

# SPACE RESEARCH OPPORTUNITIES IN GREECE

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22-26 September 2010, Thessaloniki, Greece*

# **AN IMPORTANT STRATEGIC AND FINANCIAL OBJECTIVE FOR ESA**

**The European Space Laboratory “Columbus”, will be a European Research Infrastructure of the European Union**

**The use of “Columbus”, will be Research Priority for Europe in the 7<sup>th</sup> Framework Programme of the European Union, namely, at a pan-European level**

# SERIOUS DRAWBACKS OF "CERN"

Limited Thematology,

Almost complete lack of applications to every-day life on Earth,

Nonexistence, during the last 35 or so years, of any experimental verification of the otherwise many and interesting and ambitious theoretical results.

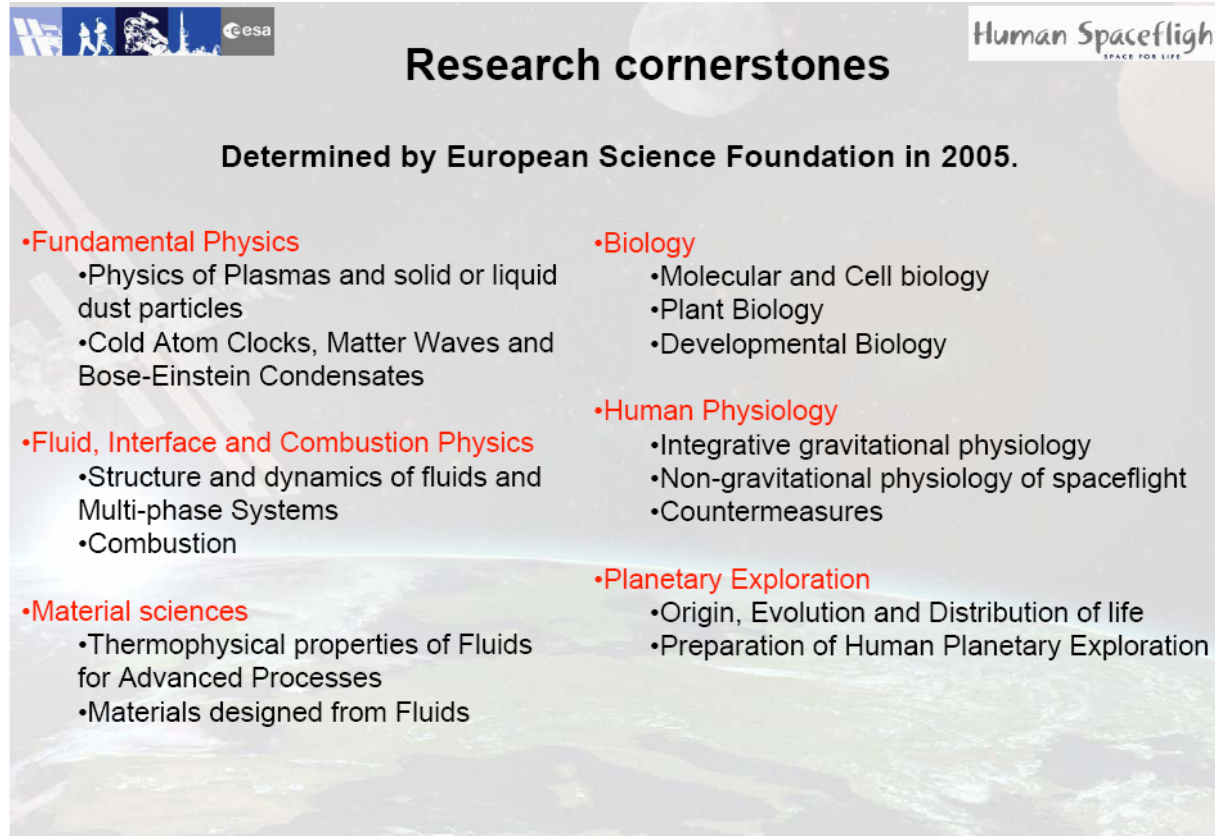
# THE NEAR FUTURE (...ALMOST PRESENT!!!)

“Columbus” is the *new scientific symbol of Unified Europe* (not CERN anymore)!!!



# CONSEQUENCE OF THE NEW REALITY

What is done up there will specify both what will be done down here and its funding!!!



The slide features a background image of Earth from space. In the top left corner, there is a small logo with the ESA emblem and the text 'esa'. In the top right corner, there is a logo for 'Human Spaceflight' with the tagline 'SPACE FOR LIFE' below it.

## Research cornerstones

Determined by European Science Foundation in 2005.

- **Fundamental Physics**
  - Physics of Plasmas and solid or liquid dust particles
  - Cold Atom Clocks, Matter Waves and Bose-Einstein Condensates
- **Fluid, Interface and Combustion Physics**
  - Structure and dynamics of fluids and Multi-phase Systems
  - Combustion
- **Material sciences**
  - Thermophysical properties of Fluids for Advanced Processes
  - Materials designed from Fluids
- **Biology**
  - Molecular and Cell biology
  - Plant Biology
  - Developmental Biology
- **Human Physiology**
  - Integrative gravitational physiology
  - Non-gravitational physiology of spaceflight
  - Countermeasures
- **Planetary Exploration**
  - Origin, Evolution and Distribution of life
  - Preparation of Human Planetary Exploration

# ACTIVITIES IN THESSALONIKI RELATED TO THE PARTICIPATION OF GREECE TO ESA

## (Activities by the National Delegate)

**Press Conference on the occasion of the recruitment of the new European Astronauts** (Dieter Isakeit, Michel Tognini, Jean Coisne, Chrysoula Kourtidou-Papadeli, N.K.Spyrou; 16 May 2008)

**Informative event on the E.L.I.P.S. Programme** (ESA Executive Dr Marc Heppener; 23 September 2008)

**Greece and ESA** (ESA Executive Giuseppe Reibaldi; 30 November 2008, 1 December 2008)

**Interdisciplinary Scientific Round Table** (University Medical School; 2 April 2009)

**The First ESA Fellowships in Greece** (April 2009)

**The recruitment of the new European Astronauts and the Greek participation** (June 2009)

**A New Book on ISS** (2010)

**Greek proposal for naming ATV-4 as “Aristarchos of Samos”** (May 2010)

**Workshop with HSF Delegations in Thessaloniki**

**Lots of Ongoing Activities**

(Teaching, Supervising, Public Talks, New Space IKY Fellowships on Space Physics, New IKY, GSRT and ESA Fellowships, IKY and GSRT Consulting, (under- and post-graduate levels), ESA Programmes and ESA- Programmes Advice, National Space Policy )

For details see: [www.astro.auth.gr](http://www.astro.auth.gr) (Link:ESA Activities)

# Press Conference on the occasion of the recruitment of the new European Astronauts

(Dieter Isakeit, Michel Tognini, Jean Coisne, Chrysoula Kourtidou-Papadeli, N.K.Spyrou; 16 May 2008)



# Informative event on the E.L.I.P.S. Programme (ESA Executive Dr Marc Heppener; 23 September 2008)





# Greece and ESA

(ESA Executive Giuseppe Reibaldi; 30 November 2008, 1 December 2008)



# Interdisciplinary Scientific Round Table

(Universty Medical School; 2 April 2009)





# The Recruitment of the New European Astronauts and the Greek participation (June 2009)

## An excerpt from the e-mail message to ESA/PB-HME

...Dear Elena,

Many thanks for your interesting message on the ESA Astronaut Selection procedure...

...Therefore, it is obvious that, for every-member-state, a few thousands of its total population have applied for an astronaut position (this percentage ranging between 6.19 for Finland and 0.64 for Denmark, with a mean value, approximately, 2.40). This result by itself is very interesting, **namely, a percentage of the same order of magnitude for all member-states!!!**

*However, one could see the results in a different and very specific way. Of course, the absolute numbers of applications are, naturally, larger for the bigger (in total population) member-states; but the interest expressed by the citizens of the smaller (in population) member-states is considerably much larger than that by the bigger (in population) member-states, namely, the citizens of the smaller (in total population) member-states responded much more better and much more actively...*

## A New Book on ISS (2010)

Μια πλήρης και πολύ ενημερωτική περιγραφή των εννοιών *Ευρωπαϊκός Οργανισμός Διαστήματος, Ευρωπαίοι Αστροναύτες, Διεθνής Διαστημικός Σταθμός, Columbus, ATV,ARV, δυνατότητες για έρευνα, βιομηχανία, τεχνολογία εκπαίδευση, αναμενόμενα οφέλη και υποχρεώσεις σε εθνικό επίπεδο από την σύνδεση της χώρας μας με τον ΕΟΔ αλλά και της σημασίας όλων των ανωτέρω για την βελτίωση, μέσω αυτών, της ζωής του ανθρώπου πάνω στην Γη, αλλά και για την συνέχιση της εξερεύνησης του Ηλιακού Συστήματος, βρίσκεται στο βιβλίο με τίτλο **«ΔΙΑΣΤΗΜΑ Βάση Ευρώπη»** των Ν.Κ. Σπύρου και Κ.Ν. Σπύρου, το οποίο πρόσφατα κυκλοφόρησε στην Θεσσαλονίκη από τον εκδοτικό οίκο **UNIVERSITY STUDIO PRESS.***

# The book has been advertised in the February 2010 Issue (page 82) of the ESA Bulletin

## SPACE Base Europe available in Greek

*SPACE Base Europe*, the book about the International Space Station by ESA's Giuseppe Reibaldi and noted Italian journalist Giovanni Caprara, **IS NOW ALSO AVAILABLE IN A GREEK EDITION.**

The English edition, with 236 pages and more than 250 illustrations, can be ordered via the form at the back of this issue of the *Bulletin*, quoting BR-270 ISBN 978-92-9221-006-9, price €20.

The Greek edition, with 293 pages and more than 260 illustrations, can be ordered (price €30) via University Studio Press, 32 Armenopoulou St., 546.32 Thessaloniki, Greece  
Tel: +30 31 208 731 or +30 31209 637  
Fax: +30 31 216 647  
[www.universitystudiopress.gr/intro.htm](http://www.universitystudiopress.gr/intro.htm)  
Email: [info@universitystudiopress.gr](mailto:info@universitystudiopress.gr)

Any questions on the Greek edition should be addressed to University Studio Press (not ESA). Further information on the book and on ESA activities at the Aristoteleion University of Thessaloniki can be found at [www.astro.auth.gr](http://www.astro.auth.gr) (link: ESA Activities)



...and it is exposed at the ESTEC book desk at Noordwijk just outside the *Newton 1* and *Newton 2* halls...



SI  
*Space Base Europe*, the book about the  
 now also available in a Greek edition.  
 The Greek edition, with 293 pages and  
 St. 546.32 Thessaloniki, Greece; Tel:  
 email: info @ universitystudiopress  
 Any questions on the Greek edition  
 activities at the Aristoteleion Univ

**Η έκδοση του Ευρωπαϊκού  
 Europe» είναι τώρα διαθέσιμη  
 διαγράμματα!**

Πρόσφατα, κυκλοφόρησε  
 στην Ελληνική γλώσσα  
 Europe» με συγγραφείς  
 Giovanni Caprara. Η μετ.  
 Καθηγήτη Αστρονομίας  
 Ελλάδος στον Ευρωπαϊκό  
 Μετεωρολόγιο και Κ

ΣΗΜΕΙΩΣΗ  
 Το βιβλίο «ΔΙΑΣΤΗΜΑ  
 Θεσσαλονίκη, Μακεδονία  
 http://www.universitystudio  
 Οι ενδιαφερόμενοι μετ  
 την προμήθεια του βιβ

### **SPACE Base Europe available in English and Greek**

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**Η έκδοση του Ευρωπαϊκού Οργανισμού Διαστήματος (ΕΟΔ, European Space Agency, ESA) «SPACE Base Europe» είναι τώρα διαθέσιμη και στην Ελληνική γλώσσα, με 293 σελίδες και 263 εγχρωμες εικόνες και διαγράμματα!**

Πρόσφατα, κυκλοφόρησε το βιβλίο με τίτλο «ΔΙΑΣΤΗΜΑ Βάση Ευρώπη». Το βιβλίο αυτό αποτελεί μετάφραση στην Ελληνική γλώσσα της έκδοσης του Ευρωπαϊκού Οργανισμού Διαστήματος (ΕΟΔ) με τίτλο «SPACE Base Europe» με συγγραφείς τον Executive του ΕΟΔ κo Giuseppe Reibaldi και τον διακεκομμένο Ιταλό δημοσιογράφο κo Giovanni Caprara. Η μετάφραση στην Ελληνική γλώσσα έγινε με επιμέλεια του κoυ Νικολάου Κ. Σπύρου, Καθηγητή Αστρονομίας στο Αριστοτέλειο Πανεπιστημίου Θεσσαλονίκης και Εθνικού Εκπροσώπου της Ελλάδος στον Ευρωπαϊκό Οργανισμό Διαστήματος (ΕΟΔ, ESA/PB-HME) και της Διδάκτορος Γεωλόγου-Μετεωρολόγου κας Κωνσταντίνας Ν. Σπύρου.

#### **ΣΗΜΕΙΩΣΗ**

Το βιβλίο «ΔΙΑΣΤΗΜΑ Βάση Ευρώπη» εκδόθηκε από τον εκδοτικό οίκο University Studio Press (Αρμενοπούλου 32, 546.32 Θεσσαλονίκη, Μακεδονία, Ελλάδα, Αριθμ. Τηλ. +30 31 208 731, +30 31209 637, Αριθμ. Τηλεfax (fax) +30 31 216 647), <http://www.universitystudiopress.gr/intro.htm>, email: [info@universitystudiopress.gr](mailto:info@universitystudiopress.gr)  
Οι ενδιαφερόμενοι μπορούν να απευθυνθούν στον ανωτέρω εκδοτικό οίκο και όχι στον ΕΟΔ για περισσότερες πληροφορίες και για την προμήθεια του βιβλίου στην τιμή των 30.00 Ευρώ ανά τεύχος.



# ARISTARCHOS OF SAMOS: FOUNDER OF ASTRONOMY

## NAMING ATV- 4 AS “ARISTARCHOS OF SAMOS”

### SUGGESTION (An Excerpt)

*... The paternity of the heliocentric theory, exclusively and originally, belongs to Aristarchos of Samos, who founded Astronomy on the logical reasoning. His contributions, a couple of millennia ago, to science and technology, and, of course, to Cosmology and Astronomy and, especially, to our Solar System are all well-known, and have shaped contemporary science. All these contributions and, particularly, the heliocentric theory and the dynamics and physics of the Solar System are obviously in line with the interests of and of importance to HSF/HME.*

*Therefore, Aristarchos of Samos is a historical character easily recognizable at both the European level and the international level.*

*For all the above reasons, we in Greece find important and natural to associate the name of the ATV-4 with Aristarchos of Samos, and we officially suggest this name to the Director of ESA/Human Spaceflight ...*

# ESA-SPACE RESEARCH IN THESSALONIKI (An Incomplete Departments List)

Astronomy Department

Laboratory for Space Materials and Applications Laboratory for Atmospheric Physics

Geology Department-Forestry Department

Chemistry Department

Medicine School

Engineering Department

# ESA-SPACE RESEARCH IN THESSALONIKI

(An Incomplete Subjects List)

European Life and Physical Sciences Programme (E.L.I.P.S.)

Space Debris and matters of safety on Earth, the ISS, and the Near-Earth space environment  
(Probes: ISS, Columbus)

Cosmology, Relativity, and Relativistic Astrophysics (ESA Probes: Herschel/Planck)

Properties and dynamics of astrophysical sources in various spectral areas (ESA Probes:  
Herschel/Planck)

Detection of gravitational waves via laser interferometry detectors, and properties of their  
astrophysical and cosmological sources (ESA Probes: LISA, Pathfinder/LISA)

Astrophysics and modelling of energetic particles from the Sun, the solar wind, and the Earth's  
magnetic field (ESA Probe: CLUSTER)

Dynamics of planetary systems and detection of extra solar planets and planetary systems  
(ESA Probes: COROT and GAIA)

Telecommunications

Materials for space applications: Materials for harsh environment, hard and super-hard  
protective coatings, materials with sensing applications i.e. ATOX sensing, stain sensing et.c..

Remote Sensing

Observation of Earth from Space

Standardization of satellite measurements

Properties of fluids

Technologies for sharing medical educational resources

Biomedical Technology

**ON THE ABOVE SUBJECTS IN GREECE THERE EXIST ACTIVE WORKING GROUPS IN UNIVERSITIES AND  
RESEARCH CENTRES, IN CLOSE EUROPEAN COLLABORATION**



**...one's dreams might be realized...**

European long-term research has started in Columbus ...



# ΣΟΦΑ ΛΟΓΙΑ...ΔΙΑΧΡΟΝΙΚΑ

Ο Ισοκράτης (436 π.Χ-338 π.Χ.), λίγο πριν από την κατάρρευση της Αθήνας που δεν άντεξε τις καινούργιες προκλήσεις της τότε εποχής, είχε σημειώσει:

*"Η Δημοκρατία μας αυτοκαταστρέφεται διότι κατεχράσθη το δικαίωμα της ελευθερίας και της ισότητας, διότι έμαθε τους πολίτες να θεωρούν την αυθάδεια ως δικαίωμα, την παρανομία ως ελευθερία, την αναίδεια του λόγου ως ισότητα και την αναρχία ως ευδαιμονία."*

Λόγια που ηχούν σαν να γράφτηκαν για την τωρινή Ελλάδα!

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