

EUROPEAN CURRICULUM VITAE



PERSONAL DETAILS

Name VERNARDOU, DIMITRA

E-mail dvernardou@hmu.gr

Nationality Greek

Date of birth 01.03.1979

Marital status Married

EDUCATION

11/2001 – 03/2005

University of Salford, Institute for Materials Research, Manchester, United Kingdom in collaboration with University College of London (UCL, United Kingdom) and Pilkington Glass (United Kingdom)

Deposition of thermochromic vanadium dioxide thin films using a home-made APCVD (Atmospheric Pressure Chemical Vapour Deposition), Liquid-Injection MOCVD (Metalorganic CVD) and combustion CVD (CCVD) on SiO₂-precoated glass (Pilkington, UK), soda lime glass (J. B. Treasures, UK) and SiO₂-precoated glass by CCVD reactor studying two different chemical systems, VCl₄/H₂O and VO(acac)₂ in the presence of O₂. Characterization of the samples was performed using X-ray diffraction, Raman spectroscopy, UV-vis transmittance and reflectance spectroscopy, Scanning electron microscopy, Atomic force microscopy, Rutherford backscattering spectroscopy, X-ray photoelectron spectroscopy and in-situ monitoring experiments during the reaction of the precursor systems in the APCVD reactor using Fourier Transform Infrared Spectroscopy.

PhD in Physical Chemistry

10/2000 – 10/2001

UMIST, Manchester Materials Science Centre, Manchester, United Kingdom

Main modules: Polymer Chemistry, Polymer Physics and Polymer Processing

Dissertation on Crosslinking of polyolefin foams, study of crosslinking systems based on dicumyl peroxide (DCP) and DCP with triallylcyanurate (TAC)

MSc in Polymer Science and Technology

09/1997 – 06/2000

University of Salford, Institute for Materials Research, Manchester, United Kingdom

Main modules: Analytical, organic, inorganic and physical chemistry, geochemistry, principles of photochemistry, atmospheric chemistry and laboratories in organic, inorganic and physical chemistry

Final year project on separation of metal ions

BSc in Chemistry

ACADEMIC APPOINTMENTS

04/11/2019–Today

Assistant Professor

Hellenic Mediterranean University, Department of Electrical & Computer Engineering, 710 04 Heraklion, Crete, Greece

01/03/2006–17/02/2012

Visiting Assistant Professor

University of Crete, Department of Materials Science and Technology, 710 04 Heraklion, Crete, Greece

26/09/2005–30/06/2019

Adjunct Professor

Technological Educational Institute of Crete, Science Department, School of Applied Technology, 710 04 Heraklion, Crete, Greece

10/2001–5/2004

Adjunct Lecturer

University of Salford, Institute for Materials Research, Manchester, United Kingdom

RESEARCH APPOINTMENTS

10/01/2020–Today

Researcher – Group Leader

Hellenic Mediterranean University, Center of Materials Technology and Photonics, Cretan Group, School of Engineering, 710 04 Heraklion, Crete, Greece

01/10/2006–03/05/2019

Research Fellow

Technological Educational Institute of Crete, Center of Materials Technology and Photonics, School of Engineering, 710 04 Heraklion, Crete, Greece

01/04/2005–31/12/2005

Research Scientist

Foundation for Research and Technology–Hellas, Institute of Electronic Structure and Laser, P.O. Box 1527, 711 10 Heraklion, Crete, Greece

TEACHING

I. University of Crete

<i>Academic year</i>	<i>Fall semester</i>	<i>Spring semester</i>
2006-2009	-	Laboratory of Hard Materials
2009-2012	Structural and Chemical Analysis of Materials	Laboratory of Hard Materials

II. TEL of Crete

<i>Academic year</i>	<i>Fall semester</i>	<i>Spring semester</i>
2005-2006	Laboratory of Mechanical Materials Technology	Laboratory of Mechanical Materials Technology
2006-2007	a. Laboratory of Mechanical Materials Technology b. Laboratory of Chemical Technology	Laboratory of Mechanical Materials Technology
2008-2009	Laboratory of Mechanical Materials Technology	Laboratory of Mechanical Materials Technology
2009-2010	a. Laboratory of Mechanical Materials Technology b. Laboratory of Structural Materials Technology c. Laboratory of Electrochemistry	a. Laboratory of Mechanical Materials Technology b. Laboratory of Structural Materials Technology c. Laboratory of Electrochemistry
2010-2011	a. Laboratory of Mechanical Materials Technology b. Laboratory of Structural Materials Technology	a. Laboratory of Mechanical Materials Technology b. Laboratory of Structural Materials Technology
2011-2012	Laboratory of Mechanical Materials Technology	-
2012-2019	a. Laboratory of Mechanical Materials Technology b. Laboratory of Electrochemistry	Chemical & Environmental Technology

III. Hellenic Mediterranean University

<i>Academic year</i>	<i>Fall semester</i>	<i>Spring semester</i>
2019-2020	a. Electrotechnical Materials I b. Materials Technology – Electrochemistry	a. Environmental Chemistry b. Chemical & Environmental Technology c. Chemistry of Materials (MSc programme)

IV. University of Salford

<i>Academic year</i>	<i>Fall semester</i>	<i>Spring semester</i>
2001-2004	Laboratory of Organic Chemistry Laboratory of Inorganic Chemistry	Laboratory of Physical Chemistry

TEACHING NOTES

1. **Energy Devices**, M.Sc in Nanotechnology for Energy Applications, Hellenic Mediterranean University, 2020.
2. **Environmental Technology**, Department of Electrical Engineering, TEI of Crete, 2020.
3. **Chemical and Environmental Technology**, Department of Mechanical Engineering, Hellenic Mediterranean University, 2020.
4. **Chemistry of Materials**, M.Sc in Nanotechnology for Energy Applications, Hellenic Mediterranean University, 2020.
5. **Electrotechnical Materials I**, Department of Electrical & Computer Engineering, Hellenic Mediterranean University, 2019.
6. **Materials Technology-Electrochemistry**, Department of Electrical Engineering, TEI of Crete, 2019.
7. **Chemical and Environmental Technology**, Department of Mechanical Engineering, TEI of Crete, 2018.
8. **Laboratorial exercise on Mechanical Properties of Materials (Laboratory of Mechanical Materials Technology)**, Department of Mechanical Engineering, TEI of Crete, 2009.
9. **Structural and Chemical Analysis of Materials**, Department of Materials Science and Technology, University of Crete, 2009.

STUDENT SUPERVISION

Final year projects

- 1) "Challenges and perspectives of energy accumulators", **E. Xagoraris**.
- 2) "AACVD of V_2O_5 cathodes with high rate capabilities for aqueous batteries", **S. Chalkiadakis**.
- 3) "Study of wastewater treatment and facilities estimation for Porto Elounda hotel", **K. Gouveris**.
- 4) "Biomass-Biofuels: Emissions of pollutants into the environment", **D. Eliadou**.
- 5) "Electrochemical study nanocomposite materials as electrodes for Li-ion batteries", **V. Logotheti**.
- 6) "Electrochemical study of all-inorganic perovskite based on aqueous electrolyte as an anode for Li-ion batteries", **D. Makri**.
- 7) "Electrochemical study of APCVD V_2O_5 as a cathode for Mg-ion batteries", **G. Astrinakis**.
- 8) "Electrochemical study of Fe_3O_4 and Nb_2O_5 coatings for capacitors", **I. Marathanou**.
- 9) "Electrochemical study of vanadium oxide layers for capacitors", **M. Rasoulis**.
- 10) "Electrochemical study of APCVD vanadium oxides as electroactive layers towards their application in capacitors", **A. Bei**.
- 11) "A comparative study among inorganic, organic and hybrid solar cells and their accession in Greece's energy system"
D. Barbaris.
- 12) "Electrochemical study of vanadium oxide coatings for capacitors", **S. Nikolaidis**.
- 13) "Electrochemical study of vanadium oxide coatings for capacitors", **A. Samiotis**.
- 14) "Al and Cr depositions by spray plasma technology", **C. Mixalostamou**.
- 15) "Chemical deposition of nanostructured layers", **M. Sifakis**.
- 16) "Growth of vanadium oxide by chemical processes with controlled structural and morphological characteristics for energy applications", **A. Sarris**.
- 17) Co-supervision with Dr. E. Spanakis "Effect of pH solution on the vanadium oxide properties for energy applications", **M. Apostolopoulou**
- 18) "Characterization of hydrothermally grown electroactive WO_3 ", **K. Christou**.
- 19) "Electrochemical characterization of vanadium oxide grown on various conductive substrates by electrodeposition", **M. Veziri**.
- 20) "Electrical energy storage", **A. Kontzos**.
- 21) "Nanotechnology and applications on energy", **M. Tranta**.
- 22) "Electrodeposition of vanadium oxide and study of its properties for electrochromic application", **A. Sapountzis**.
- 23) "Electrochemical and photocatalytic properties of WO_3 , TiO_2 , VO_x layers grown by solution process at $95^\circ C$ ", **S. Anastasaki**.
- 24) "Deposition and characterization of TiO_2 , V_2O_5 and WO_3 for electrochromic applications", **C. Drosos**.
- 25) "Electrochemical characterization of WO_3 and V_2O_5 prepared by chemical route", **G. Antoniou and K. Doumousiaris**.
- 26) "Renewable technology and its applications in Greece", **F. Fragopoulos**.
- 27) "Indoor air quality technologies", **K. Sfyropoulos**.
- 28) "Basic principles and advantages of a bioclimatic houses", **N. Niotis**.
- 29) Co-supervision with Dr. E. Spanaki "Deposition of WO_3 layers for smart window", **G. Filippou**.
- 30) "Electrochemical properties of TiO_2 , ZnO and TiO_2/ZnO layers grown by solution process at $95^\circ C$ ", **T. Kiriazidis**.
- 31) "Smart windows for saving energy-Environmental, financial and social benefit", **G. Manes**.
- 32) "Deposition of WO_3 layers and study of their photocatalytic response", **E. Nikiforaki**.
- 33) "Solution growth of TiO_2 layers with improved structural and optical characteristics", **A. Stefanakis**.
- 34) "Deposition and study of thermochromic properties of V_nO_{2n-1} layer", **M. Zaimaki**
- 35) "Solution growth and study of the hydrophilic and electrical properties of ZnO layer", **K. Rizos**.
- 36) "Solution growth and study of the hydrophilic properties of TiO_2 layers", **K. Vlachou**.
- 37) "Hydrophilic and photocatalytic response of solution grown TiO_2 layer", **G. Kalogerakis**.

Workplacements

- 1) "Deposition of V_2O_5 layers by atmospheric pressure chemical vapor deposition and their characterization (structural, optical, morphological and electrochemical)", **P. Paterakis**.
- 2) Co-supervision with Professor N. Katsaraki "Parametric study of chemically grown vanadium oxide and its electrochemical characterization", **C. Drosos**
- 3) "Parametric study of the electrodeposited vanadium oxide and its characterization (optical, morphological and

electrochemical)", **A. Sapountzis**.

4) "Electrochemical characterization of metal oxides", **I. Pappa**.

Master dissertations

1) Co-supervision with Professor N. Katsaraki "Development of an atmospheric pressure chemical vapor deposition system and deposition of vanadium oxides for applications on smart windows", **G. Papadakis**.

2) "Preparation of titanium dioxide (TiO₂) at low temperatures and study of its photocatalytic performance for the decomposition of methylene blue" in which I supervised the preparation and characterization of the titanium dioxide powders", **A. Psaroudakis**.

PhD dissertation

Co-supervision with Professor E. Koudouma "Development and study of advanced chromic coatings and devices for applications in "smart windows", **D. Louloudakis**.

PERSONAL SKILLS AND COMPETENCES

PRIZES – DISCRIMINATIONS

15/07/2013-19/07/2013

CrystEngComm Poster Prize at International Conference on Advanced Complex Inorganic Nanomaterials.

05/05/2004

Second prize on Physical Chemistry in 21st Greater Manchester Prize Colloquium competition organized by RSC (Royal Society of Chemistry).

11/2001-11/2004

Engineering and Physical Sciences Research Council (EPSRC) scholarship for the completion of the PhD.

TECHNICAL SKILLS AND COMPETENCES

Windows XP and 2000. (Microsoft Word, Excel, PowerPoint and Microsoft Visio. Casa XPS and Quark simulation).

MEMBERSHIP

Association of Greek Chemists

Institute of Physics, United Kingdom

American Nano Society

International Society of Electrochemistry

Royal Society of Chemistry

SPECIAL REPORT

1) Heraklion Chamber pressmagazine December 2010, "Smart windows for energy efficiency".

2) TEI of Crete pressmagazine March 2010, "Large area coatings for solar energy efficiency".

3) <https://www.chemistryworld.com/news/chemical-vapour-deposition-makes-glass-smarter/3000860.article>

RESEARCH INTERESTS / SKILLS

TOPICS

Chemical synthesis and characterization of nanostructured metal oxides (thin films, powders)

Controlled nanostructured metal oxide synthesis via atmospheric pressure chemical vapour deposition, hydrothermal growth and electrodeposition

Synthesis of nanostructured metal oxide on flexible and rigid surfaces

Surface modification

Smart and functional metal oxides for environmental and energy applications (self-cleaning, photocatalysis, electrochromics, thermochromics, batteries and capacitors)

TECHNIQUES

X-ray diffraction

Raman spectroscopy

Fourier transform infrared spectroscopy

Scanning electron microscopy

X-ray photoelectron spectroscopy

Absorbance / Transmittance / Reflectance spectroscopy

Cyclic voltammetry

Contact angle measurements / Photocatalytic measurements

CONFERENCES-PRESENTATIONS

- 1) V₂O₅ as a promising cathode material for aqueous magnesium ion batteries, Vernardou, D.; Drosos, C.; Moss, B.; Kafizas, A. 71st Annual Meeting of the International Society of Electrochemistry-Online **2020**.
- 2) Electrochromic performance of V₂O₅ thin films grown by spray pyrolysis, Mouratis, K.; Vernardou, D.; Sucheá, M.; Tudose, V.; Koudoumas, E.; Couris, S. 71st Annual Meeting of the International Society of Electrochemistry-Online **2020**.
- 3) SnO₂ and Ni doped SnO₂/Polythiophene nanocomposites for gas sensing applications, Pascariu, P.; Tudose, I.V.; Vernardou, D.; Koudoumas, E.; Ionescu, O.N.; Sucheá, M. 9th Virtual Nanotechnology Poster Conference **2020**.
- 4) Electrochemical properties of V₂O₅ and V₂O₅:Ag coatings grown by atomic layer deposition at 250 °C, O'Brien, S.; Kazadojev, I.I.; Ryan, L.P.; Koudoumas, E.; Katsarakis, N.; Pemble, M.E.; Povey, I.P.; Vernardou, D. 12th International Conference on Physics of Advanced Materials in Crete (**Greece**) **2018**.
- 5) Growth of V₂O₅ films for electrochromic and battery applications by pulsed chemical vapour deposition, Kazadojev, I.I.; Brien, S.O'; Ryan, L.P.; Mondreanu, M.; Osiceanu, P.; Somacescu, S.; Vernardou, D.; Pemble, M.E.; Povey, I.P. 233rd ECS Meeting in Seattle (**USA**) **2018**.
- 6) Evaluation of V₂O₅ coatings grown by plasma enhanced and thermal atomic layer deposition, Kazadojev, I.I.; Brien, S.O'; Mondreanu, M.; Osiceanu, P.; Somacescu, S.; Apostolopoulou, M.; Katsarakis, N.; Koudoumas, E.; Vernardou, D.; Pemble, M.E.; Povey, I.M. 18th International Meeting on Lithium Batteries in Chicago (**USA**) **2016**.
- 7) Effect of oxygen source on the properties of vanadium oxide coatings grown by atmospheric pressure CVD, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Panagopoulou, Raptis, Y.; Kiriakidis, G.; Katsarakis, N.; Koudoumas, E. E-MRS in Lille (**France**) **2015**.
- 8) Effect of deposition temperature and amount of vanadium precursor on the thermochromic performance of VO₂ coatings grown by atmospheric pressure CVD, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Panagopoulou, Raptis, Y.; Kiriakidis, G.; Katsarakis, N.; Koudoumas, E. E-MRS in Lille (**France**) **2015**.
- 9) Study the effect of deposition period on the electrochemical properties of LPCVD WO₃, Louloudakis, D.; Psifis, K.; Vernardou, D.; Spanakis, E.; Papadimitropoulos, G.; Davazoglou, D.; Katsarakis, N.; Koudoumas, E. E-MRS in Lille (**France**) **2015**.
- 10) A comparative study of two APCVD systems for the growth of thermochromic vanadium dioxide coatings, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Panagopoulou, Raptis, G.; Kiriakidis, G.; Katsarakis, N.; Koudoumas, E. MRS in San Francisco (**USA**) **2015**.
- 11) Electrochromic response of WO₃ grown using LPCVD, Louloudakis, D.; Vernardou, D.; Psifis, K.; Spanakis, E.; Katsarakis, N.; Papadimitropoulos, G.; Davazoglou, D.; Koudoumas, E. MRS in San Francisco (**USA**) **2015**.
- 12) Noble metal doped and reduced graphene oxide coupled photocatalysts for enhanced visible-light activity, Vasilaki, E.; Kaliva, M.; Vernardou, D.; Georgaki, I.; Konios, D.; Kymakis, E.; Vamvakaki, M.; Katsarakis, N. SPEA8 in Thessaloniki (**Greece**) **2014**.
- 13) TiO₂/WO₃ photoactive bilayers in the visible-light region, Vasilaki, E.; Vernardou, D.; Georgaki, I.; Kenanakis, G.; Katsarakis, N. SPEA8 in Thessaloniki (**Greece**) **2014**.
- 14) Intelligent thermochromic coatings grown by chemical vapour deposition at atmospheric pressure, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E.; Kiriakidis, G. 30th Panhellenic Conference on Solid-State Physics and Materials Science in Heraklion (**Greece**) **2014**.
- 15) LPCVD electrochromic WO₃ layers on FTO glass substrates using different substrate temperatures, Psifis, K.; Louloudakis, D.; Papadimitropoulos, G.; Davazoglou, D.; Katsarakis, N.; Savvakis, C.; Spanakis, E.; Vernardou, D.; Koudoumas, E. 30th Panhellenic Conference on Solid-State Physics and Materials Science in Heraklion (**Greece**) **2014**.
- 16) Effect of solution chemistry on the characteristics of hydrothermally grown WO₃ for electroactive applications, Christou, K.; Louloudakis, D.; Vernardou, D.; Savvakis, C.; Katsarakis, N.; Koudoumas, E.; Kiriakidis, G. 5th International Symposium on Transparent Conducting Materials in Platania (**Greece**) **2014**.
- 17) Atmospheric pressure chemical vapor deposition of thermochromic amorphous tungsten doped vanadium dioxide, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E.; Kiriakidis, G. 5th International Symposium on Transparent Conducting Materials in Platania (**Greece**) **2014**.
- 18) Effect of antireflection TiO₂ layer on the thermochromic performance of vanadium dioxide, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E.; Gagaoudakis, E.; Aperathitis, E.; Kiriakidis, G. 5th International Symposium on Transparent Conducting Materials in Platania (**Greece**) **2014**.
- 19) Study of the pH effect on the properties of the hydrothermally grown V₂O₅, Apostolopoulou, M.; Louloudakis, D.; Vernardou, D.; Katsarakis, N.; Koudoumas, E.; Kiriakidis, G. 5th International Symposium on Transparent Conducting Materials in Platania (**Greece**) **2014**.
- 20) Effect of the growth parameters on the electrochromic properties of low pressure CVD WO₃ films, Louloudakis, D.; Vernardou, D.; Psifis, K.; Spanakis, E.; Katsarakis, N.; Papadimitropoulos, G.; Davazoglou, D.; Koudoumas, E. 65th Annual Meeting of the International Society of Electrochemistry in Lausanne (**Switzerland**) **2014**.
- 21) Tungsten doped vanadium oxide coatings grown by APCVD using isopropoxide precursors, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E.; Kiriakidis, G. NanoEnergy in London (**United Kingdom**) **2014**.

- 22) One-pot synthesis of WO₃ nanostructures at 95 °C using NaOH and HCl, Christou, K.; Louloudakis, D.; Vernardou, D.; Katsarakis, N.; Koudoumas, E. E-MRS in Lille (**France**) **2014**.
- 23) pH effect on the electrochemical properties of the hydrothermally grown V₂O₅, Apostolopoulou, M.; Louloudakis, D.; Vernardou, D.; Katsarakis, N.; Koudoumas, E. E-MRS in Lille (**France**) **2014**.
- 24) Hydrothermal growth and characterization of vanadium oxide coatings using VOSO₄ as precursor, Apostolopoulou, M.; Louloudakis, D.; Vernardou, D.; Katsarakis, N.; Koudoumas, E. E-MRS in Lille (**France**) **2014**.
- 25) Electrochemical evaluation of vanadium pentoxide coatings grown by AACVD, Vernardou, D.; Louloudakis, D.; Katsarakis, N.; Koudoumas, E.; Kazadojev, I.I.; Brien, S.O.; Povey, I.M.; Pemble, M.E. E-MRS in Lille (**France**) **2014**.
- 26) Electrocatalytic activity of carbon nanofoam in alkaline media, Dalamagkas, A.; Vernardou, D.; Katsarakis, N.; Pervolaraki, M.; Giapintzakis, J. E-MRS in Lille (**France**) **2014**.
- 27) Photocatalytic properties of WO₃ and WO₃/TiO₂ composites under UV and solar light illumination, Katsarakis, N.; Vernardou, D.; Kenanakis, G.; Vasilaki, E. 3rd European Conference on Photocatalysis in Portoroz (**Slovenia**) **2013**.
- 28) Photocatalytic response of chemically grown ZnO and TiO₂ nanostructures on polymer substrates, Katsarakis, N.; Kenanakis, G.; Vernardou, D. 3rd European Conference on Environmental Applications of Advanced Oxidation Processes in Almeria (**Spain**) **2013**.
- 29) Photocatalytic and electrochemical properties of TiO₂ thin films deposited by sol-gel, Katsarakis, N.; Kenanakis, G.; Vernardou, D.; Dalamagkas, A. 3rd European Conference on Environmental Applications of Advanced Oxidation Processes in Almeria (**Spain**) **2013**.
- 30) Thermochromic properties of VO₂ films grown by RF sputtering and APCVD, Vernardou, D.; Louloudakis, D.; Iliadis, G.; Kiriakidis, G. E-MRS in Warsaw (**Poland**) **2013**.
- 31) Thermochromic vanadium oxide coatings grown by APCVD at low temperatures, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E. EuroCVD 19 in Varna (**Bulgaria**) **2013**.
- 32) Electrochemical properties of vanadium oxide coatings grown by APCVD on FTO substrates, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E. EuroCVD 19 in Varna (**Bulgaria**) **2013**.
- 33) Study of the pH effect on the electrochemical properties of the hydrothermally grown vanadium oxide coatings, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E. International Conference on Advanced Complex Inorganic Nanomaterials in Namur (**Belgium**) **2013**.
- 34) Electrochemical properties of vanadium oxide coatings grown by hydrothermal synthesis on FTO substrates, Louloudakis, D.; Vernardou, D.; Spanakis, E.; Katsarakis, N.; Koudoumas, E. International Conference on Advanced Complex Inorganic Nanomaterials in Namur (**Belgium**) **2013**.
- 35) Effect of buffer layer and deposition parameters on thermochromic properties of VO₂, Vernardou, D.; Louloudakis, D.; Gagaoudakis, M.; Kampylafka, V.; Spanakis, E.; Katsarakis, N.; Koudoumas, M.; Aperathitis, E.; Iliadis, G.; Kiriakidis, G. 2nd International Conference on Advanced Electromaterials in Jeju (**Korea**) **2013**.
- 36) Synthetic photocatalytic nano-powders of titanium and zinc oxides degrading persistent organic compounds in industrial effluents, Georgaki, I.; Mihailidis, M.; Iliadis, J.; Kenanakis, G.; Vernardou, D.; Katsarakis, N. Wastewater purification and reuse 2012 in Crete (**Greece**) **2012**.
- 37) Electrodeposition of vanadium oxides on various substrates, Drosos, H.; Vezirh, M.; Koudoumas, E.; Katsarakis, N.; Vernardou, D. 9th International Conference on Nanosciences & Nanotechnologies in Thessaloniki (**Greece**) **2012**.
- 38) Effect of current density on electrodeposited vanadium oxide coatings, Drosos, H.; Sapountzis, A.; Koudoumas, E.; Katsarakis, N.; Vernardou, D. 9th International Conference on Nanosciences & Nanotechnologies in Thessaloniki (**Greece**) **2012**.
- 39) Electrochemical properties of hydrothermally grown vanadium oxides on fluorine doped tin oxide and photonic crystal substrates, Drosos, H.; Vernardou, D.; Koudoumas, E.; Katsarakis, N.; McGrath, J.; Pemble, M.E. 4th International Symposium on Transparent Conductive Materials in Crete (**Greece**) **2012**.
- 40) Electrochemical characterization of metal oxides grown by atmospheric pressure chemical vapor deposition for smart window applications, Antoniou, G.; Doumousiaris, K.; Vernardou, D.; Koudoumas, E.; Katsarakis, N. XXVII Panhellenic Conference on Solid State Physics and Materials Science in Limassol (**Cyprus**) **2011**.
- 41) Electrochemical properties of tungsten oxide films prepared on polycarbonate at low temperatures by chemical vapour deposition, Drosos, D.; Vernardou, D.; Koudoumas, E.; Katsarakis, N.; Savvakis, C.; Povey, I.M.; Pemble, M.E. 8th International Conference on Nanosciences and Nanotechnologies in Thessaloniki (**Greece**) **2011**.
- 42) Study of the electrochemical properties of WO₃ coatings grown by APCVD on various substrates, Vernardou, D.; Spanakis, E.; Drosos, H.; Koudoumas, E.; Savvakis, C.; Katsarakis, N. EuroCVD 18 in Kinsale (**Ireland**) **2011**.
- 43) Photoluminescence study of ZnO structures grown by Aqueous Chemical Growth, Kenanakis, G.; Androulidaki, M.; Vernardou, D.; Katsarakis, N.; Koudoumas, E. 3rd International Symposium on Transparent Conductive Materials in Crete (**Greece**) **2010**.
- 44) Electrochemical and photocatalytic properties of WO₃ coatings grown at low temperatures, Vernardou, D.; Drosos, H.; Spanakis, E.; Koudoumas, E.; Savvakis, C.; Katsarakis, N.; 3rd International Symposium on Transparent Conductive Materials in Crete (**Greece**) **2010**.
- 45) Using an atmospheric pressure chemical vapor deposition process for the development of "Smart Windows", Vernardou, D.; Papadakis, G.; Spanakis, E.; Koudoumas, E.; Savvakis, C.; Katsarakis, N.; 3rd International Scientific Conference on

“Energy and Climate Change” in Athens **(Greece) 2010**.

46) Electrochromic properties of WO_3 , V_2O_5 and TiO_2 prepared by hydrothermal growth at 95°C , Vernardou, D.; Drosos, H.; Spanakis, E.; Koudoumas, E.; Savvakis, C.; Katsarakis, N.; International Conference on Coatings on Glass and Plastics in Braunschweig **(Germany) 2010**.

47) Study of metal oxides for the design and development of smart materials, Vernardou, D.; Kenanakis, G.; Kalousis, K.; Vlachou, K.; Rizos, K.; Koudoumas, E.; Katsarakis, N.; Chemical Consciousness on the 21st century in Crete **(Greece) 2009**.

48) One-pot direct hydrothermal approach to the design and fabrication of photoactive materials, Vernardou, D.; Spanakis, E.; Kenanakis, G.; Koudoumas, E.; Katsarakis, N. Fall Materials Research Society Conference in Boston **(USA) 2009**.

49) A comparative study of the photoinduced properties of $\text{TiO}_2/\text{SiO}_2$ and $\text{TiO}_2/\text{ZnO}/\text{SiO}_2$ layers prepared by chemical routes, Vernardou, D.; Spanakis, E.; Vlachou, K.; Kalogerakis, G.; Costello, J.; Koudoumas, E.; Katsarakis, N.; Pemble, M.E. EuroCVD-17 in Vienna **(Austria) 2009**.

50) Light-induced photocatalytic degradation of methylene blue by ZnO and TiO_2 nanostructures deposited onto polymer substrates, Kenanakis, G.; Lyroni, N.; Vernardou, D.; Katsarakis, N. 1st International Workshop on Application of Redox Technologies in the Environment in Instabul **(Turkey) 2009**.

51) Metal oxide nanostructures for use in organic photovoltaic cells, Spanou, E.; Kyprianou, A.; Georgiou, G.E.; Vernardou, D.; Kenanakis, G.; Kymakis, E.; Katsarakis, N.; Koudoumas, E. International Conference on Deregulated Electricity Market Issues in South-Eastern Europe in Nicosia **(Cyprus) 2008**.

52) Photoinduced hydrophilic and photocatalytic response of hydrothermally grown anatase TiO_2 nanostructured thin films, Vernardou, D.; Kalogerakis, G.; Stratakis, E.; Kenanakis, G.; Koudoumas, E.; Katsarakis, N. 6th International Conference on Inorganic Materials in Dresden **(Germany) 2008**.

53) Structural, optical and photocatalytic properties of ZnO thin films and nanostructures deposited by different chemical routes, Kenanakis, G.; Giannakoudakis, Z.; Vernardou, D.; Koudoumas, E.; N. Katsarakis, N. 7th International Conference on Coatings on Glass and Plastics in Eindhoven **(Holland) 2008**.

54) Structural, optical and photocatalytic properties of ZnO thin films and nanostructures deposited by different chemical routes, Kenanakis, G.; Vernardou, D.; Koudoumas, E.; Savvakis, C.; N. Katsarakis, N. XXIV Panhellenic Conference on Solid State Physics and Materials Science, in Crete **(Greece) 2008**

55) Characterization of hydrothermally grown vanadium oxides for potential application on smart glazings, Vernardou, D.; Zaimaki, M.; Spanakis, E.; Katsarakis, N.; Koudoumas, E. XXIV Pan-Hellenic Conference on Solid State Physics and Materials Science in Crete **(Greece) 2008**.

56) Hydrothermal synthesis of photocatalytically active tungsten oxides, Vernardou, D.; Nikiforaki, V.; Filipou, G.; Spanakis, E.; Koudoumas, E.; Katsarakis, N. XXIV Pan-Hellenic Conference on Solid State Physics and Materials Science in Crete **(Greece) 2008**.

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- 1) Member of the local organizing committee on 12th International Conference on Physics of Advanced Materials in Crete **(Greece) 2018.**
- 2) Member of the international scientific committee on Advances on Photocatalysis in Crete **(Greece) 2017.**
- 3) Member of the local organizing committee on 3rd and 4th International Symposium on Transparent Conductive Materials in Crete **(Greece) 2010, 2012, 2014 and 2016.**
- 4) Member of the local organizing committee on 1st and 2nd International Symposium on Transparent Conducting Oxides in Crete **(Greece) 2006 and 2008.**

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PARTICIPATION IN FUNDED PROJECTS

- LINABIOFLUID
(Duration: 6 months, 01.11.2017-30.04.2018)
- ARCHIMEDES III 2012-2015 «Nanostructured metal oxide photocatalysts».
(Duration: 3 months, 01.09.2012-30.11.2012)
- ARCHIMEDES III 2012-2015 «Design and fabrication of nanostructured hybrid solar cells with improved performance».
(Duration: 4 months, 01.09.2012-31.12.2012)
- ARCHIMEDES III 2012-2015 «Growth and characterization of novel nanostructured layers for the confinement of GHz electromagnetic radiation».
(Duration: 6 months, 01.09.2012-31.12.2012 and 01.07.2015-31.08.2015)
- ARCHIMEDES III 2012-2015 «Electrochromic low cost advanced window».

(Duration: 6 months, 18.07.2013-17.09.2013 and 28.02.2014-30.06.2014)

- SYNERGASIA 09ΣΥΝ-32-1185 2012-2015 «Smart & Economic thermochromic windows for energy saving in buildings».

(Duration: 7 months, 01.09.2012-31.12.2012 and 31.12.2014-28.03.2015)

- INTERREG IIIA/GREECE-CYPRUS 2000-2006, «Novel photovoltaic cells and photovoltaic systems with improved efficiency».

(Duration: 13 months, 01.05.2007-28.02.2008 and 29.02.2008-31.05.2008)

- ΕΡΕΑΕΚ, ARCHIMEDES II, «ZnO thin films for gas sensing applications».

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- 3rd GENLAC 2003-2005, «3rd generation optical coatings for large area architectural glazing».

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Chapters under processing in 2020:

D. Vernardou and C. Drosos “*Computational Fluid Dynamics: An Important Tool to Predict Growth Parameters in an APCVD Process*” in **Thermochromic Technology**, Pan Stanford Publishing.

D. Vernardou, I.P. Parkin, C. Drosos “*Chapter 7: Chemical Vapor Deposition of Oxide Materials at Atmospheric Pressure*” in **Handbook of Modern Coating Technologies**. Fabrication Methods and Functional Properties, Elsevier.

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