

# CURRICULUM VITAE

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**Post-doctoral Fellow**

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## **EDUCATION**

### **PhD Research**

March 2014 – Feb 2020

School of Chemistry, Aristotle University of Thessaloniki, Greece. (Degree: **10/10**)

PhD Thesis: "Bubble dynamics during degassing of liquids", funded by European Space Agency.

### **Postgraduate Studies**

Oct. 2010 – March

2012

Automation Systems (constructions and production), National Technical University of Athens, Greece. (Degree: **8.55/10**)

Master Thesis: Simulating mechanical recycling of polyolefins. Reprocessing in a twin screw extruder.

### **Graduate Studies**

Oct. 2003 – Nov. 2009

Chemical Engineering, Aristotle University of Thessaloniki, Greece. (Degree: **7.14/10**)

Diploma Thesis: Synthetic chemistry of Cadmium ( $Cd^{+2}$ ) and O-,N- ligands.

## **WORK EXPERIENCE**

### **ESA OSIP Research Project, 4000136753/21/NL/GLC/my (2022 – 2024)**

"Novel approach to air dehumidification processes for space exploration"

### **Horizon 2020 Research Project (2019 – 2022)**

"Innovative technologies and concepts for fine particle flotation: unlocking future fine-grained deposits and Critical Raw Materials resources for the EU"

### **Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020-EPAnEK (2018 – 2020)**

"Innovative high efficiency boiler using "smart" heat transfer surfaces"

### **Marie-Curie Initial Training Network (March-April 2018)**

Complex Wetting Phenomena (CoWet)

### **ESA-MAP Research Project (Nov-Dec 2017)**

"Soft-Matter Dynamics"

### **ELGRA 2015 (September 2015)**

Organizing Committee of the "22nd E.L.G.R.A. Symposium and General Assembly" Corfu, Greece, September 29 – October 01, 2015.

### **ESA NPI Research Project, NPI 4000108790/13/NL/PA (2014 – 2018)**

"Bubble dynamics during degassing of liquids"

### **EUFOAM 2014 (July 2014)**

Organizing committee of 10th European Conference on Foams and Applications EUFOAM 2014, 7-10 July 2014, Thessaloniki, Greece.

### **NPI European Space Agency Research Project (Nov-Dec 2013)**

Highly efficient flow boiling in macro-structured / macro-porous channels

### **Hellenic Petroleum, Thessaloniki (Chemistry Laboratory) (Sept 2011- March 2012)**

Characterization of thermal, rheological and mechanical properties of polypropylene and its nanocomposites. (Research

collaboration in terms of Master Thesis)

#### **49th Thessaloniki International Film Festival, Thessaloniki (Nov 2008)**

Accounting Assistant

#### **Hellenic Petroleum, Thessaloniki** (Department of Petrochemical Products Management) (2006-2007)

Undergraduate Summer Internship Job. Data processing and data management.

### **TEACHING EXPERIENCE**

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Undergraduate Lab Courses on Chemical Technology, School of Chemistry, Aristotle University of Thessaloniki, Greece.  
2015-2023

Undergraduate Lab Courses on Physical Processes, School of Chemistry, Aristotle University of Thessaloniki, Greece.  
2016-2023

### **PUBLICATIONS IN INTERNATIONAL SCIENTIFIC JOURNALS**

- X. Zabulis, P. Karamaounas, O. Oikonomidou, S. Evgenidis, M. Kostoglou, M. Schinnerl, A. Sielaff, P. Stephan T.D. Karapantsios, "Advances on the detection and measurement of bubble contours during subcooled boiling in microgravity. Measurement", 222, 113644, 2023.
- M. Schinnerl, A. Sielaff, X. Zabulis, S. Evgenidis, O. Oikonomidou, P. Stephan, "Heat transfer in single bubble nucleate boiling within the multiscale boiling project onboard the international space station", Proceedings of the 17th International Heat Transfer Conference, IHTC-17, 14 – 18 August 2023, Cape Town, South Africa.
- O. Oikonomidou, M. Kostoglou, T. Karapantsios, "Structure Identification of Adsorbed Anionic–Nonionic Binary Surfactant Layers Based on Interfacial Shear Rheology Studies and Surface Tension Isotherms", Molecules, 28(5), 2276, 2023.
- O. Oikonomidou, S. Evgenidis, C. Argyropoulos, X. Zabulis, P. Karamaounas, M. Q. Raza, J. Sebilleau, F. Ronshin, M. Chnaud, A.I.Garivalis, M. Kostoglou, A. Sielaff, M. Schinnerl, P. Stephan, C. Colin, L. Tadrist, O. Kabov, P. Di Marco, T. Karapantsios, "Bubble growth analysis during subcooled boiling experiments on-board the International Space Station: Benchmark Image Analysis", Advances in Colloid and Interface Science, 308, 102751, 2022.
- A. Sielaff, D. Mangini, O. Kabov, M. Q. Raza, A.I. Garivalis, M. Zupancic, S. Dehaeck, S. Evgenidis, C. Jakobs, D. V. Hoof, O. Oikonomidou, X. Zabulis, P. Karamaounas, A. Bender, F. Ronshin, M. Schinnerl, J. Sebilleau, C. Colin, P. di Marco, T. Karapantsios, I. Golobic, A. Rednikov, P. Colinet, P. Stephan, L. Tadrist, "The Multiscale Boiling Investigation on-board the International Space Station: An overview", Applied Thermal Engineering, 205, 117932, 2022.
- M. Kostoglou, T.D. Karapantsios, O. Oikonomidou. "A critical review on turbulent collision frequency/efficiency models in flotation: Unravelling the path from general coagulation to flotation", Advances in Colloid and Interface Science, 279, 102158, 2020.
- O. Oikonomidou, J.J.W.A van Loon, C.J. Schwarz, M. Kostoglou, T.D. Karapantsios, "A Note on Liquid Velocities Arising during Decompression Degassing in Hypergravity", Microgravity Science and Technology, 31(5), 505-551, 2019.
- O. Oikonomidou, S.P. Evgenidis, C. Schwarz, J.J.W.A. van Loon, T.D. Karapantsios. "Degassing of a decompressed flowing liquid under hypergravity conditions", International Journal of Multiphase Flow, 115, 126-136, 2019.
- O. Oikonomidou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios. "Degassing of a pressurized liquid saturated with dissolved gas when injected to a low pressure liquid pool", Experimental Thermal and Fluid Science 96, 347–357, 2018.
- O. Oikonomidou, M.I. Triantou, P.A. Tarantili, C. Anatolaki, N. Karnavos. "The effect of extrusion reprocessing on structure and properties of isotactic polypropylene", Macromolecular Symposia, 321-322 (1), 216-220, 2012.

### **ORAL PRESENTATIONS IN INTERNATIONAL SCIENTIFIC CONFERENCES**

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- O. Oikonomidou, S. Evgenidis, D. Aslanidou, S. Vincent-Bonnieu, I. Karapanagiotis, T. Karapantsios. "Spreading and sliding of condensed air humidity droplets over metallic substrates under non-isothermal conditions", Melissa Conference 2022, Toulouse, France, November 7-9, 2022.
  - O. Oikonomidou, S.P. Evgenidis, C.J. Schwarz, J.J.W.A. van Loon, M. Kostoglou, T.D. Karapantsios. "Bubbles forming under hypergravity accelerations due to the degassing of a liquid jet", 26<sup>th</sup> ELGRA Symposium and General Assembly, Granada, Spain, September 24-27, 2019.
  - O. Oikonomidou, S.P. Evgenidis, C.J. Schwarz, J.J.W.A. van Loon, M. Kostoglou, T.D. Karapantsios. "Degassing of a liquid jet under various gravitational accelerations", 8<sup>th</sup> Conference: Bubble and Drop, Sofia, Bulgaria, June 24-28, 2019.
  - J. S. Lioumbas, M.C. Vlachou, O. Oikonomidou, T.D. Karapantsios "LDC as a tool to explore the role of buoyancy in bubbles related applications" Hypergravity Workshop, ESA-ESTEC, Noordwijk, The Netherlands, January 25 – 26, 2018.
  - O. Oikonomidou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios "Degassing of a pressurized liquid saturated with dissolved gas when injected to a low pressure liquid pool" FLOWING MATTER 2017 jointly organized with COST MP1305 Annual Workshop, Porto, Portugal, January 23 – 27, 2017.
  - O. Oikonomidou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios, "Liquid degassing in hypergravity", 1<sup>st</sup> Conference in Chemistry for Graduate, Postgraduate students and PhD Candidates, November 10 – 12, 2017.
  - O. Oikonomidou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios, "Saturation pressure effect on the size of bubbles formed due to liquid decompression", Smart and Green Interfaces 2016 Conference jointly organized with COST MP1106 Annual Workshop, Athens, Greece, May 04-06, 2016.

## POSTER PRESENTATIONS IN INTERNATIONAL SCIENTIFIC CONFERENCES

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- O. Oikonomidou, M. Kostoglou, T. Karapantsios, Interfacial shear rheology as a technique to investigate the intermolecular structure between sodium oleate and various nonionic surfactants at the surface of flotation solutions. European Colloid & Interface Society, Napoli, Italy, September 03-08, 2023.
- O. Oikonomidou, S. Evgenidis, N. Manoudis, D. Aslanidou, S. Vincent-Bonnieu, I. Karapanagiotis, T. Karapantsios. "SiO<sub>2</sub> nanoparticles as an agent to accelerate the collection of condensed humidity droplets in International Space Station", Bubble and Drop 2023, Lublin, Poland, June 11-16, 2023.
- A. Sielaff, D. Mangini, O. Kabov, M.Q. Raza, A.I. Garivalis, M. Zupančič, S. Dehaeck, S. Evgenidis, C. Jacobs, D. Van Hoof, O. Oikonomidou, X. Zabulis, P. Karamaounas, A. Bender, F. Ronshin, M. Schinnerl, J. Sebilleau, C. Colin, P. Di Marco, M. Kostoglou, I. Golobič, A. Rednikov, P. Colinet, P. Stephan, L. Tadrist, T. Karapantsios. "Boiling bubbles onboard the International Space Station; The Multiscale Boiling Experiment", Bubble and Drop 2023, Lublin, Poland, June 11-16, 2023.
- O. Oikonomidou, M. Kostoglou, T. Karapantsios. "Interfacial shear viscosity and surface tension measurements of anionic–nonionic surfactant binary mixtures, used as minerals flotation reagents", 36th European Colloid & Interface Society Conference, Chania, Greece, 4-9 September 2022.
- O. Oikonomidou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios. "Bubble Size Evolution During Decompression Flow Degassing Under Terrestrial and Hypergravity Conditions", 22nd ELGRA Symposium and General Assembly, Corfu, Greece, 29th September – 1st October, 2015.
- O. Oikonomidou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios T.D. "Assessment of parameters affecting 'flow' decompression degassing performance", Smart and Green Interfaces Conference, Belgrade, Serbia, 30th March- 1st April, 2015.
- O. Oikonomidou, M.I. Triantou, P.A. Tarantili, C. Anatolaki, N. Karnavos. "The effect of extrusion reprocessing on structure and properties of isotactic polypropylene", 11th European Symposium on Polymer Blends, Donostia - San Sebastian, 25th-28th March, 2012.

## SKILLS

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### Foreign Languages

English: Proficiency of Michigan (C2)

French: A2

**Computer Skills**

Microsoft Office, SolidWorks

**Others**

Regular member of European Low Gravity Research Association (ELGRA), since February 2021

Member of the Technical Chamber of Greece, since March 2011

Driving license