



Education and Culture DG

Lifelong Learning Programme

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ  
ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗΣ & ΘΡΗΣΚ/ΤΩΝ

Ι Δ Ρ Υ Μ Α  
Κ Ρ Α Τ Ι Κ Ω Ν  
Υ Π Ο Τ Ρ Ο Φ Ι Ω Ν  
**IKY**

*Η εμπειρία του Τμήματος Ηλεκτρονικής απο την  
διοργάνωση Εντατικών Προγραμμάτων*

*Κων/νος Πετρίδης, Κ. Τσίτου,  
Μιχάλης Ταταράκης και Γιάννης Καλιακάτσος*



# Important Dates

**1991:** First Study Visit of Staff Members from Department of Electronics under ERASMUS Programme

**1991:** First Students from the Department of Electronics of T.E.I. Participating in ERASMUS Programme as Free Movers

**1993: First ERASMUS-ICP (Inter-University Cooperation Programme)** coordinated by the Department of Electronics

❖ Participating Institutions:

- T.E.I. of Crete
- Technical University of Crete
- Technical University of Ilmenau (Germany)
- University of North London (United Kingdom)
- Ylivieska Technological Institute (Finland)



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**T.E.I OF CRETE – CHANIA BRANCH**  
**DEPARTMENT OF ELECTRONICS**

Romanou 3, Halepa, Chania  
73132 Crete, GR

## 1994: Collaborating Institutions with Department of Electronics under ERASMUS-ICPs

- Technical University of Crete
- Technical University of Ilmenau (Germany)
- University of North London (United Kingdom)
- Ylivieska Technological Institute (Finland)
- Dublin Institute of Technology (Ireland)
- FachhochschuleAachen (Germany)
- TechnischeFachhochschule (TFH) – Berlin (Germany)
- Mikkeli University of Applied Sciences (Finland)
- Universidad de Valladolid (Spain)



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**DEPARTMENT OF ELECTRONICS**

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73132 Crete, GR

# Other departmental activities

- Participation in COMMET Project
- Short Courses under COMMET
- Curriculum Development Advance under ERASMUS
- Organization of ECTS System



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**T.E.I OF CRETE – CHANIA BRANCH**  
**DEPARTMENT OF ELECTRONICS**

Romanou 3, Halepa, Chania  
73132 Crete, GR

# Short Courses under COMMET

- Industrial Laser Applications (1993)
- Electromagnetic Compatibility (1994)
- Optical Communications (1995)
- Computer Networks (1996)



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**T.E.I OF CRETE – CHANIA BRANCH**  
**DEPARTMENT OF ELECTRONICS**

Romanou 3, Halepa, Chania  
73132 Crete, GR

## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- **Απο το 2006** το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης συμμετέχει ενεργά στην διοργάνωση εντατικών προγραμμάτων.
- Θεματικές Ενότητες Εντατικών Προγραμμάτων:

*Οπτοηλεκτρονική & Laser (Optoelectronics, Lasers and Applications)*

*Οργανικά Ηλεκτρονικά & Εφαρμογές (Organic Electronics and Applications)*

*Σπιντρονική & Εφαρμογές (Spintronics and Applications) – **Καινούργιο IP***

*Αλληλεπίδραση βραχέων παλμών laser με την ύλη (High power light matter interaction) - **Καινούργιο IP***

*Διαφανή Ηλεκτρονικά & Εφαρμογές (Transparent Electronics and Applications) - **Καινούργιο IP***

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

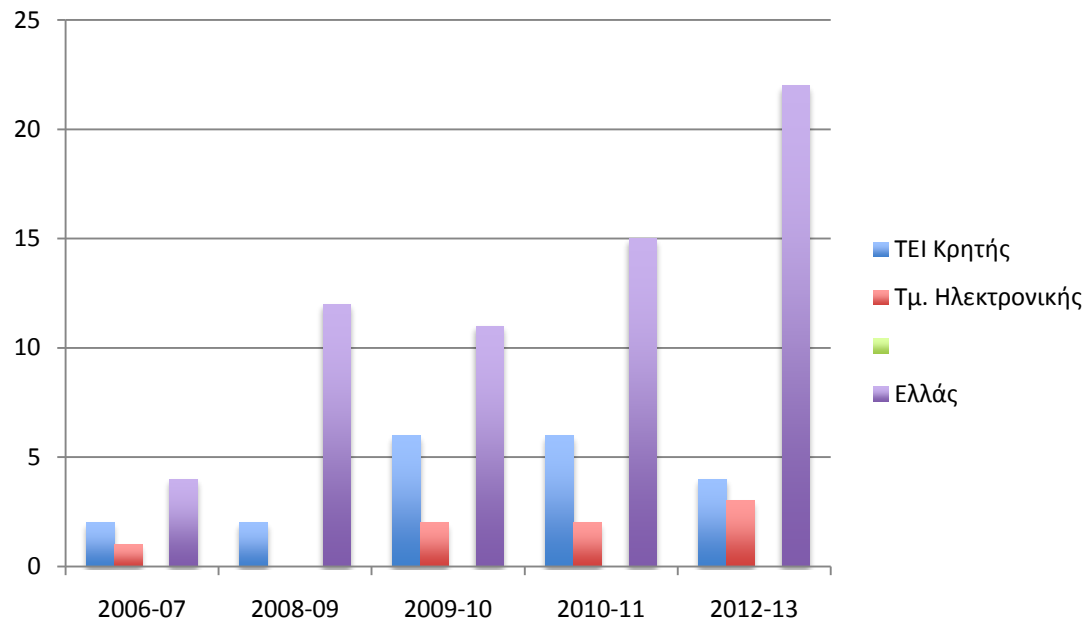
- Στα πλαίσια των εντατικών προγραμμάτων απο το 2006 - 2012:

**Μετακίνηση Φοιτητών:** 203 αλλοδαποί φοιτητές και 108 Έλληνες φοιτητές

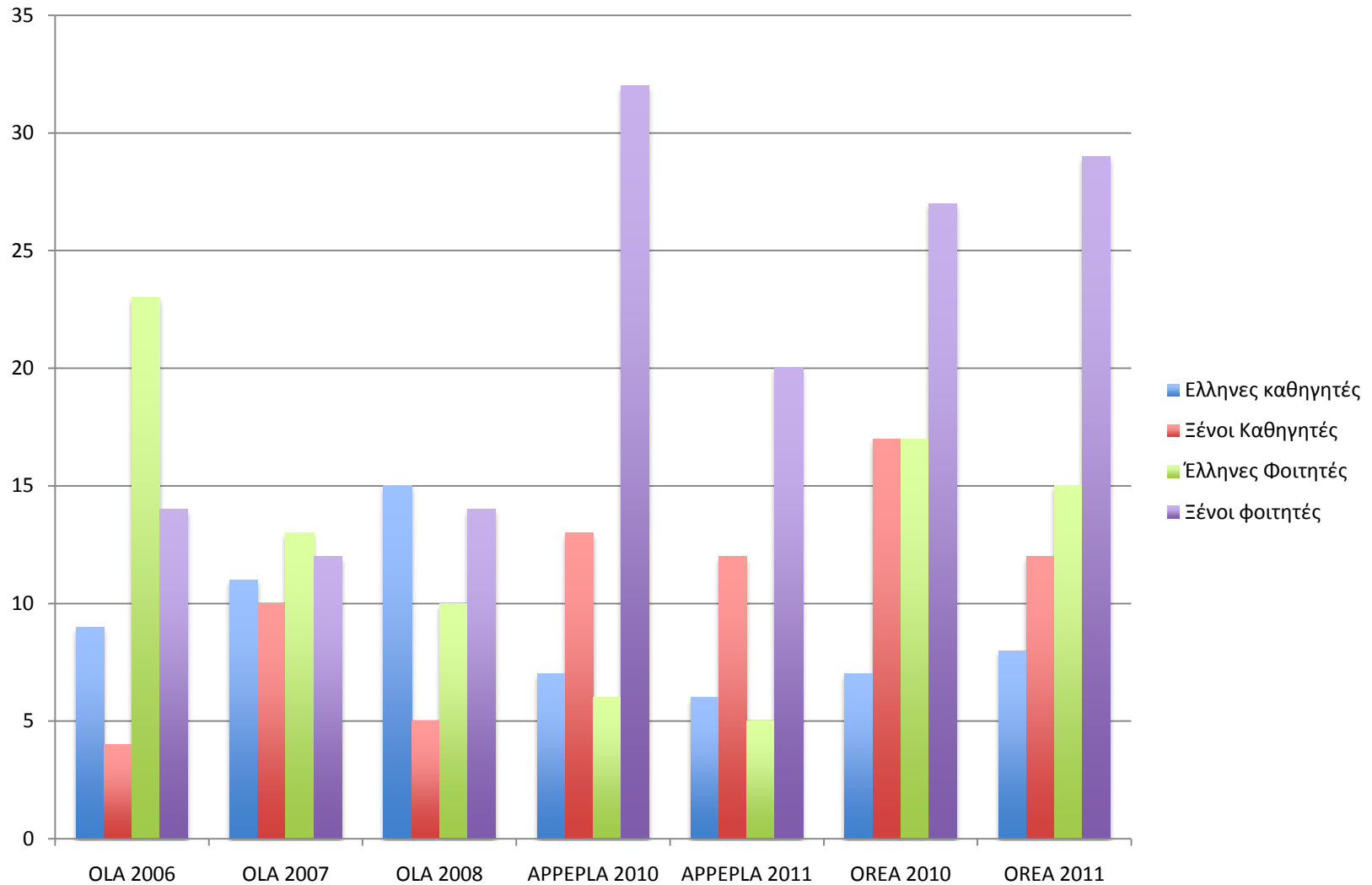
**Μετακίνηση Καθηγητών:** 109 αλλοδαποί καθηγητές και 71 Έλληνες καθηγητές

**Συνολικός αριθμός εταίρων:** 20

**Συνολική Χρηματοδότηση:** 380.000€



# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*





# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*



"Just a darn minute! — Yesterday  
you said that X equals two!"

# Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης



ERASMUS Intensive Program



## OLA-Crete 2006



Summer School on  
**Optoelectronics, Lasers and Applications**

10-22 July 2006

Technological Educational Institute of Crete  
Chania, Crete, Greece

### Covered Topics:

#### Optoelectronics:

Fiber optics  
Telecommunication networks  
Optoelectronic modulators  
New materials for optoelectronics

#### Lasers:

Mode-locked lasers  
High power lasers  
Physics of ultrafast laser pulses  
Laser-plasma interaction  
X-ray generation

### Invited Speakers:

Dr. Hamed Al-Raweshidy – Brunel University – U.K.  
Dr. Ioannis Chatzakis – T.E.I. Kritis – GR  
Dr. Daniele Faccio – Insubria University – Como -IT  
Dr. Amrutha Gopal – T.E.I. Kritis – GR  
Dr. Ottavia Jedrkiewicz – Insubria University – Como -IT  
Prof. Karl Krushelnick – Imperial College – U.K.  
Assistant Prof. Evangelos Kokkinos – T.E.I. Kritis – GR  
Giorgos Liodakis, Lecturer – T.E.I. Kritis – Chania – GR  
Assistant Prof. Ioannis Makris – T.E.I. Kritis – GR  
Dr. Stefano Minardi – T.E.I. Kritis – Chania – GR  
Assoc. Prof. Nektarios Papadogiannis – T.E.I. Kritis – GR  
Dr. Kostas Petridis – T.E.I. Kritis – Chania – GR  
Assoc. Prof. Michalis Tatarakis – T.E.I. Kritis – GR  
Assistant Prof. Ioannis Vardiambasis – T.E.I. Kritis – GR

### Participation:

Up to 5 students (undergraduate and Ph.D.) from the participating institutions are invited to attend the school. Students that will pass the final test will be awarded with 2 ECTS credits. Travel, accommodation and living expenses will be reimbursed. For recruitment and further information please contact the local information point.

#### Brunel University:

Dr. Hamed Al-Raweshidy  
School of Engineering and Design  
Uxbridge, Middlesex, UB8 3PH  
Tel: +44(0)1895-265771 e-mail: Hamed.Al-Raweshidy@brunel.ac.uk

#### Imperial College:

Prof. Karl Krushelnick  
Department of Physics  
SW7 2AZ – LONDON – 746 Blackett Laboratory  
Tel: +44 (0) 20 7594 7635 e-mail: kmkr@imperial.ac.uk

#### Insubria University:

Dr. Daniele Faccio  
Dipartimento di Fisica e Matematica  
Via Valleggio 11, COMO – quarto piano  
Tel: +39 031 238 6221 e-mail: daniele.faccio@uninsubria.it  
[http://www.daniele.faccio.name/ito/studenticrete\\_summer\\_school.htm](http://www.daniele.faccio.name/ito/studenticrete_summer_school.htm)

#### Vilnius University:

Dr. Audrius Dubietis  
Department of Quantum Electronics  
Sauletekio, 11 – VILNIUS – Ultrashort Pulse Laboratory  
Tel: +370 52366023 e-mail: a.dubietis@ff.vu.lt

OFFICIAL WEB SITE ON: [www.chania.teicrete.gr](http://www.chania.teicrete.gr)  
Contact address: Mrs Popi Tsitou, Tel: +30 28210 23060,  
e-mail: [ptsitou@chania.teicrete.gr](mailto:ptsitou@chania.teicrete.gr)



## OLA - CRETE 2008

### ERASMUS intensive programme

Summer School on  
**optoelectronics Lasers and Applications**

30th June – 11th July 2008

Technological Educational Institute of Crete, Chania,  
Greece.



### Administration and logistics:

Mrs Popi Tsitou

Administration Office of European Grants  
TEI of Crete /tel: +302821023038

e-mail: [ptsitou@chania.teicrete.gr](mailto:ptsitou@chania.teicrete.gr)

### Deadline for application :

12<sup>th</sup> of June 2008



### Participation:

Up to 5 students from each of the participating institutions are invited to attend the school. The selected students will be reimbursed travel, accommodation and living expenses.

Students that will pass the final test will be awarded with ECTS credits. For recruitment and further information please contact the local information point

### Topics:

Optical fibers  
Telecommunication Networks  
Optoelectronic modulators  
Non-linear optical devices  
Pulsed Lasers  
Physics of ultrafast laser pulses  
Laser-plasma interaction

### Local information points:

#### Imperial College:

Dr. Zulfiqar Najmudin  
Department of Physics  
SW7 2AZ – LONDON 746 BLACKETT  
Laboratory  
Tel: +44 (0) 20 7594 76 35  
e-mail: [z.najmudin@imperial.ac.uk](mailto:z.najmudin@imperial.ac.uk)

#### Insubria University:

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#### Vilnius University:

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Department of Quantum Electronics  
Sauletekio 11 - Vilnius  
Ultrashort Pulse Laboratory  
Tel: +370 52366023  
e-mail: [audrius.dubietis@ff.vu.lt](mailto:audrius.dubietis@ff.vu.lt)

#### University of West Bohemia:

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e-mail: [georg@kae.zcu.cz](mailto:georg@kae.zcu.cz)



*Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

**Imperial College**  
**London**

**Brunel**  
**UNIVERSITY**  
**WEST LONDON**





## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- Erasmus IP: Optoelectronics, Lasers & Applications (O.L.A.):

*Διάρκεια: 2006 – 2008*

*Website: <http://olaschool.chania.teicrete.gr/>*

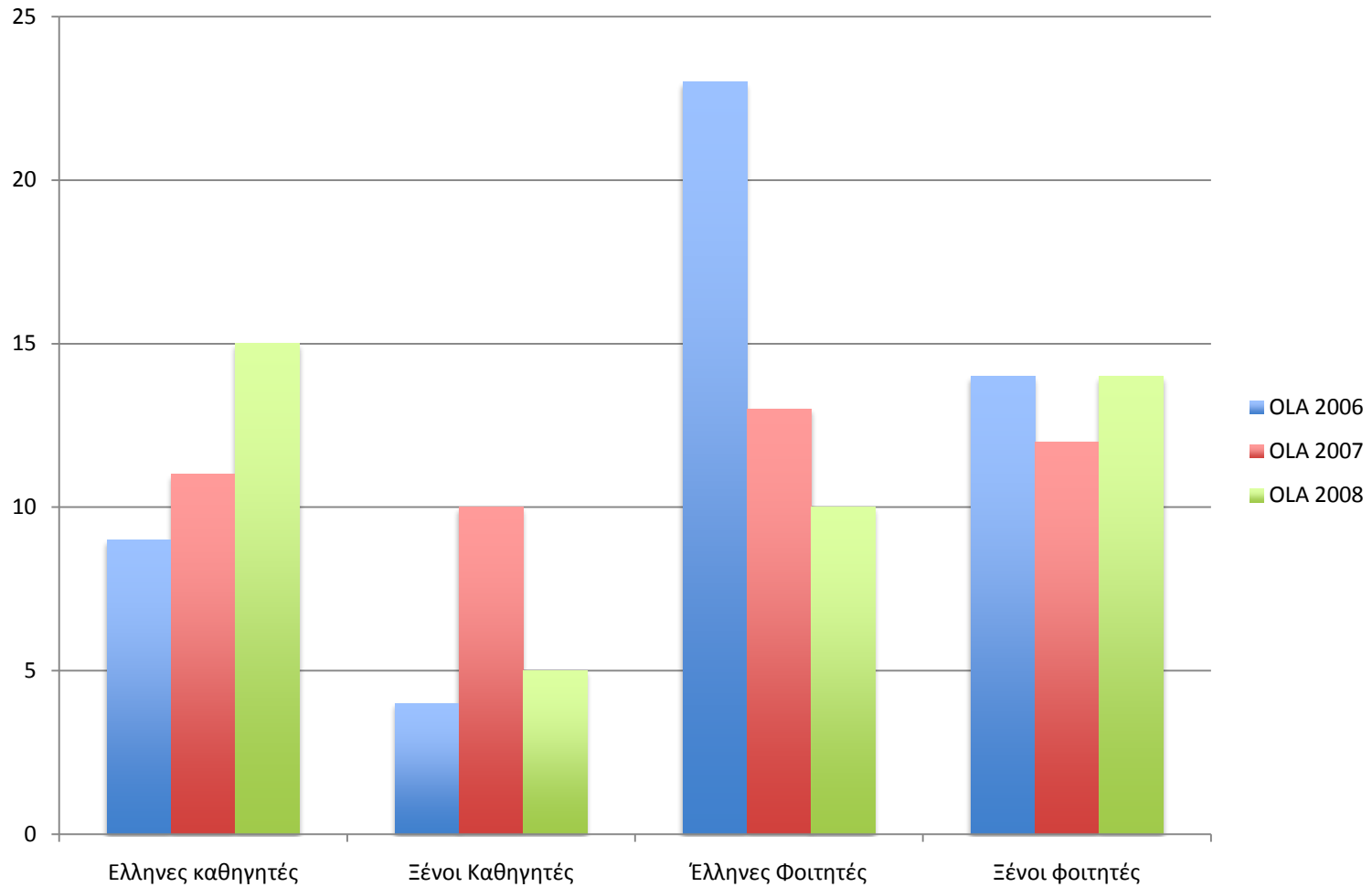
*Μετακίνηση Φοιτητών: 46 Έλληνες φοιτητές και 40 αλλοδαποί φοιτητές*

*Μετακίνηση Καθηγητών: 35 Έλληνες καθηγητές και 19 Ξένοι καθηγητές*

*Συνολικός αριθμός εταιρών: 5*

**Συνολική Χρηματοδότηση: 70154 €**

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*



# Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης



**Erasmus Intensive Programme**  
**Applications of Electronics  
in Plasma Physics**

TEI of Crete, Department of Electronics  
Centre for Plasma Physics & Lasers (CPPL)  
Rethimno, Crete, Greece  
29/08 - 09/09/2011

IKY  
ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ  
ΕΥΡΩΠΑΪΚΗ ΚΟΙΝΩΝΙΑ  
ΕΚΜΟΧΕΛΩΣΗΣ

Education and Culture  
Lifelong Learning Programme  
ERASMUS

CPPL

HiPER  
www.hiper-laser.org

**Organised by:**



**Contact Persons:**

Administration: P. Tsitou [ptsitou@chania.teicrete.gr](mailto:ptsitou@chania.teicrete.gr)  
M. Tatarakis: [m.tatarakis@chania.teicrete.gr](mailto:m.tatarakis@chania.teicrete.gr)  
N. Papadogiannis: [npapadogiannis@staff.teicrete.gr](mailto:npapadogiannis@staff.teicrete.gr)  
C. Petridis: [c.petridis@chania.teicrete.gr](mailto:c.petridis@chania.teicrete.gr)  
Z. Najmudin: [z.najmudin@imperial.ac.uk](mailto:z.najmudin@imperial.ac.uk)  
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G. Kourakis: [g.kourakis@qub.ac.uk](mailto:g.kourakis@qub.ac.uk)  
L. Silva: [luis.silva@ist.utl.pt](mailto:luis.silva@ist.utl.pt)  
J. Limpouch: [jiri.limpouch@ffl.cvut.cz](mailto:jiri.limpouch@ffl.cvut.cz)  
D. Batani: [batani@mb.inf.it](mailto:batani@mb.inf.it)  
J. Honrubia: [javier.honrubia@upm.es](mailto:javier.honrubia@upm.es)  
J. Pasley: [jp557@york.ac.uk](mailto:jp557@york.ac.uk)  
M. Koenig: [michel.koenig@polytechnique.edu](mailto:michel.koenig@polytechnique.edu)

This year the intensive programme is designed for undergraduate, graduate and PhD students with background in Physics/Mathematics/Engineering, who are interested in the Science and Technology of HiPER.

**Electronic Applications should be sent to Mrs Tsitou by the  
15th of June 2011**

More information about the course is available at: <http://appepla.chania.teicrete.gr>

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

**Imperial College  
London**



**POLITÉCNICA**



THE UNIVERSITY *of* York



## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- Erasmus IP: Applications of Electronics in Plasma Physics (APP.E.PLA.)

*Διάρκεια: 2010– 2012*

*Website: <http://appepla.chania.teicrete.gr>*

*Μετακίνηση Φοιτητών: 15 Έλληνες φοιτητές και 82 αλλοδαποί φοιτητές*

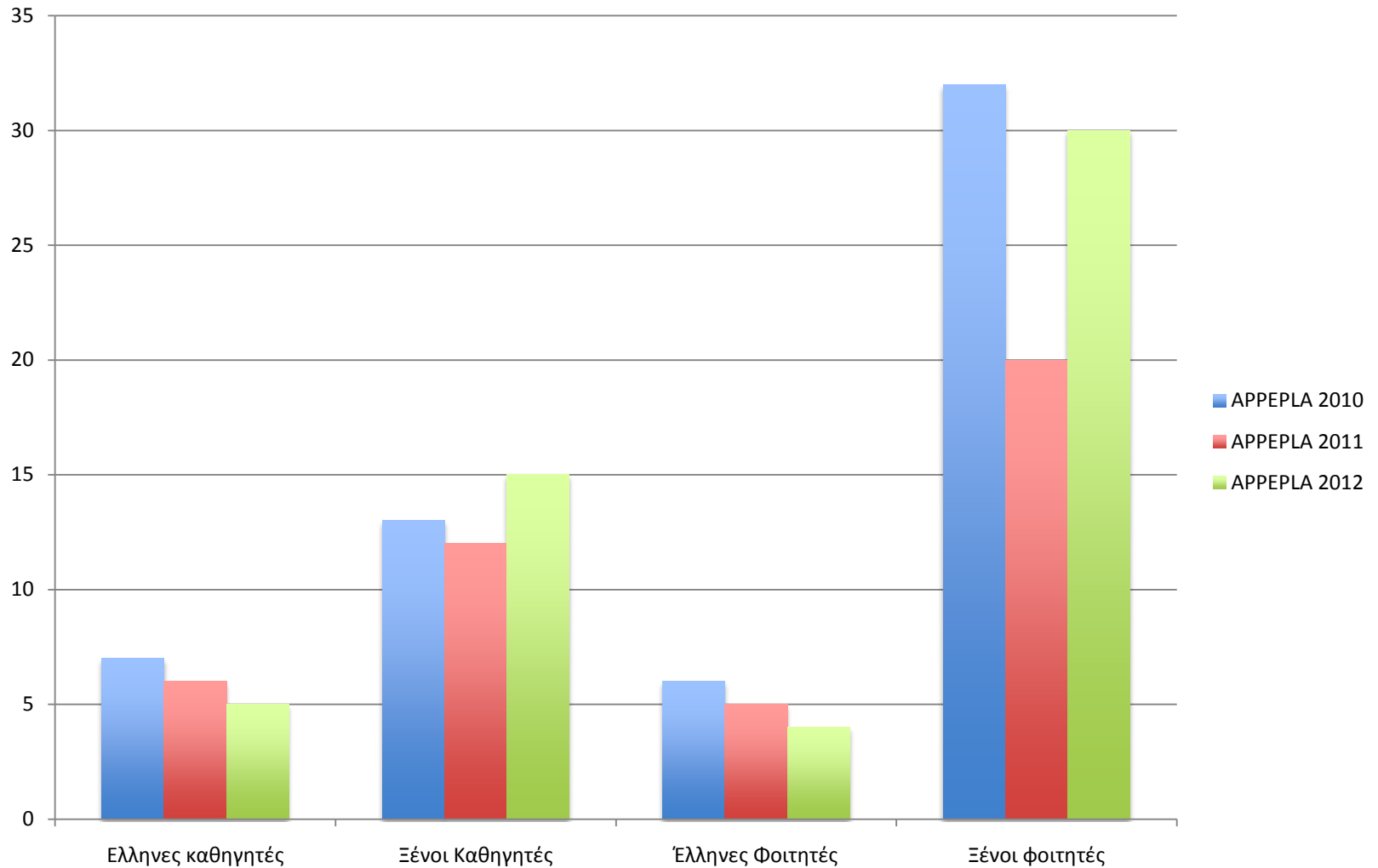
*Μετακίνηση Καθηγητών: 18 Έλληνες καθηγητές και 40 Ξένοι καθηγητές*

*Συνολικός αριθμός εταίρων: 8*

**Συνολική Χρηματοδότηση: 165.344 €**

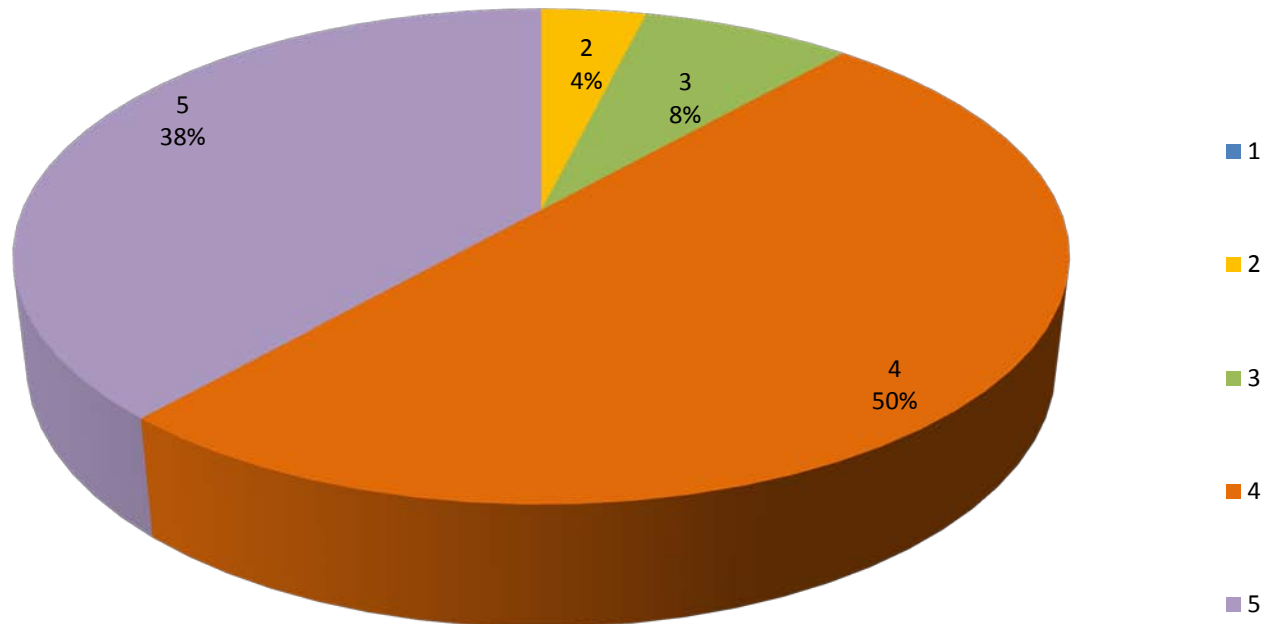


# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*



# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

Overall evaluation of the IP  
scale 1-5 : 1=poor/negative, 5=excellent



# Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης



## Curriculum Development Project "PLASMA PHYSICS & APPLICATIONS" - PLAPA

Dr K. Petridis & Prof. M. Tatarakis  
Department of Electronics of TEI of Crete, Chania, Greece  
<http://plapa.chania.teicrete.gr>



### Objective

The **main objective** of this project is the development of a curriculum of courses that will lead to a joined 2 years duration European MSc degree in the field of laser driven fusion. The project is strongly related to the **High Power laser Energy Research (HIPER)** project.

### Outcome

The main target group of the PLAPA project are graduate students from Physics, Electronic Engineering, Materials Science Departments. The proposed curriculum intends to train the participants in a modern technology that promises unlimited amount of green energy for all nations.

### Scientific Topic

**CREATING A REACTION**

- 1 A fuel pellet the size of a pea is made from heavy forms of hydrogen found in sea water called deuterium and tritium, as used in a hydrogen bomb.
- 2 Fuel is dropped into a 30ft high reaction chamber made from lithium and concrete, reaching the center in a split second, when first laser beams fire, compressing the fuel. Another, higher power laser beam than "speaks" fusion reaction.
- 3 The fusion reaction heats water flowing in tubes around the chamber to produce steam which can be used to drive electricity turbines.

**21b of fusion fuel is capable of producing the same amount of energy as 10,000 tonnes of fossil fuel.**

**Lasers use power 10,000 times greater than entire National Grid, but delivered in a fraction of a second.**

**100m Degree Celsius. Temperatures produced in nuclear fusion reactor.**

**HELIUM IS THE MAIN BY PRODUCT OF FUSION. NEUTRON = HEAT ENERGY.**

### Why consider Laser Fusion?



- ✓ The output of a fusion reaction releases a huge amount of green energy
- ✓ Provision of plentiful fuel that can meet mankind's long term needs
- ✓ Energy Security
- ✓ Safe Operation - Free of Fukushima type dangers
- ✓ It is a technology that is not a distant dream but a near term realistic goal

### Curriculum Structure

<b>1st Semester</b> Introduction to Plasma Physics Electrodynamics Principles of Scientific Computing Research Methodologies Quantum Mechanics	<b>2nd Semester</b> Laser Physics Technology Atomic Processes in Plasma Plasma Diagnostics Plasma Kinetics Short Pedagogical Project
<b>3rd Semester</b>	
<b>IFP Direction</b> Principles of Laser Fusion Laser Matter Interaction Plasma Diagnostics & Beam Transport Target Reactor Technology Modeling & Numerical Methods	<b>LP Direction</b> Principles of Laser Fusion Laser Matter Interaction Radiation & Laser Safety Non-Linear Optics High Power Lasers & Diagnostics
<b>PS Direction</b> Dense Plasmas Laser Matter Interaction Non-Linear Dynamics & Instabilities in Plasmas Modeling & Numerical Methods Plasma Diagnostics & Beam Transport	
<b>4th Semester</b>	
MSc Thesis in one of the Partner Universities	

### Methods & Strategies

- ✓ 2 years duration MSc degree in laser fusion
- ✓ Use of European Credit Transfer System (120 ECTS)
- ✓ The ECTS credits are equally distributed among 4 semesters
- ✓ Use of Diploma Supplement
- ✓ Three different scientific directions:  
Laser Physics / Inertial Fusion Tech / Plasma Science
- ✓ The last semester is devoted to a practical project
- ✓ Development of an online educational platform
- ✓ Train future engineers in a very modern and a promising technology
- ✓ Signature of Bilateral Agreements between PLAPA partners
- ✓ Contribution to increase the student and teacher mobility across Europe
- ✓ Test the curriculum structure through teaching exchange program
- ✓ Application for an Erasmus Mundus Project

### Pilot Test Events

**Erasmus Intensive Programme**  
**Applications of Electronics in Plasma Physics**  
 1st & 2nd Semesters  
 TEI of Crete, Department of Electronics, Chania  
 Centre for Plasma Physics & Fusion (CPPL), Heraklion, Crete, Greece  
 1st: 27th July 2017

**Organized by:** [Logos of TEI of Crete, CPPL, HIPER]

**Contact Persons:** [List of names and emails]

**Applications Deadline: 22nd of June**

More information about this course is available at: <http://plapa.chania.teicrete.gr>

### Partners



### Contacts

**Technological Educational Institute of Crete**  
 Prof. Michael Tatarakis - [m.tatarakis@chania.teicrete.gr](mailto:m.tatarakis@chania.teicrete.gr)

**Imperial College London**  
 Prof. Zulficar Najmudin - [z.najmudin@imperial.ac.uk](mailto:z.najmudin@imperial.ac.uk)

**Université Bordeaux 1**  
 Prof. Vladimir Tichonchuk - [tikhon@celia.u-bordeaux1.fr](mailto:tikhon@celia.u-bordeaux1.fr)

**Politécnica Universidad de Madrid**  
 Prof. Manolo Perlado - [josemanuel.perlado@upm.es](mailto:josemanuel.perlado@upm.es)

**Czech Technical University in Prague**  
 Prof. Jiri Limpouch - [jiri.limpouch@ffj.cvut.cz](mailto:jiri.limpouch@ffj.cvut.cz)

**Queen's University Belfast**  
 Dr Ioannis Kourakis - [ioanniskourakis@gmail.com](mailto:ioanniskourakis@gmail.com)

**University of Milano - Bicocca**  
 Prof. Giuseppe Gorini - [giuseppe.gorini@unimib.it](mailto:giuseppe.gorini@unimib.it)

**INSTN**  
 Prof. Guy Bonnaud - [guy.bonnaud@cea.fr](mailto:guy.bonnaud@cea.fr)



# Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης



**Erasmus Intensive Program ICARUS / OREA 2012**  
**An Introduction to Organic Electronics & Applications**  
 Department of Electronics, Technological Educational Institute of Crete  
 9th July - 20th July 2012  
 Chania, Crete, Greece

**Application Deadline: 30th of May 2012**  
**Visit us on line: <http://orea2012.chania.teicrete.gr>**

**Topics:** Organic semiconductors, Organic Transistors, Organic LED, Organic Lasers, Organic Solar Cells, Hybrid Systems, Plasmonics, Graphene photonics & Training Session

Erasmus Intensive Program   Education and Culture DG

**An Introduction to Organic Electronics & Applications**  
 Or.E.A 2010

**5 – 18 July 2010** Department of Electronics TEI of Crete, Chania, Crete

The Or.E.A. 2010 topics are in the areas of :

- Organic Semiconductors Technology
- Manufacturing Processes
- Organic Semiconductor Transistors
- Organic Semiconductor Lasers
- Organic Memories
- Applications of Organic Electronics

**Application deadline: 1st May 2010**  
**Visit us on line:**  
**<http://orea2010.chania.teicrete.gr>**

- Contact info:**  
**Dr Konstantinos Petridis** (TEI Crete)  
 c.petridis@chania.teicrete.gr  
**Dr Thomas Anthopoulos** (Imperial College)  
 thomas.anthopoulos@ic.ac.uk  
**Dr Henry Snaith** (Oxford University)  
 h.snaith1@physics.ox.ac.uk  
**Dr Graham Turnbull** (University of St Andrews)  
 gat@st-and.ac.uk  
**Dr Itskos Grigorios** (University of Cyprus)  
 itskos@ucy.ac.cy  
**Dr Stelios Choulis** (Cyprus University of Technology)  
 Stelios.Choulis@cut.ac.cy  
**Dr Olle Inganas** (Linköping University)  
 ois@ifm.liu.se

**Organized By:**

- University of Oxford (UK)
- Imperial College London (UK)
- University of St Andrews (UK)
- The University of Sheffield (UK)
- Linköping University (SWE)
- Bilkent University (TR)
- University of Cyprus (CY)
- Cyprus University of Technology (CY)
- Technological Educational Institute of Crete (GR)

**Contact:**

- Prof. H. Snaith ([h.snaith1@physics.ox.ac.uk](mailto:h.snaith1@physics.ox.ac.uk))
- Prof. T. Anthopoulos ([thomas.anthopoulos@ic.ac.uk](mailto:thomas.anthopoulos@ic.ac.uk))
- Prof. G. Turnbull ([gat@st-and.ac.uk](mailto:gat@st-and.ac.uk))
- Prof. D. Lidzey ([d.g.lidzey@sheffield.ac.uk](mailto:d.g.lidzey@sheffield.ac.uk))
- Prof. O. Inganas ([oling@ifm.liu.se](mailto:oling@ifm.liu.se))
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- Prof. S. Choulis ([stelios.choulis@cut.ac.cy](mailto:stelios.choulis@cut.ac.cy))
- Dr K. Petridis ([c.petridischania@gmail.com](mailto:c.petridischania@gmail.com))

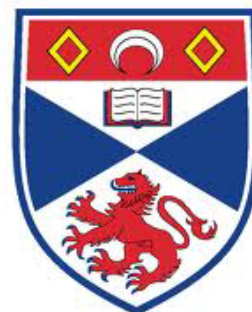
**Sponsored by:**

Organized by:

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*



**Imperial College  
London**



University  
of  
St Andrews



The  
University  
Of  
Sheffield.



Linköping University



University  
of Cyprus



## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- Erasmus IP: Organic Electronics & Applications (OR.E.A.):

*Διάρκεια: 2010– 2012*

*Website: <http://orea2012.chania.teicrete.gr>*

*Μετακίνηση Φοιτητών: 50 Έλληνες φοιτητές και 86 αλλοδαποί φοιτητές*

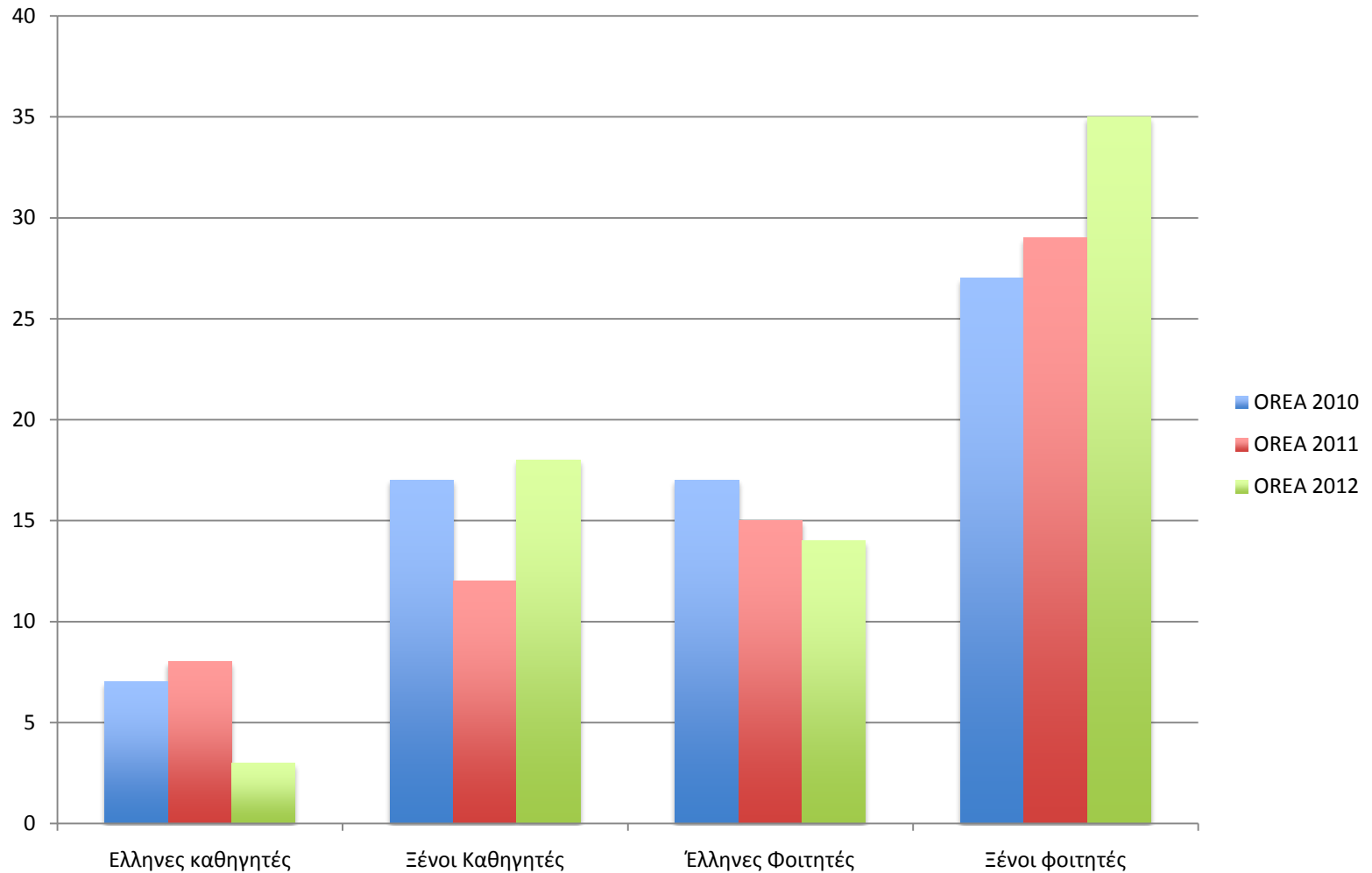
*Μετακίνηση Καθηγητών: 18 Έλληνες καθηγητές και 50 Ξένοι καθηγητές*

*Συνολικός αριθμός εταίρων: 9 + 8 (Icarus) = 17*

**Awarded ECTS:** 4 (recognized by TEIoC, St-Andrews Uni., ICL, CUT and CU)

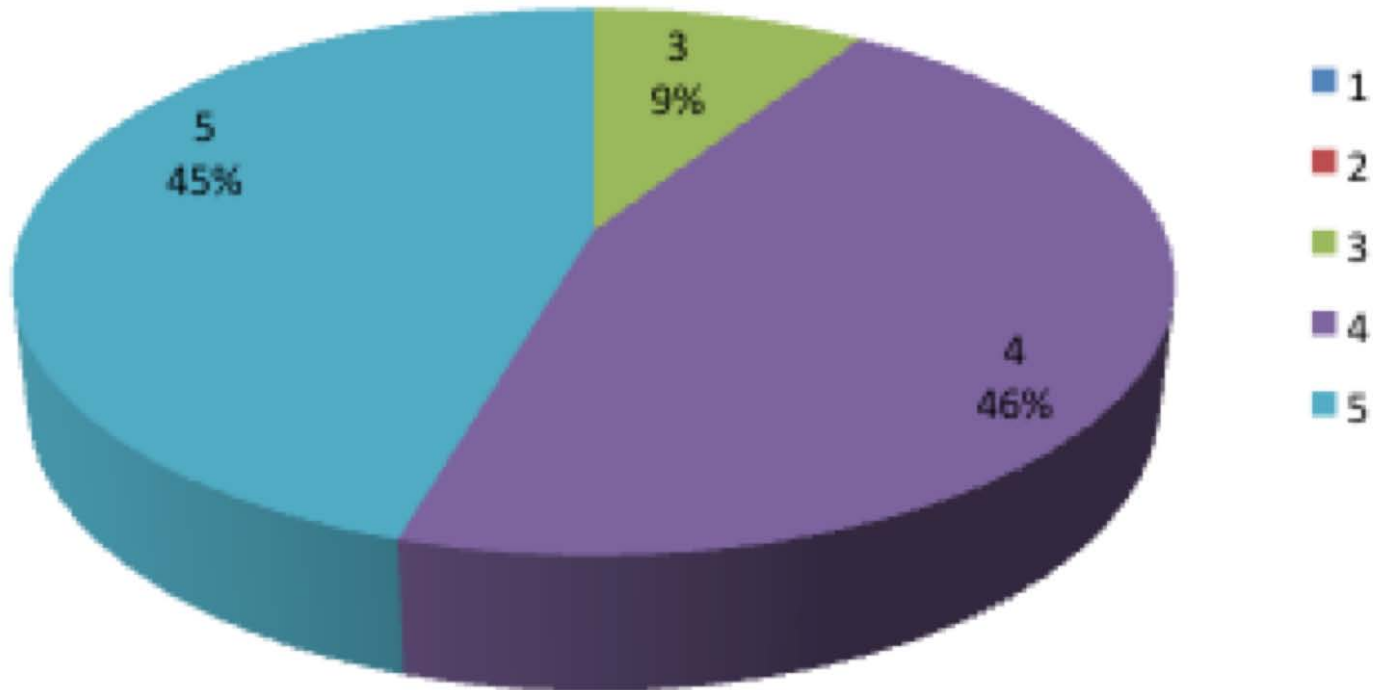
**Συνολική Χρηματοδότηση: 144.671 €**

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*



## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

**Overall evaluation of the IP  
scale 1-5 : 1=poor/negative, 5=excellent**





# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

## **ERASMUS Intensive Programmes**

### **"Mobility and Innovation in the European Context"**

#### **Evaluation Conference**

center of advanced european studies and research (caesar) Bonn

22 – 23 November 2011

#### **Conference Programme**

Dr Konstantinos Petridis<sup>1</sup>, Mrs Caliope Tsiou<sup>1</sup>, Dr Henry Snaith<sup>2</sup>, Dr Thomas Anthopoulos<sup>3</sup>, Dr Graham Turnbull<sup>4</sup>, Dr Hilmi Volcan<sup>5</sup>, Dr Grigorios Itskos<sup>6</sup>, Dr Stelios Choulis<sup>7</sup>,  
Dr Olle Inganas<sup>8</sup>, Dr Manolis Kymakis<sup>1</sup>, Dr David Lidzey<sup>9,10</sup>, Dr Pavlos Savvidis<sup>9</sup> and Dr Ioannis Kaliakatsos<sup>1</sup>

<sup>1</sup> Technological Educational Institute of Crete, <sup>2</sup> Oxford University, <sup>3</sup> Imperial College London, <sup>4</sup> University of St-Andrews, <sup>5</sup> Bilkent University, <sup>6</sup> Cyprus University, <sup>7</sup> Cyprus University of Technology, <sup>9</sup> Icarus Project Coordinator, <sup>8</sup> Linköping University, <sup>11</sup> Sheffield University

## IP Topic & Objectives

**Organic Electronics** is a relatively recent and emerging field. As such significant advances are being made from improving the fundamental operational principles to improving manufacturing technologies. Organic semiconductors have captured the interest of the electronics interest due to their interested unique properties. The solubility of the organic solvents and the color of light emission can be finely tuned via chemical synthesis. The processing methods and the low cost of fabrication of the organic semiconductors are also a reason for the recent development and progress of this technology. Organic Electronics devices include lasers, transistors, memories, solar cells. Organic electronics have met applications in Sciences, Medicine, Military, Communications and Entertainment Industry.

### Objectives of the Erasmus IP OREA

OREA is the acronym of the words: **Organic Electronics and Applications**.

The aim of the Erasmus Intensive Program OREA is to offer an introduction to the modern technology of the Organic & Hybrid Electronics and their application. This intensive program covers the gap in the standard curricula of the partner Universities related to this topic.

### Target Group:

- Final year undergraduate students of Physics, Chemistry, Materials and Electrical Engineer Departments
- 1<sup>st</sup> year postgraduate students that just started their research in the field of organic electronics.
- Minimum Requirement: Proficiency in English

### Visit us online:

<http://orea2010.chania.teicrete.gr>  
<http://orea2011.chania.teicrete.gr>

## The Partners & Their Role



### Partners Role & Obligations

- Provide the appropriate academic personnel.
- Develop a number of lectures according to the expertise that demonstrate.
- Advertise and Distribute the IP objectives among the academic personnel of their University.
- Advertise and Distribute the IP objectives among the undergraduate and postgraduate students of their University.
- Select and send the most appropriate students among the applicants.
- Actively be involved during the whole processes that take action during the implementation of the IP including the reporting period.
- Recognize the IP as a part of their undergraduate curriculum.

## Learning Outcomes & ECTS

### Presented Themes

- Organic Semiconductors Principles
- The Chemistry of Organic Materials
- Manufacturing Processes
- Organic Light Emitting Diodes
- Organic Lasers
- Organic Transistors
- Organic Solar Cells
- Organic Spintronics
- Organic Memories
- Hybrid Technologies & Systems
- Applications of Organic and Hybrid Systems in Medicine
- Applications of Organic and Hybrid Electronics in Military

### Students Work load (100 hrs)

- 66 hrs lecturing time
- 8 hrs self – learning session
- 3 hrs examination period
- 23 hrs home studying & exam preparation

### Learning Outcomes

- A general background on the operational principles of organic semiconductors
- A general background on the the chemistry of the organic materials
- Familiarity with the operational principles of organic & hybrid electronics devices

### Assessment Methods

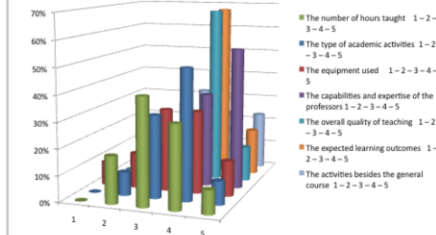
- 80% attendance in the lectures
- Score during the final exams > 60%

### Awarded ECTS credits

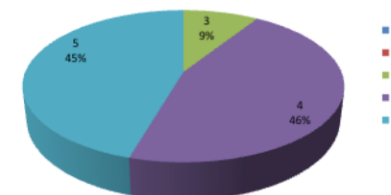
4 ECTS (1 ECTS corresponds to 25 hrs workload)

## OREA IP Impact

How satisfied were you with the academic activities and the pedagogical aspects of the IP in terms of the following aspects?  
% number of answers given in terms of scale 1-5 (1=not at all, 5=very much)



### Overall evaluation of the IP scale 1-5 : 1=poor/negative, 5=excellent



## Future Plans

- Development of a postgraduate course in cooperation with the industry on the frame of the Erasmus project
- Introduce optional courses in the standard curriculum of various of the partner Universities
- Submission of a new IP in another technological field related to the Organic Electronics Technology
- Signature of bilateral Agreements between the Partner Universities

# **Workshop 2: *IPs as a tool for curriculum development and recognition of studies***

*Prof. DrKonstantinos Petridis*

*Department of Electronics, Technological Educational Institute of Crete, Greece*

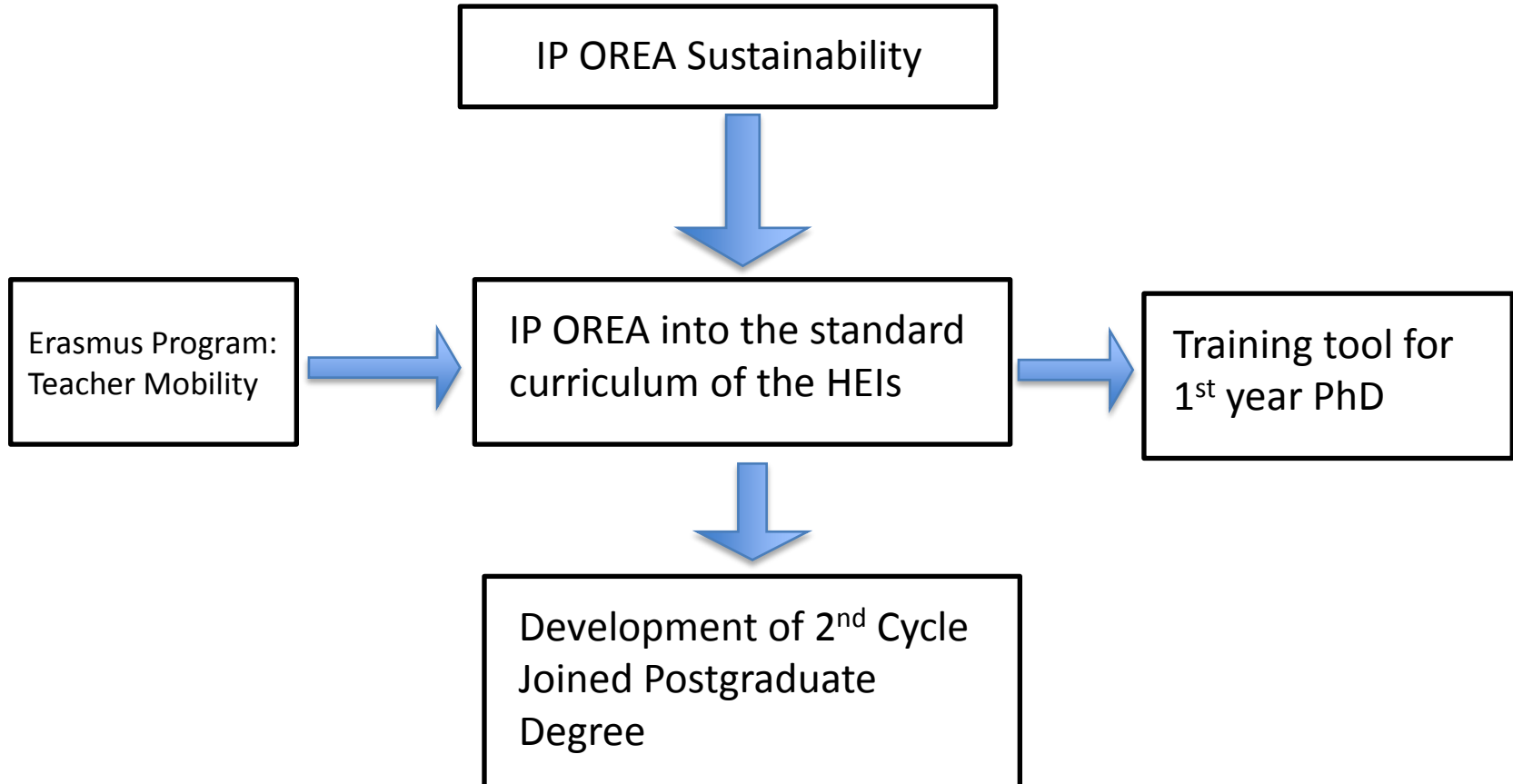
*Erasmus Intensive Programmes "Mobility and Innovation in the European  
Context" Evaluation Conference , 22 – 23 November 2011*

*Center of Advanced European Studies and Research, Bonn*



# Workshop 2: *IPs as a tool for curriculum development and recognition of studies*

## IP OREA Sustainability & Further Use



# Workshop 2: *IPs as a tool for curriculum development and recognition of studies*

## IP OREA Dissemination

topics of interest

- Education Strategies
- Career Counseling
- New Educational Methods
- Industry and Education
- Entrepreneurship
- Corporate Finance and Governance
- Business Strategies

Professor:  
George M. Papadimitriou  
TEI of Crete

Professor:  
Agathe Geras  
University of Aegean

Professor:  
Thomas T. Lioralis  
University of Macedonia

Professor:  
Andreas Papatheodorou  
TEI of Ioannina

Co-chairs

**NEW HORIZONS**  
in Industry, Business & Education  
25-26 August 2011  
on Chios Island

<http://nhibe2011.teicrete.gr/content/about-nhibe2011>

**AmiES-2011**

**Ambient Intelligence and Embedded Systems**  
10th International Symposium  
22 - 24 September, 2011  
Chania, Crete, Greece

**TOPICS OF INTEREST**  
The conference will cover (but is not limited to) the following topics:

- Problems and solutions related to Ambient Intelligence (AI) and Embedded Systems
- Embedded Systems, Microcontrollers, Sensors and Actuators
- Ambient Intelligence Devices
- Applications of Ambient Intelligence and Embedded Systems
- Mobile Devices, Wireless Applications, Sensor Networks (WSNs), Near Field Communications (NFC), The Internet of Things
- Software Engineering for Embedded Systems and Ambient Intelligence
- Java, Java Programming, Embedded Java
- Computer Vision, Machine Learning, Artificial Intelligence
- Multi Agent Systems, Interactive Computing
- Communication protocols for Ambient Intelligence
- Interfacing and Interoperability
- Teaching Embedded Systems
- Case Studies

**ORGANIZING INSTITUTIONS**

- Kiel University of Applied Sciences, Germany
- Technological Educational Institute of Crete, Greece
- Vasa University of Applied Sciences, Finland
- BH Katholieke University College, Belgium
- Universidade de Aveiro, Portugal
- Universidade de Madeira, Portugal
- Universidade Estadual de Campinas (UNICAMP), Brazil
- Fukuoka Institute of Technology, Japan

<http://www.teicrete.gr/AmiES2011>

**Symposium Venue**  
TEI of Crete - Chania

**COOPERATION**  
In-kind Support: Kiel University of Applied Sciences, George Papadimitriou, Technological Educational Institute of Crete

*Other Dissemination events:*

*Welcome Day for the 1<sup>st</sup> year undergraduate students – Erasmus activities.*

*Results:*

*Great interest for participation in the organized IP's*

*New organized IPs by other colleagues*

*Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*





## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- Προστιθέμενη Αξία για το Τμήμα απο την διοργάνωση Εντατικών Προγραμμάτων:
  - (1) Καινούργιοι Erasmus εταίροι: 4
  - (2) Καινούργιοι εταίροι σε ερευνητικά προγράμματα
  - (3) Ενσωμάτωση νέων μαθημάτων στον οδηγό σπουδών του Τμήματος
  - (4) Ανάπτυξη κοινών μεταπτυχιακών προγραμμάτων με Ευρωπαίους εταίρους
  - (5) Διεθνοποίηση του Τμήματος
    - (6) Ανταλλαγή μεθόδων εκπαίδευσης και πολιτισμικές ανταλλαγές
  - (7) Ενοποίηση του Ευρωπαϊκού Εκπαιδευτικού Συστήματος (ECTS & Diploma Supplement)

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*



TECHNOLOGICAL EDUCATIONAL INSTITUTE OF CRETE  
Department of Electronics  
3 Romanou St, Chalepa – 73133 Chania - GREECE  
tel: 2821 0 23038, fax: 2821023011, <http://www.chania.teicrete.gr>



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## ERASMUS INTENSIVE PROGRAMME 2011

“An Introduction to Organic Electronics & Applications”  
OREA 04 - 15 July 2011

## ERASMUS INTENSIVE PROGRAMME 2011

“An Introduction to Organic Electronics & Applications”  
OREA 04 - 15 July 2011



### *PARTICIPATION CERTIFICATE*

*This is to certify that **Mr Achilles Savva** attended the ERASMUS Intensive Programme “An Introduction to Organic Electronics & Applications”, held during 04 July - 15 July 2011, in Chania - Crete and organized by the Department of Electronics of the Technological Educational Institute of Crete.*

*The Scientific Coordinator of the Intensive Programme*

*Dr. Konstantinos Petridis  
Lecturer  
Department of Electronics  
TEI of Crete*

### *ECTS CREDITS CERTIFICATE*

*This is to certify that **Mr Achilles Savva** has been awarded 4 ECTS Credits in the topic of **Organic Electronics & Applications**, in the context of his successful attendance of OREA ERASMUS Intensive Programme 2011, held during 04 July - 15 July 2011, in the Electronics Department of T.E.I. of Crete, in Chania.*

*The Scientific Coordinator of the Intensive Programme*

*Dr. Constantinos Petridis  
Lecturer  
Department of Electronics  
TEI of Crete*



## *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- Για την περίοδο **2012 – 13** τρία καινούργια Εντατικά προγράμματα εγκρίθηκαν:

(1) Spintronics & Applications (συντονιστής: Δρ Κ. Πετρίδης)

(2) Transparent Electronics: From materials and devices to circuits and systems

(συντονιστής: Καθ. Ι. Καλιακάτσος)

(3) An Introduction to high power light – matter interactions

(συντονιστής: Καθ. Μ. Ταταράκης)

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- **Spintronics & Applications Partners**



University  
of Cyprus



Universität Regensburg



UNIVERSITY OF  
SURREY



University of Crete



# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- *Transparent Electronics: From materials and devices to circuits and systems*



University of Crete


Imperial College  
London



FRIEDRICH-ALEXANDER  
UNIVERSITÄT  
ERLANGEN-NÜRNBERG







**Transparent  
Electronics:  
“From Materials and  
Devices to Circuits and  
Systems”**

**An ERASMUS-IP programme  
July 2013, Chania Crete**

[www.teicrete.gr/transelect](http://www.teicrete.gr/transelect)



# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- An Introduction to high power light matter interactions:



**Imperial College  
London**



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**b  
UNIVERSITÄT  
BERN**



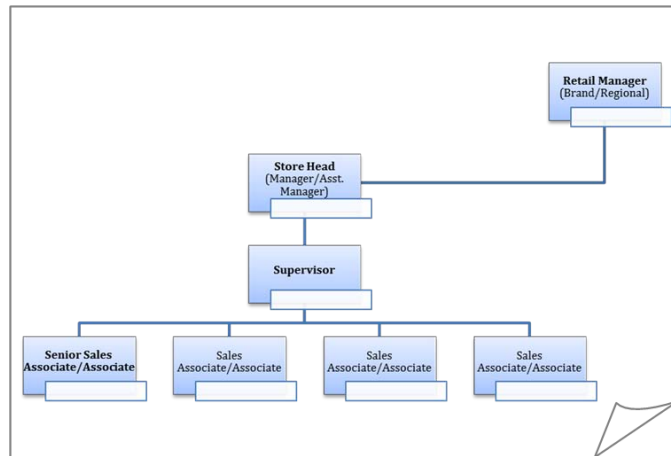
THE UNIVERSITY of *York*



**SAPIENZA  
UNIVERSITÀ DI ROMA**

# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

- **Recipes for good organization:**



# *Intensive Programs και το Τμήμα Ηλεκτρονικής του ΤΕΙ Κρήτης*

**Σας ευχαριστώ πολύ για την προσοχή και την υπομονή σας**

