





Co-funded by the FP7 Framework Programme of the European Union



# CEOSeR



Centre of Excellence in Organic Semiconductor Research



Research



Innovation



Twinning

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## The Aim of the Project



<http://en.ktu.lt>

The overall aim of the CEOSeR project is to build the research and innovation capacity at the Department of Organic Technology, Kaunas University of Technology (DOT-KTU), to the highest European level - **in novel organic semiconducting materials and OLAE devices** - and create a European Centre of Excellence in Organic Semiconductor Research.

DOT-KTU's existing scientific expertise and facilities will be further developed through a range of capacity building activities. DOT-KTU will increase its human potential by hiring experienced researchers, an IP Manager and an Innovation Manager and organising know-how exchanges and trainings for existing and new staff with twinning partners.

DOT-KTU will increase its technology potential by upgrading and purchasing new equipment including an FTIR ATR spectrometer, differential photocalorimeter, liquid chromatography system, dielectric spectrometer and photoelectron spectrometer. To ensure its research quality and innovation capability, DOT-KTU will be ex-post evaluated by a team of international, independent experts.

## About DOT-KTU

DOT-KTU's **research interests** focus on the synthesis and study of organic semiconductors; cationic (photo)polymerization of cyclic and vinyl ethers; chemical and physical modification of cellulose and other biopolymers; investigation of polyelectrolyte complexes and their application in environmental protection.

DOT-KTU's **research facilities** include gel permeation chromatography system (Malvern-Viscotec), luminescence spectrometer MPF-4 (Hitachi), UV-Vis spectrometer "Lambda 35" (Perkin Elmer), potentiostat-galvanostat "AutolabIII" (Autolab), IR spectrometer "Spectrum GX FT-IR System" (Perkin Elmer), HPLC chromatograph (Waters), automated flash chromatography system (Releveris), Proline Z 0,5 kN Materials Testing Machine (Zwick), viskosimeter "rheotec IIC", polarizing microscopy with heating plate "Olympus BX41", spectrometer DT-300 (Quantachrome), atomic absorption spectrometer, thermogravimetric analyzer "TGA 4000" (Perkin Elmer). DOT-KTU has **access to** nuclear magnetic resonance spectrometer (Varian Unity Inova, 300 MHz) and to the unique self made equipment for characterisation of organic semiconductors, i.e. time-of-flight equipment.

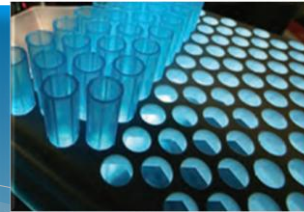
## Project Summary



- Project duration: 42 months  
From: 01 February 2013  
To: 31 July 2016
- Total budget: EUR 3 124 671
- EU contribution: EUR 2 792 936
- CEOSeR will be led by a dedicated team of researchers from DOT-KTU. The Institute has a first class record of R&D in organic semiconductors with DOT-KTU staff having published extensively in international, peer-reviewed journals.

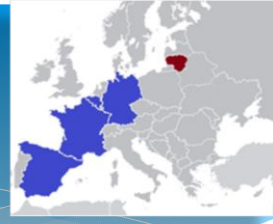
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## Research Topics



- Research Topic A: Electroactive low-molar-mass materials for OLAE technologies
  - A1: Electroactive molecular glasses for OLED and OPV applications; and
  - A2: Low-molar-mass materials with increased molecular order and high charge mobilities for OFET applications.
- Research Topic B: Polymeric and dendritic materials for OLAE technologies
  - B1: Charge transporting polymers and dendrimers for OPV and OFET applications; and
  - B2: Photo-cross-linkable electroactive systems for OLED applications.

## Twinning Partners



- Universitat Politècnica de Catalunya (UPC)  
[http://www.upc.edu/?set\\_language=en](http://www.upc.edu/?set_language=en)



- Katholieke Universiteit Leuven (KU Leuven)  
<http://www.kuleuven.be/english/>



- Université de Cergy-Pontoise (UCP-LLPI)  
<http://www.u-cergy.fr/fr/index.html>



- Technische Universität Dresden (TU-Dresden)  
<http://tu-dresden.de/en>



- Novaled AG  
<http://www.novaled.com/>

## Activities

- Develop twinning partnerships with 5 organisations specialized in organic semiconductor research: Know-How and Experience Exchange
- Recruitment by DOT-KTU
- Development and Upgrade of Research Equipment
- Workshop, Conference, Dissemination and Promotion Activities
- Elaborate a Strategic Intellectual Property Development Plan
- Ex-Post Evaluation and Project Management
- These activities are aiming to contribute directly to the improvement of the research capacity of the centre by supporting and mobilising the human and material resources, and by developing strategic twinning partnerships with excellent research groups.

## Contact

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Thank you for your attention!