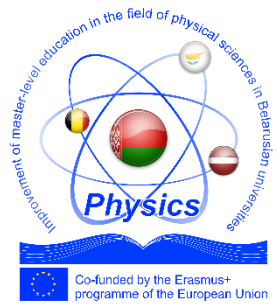




Co-funded by the  
Erasmus+ Programme  
of the European Union



University  
of Cyprus



# Improvement of master level education in the field of physical sciences in Belarusian universities

**Final Conference: 12 September, 2018**

***Elias Kyriakides***

*Associate Director, KIOS Research Center*

*Associate Professor, Department of Electrical and Computer Engineering  
University of Cyprus*

# Presentation Outline

- **University of Cyprus**
- **KIOS Research and Innovation Center of Excellence**
- **Activities in the Erasmus+ project “Physics”**
- **Follow-up activities**

# University of Cyprus at a Glance

## General Information

- ***Established:*** 1989
- ***First Undergraduate students:*** September 1992 (3 Faculties, 10 Departments)
- ***First Postgraduate students:*** 1997
- ***The University Campus is expected to be completed by 2020*** (9 Schools, 25+ Departments, ~10.000 students).

## Landmarks

- **Network for Universities of the Capitals of Europe (UNICA):** Presidency (2004-2012)
- **Shanghai World University ranking:**
  - **University:** Ranked at 601-700 worldwide (2018)
  - **Department of Electrical and Computer Engineering:** Ranked at 201-300 worldwide (2018)

## Figures

- 37 Undergraduate programs
- 60 Postgraduate programs (Master's)
- 6 Postgraduate programs in English
- 43 Ph.D. programs
- 5.043 Undergraduate students
- 1.282 Postgraduate students
- 556 Doctoral students





# KIOS Research and Innovation Center of Excellence

- Established in 2008
- Part of the University of Cyprus
- Currently it has 90 researchers



# Industrial Applications



## Power Systems

- Increase stability, fault tolerance
- Reduce emissions, energy consumption, generation costs
- Integrate renewable energy sources



## Water Networks

- Increased security, water quality, resilience
- Reduce water losses, energy usage, non-revenue water



## Telecommunications

- Improved network coverage and mobility, reliability, secrecy, data-rates
- Reduced energy consumption



## Transportation Networks

- Increased mobility and productivity
- Reduced accidents, fuel consumption, emissions, congestion cost



## Emergency Response

- Reduce damage of ecosystem, damage to property and destruction of critical infrastructures

# Teaming Phase 2

- **Project Acronym:** KIOS CoE
- **Objective:** Establish the KIOS Research and Innovation Center of Excellence
- **Teaming Partner:** *Imperial College London*
- **Duration :** 1/3/2017 – 29/2/2024
- **EU Funding:** €15,000,000
  - Matching National funding: approx. €25,000,000
- Proposal ranked 4<sup>th</sup> among the 169 proposals submitted in Phase 1

# Collaborators & Funding Sources

- Cyprus Government
- University of Cyprus
- Innovation Hub Partners and Members
- Competitive national and international projects
- IP licensing





# PHYSICS Project Activities

- **Led WP5: Dissemination and Exploitation**
- **Responsible for the book “Master Thesis Guidelines in Applied Physics”**
- **Training School for students in Nicosia, Cyprus**

# Book on Master Thesis Guidelines

- Joint effort by several universities
- 12 chapters
- 187 pages

## Master Thesis Guidelines in Applied Physics

Editors: Stella Hadjistassou and Elias Kyriakides

Stella Hadjistassou  
Elias Kyriakides  
Nikolai Gorbachuk  
Nikolai Poklonski  
Alexander Fedotov  
Anik Janssens  
Anatolijs Zabasta  
Nadezhda Kunicina

Alina Galkina  
Leonids Ribickis  
Renars Reklaitis  
Ivars Rankis  
Aigars Vitols  
Ina Gudele  
Mikelis Ragainis

RTU Press  
Riga, 2018

# Dissemination Activities

## Objectives:

- **Establish close collaboration between different academic institutions and the Ministry of Education that can lead to a better understanding of the practical ways of transition from the existing system to the new 4 + 2 system**
- **Promote smooth transition to the newly accredited system emerging from training programs that extends beyond the project**
- **Presentation of project results, evaluation, and promotion**

# Dissemination Activities

- **Press conferences, press releases, leaflets, posters, TV and radio broadcasts, social media, project logo**
- **Project website design and development**
- **Seminar for stakeholders in the Ministry of Education of Belarus**
- **Information sessions**
- **Final conference**
- **Double-sided agreements**
- **Preparation to 2<sup>nd</sup> year master program testing**
- **Conference papers and presentations**

# Curricula Approved by the Ministry of Education of the Republic of Belarus

- **Master's degree program 81 03 Functional nanomaterials\_2 years**
- **Master's degree program Physics of Nanomaterials and Nanotechnologies\_1 year**
- **Master's degree program 81 02 Photonics\_2 of the year 2017**
- **Master's degree program 1-31\_81\_02 Photonics\_1 year 2012**



# PHYSICS Training School

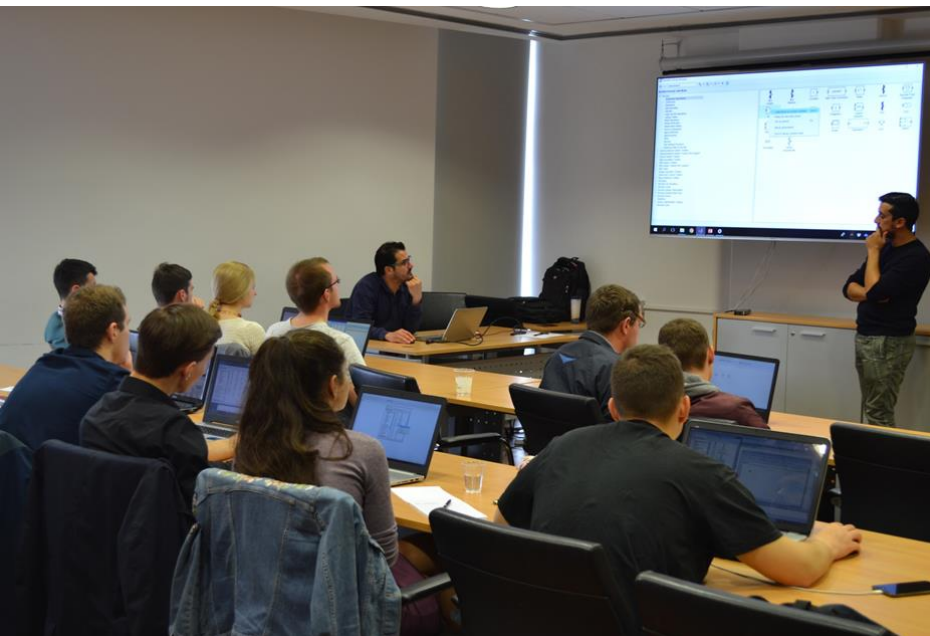
- **Nicosia, Cyprus, Feb 2018**
- **Duration: 2 weeks**
- **14 students; 9 instructors**
- **Courses:**
  - **Introduction to power systems**
  - **Laboratory experiments with electrical machines**
  - **Site visit (wind energy/PV park)**
  - **Power system modeling and analysis**
  - **Introduction to MATLAB/Simulink**
  - **Training with power system simulation software**
  - **Lectures by three professors from Belarusian Universities (Fluorescence Spectroscopy, Belarus Energy, Insulators and Semiconductors)**











# Follow-up Activities

- **Bilateral Erasmus agreements**
- **Collaboration in new proposals**
- **Available to assist in the areas of our expertise (electric power systems; renewable energy; education; learning English as a Second Language, computer-assisted language learning)**



**Thank you for your attention**

**Please visit the project web site: <http://physics.rtu.lv>**

**Contact details:**

**elias@ucy.ac.cy**

**<http://www.kios.ucy.ac.cy>**