

National Programme of Controlled Thermonuclear Fusion

ΕΝΩΣΗ EURATOM - ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ - ASSOCIATION EURATOM - HELLENIC REPUBLIC



9TH SCHOOL OF FUSION PHYSICS & TECHNOLOGY PROGRAMME - ΠΡΟΓΡΑΜΜΑ 9^Ο ΣΧΟΛΕΙΟ ΦΥΣΙΚΗΣ & ΤΕΧΝΟΛΟΓΙΑΣ ΣΥΝΤΗΞΗΣ

Volos 19 - 23 April 2010

UNIVERSITY OF THESSALY

DEPARTMENT OF MECHANICAL ENGINEERING

Auditoria of Mechanical & Planning Engineering

Athens Avenue & Sekeri Str - 38234 Volos – Greece

(Info: Tel. 24210 74090/11 or Tel/Fax. 24210 74085)



First Fusion School - Volos May 2002

Website: <http://www.hellasfusion.gr>

PURPOSE OF THE SCHOOL - ΣΚΟΠΟΣ ΤΟΥ ΣΧΟΛΕΙΟΥ

The last 50 years significant research activities have been developed for the production of energy from fusion. The construction of the first international thermonuclear experimental reactor (ITER) started in France by EU, China, India, Japan, Korea, Russia and USA. The European Fusion Programme (EFP) supports and coordinates the related research in the member-states of EU, promoting the cooperation between research units and the participation of researchers. In the frame of the activities of the National Programme of Controlled Thermonuclear Fusion (NPCTF-www.hellasfusion.gr) funded by the Association Euratom-Hellenic Republic, a Fusion School is held annually. Its aim is the introduction to basic physics and technology of fusion and related fields. Special workshops are also organized where young researchers present their recent research. The participants (senior undergraduate, graduate, young researchers) will be updated on the EFP and the activities of the research groups of NPCTF. Interested students may explore the possibility of executing graduating and master projects or doctoral theses.

Τα τελευταία 50 χρόνια έχουν αναπτυχθεί σημαντικές ερευνητικές δραστηριότητες για την παραγωγή ενέργειας από σύντηξη. Η κατασκευή του πρώτου διεθνούς θερμοπυρηνικού πειραματικού αντιδραστήρα (ITER) άρχισε στη Γαλλία με συμμετοχή ΕΕ, Ιαπωνίας, Ινδίας, Κίνας, Κορέας, Ρωσίας και ΗΠΑ. Το Ευρωπαϊκό Πρόγραμμα Σύντηξης (ΕΠΣ) υποστηρίζει και συντονίζει τη σχετική έρευνα στα κράτη-μέλη της ΕΕ, και ενισχύει τη συνεργασία μεταξύ των ερευνητικών μονάδων και τη συμμετοχή ερευνητών. Στο πλαίσιο των δραστηριοτήτων του Εθνικού Προγράμματος Ελεγχόμενης Θερμοπυρηνικής Σύντηξης (ΕΠΕΘΣ- www.hellasfusion.gr) που χρηματοδοτείται από την Ένωση Euratom - Ελληνική Δημοκρατία, διοργανώνεται ετησίως το Σχολείο Σύντηξης. Σκοπός είναι η εισαγωγή σε βασικά προβλήματα φυσικής και τεχνολογίας της σύντηξης και συναφών πεδίων. Επίσης γίνονται ειδικές συνεδρίες όπου οι νέοι ερευνητές παρουσιάζουν την πρόσφατη έρευνά τους. Οι συμμετέχοντες (τελειόφοιτοι, μεταπτυχιακοί, νέοι ερευνητές) θα ενημερωθούν για το ΕΠΣ και τις δραστηριότητες των ερευνητικών ομάδων του ΕΠΕΘΣ. Οι ενδιαφερόμενοι φοιτητές μπορούν να διερευνήσουν την δυνατότητα εκπόνησης διπλωματικών, μεταπτυχιακών ή διδακτορικών διατριβών.

UNIVERSITY OF THESSALY - ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΙΑΣ

The University of Thessaly was founded in 1984 and admitted its first students in 1988. Today there are (12) academic departments in the city of Volos, (2) in Larissa, (1) Karditsa and (1) Trikala. The UTH has 7.000 undergraduate and 1200 graduate students, 450 Faculty, 300 visiting lecturers, and 300 technical and administrative staff. Its Library system is one of the first computerized libraries in Greece, having an Intranet system and access to other libraries. The School of Engineering has five departments: Planning, Town & Regional Development Engineering - Mechanical Engineering - Civil Engineering - Architectural Engineering - Computer-Telecommunications & Network Engineering (www.uth.gr).

Το Πανεπιστήμιο Θεσσαλίας ιδρύθηκε το 1984 με έδρα το Βόλο και δέχτηκε τους πρώτους φοιτητές του το 1988. Σήμερα έχει (12) τμήματα στο Βόλο, (2) στη Λάρισα, (1) στη Καρδίτσα και (1) στα Τρίκαλα. Το ΠΘ έχει 7.000 προπτυχιακούς και 1200 μεταπτυχιακούς φοιτητές, 450 μέλη ΔΕΠ, 300 διδάσκοντες ΠΔ407/80, και 300 τεχνικό και διοικητικό προσωπικό. Η κεντρική Βιβλιοθήκη του είναι από τις πρώτες μηχανοργανωμένες βιβλιοθήκες στη Ελλάδα, διαθέτοντας πλήρες σύστημα Δικτύου και πρόσβαση σε άλλες βιβλιοθήκες. Η Πολυτεχνική Σχολή περιλαμβάνει πέντε τμήματα: Μηχανικών Χωροταξίας, Πολεοδομίας & Περιφερειακής Ανάπτυξης - Μηχανολόγων Μηχανικών - Πολιτικών Μηχανικών - Αρχιτεκτόνων Μηχανικών - Μηχανικών Η/Υ, Τηλεπικοινωνιών & Δικτύων (www.uth.gr).

DEPARTMENT OF MECHANICAL ENGINEERING - ΤΜΗΜΑ ΜΗΧΑΝΟΛΟΓΩΝ ΜΗΧΑΝΙΚΩΝ

The Department of Mechanical Engineering was founded in 1985 in Volos and admitted its first students in 1990. Today it has 20 Faculty, 20 visiting lecturers, 360 undergraduate and 100 graduate students, 8 technical and 10 administrative staff. It is active in teaching and research in the areas of: Energy, Industrial Processes & anti-Pollution Technology, Mechanics-Materials & Manufacturing, and Production Management & Industrial Administration. The Department has developed training and research laboratories with modern equipment and is open for collaboration with Industry and other organizations (www.mie.uth.gr).

Το Τμήμα Μηχανολόγων Μηχανικών ιδρύθηκε το 1985 με έδρα το Βόλο και δέχτηκε τους πρώτους φοιτητές του το 1990. Σήμερα έχει 20 μέλη ΔΕΠ, 20 Διδάσκοντες ΠΔ407/80, 360 προπτυχιακούς και 100 μεταπτυχιακούς φοιτητές, 8 ΕΤΕΠ και 10 διοικητικό προσωπικό. Το Τμήμα δραστηριοποιείται σε εκπαίδευση και έρευνα στις περιοχές: Ενέργεια, Βιομηχανικές Διεργασίες & Αντηρυπαντική Τεχνολογία, Μηχανική, Υλικά & Κατεργασίες, και Οργάνωση Παραγωγής & Βιομηχανική Διοίκηση. Το Τμήμα έχει αναπτύξει εκπαιδευτικά και ερευνητικά εργαστήρια με σύγχρονο εξοπλισμό και είναι ανοικτό για συνεργασία με την Βιομηχανία και άλλους φορείς (www.mie.uth.gr).



ASSOCIATION EURATOM – HELLENIC REPUBLIC
NATIONAL PROGRAMME OF CONTROLLED THERMONUCLEAR FUSION

9TH SCHOOL ON FUSION PHYSICS AND TECHNOLOGY

UNIVERSITY OF THESSALY – VOLOS, GREECE 19 - 23 APRIL 2010
 (Auditoria: Mechanical Engineering & Planning Engineering)

P R O G R A M M E (V11 - 18.4.2010)

Monday - 19 April 2010

Plenary Session: Opening & Invited Lectures (K. Hizanidis - N. Vlachos)

Time	Auditorium A (Mechanical Engineering)		Remarks
09:00-10:00	Registration	C. Dritselis - M. Angeli - N. Sachinidou - Z. Zoupi E.Benos-D.Dimopoulos-A.Iatrides-J.Lihnaropoulos-S.Misdanitis-S.Pantazis	
10:00-10:10		Welcome: N. Vlachos - I. Papazoglou –K. Hizanidis Address: Dept. Chair Prof. D. Valougeorgis - Dean Engng Prof. Z. Kotionis School Opening: Prof. Vasilis Bontozoglou, Vice Rector for R&D	
10:10-11:30	P1 Invited	A. Ram: Energy, environment and thermonuclear fusion	MIT

11.30-11.50 Coffee Break

11:50-12:40	P2 Invited	S. Papastergiou: The role of F4E in the European fusion program and its "in-kind contribution" of the cryogenic vacuum pumping systems to ITER	F4E- Rep. EC
12.40-13.30	P3 Invited	B. Weysow: The European Fusion Development Agreement	EFDA - ULB

13.30-15.00 Lunch Break Lunch Break – Poster Session (Mech. Eng. Lobby)

Plenary Session: School Lectures – 1 (A. Grecos - H. Isliker)

Time	Auditorium B (Planning Engineering)		Remarks
15:00-16:40	S1.1	A. Anastasiadis: Basic concepts of plasmas	NOA
16.40-15.00 Coffee Break			
17:00-18:10	S1.2	Y. Kominis: Charged particle dynamics	NTUA
18:10-18:50	S1.3 Invited	A. Ram: Dancing with the stars: Quest for fusion energy	MIT
18:50-19:30	Posters (I) Tutorial - I	Poster Presentations (3 mins. each) Teacher – Student Interaction	Coordinator: Y. Kominis

Tuesday - 20 April 2010

Plenary Session: School Lectures - 2 (D. Valougeorgis - A. Grecos)

Time	Auditorium B (Planning Engineering)		Remarks
09:30-10:30	S2.1	J. Vomvouridis: Kinetic theory	NTUA
10.30-11:30	S2.2 Invited	A. Ram: Waves and applications	MIT

11.30-11.50 Coffee Break

Plenary Session: School Lectures - 3 (A. Grecos - I. Sarris)

11:50-12:40	S3.1 Invited	L. Buehler: Asymptotic methods for modeling of liquid-metal flows in strong magnetic fields	KIT/FZK
12:40-13:30	S3.2 Invited	K.-H. Spatschek: Plasma transport: Basic aspects	U. Düsseldorf

13.30-15.00 Lunch Break Lunch Break – Poster Session (Mech. Eng. Lobby)

Workshop - 1: Stochastic Modeling and Plasma Transport (K. Hitzanidis – A. Anastasiadis)

Time	Auditorium B (Planning Engineering)		Remarks
15:00-15:50	W1.1 Invited	K.-H. Spatschek: Transport in stochastic magnetic fields	U. Düsseldorf
15:50-16:40	W1.2 Invited	B. Weyssow, S. Moradi: Fractional transport in plasma	EFDA - ULB
16.40-15.00 Coffee Break			
17:00-17:50	W1.3	H. Isliker: Particle and heat transport in turbulent environment	AUTH
17:50-18:40	W1.4	I. Kominis, A. Ram, K. Hizanidis: Kinetic formulation of transport of charged particles interacting with coherent EM waves in plasmas	NTUA - MIT
18:40-19:30	Posters (II) Tutorial - II	Poster Presentations (3 mins. each) Teacher – Student Interaction	Coordinator: J.Vomvouridis

Wednesday - 21 April 2010

Plenary Session: School Lectures – 4 (D. Vavougiotis – A. Grecos)

Time	Auditorium B (Planning Engineering)		Remarks
09:30-10:50	S4.1	G. Throumoulopoulos: Introduction to Magnetohydrodynamics	UoI
10:50-11:30	S4.2	P. Lalousis: Compressible MHD (ideal/resistive)	FORTH (ITE)

11.30-11.50 Coffee Break

Plenary Session: School Lectures – 5 (G. Throumoulopoulos - A. Lazaros)

11:50-12:30	S5.1	N. Pelekasis: Introduction to hydrodynamic and MHD stability	UTH
12:30-13:30	S5.2 Invited	V. Igochine: Introduction to plasma stability	MP-IPP Garching

13.30-15.00 Lunch Break Lunch Break – Poster Session (Mech. Eng. Lobby)

Workshop - 2: MHD and Plasma Stability (G. Throumoulopoulos - N. Pelekasis)

15:00-15:50	W2.1 Invited	V. Igochine: Operational limits and MHD instabilities in modern tokamaks and ITER	MP-IPP Garching
15:50-16:40	W2.2	A. Lazaros: Magnetic islands: the “cancer” of magnetically confined plasmas	NTUA

16.40-15.00 Coffee Break

17:00-17:50	W2.3 Invited	L. Buehler, C. Mistrangelo: Magnetohydrodynamic flows in fusion blankets: experiments and simulations	KIT/FZK
17:50-18:10	W2.4	C. Dritselis, N. Vlachos: Near-wall coherent structures in MHD turbulent flows	UTH
18:10-18:40	W2.5	A. Kuiroukidis: ECCD and island saturation in realistic magnetic fields	AUTH
18:40-19:20	Tutorial - III	L. Vlahos: Open problems in Plasmas Teacher – Student Interaction	Coordinator: A. Ram

21:00-23:30

SCHOOL DINNER – RESTAURANT «SKOUTELIKO»

Thursday - 22 April 2010

Plenary Session: School Lectures – 6 (I. Sarris - K. Avramidis)

Time	Auditorium A (Mechanical Engineering)		Remarks
09:30-10:30	S6.1 Invited	D. Carati: Introduction to MHD Turbulence	ULB
10.30-11:30	S6.2 Invited	A. Ram: Heating and current drive by radio frequency waves in fusion plasmas	MIT

11.30-11.50 Coffee Break

Plenary Session: School Lectures – 7 (G. Latsas - I. Tigelis)

11:50-12:40	S7.1 Invited	B. Piosczyk: Gyrotrons: basic operating principles and application	KIT/FZK
12:40-13:30	S7.2 Invited	G. Dammertz: Technical design of high power gyrotrons & its components	KIT/FZK

13.30-15.00 Lunch Break Lunch Break – Poster Session (Mech. Eng. Lobby)

Workshop - 3: Gyrotrons – ECRH (J. Vomvoridis - I. Tigelis)

Time	Auditorium A (Mechanical Engineering)		Remarks
15:00-15:40	W3.1 Invited	B. Piosczyk: European gyrotron development for ITER	KIT/FZK
15:40-16:10	W3.2	K. Avramides, I. Pagonakis: Gyrotron interaction simulations	NTUA - EPFL
16:10-16:40	W3.3	Z. Ioannidis, I. Tigelis: Recent numerical results for eigenvalues and ohmic losses in coaxial corrugated cavities	UoA

16.40-15.00 Coffee Break

17:00-17:40	W3.4 Invited	G. Dammertz: ECRH system for the W7-X stellarator	KIT/FZK
17:40-18:10	W3.5	G. Latsas, I. Tigelis: Parasitic oscillations in the gyrotron beam tunnel	UoA
18:10-18:40	W3.6	C. Tsironis, I. Giannopoulos: Automatic control systems and applications to Tokamak fusion	NTUA – AUTH TEI Pir
18:40-19:10	W3.7	S. Moustazis: Compact magnetic fusion devices: initiative for a neutron test facility	TUC
19:10-19:30	Tutorials (IV)	S. Moustazis: Negative Ions Teacher – Student Interaction	Coordinator: S. Moustazis

Friday - 23 April 2010

Plenary Session: School Lectures – 8 (N. Pelakasis - I. Sarris)

Time	Auditorium A (Mechanical Engineering)		Remarks
09:30-10:30	S8.1 Invited	G. Haidemenopoulos: Materials at high temperatures	UTH
10:30-11:30	S8.2	G. Apostolopoulos: The grand challenge for Fusion energy: developing materials for DEMO	NCSR Demokritos

11.30-11.50 Coffee Break

11:40-12:40	S8.3	D. Valougeorgis: Kinetic modelling for vacuum flows in DT fusion reactors	UTH
12:40-13:30	S8.4	N. Vlachos: Examples of CFD codes for viscous MHD flow & heat transfer	UTH

13.30-14.30 Lunch Break Lunch Break – Poster Session (Mech. Eng. Lobby)

Workshop - 4: Modeling Viscous MHD, Vacuum Flows, Turbulence and Heat Transfer (K. Hizanidis - N. Vlachos)

Time	Auditorium B (Mechanical Engineering)		Remarks
14:30-15:20	W4.1 Invited	D. Carati: LES ideas for gyrokinetic equations	ULB
15:20-16:00	W4.2	S. Pantazis, S. Misdanitis, D. Valougeorgis: Modeling of nonlinear vacuum gas flows	UTH
16:00-16:30	W4.3	D. Dimopoulos, N. Pelekasis: Magnetic field effects on 3D stability of natural convection in differentially heated cavities	UTH

16.40-15.00 Coffee Break

16:40-17:10	W4.4	D. Grigoriadis, S. Kassinos: Computational modelling of liquid metal flows	U. Cyprus
17:10-17:40		I. Sarris, D. Carati: Plasma stability and turbulent simulations in tokamaks based on the openFOAM	UTH - ULB
17:40-18.00		9TH SCHOOL CLOSING – CERTIFICATES OF ATTENDANCE	

POSTERS OF RESEARCH ACTIVITIES

- RP01 I. Chatziantonaki, C. Tsironis, E. Poli, L. Vlahos:** Electron-cyclotron wave propagation, absorption and current drive in the presence of neoclassical tearing modes
- RP02 D. Dritselis, I. Sarris, D. Fidaros, N. Vlachos:** Neutral particle transport and deposition in turbulent MHD flows with lateral and volumetric heating
- RP03 H. Isliker, T. Pisokas, D. Strintzi, L. Vlahos:** A 1D self-organized criticality model for turbulence driven by micro-instabilities in tokamak plasmas
- RP04 S. Kakarantzas, I. Sarris, N. Vlachos:** Magnetic field effect on MHD natural convection in vertical annuli with lateral and volumetric heating
- RP05 A. Kappatou, K. Hizanidis:** Study of the discrepancy in temperature measurements in high temperature plasmas
- RP06 A. Lazaros:** Evaluation of current drive efficiency for the suppression of NTMs
- RP07 S. Misdanitis, S. Pantazis, J. Lihnaropoulos, D. Valougeorgis, S. Varoutis, V. Hauer, C. Day:** Experimental and numerical investigation of vacuum gas flows in fusion vacuum systems
- RP08 S. Moustazis:** Negative Ions: Production and applications to magnetic fusion (ITER and DEMO)
- RP09 T. Panis, P. Blanchard, C. Bower, H. Carfantan, A. Fasoli, A. Goodyear, N. Mellet, S.E. Sharapov, D. Testa & JET-EFDA contributors:** Recent damping rate measurements of antenna-driven toroidal Alfvén eigenmodes of intermediate n on JET and comparison with plasma models
- RP10 S. Pantazis, C. Lalescu, D. Carati, D. Valougeorgis, A. Grecos:** Simulation of trajectories for a particle in a helicoidal magnetic field, subject to a random electric field
- RP11 I. Sarris, A. Iatrides, C. Dritselis, N. Vlachos:** Magnetic field effect on the cooling of low-Pr fluids in a vertical cylinder
- RP12 G. Throumoulopoulos, H. Tasso, G. Poulipoulis:** Equilibrium nonlinearity and combined stabilizing effects of magnetic field and plasma flow
- RP13 A. Vogianou, M. Negrea, I. Petrisor, G. Fuhr, B. Weyssow, H. Isliker, L. Vlahos:** Ion transport coefficients in turbulent tokamak plasma
- RP14 K. Hizanidis, P. Zestanakis, A. Ram, Y. Kominis:** Nonlinear interaction of beating EC waves with ions

POSTERS OF RESEARCH GROUPS:

Please bring Posters with your research activities of your Group

- GP1 U. Thessaly:** University of Thessaly research activities in MHD and vacuum flows for Fusion

PROCEEDINGS:

ALL PARTICIPANTS are kindly requested

to submit their presentations in PDF for the [SCHOOL WEB](#)

9TH SCHOOL OF FUSION PHYSICS & TECHNOLOGY

UNIVERSITY OF THESSALY, VOLOS-GREECE, 19-23 APRIL 2010

AUTHORS / SPEAKERS

Dr Tassos Anastasiadis, Natl. Observatory Athens, GR
Dr George Apostolopoulos, NCSR "Demokritos", GR
Dr Kostas Avramides, Natl. Technical U. Athens, GR
Dr Leo Buehler, FZK, Karlsruhe . Technology, Germany
Prof. Daniele Carati, I. Plasma, U. Libre Bruxelles, Belgium
Dr Guenter Dammertz, Karlsruhe I. Technology, Germany
Mr Dimitris Dimopoulos, University of Thessaly, Greece
Dr Chris Dritselis, University of Thessaly, Greece
Dr Alkis Grecos, University of Thessaly, Greece
Dr Demokritos Grigoriadis, University of Cyprus, Cyprus
Prof. G. Haidemenopoulos, University of Thessaly, GR
Prof. Kyriakos Hizanidis, Natl. Tech. U. Athens, Greece
Dr Zisis Ioannidis, National University Athens, Greece
Dr Valentin Igochine, Max-Planck I. Plasmaphysics, D
Dr Heinz Isliker, Aristotle Univ. of Thessaloniki, Greece
Prof. S. Kassinos, University of Cyprus, Cyprus
Dr Yannis Kominis, Natl. Technical Univ. Athens, GR
Dr Apostolos Kouiroukidis, Aristotle U. Thessaloniki, GR
Dr Paraskevas Lalousis, Foundation Res. & Tech., GR
Dr George Latsas, National University of Athens, GR

Dr Avrilios Lazaros, Natl. Technical Univ. of Athens, Greece
Mr Serafim Misdanitis, University of Thessaly, Greece
Prof. Stavros Moustazis, Tech. University of Crete, Greece
Mr Sarantis Pantazis, University of Thessaly, Greece
Dr Stamos Papastergiou, F4E, Barcelona, Spain
Prof. Nikos Pelekasis, University of Thessaly, Greece
Dr Bernhard Piosczyk, FZK, Karlsruhe I. Technology, D
Prof. Abhay Ram, PSFC, Massachusetts I. Technology, USA
Dr Ioannis Sarris, University of Thessaly, Greece
Prof. Karl-Heinz Spatschek, Univ. of Duesseldorf, Germany
Prof. Ioannis Tigelis, National University of Athens, Greece
Prof. George Throumoulopoulos, Univ. of Ioannina, Greece
Dr Christos Tsironis, Natl Technical Univ. of Athens, Greece
Prof. Demitris Valougeorgis, University of Thessaly, Greece
Prof. Dionysis Vavougiou, University of Thessaly, Greece
Prof. Nicholas Vlachos, University of Thessaly, Greece
Prof. Loukas Vlahos, Aristotle Univ. of Thessaloniki, Greece
Prof. John Vomvoridis, Natl Technical Univ. Athens, Greece
Dr Boris Weyssow, European Fusion Development Agreement

POSTER PRESENTERS

P. Blanchard Ecole Pol. Federale de Lausanne, CH
C. Bower Culham Science Centre, Abingdon, UK
H. Carfantan Univ. de Toulouse, Toulouse, France
D. Carati U. Libre de Bruxelles, Belgium
I. Chatziantonaki Aristotle U. of Thessaloniki, Greece
C. Day FZK, Karlsruhe Inst. Technology, Germany
D. Dritselis University of Thessaly, Greece
A. Fasoli Ecole Pol. Federale de Lausanne, CH
D. Fidaros University of Thessaly, Greece
G. Fuhr Universite de Provence, Marseille, France
A. Goodyear Culham Science Centre, Abingdon, UK
A. Grecos University of Thessaly, Greece
V. Hauer FZK, Karlsruhe Inst. Technology, Germany
K. Hizanidis Natl. Technical Univ. of Athens, Greece
A. Iatrides University of Thessaly, Greece
H. Isliker Aristotle Univ. of Thessaloniki, Greece
S. Kakarantzas U. Libre de Bruxelles, Belgium
A. Kappatou Natl. Technical Univ. of Athens, Greece
Y. Kominis Natl. Technical Univ. of Athens, Greece
C. Lalescu U. Libre de Bruxelles, Belgium
A. Lazaros Natl. Technical Univ. of Athens, Greece
J. Lihnaropoulos University of Thessaly, Greece
N. Mellet Ecole Pol. Federale de Lausanne, CH
S. Misdanitis University of Thessaly, Greece

S. Moustazis Tech University of Crete, Greece
M. Negrea Univ. of Craiova, Romania
T. Panis Ecole Polytechnique Federale de Lausanne, CH
S. Pantazis University of Thessaly, Greece
I. Petrisor Univ. of Craiova, Romania
T. Pisokas Aristotle U. Thessaloniki, Greece
E. Poli Aristotle U. of Thessaloniki, Greece
G. Poulipoulis University of Ioannina, Greece
A. Ram Massachusetts Inst. of Technology, USA
S. Sharapov Culham Science Centre, Abingdon, UK
I. Sarris University of Thessaly, Greece
D. Strintzi Natl. Technical Univ. of Athens, Greece
H. Tasso University of Ioannina, Greece
D. Testa Ecole Pol. Federale de Lausanne, CH
G. Throumoulopoulos Univ. of Ioannina, Greece
C. Tsironis Natl. Technical U. of Athens, Greece
D. Valougeorgis University of Thessaly, Greece
S. Varoutis FZK, Karlsruhe Inst. Technology, Germany
N. Vlachos University of Thessaly, Greece
L. Vlahos Aristotle Univ. of Thessaloniki, Greece
A. Vogianou Aristotle U. Thessaloniki, Greece
B. Weyssow EFDA – Univ. Libre de Bruxelles, Belgium
P. Zestanakis Natl. Technical Univ. of Athens, Greece

ADMINISTRATIVE COMMITTEE OF HELLENIC FUSION PROGRAMME

I. Papazoglou (Chairman), NCSR Demokritos - E. Stavrianoudaki, General Secretariat for R&T,
V. Kamenopoulou, Greek Atomic Energy Committee - G. Nikolaou, U. Thrace - K. Hizanidis, Natl Tech. U. Athens

SCIENTIFIC PROGRAMME COMMITTEE

G. Throumoulopoulos (U. of Ioannina) – L. Vlahos (U of Thessaloniki) – N. Vlachos (U of Thessaly)

LOCAL ORGANIZING COMMITTEE

N. Vlachos (chair) – C. Dritselis (secr.) – I. Sarris

Tech. Support: J. Lihnaropoulos (coord.), E. Benos, D. Dimopoulos, A. Iatrides, S. Misdanitis, S. Pantazis

Registration desk: M. Angeli – N. Sachinidou – Z. Zoupi

GROUP LEADERS OF HELLENIC FUSION PROGRAMME

K. Hizanidis - Elec. Eng. & Comp. Eng., NTUA
P. Lalousis - Inst. Laser, FORTH, Crete
S. Moustazis - Tech U of Crete
I. Stamatelatos - INTRP, NCSR Demokritos
S. Kassinos –Mech. Engng, U. of Cyprus
G. Throumoulopoulos - Physics, U. Ioannina
I. Tigelis - Physics, U of Athens
L. Vlahos - Physics, Aristotle U of Thessaloniki
N. Vlachos - Mechanical Engng, U. of Thessaly

Head of Hellenic Fusion Research Unit: K. Hizanidis (NTUA) kyriakos@central.ntua.gr

Information: www.hellasfusion.gr (I. Tigelis: itigelis@phys.uoa.gr)

G. Throumoulopoulos gthroum@uoi.gr - L. Vlahos vlahos@astro.auth.gr - N. Vlachos vlachos@mie.uth.gr
School Secretary: Dr Chris Dritselis Tel. 0030 24210 74075 dritseli@mie.uth.gr

USEFUL INFORMATION - ΧΡΗΣΙΜΕΣ ΠΛΗΡΟΦΟΡΙΕΣ

Classes - Introductory lessons to students and newcomers to the Fusion Schools by experienced lecturers on wider topics. Classes are compulsory for students, not for young researchers.

Invited lectures by distinguished researchers from Europe and USA on current research and development topics relating to fusion technology.

Advanced Seminars/Workshops aiming to brief on and discuss current research, in the framework of NPCTF as well as in the wider framework of EURATOM. Not compulsory for students.

Posters - Posters of individual or group research activities may be displayed from Monday with their content discussed during the breaks. A 3-mins presentation of Posters may also be made during the afternoon Tutorial sessions.

Μαθήματα - Εισαγωγικά μαθήματα για φοιτητές και πρωτοεμφανιζόμενους στα Σχολεία Σύντηξης από πεπειραμένους καθηγητές σε ευρύτερα αντικείμενα. Υποχρεωτικά για φοιτητές, όχι για νέους ερευνητές.

Προσκεκλημένες ομιλίες από διακεκριμένους ερευνητές από την Ευρώπη και ΗΠΑ σε τρέχοντα θέματα έρευνας και ανάπτυξης σχετικά με την τεχνολογία της σύντηξης.

Προχωρημένα Σεμινάρια από ερευνητές με σκοπό την ενημέρωση και συζήτηση σχετικά με την τρέχουσα έρευνα, τόσο στα πλαίσια του ΕΠΕΘΣ όσο και στα ευρύτερα πλαίσια της EURATOM. Μη υποχρεωτικά για φοιτητές.

Αφίσες - Αφίσες ατομικών ή ομαδικών ερευνητικών δραστηριοτήτων μπορεί να αναρτηθούν από την Δευτέρα και το περιεχόμενό τους να συζητείται κατά την διάρκεια των διαλειμμάτων. Επίσης μπορεί να γίνουν 3-λεπτες παρουσιάσεις στα απογευματινά φροντιστήρια.

INSTRUCTIONS FOR SESSION-CHAIRMEN & PRESENTERS

Session Chairmen are responsible for carrying out the scientific program of the School. The technical support team will be always ready to help to solve technical problems.

Before the session:

1. Chairmen should meet with presenters prior to their sessions in order to identify themselves and prepare the presentation media.
2. They should inform presenters about their responsibilities (talk duration, question-answer period)
3. Chairmen should collect all presentation CDs and copy them to the hard drive of the Auditorium PC.
4. They should be familiar with special presenters' requirements (slide/overhead projector, etc.)

During the session:

1. Chairmen should see that the presentations are made in the order of their appearance in the program.
2. The duration of each presentation must not exceed the allocated time including 5-minutes for questions and answers.
3. Chairmen are responsible for directing the questions and answers period.
4. They should not allow unsolicited comments from the audience or dialog between the audience and the speaker.

Presenters are responsible for delivering their presentation effectively to the School audience. The chairmen of each session are responsible for attending any special needs of the speakers. The technical support team will be always ready to help to solve technical problems of the presentations.

Before the session:

1. Presenters should meet with chairmen prior to their respective sessions in order to identify themselves and prepare the presentation media
2. They should have their presentation in PowerPoint format and hand it over in a CD for copying to the hard drive of the Auditorium PC
3. The School organizers will provide PCs, overhead and slide projectors in each presentation room.
4. Speakers with special needs should contact their sessions moderators

During the session:

1. English or Greek are the official School languages
2. Presenters are responsible for making timely and efficient presentations according to the program
3. The duration of each presentation must not exceed the allocated time including 5-minutes for questions and answers
4. Chairmen are responsible for directing the questions and answer period, not the speaker.
5. Speakers should not engage in dialogue with or respond to unsolicited comments by the audience

The organizers of the Fusion Schools in Volos (U of Thessaly) gratefully acknowledge the funding by the European Commission and the Greek General Secretariat for R&D

