

LISTĂ DE LUCRĂRI

INFORMAȚII PERSONALE

PORTAN DIANA-HORTENSIA

EDUCAȚIE

10/2016

DIPLOMĂ DOCTOR

TitluL: 'Synthesis, Characterization and Modelling of Interphases created between Titanium Dioxide Nanotubes and Various Layers in Biological, Physical and Mechanical Systems'

Bursă oferită de IKY - Fundația pentru Burse de Studiu a Republicii Elene (2013 - 2016)

Coordonator: Prof. G.C. Papanicolaou

Calificativ: Excelent

Instituție: **Departamentul de Ing. Mecanică și Aeronautică, Unievrsitea din Patras, Grecia**

12/2011

DIPLOMĂ DOCTOR

TitluL: 'Theoretical and Experimental Studies on the Manufacturing, Biocompatibility and Modelling of TiO₂ Nanotubes'

Bursă POSDRU oferită de Ministerul Educației Naționale și Cercetării Științifice (2008-2011)

Coordonator principal: Prof. I. Jitaru, Universitatea Politehnica din București

Co-supraveghetor: Prof. G.C. Papanicolaou, Universitatea din Patras

Instituție: **Facultatea de Chimie Aplicată și Știința Materialelor, Universitatea Politehnica din București, România**

CAPITOLE

- G.C. Papanicolaou and **D.V. Portan**, 2015, "Carbon and TiO₂ Nanotube - Polymer Composites: Manufacturing - Characterization and Interphasial Modeling", Chapter 44, in 'Structural Integrity and Durability of Advanced Composites Innovative Modelling Methods and Intelligent Design',

Edited by: Peter Beaumont, Cambridge University Department of Engineering and Wolfson College, Cambridge, UK; Constantinos Soutis, School of Mechanical, Aerospace and Civil Engineering and the Aerospace Research Institute, University of Manchester, UK; Alma Hodzic, Faculty of Engineering, The University of Sheffield, UK, Published: May 2015, Imprint: Woodhead Publishing, ISBN: 978-0-08-100137-0

- V. Iordache, M. C. Arama, L. Bodea, R. Budulache, **D. H. Portan**, L. Stoica, 2008, *Biologia ca forma a culturii (Biology as an expression of culture)*, results of the program RENASCENT SP- C2005- PO4, Ed. Ars Docendi, Bucharest 2008.

PUBLIKAȚII ÎN
REVISTE
INTERNAȚIONALE
CU FACTOR DE
IMPACT (F.I.)

- Kokkinos AP, **Portan DV**, Saridaki X, Katerelos DTG. Experimental and Numerical Approach in the Acoustical Behaviour of Kefalonian Traditional Instruments Made from Different Materials. International Journal of Science and Research (IJSR) 2020, 9(5): 607-616, DOI: 10.21275/SR20504173104, **F.I.: 7.583**
- Kostopoulos V., Kotrotsos A., Fouriki K., Kalarakis A., **Portan D.** Fabrication and Characterization of Polyetherimide Electrospun Scaffolds Modified with Graphene Nano-Platelets and Hydroxyapatite Nano-Particles. Int. J. Mol. Sci. 2020, 21(2): 583, DOI: <https://doi.org/10.3390/ijms21020583>, **F.I.: 4.183**
- **Portan DV**, Deligianni DD, Papanicolaou GC, Kostopoulos V, Psarras GC, Tyllianakis M. Combined Optimized Effect of a Highly Self-Organized Nanosubstrate and an Electric Field on Osteoblast Bone Cells Activity. BioMed Research International 2019. Article number 7574635, **F.I.: 2.583**
- Feier AM, Manu DR, Strnad G, Dobreanu M, Russu OM, **Portan D***, Bataga T. A Step Forward Standardization of Biocompatibility Testing on Tissue Culture Polystyrene. Materiale Plastice 2018, 55(3): 303-307, **F.I.: 1.393**, autor corespondent
- **Portan D**, Strnad G, Feier AM, Russu OM. Highly Self-Organized Materials: Formation Mechanism and Electrochemical Synthesis. Materiale Plastice 2018, 55(3): 398-404, **F.I.: 1.393**
- **Portan DV**, Deligianni DD, Deligianni K, Kroustalli AA, Tyllianakis M, Papanicolaou GC. Modeling of the interaction between osteoblasts and biocompatible substrates as a function of adhesion strength. J Biomed Mater Res A. 2018, 106(3):621-628. DOI: 10.1002/jbm.a.36265, **F.I.: 3.221**
- Strnad G, German-Sallo Z, Jakab-Farkas L, Cazacu R, **Portan D.** Effect of

potential ramp in the potentiodynamic stage of anodization on morphology of nanostructured TiO₂ developed on Ti₆Al₄V alloy. *Procedia Manufacturing* 2018, 22: 19-26, **F.I.: 1.59**

- Strnad G, **Portan D**, Jakab-Farkas L, Petrovan C, Russu O. Morphology of TiO₂ surfaces for biomedical applications developed by electrochemical anodization. *Materials Science Forum* 2017, 907 MSF, pp. 91-98, **F.I.: 0.35**
- Strnad G, Jakab-Farkas L, **Portan D**. Current-Time Dependence in Self-Organized TiO₂ Layers Synthesis by Electrochemical Anodization. *Academic Journal of Manufacturing Engineering* 2016, 14(4):112-118, **F.I.: 0.26**
- **Portan DV**, Nikolopoulou F, Bairami V, Mouzakis D, Papanicolaou GC, Deligianni DD. Electrochemical Surface Processing Applied for the Functionalization of Titanium Screw Type Implants. *Journal of Materials Science & Surface Engineering* 2016, 4 (3): 376-382, **F.I.: 1.21**
- Papanicolaou GC, Charitidis P, Mouzakis DE, Karachalios E, Jiga G, **Portan DV**. Experimental and Numerical Investigation of Balanced Boron/ Epoxy Single Lap Joints Subjected to Corrosive Environmental Conditions. *International Journal of Adhesion and Adhesives* 2016, 40:224–237, **F.I.: 2.501**
- Papanicolaou GC, **Portan DV**, Petropoulos GN, Kontaxis LC. Effect of TiO₂ Nanotubes Developed on Pure Titanium Substrates on the Mechanical Performance of Titanium-Titanium Single-Lap Adhesive Joints. *Cienc Tecnol Mater* 2016, 28:130-7, DOI: 10.1016/j.ctmat.2016.02.004, **F.I.: 0.178**
- Papanicolaou GC, Kouveliotis G, Nikolopoulou F, Papaefthymiou KP, Bairami V, **Portan DV**. Thermal shock cycling effect on the compressive behaviour of Human teeth. *Journal of Biomechanics* 2014, 48(4): 681-686, DOI:10.1016/j.jbiomech.2014.12.039, **F.I.: 2.576**
- Papanicolaou GC, Charitidis CA, **Portan DV**, Perivoliotis DK, Koklioti MA. Investigation of nanomechanical properties of multilayered hybrid nanocomposites. *Journal Meccanica* 2014, 49(11): 2645-2655, **F.I.: 2.380**
- **Portan DV**, Papanicolaou GC, Jiga G, Caposi M. A novel experimental method for obtaining multilayered TiO₂ nanotubes through electrochemical anodizing. *Journal of Applied Electrochemistry* 2012, 42: 1013-1024, **F.I.: 1.540**
- **Portan DV**, Papaefthymiou K, Arvanita E, Jiga G, Papanicolaou GC. A combined statistical and microscopic analysis of TiO₂ nanotubes synthesized under different electrochemical anodizing conditions, J

Mater Sci 2012, 47(11):4696-705, **F.I.: 3.442**

- **Portan DV**, Kroustalli AA, Deligianni DD, Papanicolaou GC. On the biocompatibility between TiO₂ nanotubes layer and human osteoblasts. Journal of Biomedical Materials Research - Part A 2012, 100A(10):2546–2553, **F.I.:3.221**
- Papanicolaou GC, Xepapadaki AG, Drakopoulos ED, Papaefthymiou KP, Portan DV. Interphasial viscoelastic behavior of CNT reinforced nanocomposites studied by means of the concept of the hybrid viscoelastic interphase. J Appl Polym Sci 2012, 124(2):1578-88, **F.I.:2.188**.
- Papanicolaou GC, Drakopoulos ED, Anifantis NK, Papaefthymiou KP, **Portan DV**. Experimental, analytical, and numerical investigation of interphasial stress and strain fields in MWCNT polymer composites., J Appl Polym Sci 2012, 123(2):699-706, **F.I.:2.188**
- Papanicolaou GC, Papaefthymiou KP, Koutsomitopoulou AF, **Portan DV**, Zaoutsos SP. Effect of dispersion of MWCNTs on the static and dynamic mechanical behavior of epoxy matrix nanocomposites. J Mater Sci 2012, 47(1):350-9, I.F.: **F.I.: 3.442**
- **Portan D**, Papaefthymiou K, Pirvu C, Papanicolaou G, Demetrescu I. Manufacturing and characterization of TiO₂ nanotubes on pure titanium surfaces for advanced biomedical applications. UPB Scientific Bulletin, Series B: Chemistry and Materials Science 2011, 73(2):181-96, **F.I.:0.41**
- Ionita D, Mazare A, **Portan D**, Demetrescu I. Aspects relating to stability of modified passive stratum on TiO₂ nanostructure. Metals and Materials International 2011; 17(2):321-7, **F.I.: 1.8**
- Papanicolaou GC, Demetrescu I, **Portan DV**, Papaefthymiou KP. Interphase modeling of human osteoblasts spread on pure titanium surface covered with TiO₂ nanotubes. Composite Interfaces 2011, 18(1):23-35, **F.I. :2.17**
- Demetrescu I, Ionita D, Pirvu C, **Portan D**. Present and future trends in TiO₂ nanotubes elaboration, characterization and potential applications. Molecular Crystals and Liquid Crystals 2010, 521: 195-203, **F.I.: 0.54**
- **Portan D**, Ionita D, Demetrescu I. Monitoring TiO₂ nanotubes elaboration condition, a way for obtaining various characteristics of nanostructures. Key Engineering Materials 2009, 415: 9-12, **F.I.: 0.35**

PUBLICAȚII ÎN
REVISTE
INTERNAȚIONALE
FĂRĂ FACTOR DE
IMPACT

- Papanicolaou GC, **Portan DV** (2015) Measuring and Modeling the Dynamic Frictional Coefficient between Ice and TiO₂ Nanotubes grown on Pure Titanium Plates, Paper contribution in a volume edited in memory of Professor V. Papazoglou, Ed. National Technical University of Athens, pp. 349-357

PUBLICAȚII
VOLUME
CONFERINȚE

- **Portan, DV**, Papanicolaou GC. Properties predictive modeling through the concept of a hybrid interphase existing between phases in contact. AIP Conference Proceedings 2018, 1932: 030033
- Papanicolaou GC, **Portan DV**. Analytical modeling of micro and nano-composites. AIP Conference Proceedings 2018, 1932: 020003
- Kontaxis LC, Pavlou C, **Portan DV**, Papanicolaou GC. Effect of saline absorption on the flexural stress relaxation behavior of epoxy/cotton composite materials for orthopedics applications. AIP Conference Proceedings 2018, 1932: 030020
- Kontaxis L.C., Georgali A, **Portan DV**, Papanicolaou GC. Flexural creep behavior of epoxy/cotton composite materials before and after saline absorption for orthopedics applications. AIP Conference Proceedings 2018, 1932: 030044
- Papanicolaou GC, Pappa EJ, **Portan DV**, Kotrotsos A, Kollia E. Effect of stacking sequence and surface treatment on the thermal conductivity of multilayered hybrid nano-composites. AIP Conference Proceedings 2018, 1932: 030030
- Strnad G, German-Sallo Z, Jakab-Farkas L, Petrovan C, **Portan D**. Influence of electrical parameters on morphology of nanostructured TiO₂ layers developed by electrochemical anodization. MATEC Web of Conferences 2017, 112: 04021

PUBLICAȚII
REZUMAT
VOLUME
CONFERINȚE

- **Portan DV**, Kostopoulos V, Ntoulas C, Mantzouranis G, Yiallouro P. 3D PRINTED BIO-SCAFFOLDS on biomedical titanium: mechanical properties and biocompatibility. MTM 2019, November 2019, Istanbul, Turkey
- Strnad G, Jakab-Farkas L, Cazacu R, **Portan D**, Petrovan C. Wettability of nanotubular titania layers for biomedical applications developed by electrochemical anodization, ModTech 2018, Constanta, Romania
- Strnad G, German-Sallo Z, Jakab-Farkas L, Cazacu PR, **Portan D**. Effect of potential ramp in the potentiodynamic stage of anodization on

morphology of nanostructured TiO₂ developed on Ti₆Al₄V alloy, InterEng 2017, 5-6 October 2017, 'Petru Maior' University of Tg Mures, Tg Mures, Romania

- Strnad G, Jakab-Farkas L, Petrovan C, Bica C, **Portan D**. Novel SB, AE and SLA surfaces for dental implants modified at nano scale level with titania nanostructures. 5th International Conference on Powder Metallurgy and Advance Materials RoPM & AM 2017, 17-20 September 2017, Cluj, Romania
- Strnad G, German-Sallo Z, Jakab-Farkas L, Cazacu R, Russu O, Feier A, **Portan D**, Kontaxis L. Self-organized nanotubular oxide layers' synthesis on micro rough surfaces of Ti₆Al₄V alloy for bio-implants, ESB 2017 – Athens, 28th Annual Conference of European Society of Biomaterials, 4-8 September 2017, Athens, Greece, POSTER presentation
- Strnad G, **Portan D**, Jakab-Farkas L, Petrovan C, Russu O. Morphology of TiO₂ surfaces for biomedical applications developed by electrochemical anodization, 8-11 March 2017 Bramat 2017, Brasov, Romania
- **Portan DV**, Kroustalli AA, Papanicolaou GC, Deligianni DD, POSTER, Adhesion Strength and Modeling of Human Bone Cells on Advanced Biomedical Substrates, MBE (Matrix Biology Europe) 2016, Athens, Greece
- **Portan DV**, Deligianni D, Psarras GC, Papanicolaou GC. Investigation of Human Bone Cells Response deposited on Different Substrates to an Electrical Active Environment, 10th Hellenic Biomaterials Conference 2015
- Bairami V, Nikolopoulou F, **Portan DV**, Mouzakis D. Micro – porous titanium surfaces for an Improved Biocompatibility of Titanium Dental Implants, 10th Hellenic Biomaterials Conference 2015
- **Portan DV**, Petropoulos GN, Kontaxis L, Papanicolaou GC. Effect of TiO₂ Nanotubes developed on Pure Titanium Substrates on the Mechanical Performance of Titanium-Titanium Single Lap Adhesive Joints, ICSAAM 2015, Porto, Portugal
- **Portan DV**, Papanicolaou GC, Mouzakis D, Pappa EJ, Deligianni DD, Kroustalli AA. Biomedical Nitinol Investigation: Shape Memory Effect and Biocompatibility, Hellenic Society of Biomaterials Conference, Nov. 2014, Athens, Greece
- Papanicolaou GC, **Portan DV**. Modeling of tissue – implant interaction, Hellenic Society of Biomaterials Conference, Nov. 2014, Athens, Greece

- Nikolopoulou F, **Portan DV**, Bairami V, Mouzakis D. Micro – Porous Titanium Surfaces for Improved Biocompatibility of Titanium Implants in Dental Surgery, Hellenic Society of Biomaterials Conference, Nov. 2014, Athens, Greece
- Economidou SN, **Portan DV**, Basturescu A, Kontaxis L, Papanicolaou GC. Electrochemical manufacturing of TiO₂ nanotubes: effect on the interfacial pull-out mechanism, Hellenic Society of Biomaterials Conference, Nov. 2014, Athens, Greece
- Papanicolaou GC, **Portan DV**. Modeling of Interphases Created Between Living and Non-Living Materials, 8th Annual Congress & Affiliation Ceremony with the Italian Society for Biomaterials, Nov. 2013, Athens, Greece
- **Portan DV**, Kontaxis L, Vazdoaga M, Cordoneanu A. Creep and Relaxation Behavior of Micro and Nano TiO₂ Particulate Epoxies, ICSAAM 2013, Kos Island, Greece
- **Portan DV**, Papanicolaou GC, Caposi M. Heat treatment structural changes of nitinol, 3rd ICEAF, Kos Island, Greece
- Papanicolaou G.C., **Portan D.V.**, Kousiatza Ch, Sultan DM. Experimental and Analytical Investigation of the Interfacial Stress Field in Single-Lap Joints between Similar and Dissimilar Materials, 3rd ICEAF, Kos Island, Greece
- Papanicolaou GC, **Portan DV**, Economidou S. The Role of the TiO₂ Nanotubes on the Titanium-Polymer Interfacial Pull-out Mechanism, 3rd ICEAF, Kos Island, Greece
- **Portan DV**, Koutsomitopoulou A, Covaliu CI, Papanicolaou GC. Dynamic Mechanical Analysis of TiO₂ Fe Nanoparticles - Reinforced Epoxies, Therma 2012, May 25-27, Thessaloniki, Greece
- **Portan DV**, Papanicolaou GC. A Predictive Model for the Dynamic Friction Coefficient, 10th edition of the International Conference on Durability of Composite Systems (Duracosys -2012) Vrije Universiteit van Brussel, Belgium, September 17-19, 2012
- **Portan DV**, Papanicolaou GC, Bouropoulos N. Manufacturing and Characterization of TiO₂ Nanotubes for Solar Cells and Biomedical Applications, DFC-11 & SI-5 Conference, Queens' College, Cambridge, 13-15 April 2011
- Papaefthymiou KP, Drakopoulos ED, Koutsomitopoulou AF, **Portan DV**, Zaoutsos SP, Papanicolaou GC. Dynamic Mechanical Behavior of Epoxy

Matrix-MWCNT Nanocomposites, Invited lecture, DFC-11 & SI-5 Conference, Queens' College, Cambridge, 13-15 April 2011

- Papanicolaou GC, **Diana Portan**. Synthesis, Characterization and Biomedical Applications of TiO₂ Nanotubes, Invited Lecture, The 8th International Conference on Nanosciences & Nanotechnologies – NN11, Workshop 3: Nanomedicine, Thessaloniki, 12-15 July 2011.
- Papanicolaou GC, **Diana Portan**. Opening Lecture of the 5th Workshop of the Hellenic Society of Biomaterials, *Predictive Models for Tissue – Implant Interaction Behavior*, Athens, 18-19 November 2011, 25 minutes
- **Portan DV**, G.C. Papanicolaou. Parameters Affecting the Structure and Geometry of TiO₂ Nanotubes Produced for Advanced Biomedical Application, 5th Conference for Biomaterials of the Hellenic Society for Biomaterials (HSB) together with the Scientific Societies of Knee, Hip and Reconstructive Knee, Hip Surgery of the Hellenic Society for Surgical Orthopaedics and Traumatology (EEXOT), Thessaloniki, 26-28 Nov., 2010.
- Papanicolaou GC, **D.V. Portan**. TiO₂ Nanotubes Produced for Advanced Biomedical and Technological Applications, University Lulea-Sweden, invited lecture of 30 min duration, Thursday 8th of December, 2010.