lisbon, U. Milano-Bicocca, LMU München, Madrit IFT, MPI München, NTU Athens, Oxford U., Rome U., CEA/Saclay, Tel Aviv U., U. Thessaloniki, Turin U., Uppsala U.

The Scientific Organizers were:

C. Bachas (ENS Paris)
I. Bakas (NTU Athens)
G. Dvali (LMU, ASC, Munich)
A. Kehagias (NTU Athens)
U. Lindström (Upssala U)
D. Lüst (LMU, ASC, Munich)
G. Zoupanos (NTU Athens)

The third event, ***ATLAS Hadronic Calibration Workshop 2016***, (took place from September 18th to 23rd, 2016).

The Scientific Organizers were:

C. Issever (Oxford U)
D. Miller (Chicago U)
D. Varouchas (CNRS, LPNHE - Paris)

The outcome was indeed very impressive, given that the three sessions gathered over 260 participants. More impressive is the number of young scientists that were attracted: 168 in total, while only the School had 79 trainees! Another impressive number is the number of fellowships distributed to the young participants: 85 in total!

In short internationally leading scientists have been gathered to participate to the School and Workshops, giving lectures and creating a unique and stimulating scientific environment for the senior as well as the young scientists.

More specifically, the Summer School and Workshop on the Standard Model and Beyond has attracted 130 seniors and young scientist in total, 25 of them were invited school lecturers and 43 of them have presented their current research project as workshop speakers.

The invited review lecturers were the following:

I. Antoniadis (Bern U. and LPTHE-CNRS), P. Aschieri (Allessandria U.), K. Buesser (DESY), K. Danzmann (MPI Hannover), A. De Roeck (CERN), F. del Aguila (Granada U.), S. Dittmaier (Freiburg U), L. Fayard (Orsay, LAL), T. Hahn (MPI Munich), S. Heinemeyer (U. Cantabria and IFT Madrid), W. Hollik (MPI Munich), F. Knechtli (Wuppertal U), G. Lazarides (Aristotle U.), M. Lindner (MPI, Heidelberg), A. Mitov (Cambridge U.), P. Nilles (Bonn U.), K. Papadodimas (U. Groningen & CERN), M. Pepe-Altarelli (CERN), A. Pich (Valencia U.), S. Pokorski (U. Warsaw), E. Rondio (Warsaw U.), G. Ross (Oxford U.), E. Sicking (CERN), E. Tsesmelis (CERN and Oxford U.), J. Valle (Valencia U.).

and the workshop speakers:

M. Agathos (NIKHEF), N. Antoniou (Athens U.), M. Artymowski (Jagiellonian U.), F. Buccella (Naples U. & INFN, Naples), J. Buchbinder (Tomsk State Pedagogical U.), O. Czerwinska (Warsaw U.), N. De Groot (Radboud), I. Dorsner (Split U.), L. Diaz-cruz (FCFM BUAP), A. Di Domenico (Sapienza U., Rome & INFN), N. Harnew (Oxford U.), G. Hesketh (UCL), K. Huitu (U. Helsinki), Y. Hosotani (Osaka *U.), N. Irges (NTUA), D. Karamitros (Ioannina U.), J.E. Kim (Daejeon & Seoul N. & Kyung Hee U.), G. Knippen (Freiburg U.), M. Krawczyk (Warsaw U.), S. Kurz (Hamburg U.), P. Lavrov (Tomsk State Pedagogical U.), G. Leontaris (Ioannina U.), S. Lola (U. Patras), N. Mavromatos (King's College), V. Mitsou (U. Valencia IFIC), M. Mondragon (Instituto de Fisica, UNAM), M. Nemevsek (Stefan Inst., Ljubljana), M. Niedziela (Hamburg U.), H. B. Nielsen (NBI), P. Osland (Bergen U.), P. Olszewski (Warsaw U.), M. Owen (Glasgow U.), A. Pachol (Queen Mary, London U.), E. Paschos (Dortmund U.), A. Platania (INAF, INFN, Catania U.), F. Preiato (U. Rome "La Sapienza" & INFN-Rome), C. Roca (MPIK Heidelberg), L. Russo (INFN*

Firenze & Università di Siena), F. Scarcella (Bologna U.), M. Tanimoto (Niigata U.), A. Tokareva (EPFL), M. Totzauer (MPI, Munich), J. Veatch (Göttingen U.).

The full programme of the School and Workshop was the following:

Wednesday August 31st
Arrival / Registration day

Thursday Sept 1st

School lectures		
10:00 - 11:00	Opening	
11:00 - 11:30	Coffee break	
11:30 - 12:30	**S. Dittmaier** (Freiburg U.)	Electroweak Standard Model 1
12:30 - 13:30	**S. Dittmaier** (Freiburg U.)	Electroweak Standard Model 2
13:30 - 16:00	Lunch break	
Workshop talks		
16:00 - 16:30	**A. Di Domenico** (Sapienza U., Rome & INFN)	Precision tests of CPT symmetry and Quantum coherence with entangled neutral K mesons
16:30- 17:00	**Y. Hosotani** (Osaka U.)	New Dimensions from Gauge-Higgs Unification
School lectures		
17:00-18:00	**A. De Roeck** (CERN)	Higgs Physics - Experimental
18:00 - 18:20	Coffee break	
18:20 - 18:50	Discussion	
Workshop talks		
18:50 - 19:20	**P. Osland** (Bergen U.)	Vacua of an S3-symmetric scalar potential
19:20-19:35	**M. Niedziela** (Hamburg U.)	Jet energy resolution calculation at CMS
19:35-19:50	**S. Kurz** (Hamburg U.)	Search for supersymmetry in the multijet and missing transverse momentum final state in pp collisions at 13 TeV

Friday Sept 2nd

School lectures		
9:00 – 10:00	**S. Dittmaier** (Freiburg U.)	Electroweak Standard Model 3
10:00 - 11:00	**S. Dittmaier** (Freiburg U.)	Electroweak Standard Model 4
11:00 - 11:30	Coffee break	
11:30 - 12:30	**A. Pich** (IFIC, Valencia U. CSIC)	Flavor Physics 1
12:30 - 13:30	**A. Pich** (IFIC, Valencia U. CSIC)	Flavor Physics 2
13:30 - 16:00	Lunch break	

16:00 - 17:00	**A. De Roeck** (CERN)	CMS - Physics Results
Workshop talks		
17:00 - 17:30	**V. Mitsou** (U. Valencia IFIC)	Status, results and prospects from the MoEDAL experiment at LHC
17:30-18:00	**P. Lavrov** (Tomsk State Pedagogical U.)	Effective action with composite fields and Clairaut-type equations
18:00 - 18:20	Coffee break	
18:20 - 18:50	Discussion	
18:50 - 19:20	**M. Krawczyk** (Warsaw U.)	IDM and not only
19:20-19:35	**F. Scarcella** (Bologna U.)	Charged LFV from Low Scale Seesaw Neutrinos
19:35-19:50	**C. Roca** (MPIK Heidelberg)	Sterile neutrino search in the STEREO Experiment

Saturday Sept. 3rd

School lectures		
9:00 – 10:00	**A. Mitov** (Cambridge U.)	QCD 1
10:00 - 11:00	**A. Mitov** (Cambridge U.)	QCD 2
11:00 - 11:30		
11:30 - 12:30	**W. Hollik** (MPI Munich)	Introduction of SUSY and the MSSM 1
12:30 - 13:30	**W. Hollik** (MPI Munich)	Introduction of SUSY and the MSSM 2
13:30 - 16:00	Lunch break	
16:00 - 17:00	**A. De Roeck** (CERN)	FCC
Workshop talks		
17:00 - 17:30	**V. Mitsou** (U. Valencia IFIC)	SUSY@ATLAS
17:30 – 18:00	**N. Mavromatos** (King's College)	Self-Interacting Right Handed Neutrinos as Warm Dark Matter and Galactic Structure
18:00 - 18:20	Coffee break	
18:20 - 18:50	Discussion	
18:50 - 19:20	**N. Harnew** (Oxford U.)	Measuring the unitarity triangle with LHCb
19:20 - 19:50	**D. Karamitros** (Ioannina U.)	Effective Theory for Electroweak Doublet Dark Matter

Sunday Sept 4th

School lectures		
9:00 - 10:00	**J. Valle** (Valencia U.)	Neutrinos (theory) 1
10:00 - 11:00	**J. Valle** (Valencia U.)	Neutrinos (theory) 2
11:00 - 11:30	Coffee break	
11:30 - 12:30	**I. Antoniadis** (Bern U. and LPTHE-CNRS)	Extra Dimensions 1
12:30 - 13:30	**S. Pokorski** (U. Warsaw)	LHC vs Physics Beyond the Standard Model 1
13:30 - 16:00	Lunch break	

School lectures		
16:00 - 17:00	**A. Mitov** (Cambridge U.)	QCD 3
17:00 – 18:00	**M. Lindner** (MPI, Heidelberg)	Dark Matter searches
18:00 - 18:20	Coffee break	
18:20 - 18:50	Discussion	
Workshop and student's talks		
18:50 - 19:20	**M. Owen** (Glasgow U.)	Top quark measurements with the ATLAS detector
19:20-19:35	**A. Platania** (INAF, INFN, Catania U.)	Asymptotically Safe gravitational collapse: Kuroda-Papapetrou RG-improved model
19:35-19:50	**F. Preiato** (U. Rome "La Sapienza" & INFN-Rome)	Search for resonances in dijet final states at sqrt(s)=13eV"

Monday Sept 5th

School lectures		
9:00 - 10:00	**E. Rondio** (Warsaw U.)	Neutrinos (experimental)
10:00 - 11:00	**I. Antoniadis** (Bern U. and LPTHE-CNRS)	Extra Dimensions 2
11:00 - 11:30	Coffee break	
11:30 - 12:30	**G. Ross** (Oxford U.)	GUTs 1
12:30 - 13:30	**S. Pokorski** (U. Warsaw)	LHC vs Physics Beyond the Standard Model 2
13:30 - 16:00	Lunch break	
16:00 - 17:00	**L. Fayard** (Orsay, LAL)	ATLAS - Physics Results
Workshop talks		
17:00 – 17:30	**G. Leontaris** (Ioannina U.)	F-Theory Models and New Physics Phenomena
17:30 – 18:00	**J. Buchbinder** (Tomsk State Pedagogical U.)	On the divergence structure of the 6D, (1,0) supersymmetric gauge theories
18:00 - 18:20	Coffee break	
18:20 - 18:50	Discussion	
18:50 - 19:20	**K. Huitu** (U. Helsinki)	Charged Higgs Beyond the MSSM at the LHC
19:20-19:35	**L. Russo** (INFN Firenze & Università di Siena)	First Results on Higgs to WW at Sqrt{S}=13 TeV with CMS detector
19:35-19:50	**G. Knippen** (Freiburg U.)	NLO corrections to WWW production at proton-proton colliders
19:50 – 20:05	**A. Tokareva** (EPFL)	Polarization of photons emitted by decaying dark matter

Tuesday Sept. 6th

School lectures		
9:00 - 10:00	**T. Hahn** (MPI Munich)	Codes/Tools 1
10:00 - 11:00	**F. del Aguila** (Granada U.)	Effective Field Theories
11:00 - 11:30	Coffee break	

11:30 - 12:30	**M. Pepe-Altarelli** (CERN)	LHCb - Physics Results
12:30 - 13:30	**G. Ross** (Oxford U.)	GUTs 2
13:30 - 16:00	Lunch break	
Workshop and student's talks		
16.00 - 16:45	**J.E. Kim** (Daejeon & Seoul N. & Kyung Hee U.)	Strong CP problem, axions, and cosmological implications of CP violation.
16:45 - 17:15	**J. Veatch** (Göttingen U.)	Exotics and BSM Higgs searches with the ATLAS detector
17:15 - 17:45	**N. Irges** (NTUA)	Non-perturbative Gauge-Higgs Unification
17:45 - 18:15	**L. Diaz-cruz** (FCFM BUAP)	Higgs couplings and new signals in multi-Higgs models with flavons and DM
18:15- 18:30	Coffee break	
18:30 - 18:50	Discussion	
Workshop talks		
18:50 - 19:20	**M. Mondragon** (Instituto de Fisica, UNAM)	Reduction of couplings in the FUTs and the MSSM
18:20 - 19:35	**M. Artymowski** (Jagiellonian U.)	Generally flat inflationary potentials
19:35-19:50	**O. Czerwinska** (Warsaw U.)	The impact of non-minimally coupled gravity on vacuum stability
19:50 – 20:05	**P. Olszewski** (Warsaw U.)	Scale symmetry without the anomaly

Wednesday Sept 7th

Excursion

Thursday Sept 8th

School lectures		
9:00 - 10:00	**P. Nilles** (Bonn U.)	SUSY/SUGRA 1
10:00 - 11:00	**P. Nilles** (Bonn U.)	SUSY/SUGRA 2
11:00 - 11:30	Coffee break	
11:30 - 12:30	**K. Buesser** (DESY)	ILC
12:30 - 13:30	**E. Sicking** (CERN)	CLIC
13:30 - 16:00	Lunch break	
16.00 - 17:00	**F. Knechtli** (Wuppertal U)	Lattice QCD
Workshop and student's talks		
17:00 - 17:30	**G. Hesketh** (UCL)	Recent highlights of Electroweak and QCD studies with the ATLAS detector
17:30 - 18:00	**E. Paschos** (Dortmund U.)	Neutrino properties: 1. The Reactor Anomaly 2. Methods for detecting tau-neutrinos at neutrino telescopes (Antares, Ice Cube, Lake Baikal,...)
18:00- 18:20	Coffee break	
18:20 - 18:50	Discussion	
18:50 – 19:20	**M. Nemevsek** (Stefan Inst., Ljubljana)	Higgs physics and Lepton number violation

19:20– 19:50	**I. Dorsner** (Split U.)	One-loop neutrino mass in SU(5)

Friday Sept 9th

School lectures		
9:00 - 10:00	**P. Aschieri** (Allessandria U.)	Introduction to Noncommutativity 1
10:00 - 11:00	**P. Aschieri** (Allessandria U.)	Introduction to Noncommutativity 2
11:00 - 11:30	Coffee break	
11:30 - 12:30	**A. Nielsen** (AEI, Hannover)	Gravitational Waves
12:30 - 13:30	**T. Hahn** (MPI Munich)	Codes/Tools 1
13:30 - 16:00	Lunch break	
Workshop and student's talks		
16.00 - 16:30	**M. Agathos** (NIKHEF)	Gravitational Waves & Testing GR
16:30 - 17:00	**M. Totzauer** (MPI, Munich)	Production mechanisms for keV sterile neutrino dark matter in the Early Universe
17:00 - 17:30	**N. De Groot** (Radboud)	Latest Higgs Physics results from the ATLAS experimen
17:30 - 18:00	**A. Pachol** (Queen Mary, London U.)	Modified dispersion relations from noncommutativity in curved background
18:00- 18:20	Coffee break	
18:20 - 18:50	Discussion	

20.00 Greek Night

Saturday Sept 10th

School lectures		
9:00 - 10:00	**G. Lazarides** (AUTH)	Astroparticle Physics and Cosmology 1
10:00 - 11:00	**G. Lazarides** (AUTH)	Astroparticle Physics and Cosmology 2
11:00 - 11:30	Coffee break	
11:30 – 12:00	**F. Buccella** (Naples U. & INFN, Naples)	Non Leptonic Decays : a Long Story
12:00 – 12:30	**H. B. Nielsen** (NBI)	Interpretation of the 750 GeV diphoton as a bound state
12:30 - 13:30	**K. Papadodimas** (U. Groningen & CERN)	String Theory 1
13:30 - 16:00	Lunch break	
Workshop and student's talks		
16:00 – 17:00	**K. Papadodimas** (U. Groningen & CERN)	String Theory 2
17:00 - 17:30	**S. Lola** (U. Patras)	Lepton flavour violation at the LHC
17:30 - 18:00	**M. Tanimoto** (Niigata U.)	Neutrino Mass Matrix and the Sign of Universe's Baryon Asymmetry
18:00 - 18:20	Coffee break	
18:20 - 18:50	Discussion	

18:50 – 19:20	**N. Antoniou** (Athens U.)	The Phase Diagram of QCD Matter

Sunday Sept 11th

School lectures		
9:00 - 10:00	**G. Lazarides** (AUTH)	Astroparticle Physics and Cosmology 3
10:00 - 11:00	**G. Lazarides** (AUTH)	Astroparticle Physics and Cosmology 4
11:00 - 11:30	Coffee break	
11:30 - 12:30	**K. Papadodimas** (U. Groningen & CERN)	Gauge/Gravity Duality 1
12:30 - 13:30	**K. Papadodimas** (U. Groningen & CERN)	Gauge/Gravity Duality 2

Closing!

The Workshop "***Recent Developments in Strings and Gravity***" has attracted 60 seniors and young scientist in total, 14 of them were invited Workshop Speakers, and 12 of them have presented their current research project as workshop speakers.

The invited lecturers were the following:

C. Angelantonj (Turin U.) , C. Bachas (ENS Paris), M. Bianchi (Rome U.), C. Hull (Imperial), A. Kehagias (NTU Athens), D. Lüst (LMU Munich), H. A. Mazumdar (Lancaster University), H. B. Nielsen (NBI), K. Papadodimas (U. Groningen & CERN), H. Partouche (Ecole Polytechnique), M. Petropoulos (Ecole Polytechnique), J. Russo (Barcelona U.), A. Tseytlin (Imperial Coll.), P. Vanhove (Saclay), A. Zaffaroni (U. Milano-Bicocca)

and the workshop speakers:

A. Chatzistavrakidis (U. Groningen), F. Farakos (Padova U. and INFN), I. Florakis (LPTHE Paris), A. Golubtsova (The Joint Institute for Nuclear Research), A. Gussmann (LMU Munich, ASC), I. Lovrekovic (TU Wien), M. Panchenko (LMU, Munich), D. Sarkar (LMU), M. Sarkis (LPTHE, Paris 6), K. Siampos (Bern Univerity), C. Stricland-Constable, (CEA Saclay/IHES), S. Zell (LMU, Munich).

The full programme of the Workshop was the following:

Monday Sept 12th
Arrivals

Tuesday Sept 13th

9:00 - 10:00	C. Hull (Imperial College London)	Double Field Theory
10:00 - 11:00	A.Zaffaroni, (Universita' di Milano-Bicocca)	3d supersymmetric gauge theories and AdS4 black holes
11:00 - 11:30	Coffee break	

11:30 - 12:30	M. Bianchi (Università di Roma Tor Vergata)	Revisiting light string states in view of the 1053 GeV di-photon excess"
12:30 - 13:30	K. Papadodimas (U. Groningen & CERN)	
13:30 - 16:00	Lunch break	
Workshop talks		
16.30 - 17:00	K. Siampos (Bern University)	All-loop non-Abelian Thirring model
17:00 - 18:00	H. B. Nielsen (NBI)	Interpretation of the 750 GeV diphoton as a bound state
18:00 - 18:30	M. Sarkis (LPTHE, Paris 6)	One-loop corrections to heterotic flux compactification

Wednesday Sept 14th

9:00 - 10:00	C. Hull (Imperial College London)	Double Field Theory
10:00 - 11:00	A.Zaffaroni, (Universita' di Milano-Bicocca)	3d supersymmetric gauge theories and AdS4 black holes
11:00 - 11:30	Coffee break	
11:30 - 12:30	M. Petropoulos (Ecole Polytechnique)	Holography, duality and integrability
12:30 - 13:30	P. Vanhove (Institut de Physique Théorique - CEA/Saclay)	Bending of Light in Quantum Gravity
13:30 - 16:00	Lunch break	
Workshop talks		
16.30 - 17:30	A. Mazumdar (Lancaster University)	Ghost Free and Singularity Free Theory of Gravity around de Sitter and Anti de Sitter
17:30 - 18:00	I.Florakis(LPTHE Paris)	Heterotic strings with a positive cosmological constant
18:00 - 18:30	I.Lovrekovic (TU Wien)	Asymptotic symmetry algebras of conformal gravity
17:30 - 18:00	A.Golubtsova (The Joint Institute for Nuclear Research)	Holographic Wilson loops in Lifshitz-like backgrounds

Thursday Sept 15th

9:00 - 10:00	C. Bachas (ENS Paris)	Coupling a Topological Theory to the Standard Model
10:00 - 11:00	D. Lust (LMU Munich)	Non-associative Flux Algebra in String and M-theory from Octonions
11:00 - 11:30	Coffee break	
11:30 - 12:30	C. Angelantonj (University of Torino)	
12:30 - 13:00	A.Chatzistavrakidis (U. Groningen)	Universal gauge theory in two dimensions
13:00 – 13:30	C. Stricland-Constable (CEA Saclay/IHES)	Supersymmetric flux backgrounds and generalised special holonomy

13:30 - 16:00	Lunch break	

Free Afternoon

Friday Sept 16th

9:00 - 10:00	J. Russo (Barcelona U.)	Exact results in four-dimensional Gauge Theories from Matrix models
10:00 - 11:00	A. Tseytlin (Imperial College London)	On scattering amplitudes in higher spin theories
11:00 - 11:30	Coffee break	
11:30 - 12:30	H. Partouche (Ecole Polytechnique)	Super no-scale models
12:30 - 13:00	A. Gussmann(LMU Munich, ASC)	Skyrmion Black Hole Hair: Conservation of Baryon number by black holes and observable manifestations
13:00 - 13:30	F. Farakos (Padova U. and INFN)	Constrained superfields and applications
13:30 - 16:00	Lunch break	
Workshop talks		
16.30 - 17:00	D. Sarkar (LMU, Munich)	Holography for (A)dS and AdS black holes
17:00 - 18:00	M. Panchenko (LMU, Munich)	Large gauge transformations and soft dressing
18:00 - 18:30	S. Zell (LMU, Munich)	On the substructure of the cosmological constant
17:30 - 18:00		

Saturday Sept 17th
Departures

The Workshop "***ATLAS Hadronic Calibration Workshop 2016***" has attracted over than 70 seniors and young scientist in total, and over than 30 of them have presented their current research project as workshop speakers.

The full programme of the Workshop was the following:

Monday 19 September 2016

Session: Workshop Introduction
Time and Place: (09:30-10:00)
Conveners: **Cigdem Issever; David Miller**

Session: Jet Inputs (10:00-11:30)
Session: Event and Jet Level Cleaning (12:00-14:00)
Convener: **Emma Elizabeth Tolley**

Session: Monitoring and Validation (15:30-17:00)
Convener: **James Frost**

Session: Trigger Session (17:30-19:30)
Conveners: **Steven Randolph Schramm; Antonia Strubig**
Session: Overflow
Time and Place: (19:30-20:00)

Session: Welcome drink (20:00-22:00)

Tuesday 20 September 2016

Session: Pile-Up (10:00-11:30)
Convener: **Francesco Rubbo**

Session 1 (12:00-14:00)
Conveners: **Michaela Queitsch-Maitland; Jeff Dandoy; Jonathan Bossio**

Session 2 (15:30-17:00)
Conveners: **Jeff Dandoy; Michaela Queitsch-Maitland; Jonathan Bossio**

Session 3 (17:30-19:00)
Conveners: **Jonathan Bossio; Jeff Dandoy; Michaela Queitsch-Maitland**

Wednesday 21 September 2016

Session: Physics use-cases and requirements (10:20-11:30)
Conveners: **Christian Ohm; Bruno Lenzi; Tai-Hua Lin; Claire Lee**

Session: Etmiss performance (12:00-13:00)
Conveners: **Teng Jian Khoo; Marco Valente; Matteo Scornajenghi**

Session: R&D projects (13:00-14:00)
Convener: **Douglas Michael Schaefer**

Session: Corfu old town guided tour (15:30-20:00)

Thursday 22 September 2016

Session: Inputs, algorithms and JES calibration (10:00-11:30)
Convener: **Danilo Enoque Ferreira De Lima**

Session: Jet Mass (12:00-14:00)
Convener: **Oleg Brandt**

Session: Input variables and tagger optimization (15:30-17:00)
Convener: **Chris Malena Delitzsch**

Session: Tagger performance in data (17:30-19:00)
Convener: **Christoph Falk Anders**

Session: Overflow (19:00-20:00)

Friday 23 September 2016

Session: Jet/Etmiss Software (10:00-11:30)
Convener: **Mark Hodgkinson**

Session: HL-LHC (12:00-13:30)
Conveners: **Ariel Gustavo Schwartzman; Michael Begel; Chris Malena Delitzsch**

Session: PFlow (15:30-17:00)
Conveners: **Mark Hodgkinson; Ian Brock**

Session: Workshop Wrapup (19:00-19:30)

Most of the presentations appeared on line in the CORFU2016 homepage just after they were delivered: http://www.physics.ntua.gr/corfu2016/lectures.html

We sincerely thank everybody who contributed to the success of CORFU2016, in particular the young students that came long ways from many different countries. Special thanks are due to all speakers and the organizers, the conference secretary Mrs. Ifigenia Moraiti and the group of our graduate students who helped in various ways and contributed in a very significant manner to the success of the meeting. Finally, we wish to express our gratitude to our sponsors whose financial contribution made it all possible.

They were:

1. COST Action CA15108
2. ITNs: HiggsTools, Invisibles
3. ERC Grants: LHCtheory LHCtheory Theoretical Predictions and Analyses of LHC Physics: "Advancing the Precision Frontier", LHCTHEORY, HICCUP, “UV-Completion through Bose-Einstein Condensation: A Quantum Model of Black Holes”, “Strings and Gravity”
4. National Technical University of Athens
5. School of Applied Mathematical and Physical Sciences (SAMPS), National Technical Municipality of Corfu
6. University of Athens (NTUA)

7. Region of Ionian Islands
8. OTE: National Telecommunication Company
9. CERN
10. Deutsches Elektronen-Synchrotron (DESY)
11. Max Planck Institute for Physics
12. Max Planck Institute for Gravitational Physics (Albert Einstein Institute)
13. Sommerfeld Center for Theoretical Physics
14. National Center of Scientific Research "Demokritos"
15. Athens University
16. SISSA: Scuola Internazionale Superiore di Studi Avanzati
17. ICTP: The Abdus Salam International Centre for Theoretical Physics
18. IPPP Durham: Institute for Particle Physics Phenomenology
19. LAPP: Laboratoire d'Annecy – le - Vieux de Physique des Particules
20. LAPTH: Laboratoire d'Annecy – le - Vieux de Physique Theorique
21. LPTENS: Laboratoire de physique théorique ENS
22. Universidad Autonoma de Madrid
23. Instituto de Fisica Teorica UAM/CSIC
24. Uppsala University
25. University of Warsaw
26. University of Granada
27. Technical University of Lisbon
28. IFIC Valencia
29. Oxford University
30. Universidad Autonoma de Madrid,
31. Scuola Normale Superiore, Pisa
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39. University of Groningen,
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