



Some Memories of Early Greek - LHC - ATLAS Times



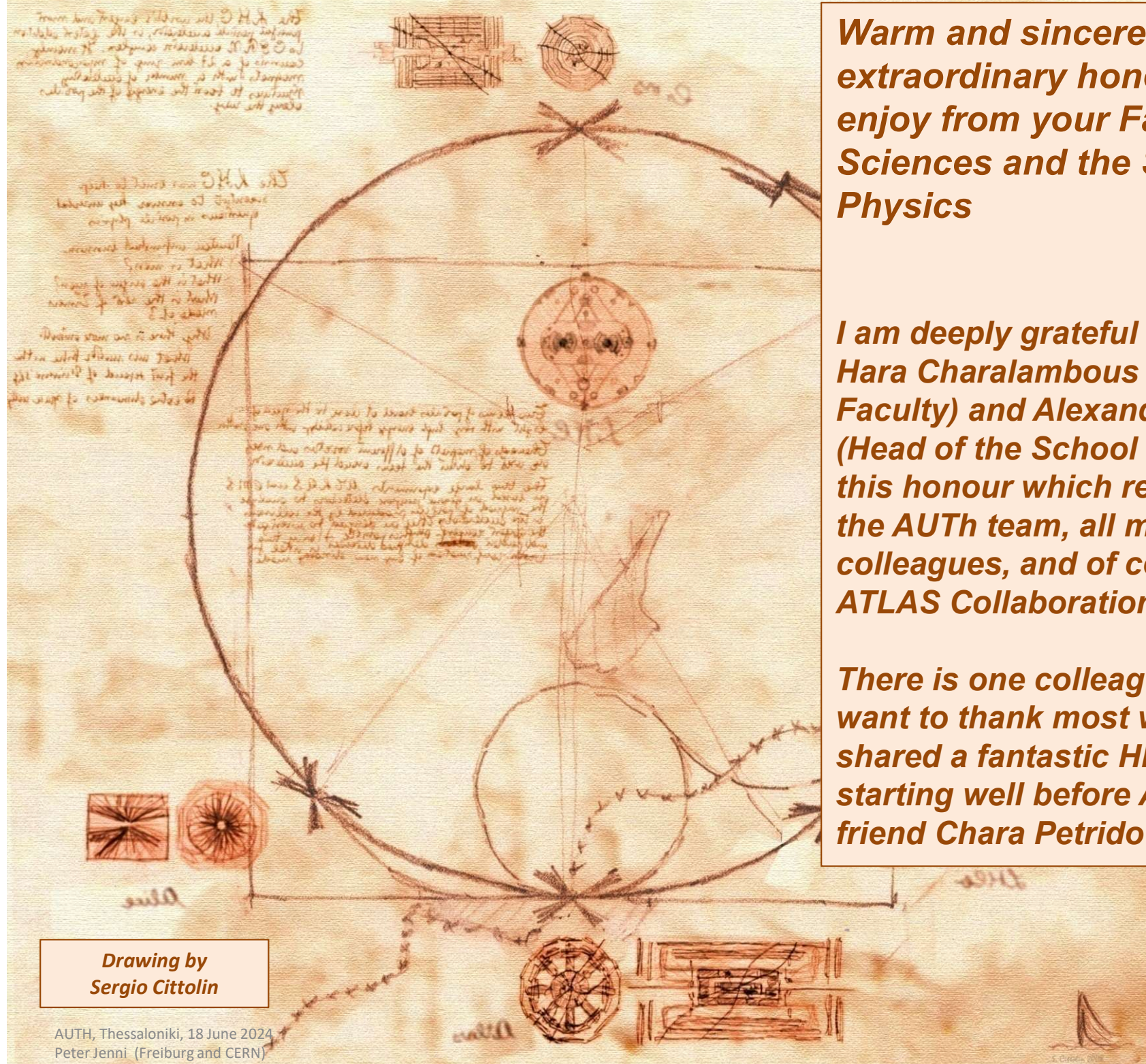
Peter Jenni
Albert-Ludwigs-Universität Freiburg and CERN
Aristotle University of Thessaloniki, 18 June 2024

Warm and sincere thanks for this extraordinary honour that I can enjoy from your Faculty of Sciences and the School of Physics



I am deeply grateful to Professors Hara Charalambous (Dean of the Faculty) and Alexandra Ioannidou (Head of the School of Physics) for this honour which really belongs to the AUTH team, all my Greek colleagues, and of course to the ATLAS Collaboration

Drawing by Sergio Cittolin



**Drawing by
Sergio Cittolin**

AUTH, Thessaloniki, 18 June 2024
Peter Jenni (Freiburg and CERN)

Warm and sincere thanks for this extraordinary honour that I can enjoy from your Faculty of Sciences and the School of Physics



I am deeply grateful to Professors Hara Charalambous (Dean of the Faculty) and Alexandra Ioannidou (Head of the School of Physics) for this honour which really belongs to the AUTH team, all my Greek colleagues, and of course to the ATLAS Collaboration

There is one colleague whom I really want to thank most warmly for having shared a fantastic HEP journey, starting well before ATLAS, my dear friend Chara Petridou!



In the context of ATLAS / LHC / CERN I had the pleasure to be about 14 times in Greece, in particular a few time here in beautiful Thessaloniki

Some examples:

1988 Lefkada (CERN School lectures on collider physics)

1991 Thessaloniki (Balkan Physical Union)

1992 – 1997 (Various ECFA and Greek Physical Society meetings for ATLAS in Athens, Heraklion, Ioannina)

2003 Athens (ATLAS Physics Workshop)

2005 Thessaloniki (Particle Physics and Cosmology Workshop, HSSHEP)

2009 and 2011 Corfu (ATLAS/LHC lectures at EISA Summer School)

2010 Thessaloniki (LHC Overview entering operation, HSSHEP)



The birth of ATLAS

March 1992 – Summer 1992

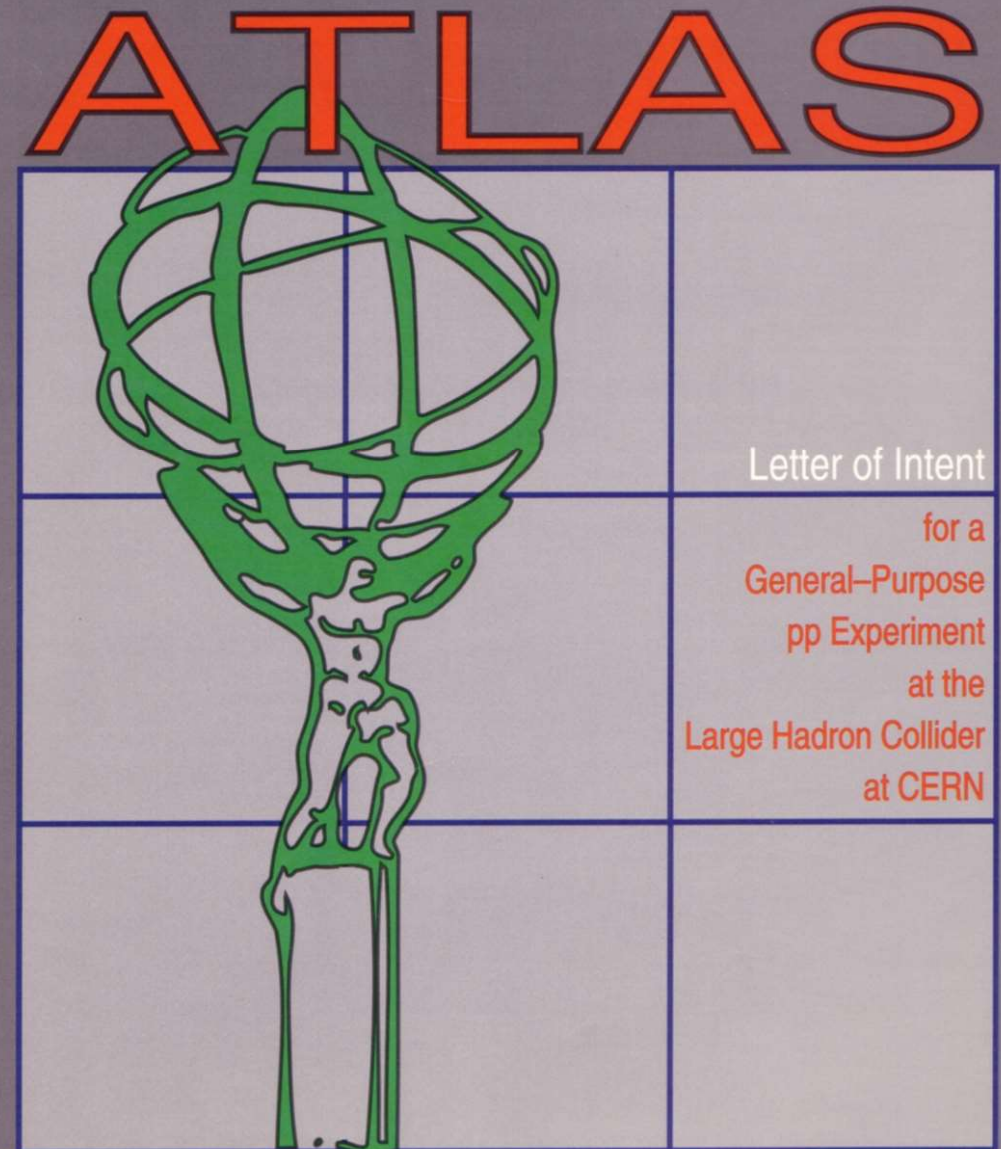
Merging of ASCOT and EAGLE

September 1992: Decision on the name taken in vote at the Collaboration Board based on many names suggested by Collaboration members

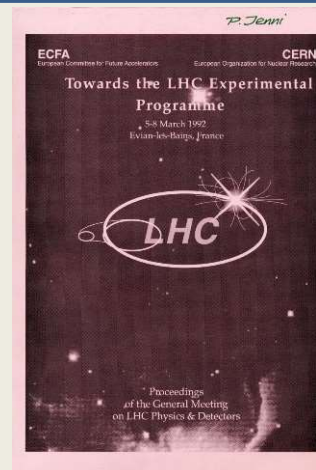
1st October 1992

ATLAS Lol submitted to the LHCC

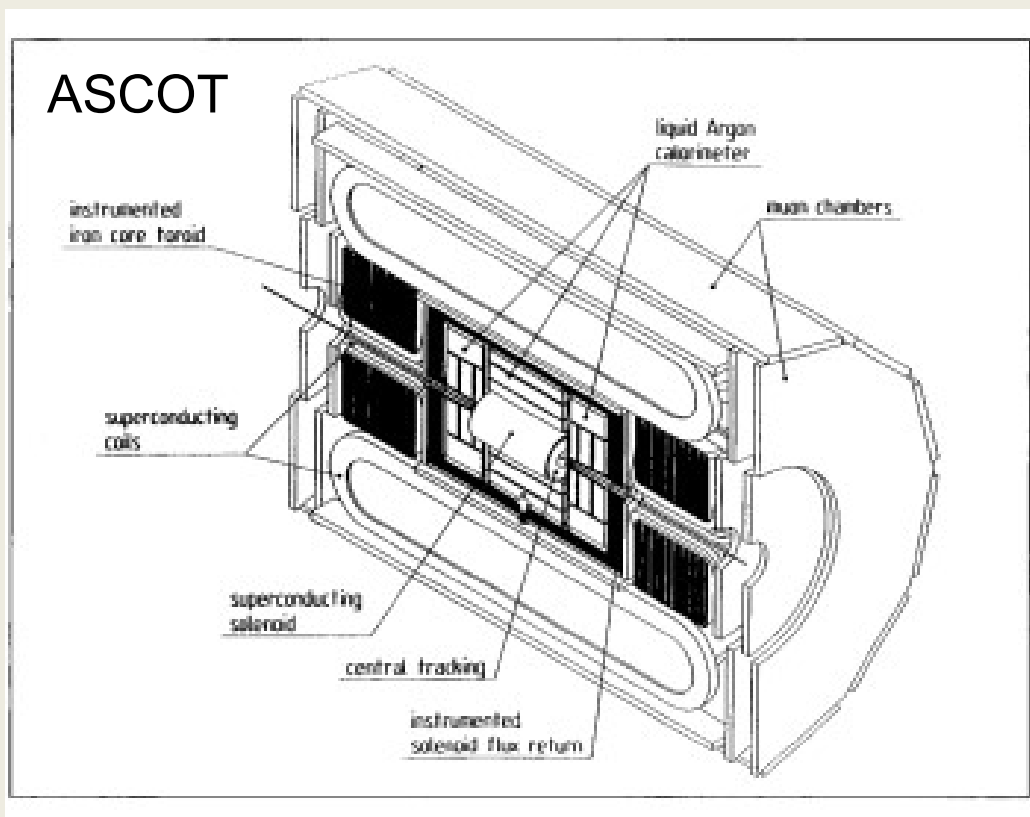
‘Official birth of the ATLAS Collaboration’



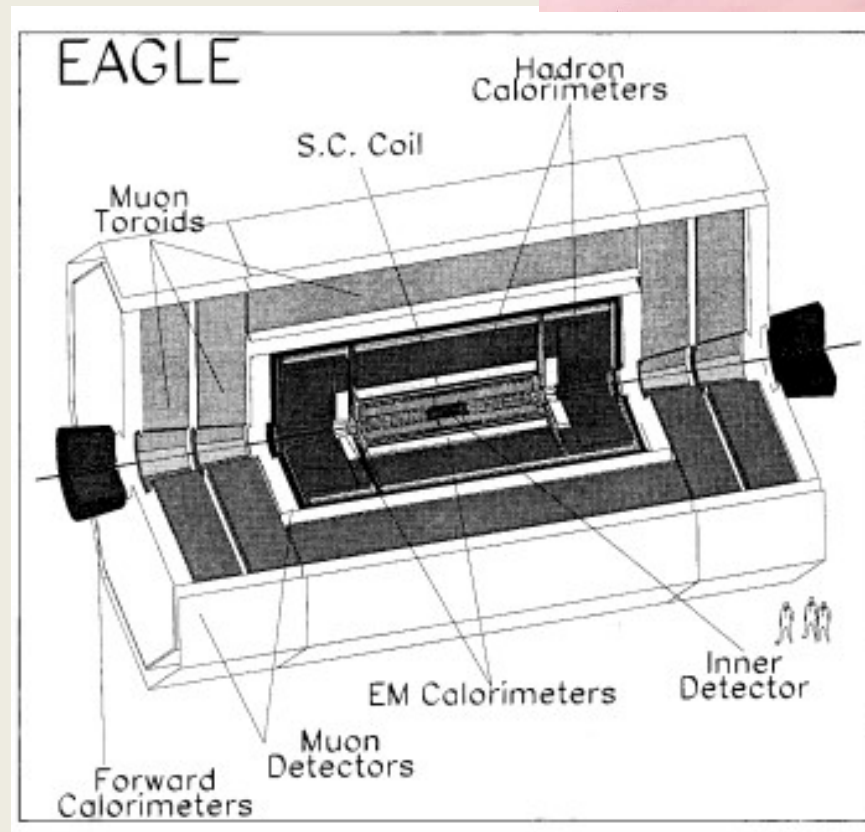
The ASCOT and EAGLE proto-collaborations both presented detector concepts with a toroid magnet configuration for the muon spectrometer at the Evian meeting



From their Expressions of Interest



ASCOT with a superconducting air-core barrel and warm iron end cap toroids

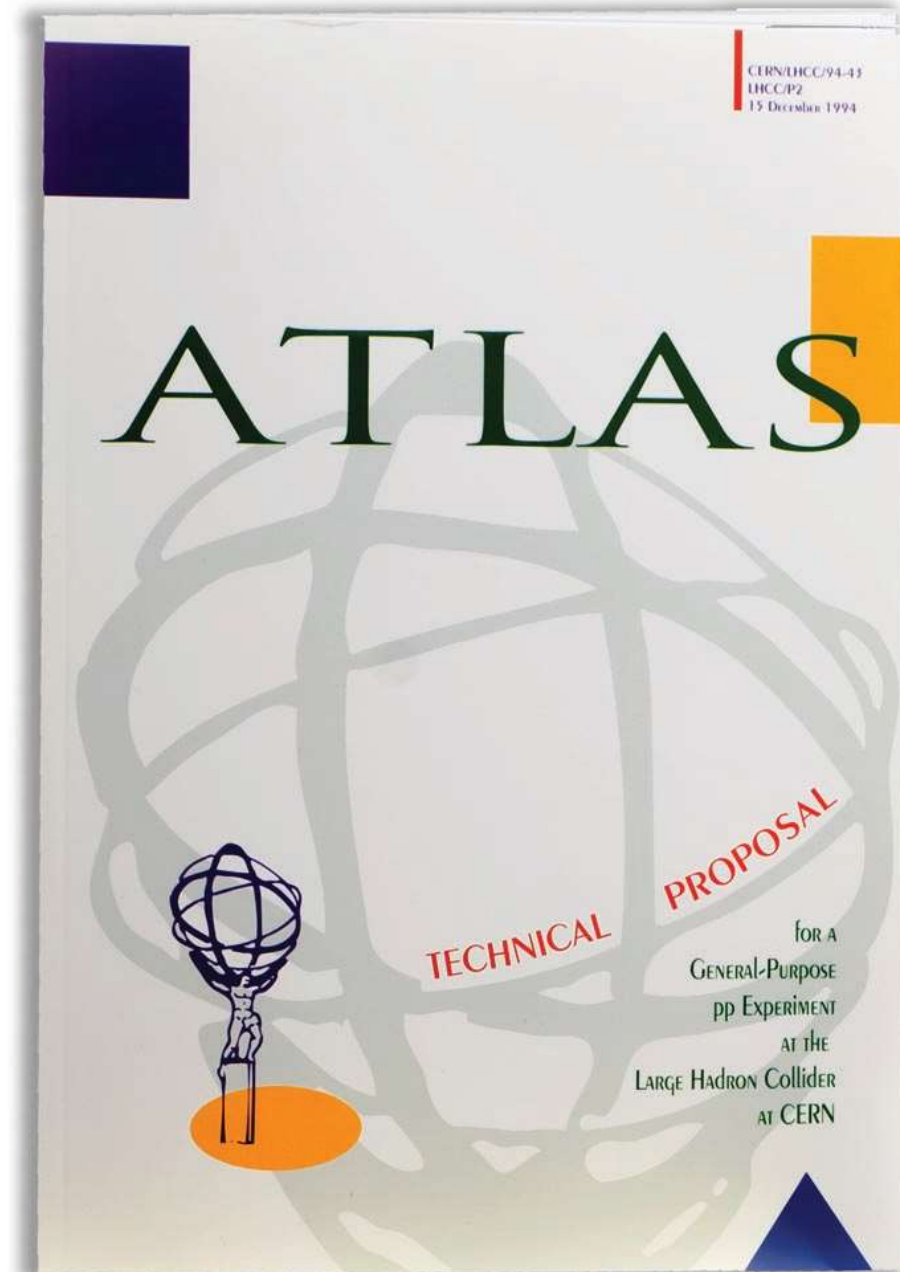


EAGLE with warm iron barrel and end cap toroids

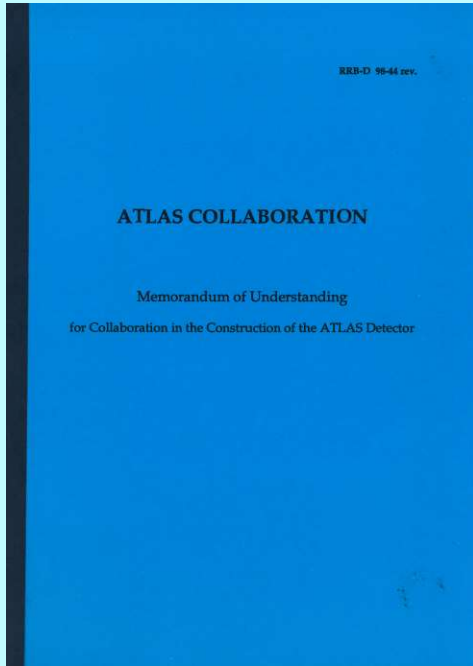
The Athens National Technical University and the Athens University were already part, informally, of the pre-stage of ATLAS

With the joining of the Aristotle University of Thessaloniki, unanimously approved by the ATLAS Collaboration Board on 30 June 1994, the Greek participation was established as we celebrate it today

The three Institutions signed the ATLAS Technical Proposal (15 December 1994)



The Construction MoU was signed by all initial ATLAS Funding Agencies in 1998-1999



And new partners also signed Addenda to the MoU as they joined later

We should never forget to thank all Funding Agencies for their support

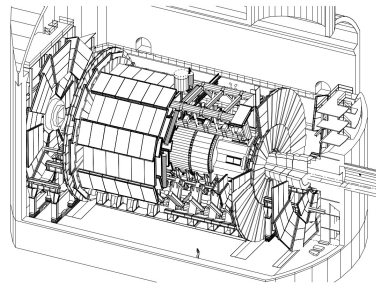
For Greece, Prof. Emmanuel Floratos, played an absolutely crucial role for the ATLAS participation

Armenia
Australia
Austria
Azerbaijan
Belarus
Brazil
Canada
China
Czech Republic
Denmark
Finland
FRANCE CEA
France IN2P3
Georgia
Germany BMBF
Germany MPI
Greece
Israel
Italy
Japan
JINR
Morocco
Netherlands
Norway
Poland
Portugal
Romania
Russia
Slovak Republic
Slovenia
Spain
Sweden
Switzerland
Turkey
United Kingdom
US DoE + NSF
CERN

signed date	signed by
10/7/98	R. Mkrтчhyan
26/5/98	S. Tovey
18/6/98	R. Kneuker
30/6/98	N. Guliyev
24/6/98	V.A. Gaisyonok
6/9/99	E. Mirra de Paula e Silva
26/4/99	N. Lloyd
30/11/99	N. Wang
26/5/98	F. Suransky, J. Niederle
26/5/98	E. Larsen
26/5/98	E. Byckling
6/1/99	C. Cesarsky
8/6/98	C. Detraz
22/11/99	A. Tavkhelidze
12/6/98	H. Schunck
22/4/99	V. Soergel
15/6/98	E. Floratos
1/6/98	D. Horn
20/3/98	L. Maiani
23/6/98	H. Sugawara
10/6/98	A.N. Sissakian
1/6/98	S. Belcadi
15/10/98	G. van Middelkoop
22/6/98	K. Kveseth
28/5/98	J. Frackowiak
5/6/98	A. Trigo de Abreu
30/7/98	V. Lupei
10/10/98	N. Kirpichnikov
7/7/98	O. Nemcok
15/12/99	L. Marincek
30/4/98	F. Aldana
29/4/99	G. Oequist
26/5/98	B. Fulpius, Ch. Schäublin
2/6/98	D. Ulkü
14/7/98	I.G. Halliday
26/10/98	J. O'Fallon, N. Lightbody, T. Kirk, W. Willis
26/6/98	V.G. Goggi



ATLAS Muon Spectrometer

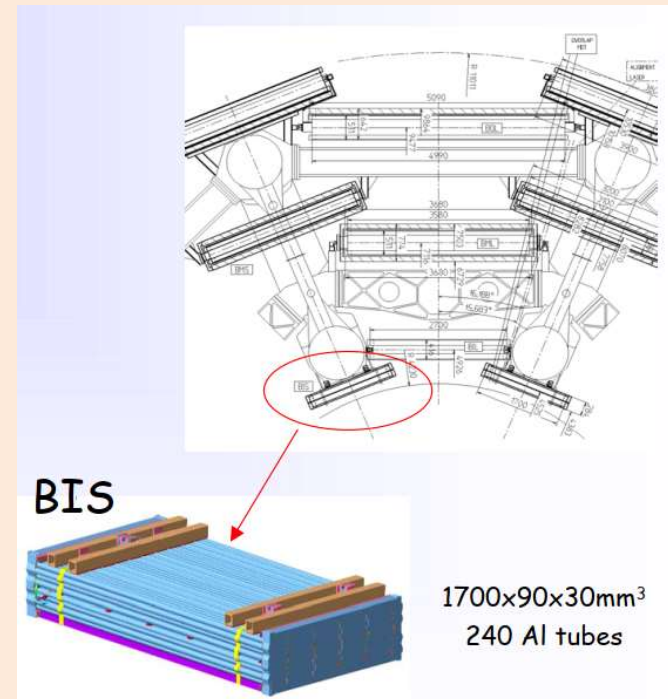


Technical Design Report

Issue: 1
Revision: Muon Spectrometer
Reference: CERN/LHCC 97-22
Last modified: 5 June 1997
Prepared By: ATLAS Muon Collaboration

5 June 1997

The three Greek groups took together a large commitment to contribute in a very significant and visible way to the ATLAS Muon Spectrometer



Greece

Athens National Technical University, Athens

Dris M., Filippas A., Fokitis E., Gazis E., Katsoufis E., Maltezos S., Papadopoulou T.

Athens University, Athens

Giokaris N., Ioannou P., Kourkoumelis C., Papadopoulos I., Tatsis S., Tzanakos G.S.

Aristotle University of Thessaloniki, Thessaloniki

Bouzakis C., Chardalas M., Chouridou S., Dedoussis S., Gavris G., Lagouri Th., Liolios A., Paschalias P., Petridou C., Sampsonidis D., Sergiadis G., Zamani M.

Barrel Inner Small chambers (BIS)

About 120 chambers in total, including a few special ones, prototypes and spares

National and Kapodistrian University of Athens (NKUA)

Tube wiring/assembly (30,000 tubes finished December 2003)

National Technical University of Athens (NTUA)

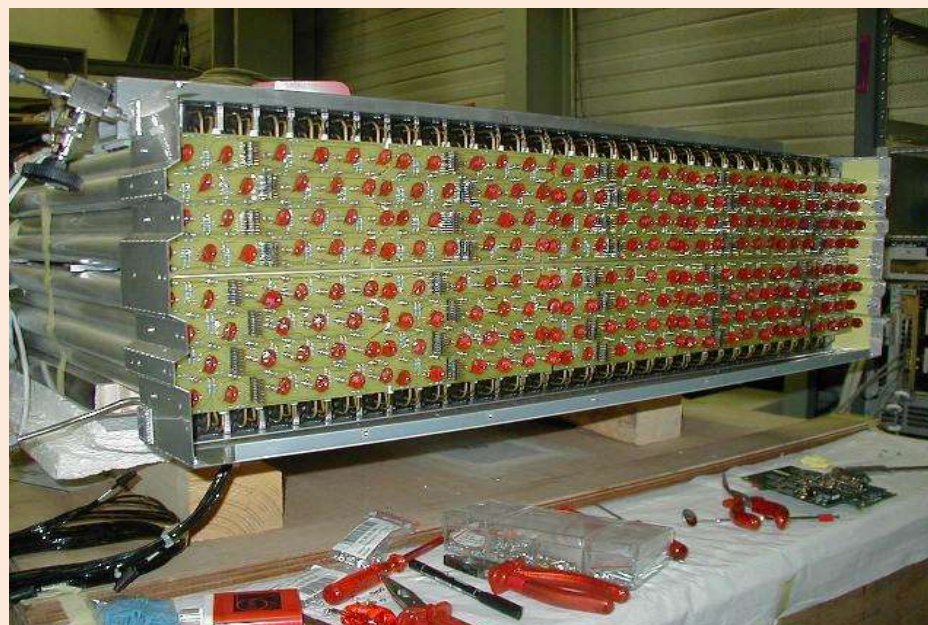
Quality Assurance/Quality Control of tubes (30,000 tubes finished March 2004)

Aristotle University of Thessaloniki (AUTH)

Chamber assembly (120 chambers finished April 2004)



AUTH, Thessaloniki, 18 June 2024
Peter Jenni (Freiburg and CERN)



Early Greek ATLAS

1st MDT successfully checked for its construction precision at the Tomograph at CERN, with Manolis Floratos (centre) visiting the test facility



This achievement of the Greek team, and the famous picture, made it also to the CERN Courier (1999, vol.39, no. 9)

The Greek delegate to CERN Council, Prof. Floratos (centre), welcomed the arrival at CERN of the first muon detector for the ATLAS experiment to come off the production line. Produced by a collaboration between three Greek universities, the chamber is the first of 1200 that will be built for the experiment at the LHC over the coming years.

The ATLAS muon detection system will cover 17 000 m³. Its production is being shared between 46 institutions around the world, with strict quality control procedures at each. Chambers will be arriving at CERN over the next four years, with the full detector being ready for installation by early 2004.

Prof. Floratos is accompanied by members of the team that established the Greek production line, which began in August.





Precision construction work at AUTH

***Famous Muon Weeks in Likithos
in 1996 and 1998 (unfortunately,
such fun meetings I missed ...)***



MDT	Production bare MDT	planning bare MDT	production MDT with FC	planning MDT with FC	Production integrated MDT	planning integrated MDT
Greece - BIS	112	112	112	112	45	108
Boston - EI, EM	80	80	80	80	75	62
Univ. Michigan - EM	80	80	80	80	80	62
Univ. Washington - EI, EM	80	80	80	80	80	62
Munich - BOS/BOF	82	88	77	88	31	66
Frascati - BML	94	94	96	94	52	63
Cosenza/Roma - BIL/BIR	65	65	56	65	24	56
Dubna - BMS	84	84	65	84	44	70
Protvino - EO	192	173	126	141	3	75
Nikhef - BOL	96	96	96	96	50	57
Cosenza, Pavia - BIL/BIR	56	54	56	54	44	47
Freiburg - BOG	8	15	6	13	6	12
Beijing - BEE, BIS8	18	38	0	32	0	18
Sum	1,047	1,059	930	1,019	534	758
Fraction produced (w/o EE)	96.0%	97.0%	85.2%	93.4%	48.9%	69.4%
Fraction produced (with EE)	90.6%	91.7%	80.5%	88.2%	46.2%	65.6%
CSC	panels					
	total	produce				
	160	171				

Total number of tubes 371232
 Total number of MDTs w/o EE 1091
 Total number of MDTs with EE 1155

First finished Greek MDT chamber being measured at the X-ray tomograph

→ Excellent quality reached

In the meantime all Greek MDTs have been finished



A group from the Capodistrian University of Athens joined the Tile Calorimeter system, from about 2000 to 2016

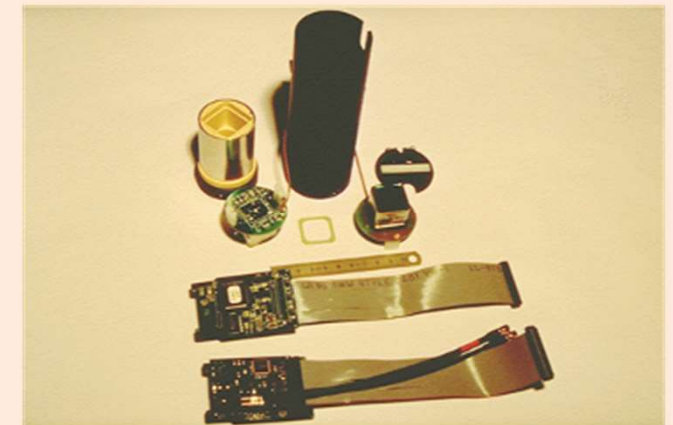
A PMT-Block Test Bench

P. Adragna^{a,g,h}, A. Antonaki^{c,b}, I. Boudagov^d, V. Cavasinni^a,
D. Costanzo^{a,i}, T. Del Prete^a, A. Dotti^a, D. Fassouliotis^b,
V. Giakoumopoulou^{c,b}, N. Giokaris^{c,b}, C. Guicheney^f,
E. Karali^{c,b}, J. Khubua^{d,e}, M. Lebessi^{c,b}, A. Lupi^a,
A. Manoussakis^b, E. Mazzoni^a, I. Minashvili^{d,e}, M. Morphi^{c,b},
G.F. Pagani^a, R. Paoletti^a, D. Rizzi^a, C. Roda^a, F. Sarri^a,
Ath. Staveris-Polykalas^{c,b}, Th. Staveris-Polykalas^{c,b},
S. Stoudenov^d, G. Usai^{a,j}, F. Vazeille^f, C. Vellidis^{c,b},
I. Vichou^{c,b}, I. Vivarelli^a, M. Volpi^a,

^aDipartimento di Fisica "E.Fermi", Universita di Pisa and Istituto Nazionale di Fisica Nucleare, Sezione di Pisa, Largo B. Pontecorvo 3, Pisa 56127, Italy

^bNational Capodistrian University of Athens, 30 Panepistimiou st., Athens 10679, Greece

^cInstitute of Accelerating Systems and Applications, P.O. Box 17214, Athens 10024, Greece



v1 [physics.ins-det] 8 May 2006

A moment to remember the late Irene Vichou who left us in 2016

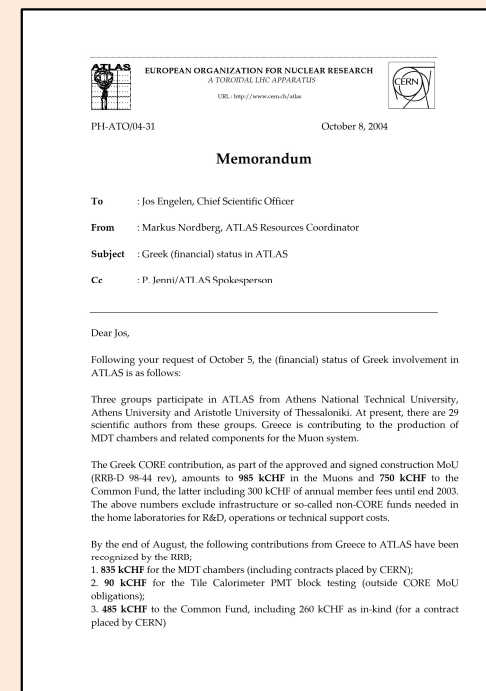
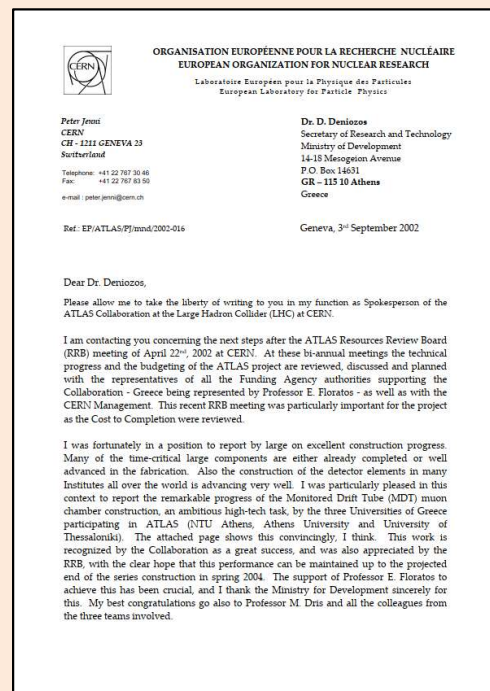
She was Tile Calorimeter Project Leader 2014 - 2016 (at that time from Urbana UI)



To secure the Greek funding for the ATLAS construction and operation was a continuous challenge, and even more so for the Greek colleagues for the crucial travels to CERN

Just two examples of many letters and memos ATLAS management wrote to this purpose, always in first place pointing out the excellent work done by our Greek colleagues

But with the tireless help of Manolis Floratos and the ATLAS Greek National Contact Physicist Manolis Dris and later Vangelis Gazis we somehow managed

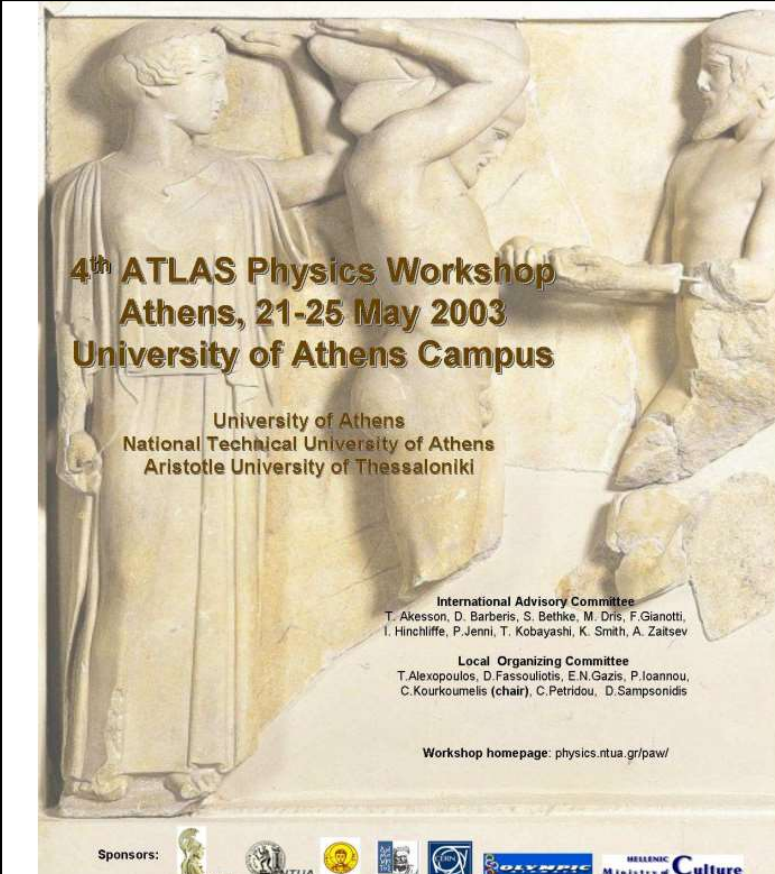


A letter to Secretary of Research and Technology D. Deniozos and a memo to the CERN Director of Research about funding issues ... (you are not really supposed to be able to read)

A truly memorable event was the 4th ATLAS Physics Workshop 2003 we enjoyed at the University of Athens Campus, organized by the three Greek teams

It shaped many of the analysis strategies to prepared for the forthcoming LHC start-up

Here follow just three original slides from the closing talk I had the pleasure to give ...




4th ATLAS Physics Workshop
Athens, 21-25 May 2003
University of Athens Campus

University of Athens
National Technical University of Athens
Aristotle University of Thessaloniki

International Advisory Committee
T. Akesson, D. Barberis, S. Bethke, M. Dris, F. Gianotti,
I. Hinchliffe, P. Jenni, T. Kobayashi, K. Smith, A. Zaitsev

Local Organizing Committee
T. Alexopoulos, D. Fassouliotis, E.N. Gazis, P. Ioannou,
C. Kourkoumelis (chair), C. Petridou, D. Sampsonidis

Workshop homepage: physics.ntua.gr/paw/

Sponsors: 

We have immensely enjoyed this 4th Physics Workshop!

It is a pleasure to thank most cordially all our Greek friends in ATLAS!

Original slides from the closing talk

The successful Greek activities in ATLAS are coordinated by

Manolis Dris

whose support and enthusiasm for ATLAS is highly appreciated
in the Collaboration

ATLAS is also very grateful for the continuous support from,
and fight for more resources by, the Greek delegate to CERN
Council and the RRB

Professor Floratos

Christine and her crew from the local Organizing Committee !

Theodoros Alexopoulos

Dimitris Fassouliotis

Pavlos Ioannou

Evangelos Gazis

Christine Kourkoumelis

Chara Petridou

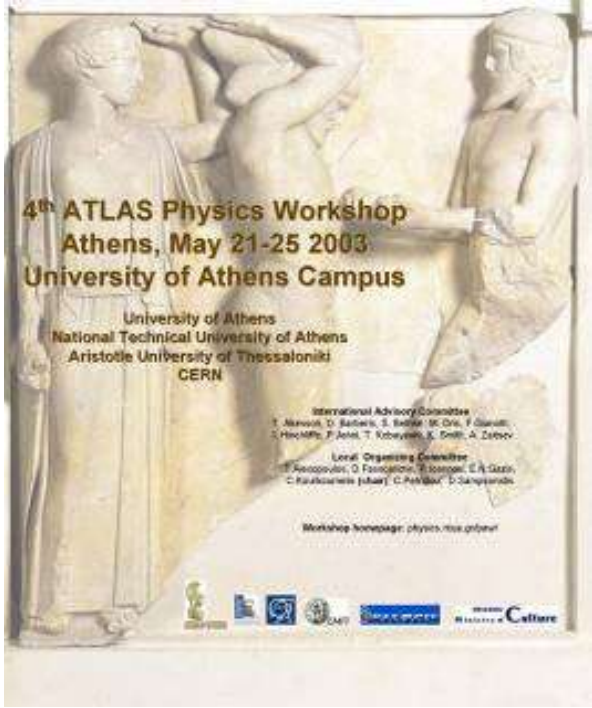
Dimitrios Sampsonidis



Athens, 25 May 2003



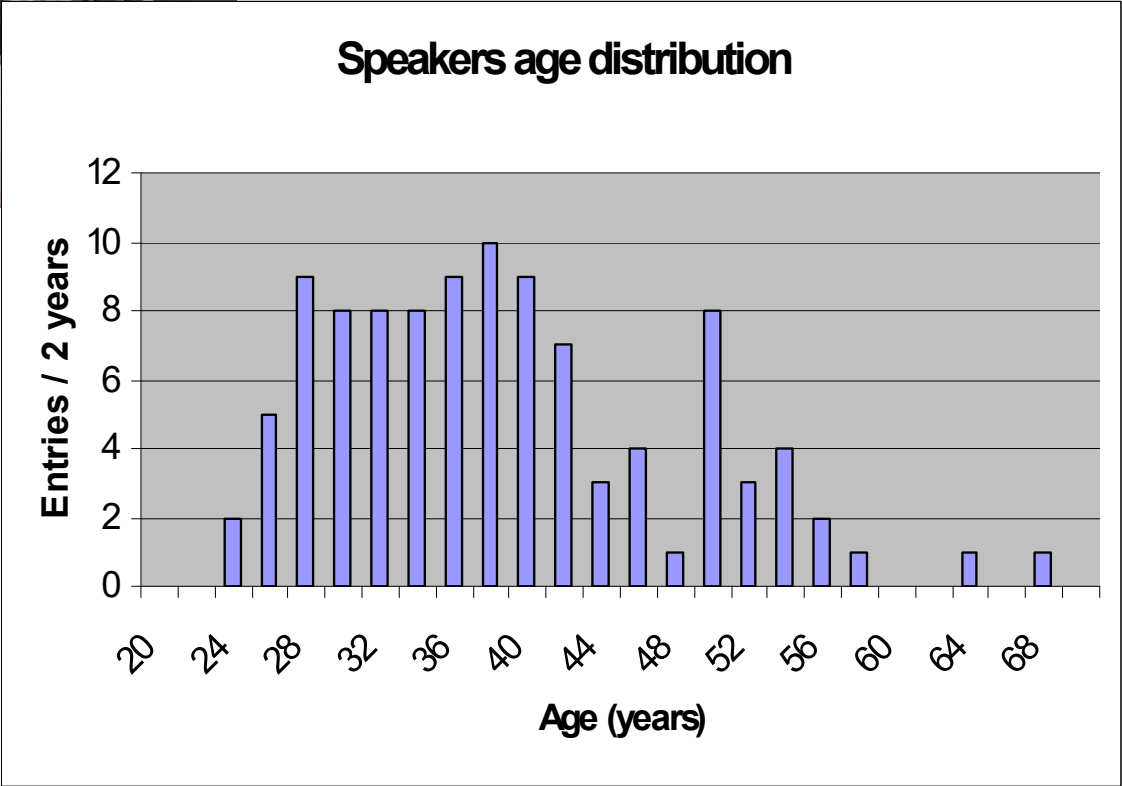
An original slide from HSSHEP 2005



4th ATLAS Physics Workshop Athens, May 2003

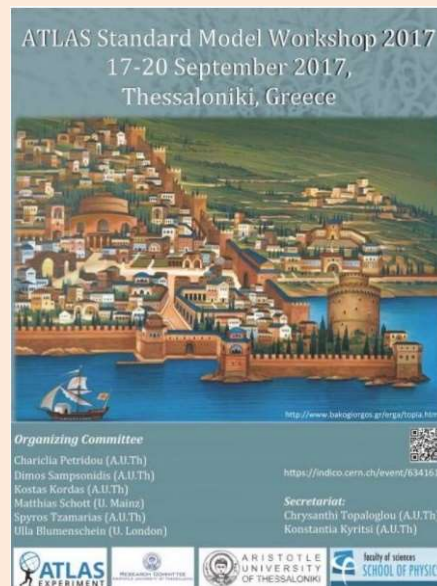
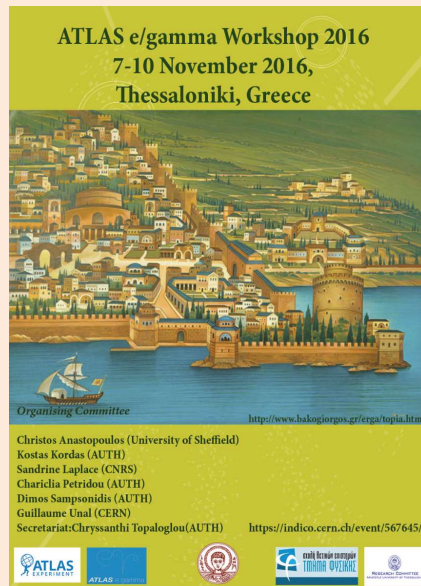
Speakers age distribution
of 103 (of the 104) talks

28 female and 76 male
speakers



These were some recollections from the ‘ancient’ past (on the modest scale of ATLAS!), but of course what counts most now are all the more recent activities over the past two decades, and for the bright future, both in physics and advanced instrumentation contributions

Andreas Hoecker in the introduction and Dimitrios Fassouliotis just a while before have covered this very nicely



New Small Wheel of the ATLAS Phase-I upgrade including a new group from NCSR Demokritos that joined ATLAS in 2017



An e/γ Physics (2016) and a Standard Model Physics (2017) workshops in Thessaloniki