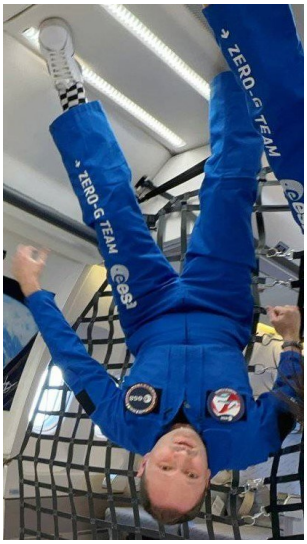

Dr. Sotiris P. Evgenidis

Chemist (MSc, PhD)

Curriculum Vitae

Synopsis	
Main research interests	- Experimental (applying advanced optical/electrical/acoustical/ tomographic methods) and theoretical study, CFD, rheological characterization of Newtonian and non-Newtonian fluids and interfacial characterization in two-phase gas-liquid and immiscible liquids flows - Theoretical and experimental study of emulsions and foams stability - Heat and mass transfer under micro-gravity and hyper-gravity conditions (<20g) - Water and wastewater quality control and development of relevant treatment technologies - Electrical impedance measurements in experimental animals (swines and rats) and humans (divers, patients treated in decompression chamber, coronary patients, etc.) in the framework of the medical diagnostic devices development for the assessment of blood circulation in the human body (diagnosis of Coronary Artery Disease and Decompression Sickness), - Development and characterization (thermal properties, wetting, stability against degradation due to usage and ageing) of novel surfaces, e.g. for the enhancement of heat transfer or their hydrophobicity (addition of coatings with nanoparticles or use of hybrid design)
Research	Participation in: - **20** research projects - **3** personal scholarships - **2** experiments onboard the International Space Station - **8** international research missions (6 experiments in ESA Parabolic Flight Campaigns)
Teaching	**10**-years in "Heat Transfer"
Co-organization of conferences	**7** international conferences
Research proposals writing and submission	Participation in writing and submission of: - **19** national research proposals - **49** European research proposals (ESA, Horizon 2020, Marie-Curie ITN)
Reviewer in scientific journals	**>15** international scientific journals
Writing	- **5** patents - **35** articles in peer-reviewed international journals - **2** conference articles - **4** articles in other journals
Presentations	- **59** presentations in international conferences with reviewers - **1** invited research seminar

	- **7** presentations in scientific events
Distinctions	- **9** national and worldwide distinctions - Awards from ESA and NASA for successful technology transfer from space to ground - Selection of Dr. Sotiris Evgenidis to represent Thallium in the Periodic Table of Younger Chemists for the celebration of IUPAC100 and International Year of the Periodic Table (https://iupac.org/100/pt-of-chemist/#sortiris-evgenidis-tl) due to innovative research focused on: a) transport phenomena study in extra-terrestrial conditions (zero-gravity and hyper-gravity up to 20g) and b) successful technology transfer from space to ground, Murcia, Spain, 11 February, 2019.

Patents (P)

P1. T.D. Karapantsios, S.P. Evgenidis, K. Zacharias, T. Mesimeris. Method for the detection and characterization of bubbles in liquids and device therefor, resp. system. *European Patent Office*, EP3005942 A1, Application No. 14188200.1, Date of filing: 08-10-2014, Date of publication: 13-04-2016, Bulletin 2016/15.

P2. T.D. Karapantsios, S.P. Evgenidis, K. Zacharias, T. Mesimeris. Method for the detection and characterization of bubbles in liquids and device therefor, resp. system. *European Patent Office*, EP4018924 A1, Application No. 21207579.0, Date of filing: 08-10-2014, Date of publication: 29-06-2022, Bulletin 2022/26. (Divisional application on EP3005942 A1, 2016).

P3. T.D. Karapantsios, S.P. Evgenidis, K. Zacharias, G. Karagiannis. Non-invasive impedance spectroscopy device for early diagnosis of Coronary Artery Disease and method therefor. *European Patent Office*, EP 3245947 B1, Application No. 17386020.6, Date of filing: 22-05-2017, Grant date: 28-09-2022, Bulletin 2022/39.

P4. T. Karapantsios, S.P. Evgenidis, K. Zacharias. A system and method for determining the vascular endothelium functionality of an artery. *European Patent Office*, EP4159120 A1, Application No. 21386060.4, Date of filing: 29-09-2021, Date of publication: 05-04-2023, Bulletin 2023/14.

P5. T. Karapantsios, S.P. Evgenidis, K. Zacharias. A system and method for determining the vascular endothelium functionality of an artery. *European Patent Office*, International (PCT) Patent Application No. PCT/EP2022/076698, Date of filing: 26-09-2022.

Articles in peer-reviewed international journals (A)

A1. S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios. Electrical conductance study of θ–liquid bridges. *Journal of Colloid and Interface Science*, **302(2)**, 597-604, 2006.
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A2. T.D. Karapantsios, M. Kostoglou, S.P. Evgenidis. From single bubbles on solid surfaces to massive bubbly flows during decompression sickness. *Journal of Gravitational Physiology*, **15**, 227-230, 2008.
Citations: 5(5) - Google Scholar, 0(0) - Scopus
Impact factor-2022: -

A3. S.P. Evgenidis, N.A. Kazakis, T.D. Karapantsios. Bubbly flow characteristics during decompression sickness: Effect of surfactant and electrolyte on bubble size distribution. *Colloids and Surfaces A: Physicochem. Eng. Aspects*, **365**, 46-51, 2010.
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Citations: 24(19) - Google Scholar, 16(11) - Scopus
Impact factor-2022: 5.52

A4. S.P. Evgenidis, K.A. Zacharias, T.D. Karapantsios, M. Kostoglou. Effect of liquid properties on heat transfer from miniature heaters at different gravity conditions. *Microgravity Science & Technology*, **23**, 123-128, 2011.
DOI: 10.1007/s12217-010-9206-9
Citations: 7(6) - Google Scholar, 5(4) - Scopus
Impact factor-2022: 1.64

A5. M. Kostoglou, S.P. Evgenidis, K.A. Zacharias, T.D. Karapantsios. Heat transfer from small objects in microgravity: experiments and analysis. *International Journal of Heat & Mass Transfer*, **54**, 3323–3333, 2011.
DOI: 10.1016/j.ijheatmasstransfer.2011.03.053
Citations: 10(8) - Google Scholar, 7(6) - Scopus
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A6. M. Kostoglou, S.P. Evgenidis, T.D. Karapantsios. Unexpected natural convection heat transfer for small Rayleigh numbers in external geometry. *International Journal of Heat & Mass Transfer*, **64**, 773-782, 2013.
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A7. S.P. Evgenidis, T.D. Karapantsios. Effect of bubble size on void fraction fluctuations in dispersed bubble flows. *International Journal of Multiphase Flow,* **75**, 163-173, 2015.
DOI: 10.1016/j.ijmultiphaseflow.2015.05.013

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A8. V. Papadopoulou, S. Evgenidis, R.J. Eckersley, T. Mesimeris, C. Balestra, M. Kostoglou, M.-X. Tang, T. Karapantsios. Decompression induced bubble dynamics on ex-vivo fat and muscle tissue surfaces with a new experimental set-up. *Colloids and Surfaces B: Biointerfaces*, **129**, 121-129, 2015.
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A9. S.P. Evgenidis, K. Kalic, M. Kostoglou, T.D. Karapantsios. Kerberos: A three camera headed centrifugal/tilting device for studying wetting/dewetting under the influence of controlled body forces. *Colloids and Surfaces A: Physicochemical and Engineering Aspects special issue (S.I. Victor Starov),* **521**, 38-48, 2017.
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A11. I. Rios-Lopez, S. Evgenidis, M. Kostoglou, X. Zabulis, T.D. Karapantsios. Effect of initial droplet shape on the tangential force required for spreading and sliding along a solid surface. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **549**, 164-173, 2018.
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A12. S.P. Evgenidis, T.D. Karapantsios. Gas-liquid flow of sub-millimeter bubbles at low void fractions: Experimental study of bubble size distribution and void fraction. *International Journal of Heat and Fluid Flow*, **71**, 353-365, 2018.
DOI: 10.1016/j.ijheatfluidflow.2018.04.011
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A13. S.P. Evgenidis, T.D. Karapantsios. Gas-liquid flow of sub-millimeter bubbles at low void fractions: Void fraction prediction using drift-flux model. *Experimental Thermal and Fluid Science*, **98**, 195-205, 2018.
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A14. O. Oikonomidou, S.P. Evgenidis, C.J. Schwarz, J.W.A. van Loon, M. Kostoglou, T.D. Karapantsios. Degassing of a decompressed flowing liquid under hypergravity conditions. *International Journal of Multiphase Flow,* **115**, 126-136, 2019.
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A21. P. Spathis, M. Mavrommati, E. Gkrava, V. Tsiridis, S. Evgenidis, I. Karapanagiotis, V. Melfos, Th. Karapantsios. Characterisation of Natural Stone from the Archaeological Site of Pella, Macedonia, Northern Greece. *Heritage*, **4**, 4665-4677, 2021.
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A23. O. Oikonomidou, S. Evgenidis, C. Argyropoulos, X. Zabulis, P. Karamaounas, Q. Raza, J. Sebilleau, F. Ronshin, M. Chinaud, A. 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.
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A24. N. Hatzipapa, F. Siskos, S. Evgenidis, T. Karapantsios, M. Doumas. Assessment of endothelial function with the use of ultrasound flow-mediated dilatation. *Atherology*, **13(48)**, 22-29, 2022.
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A25. S.P. Evgenidis, T.D. Karapantsios. Pulsatile gas-liquid flow resembling Decompression Sickness: Computational Fluid Dynamics simulation and experimental validation. *International Maritime Health*, **73(4)**, 189-198, 2022.
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A27. J.S. Lioumbas, S. Evgenidis, M. Kostoglou, T. Tsilipiras, T. Karapantsios. Is frying possible in space?. *Food Research International*, **164**, 112249, 2023.
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A28. S. Evgenidis, A. Chondrou, T. Karapantsios A new phantom that simulates electrically a human blood vessel surrounded by tissues: Development and validation against in-vivo measurements. *Annals of Biomedical Engineering*, **6**, 1284-1295, 2023.
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Impact factor-2022: 3.80

A29. P.N. Manoudis, Z. Chughtai, V. Tsiridis, S.P. Evgenidis, P.K. Spathis, T.D. Karapantsios, I. Karapanagiotis. Tuning the wettability of a commercial silane product to induce superamphiphobicity for stone protection. *Coatings*, **13(4)**, 700, 2023.
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A30. A.P. Chondrou, S.P. Evgenidis, K.A. Zacharias, M. Kostoglou, T.D. Karapantsios. Development of an Experimental Device for the Assessment of Emulsions Dynamic Behavior and Stability in Micro-gravity. *Microgravity Science and Technology*, **35**, 28, 2023.
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bubble contours during subcooled boiling in microgravity. *Measurement*, **222**, 113644, 2023.
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A32. O. Oikonomidou, M. Kostoglou, S. Evgenidis, X. Zabulis, P. Karamaounas, A. Sielaff, M. Schinnerl, P. Stephan T.D. Karapantsios. Power law exponents for single bubbles growth in nucleate pool boiling at zero gravity. *International Communications in Heat and Mass Transfer*, **150**, 107175, 2024.
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A33. S.P. Evgenidis, T.D. Karapantsios. 3D simulation of pulsatile bubbly flow resembling decompression sickness conditions inside a realistic human artery. *Experimental and Computational Multiphase Flow*, **6(2)**, 135-139, 2024.
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A34. S.P. Evgenidis, K. Zacharias, V. Papadopoulou, S. Theunissen, C. Balestra, T.D. Karapantsios. In-field use of I-VED electrical impedance sensor for assessing post-dive decompression stress in humans. *Undersea and Hyperbaric Medicine Journal*, **51(1)**, 71-83, 2024.
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Conference articles (CA)

CA1. Z. Chunghtai, P.N. Manoudis, V. Tsiridis, S.P. Evgenidis, I. Karapanagiotis, T.D. Karapantsios, P.K. Spathis. A superhydrophobic and oleophobic composite coating for the protection of marble, Proceedings of *EuroMed2022: Digital Cultural Heritage Documentation, Preservation and Protection*, Limassol, Cyprus, 31 October – 4 November, 2022.

CA2. 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*, Cape Town, South Africa, 14-18 August, 2023.
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Articles in other journals (OA)

OA1. T.D. Karapantsios, M. Kostoglou, S. Evgenidis. From the growth and detachment of single bubbles to massive bubbly flows. *Newsletter of the European Low Gravity Research Association*, **6**, 4-6, 2008. (invited)

OA2. S. Evgenidis. Electrical Impedance Spectroscopy device for early diagnosis of Coronary Artery Disease: From Space to Earth (Cor-IS) in "Fellowships, Eastern Macedonia & Thrace Institute of Technology", *Nature*, **557**, 749, 2018.

OA3. A. Chondrou, S. Evgenidis, M. Kostoglou, T. Tsilipiras, T. Karapantsios. A research group in the School of Chemistry of Aristotle University of Thessaloniki operates an emulsification experiment onboard the International Space Station. *Chemical Chronicles,* **84(2)**, 8-11, 2022. (invited)

OA4. S. Evgenidis, T. Karapantsios. Thessaloniki School of Chemistry experiments go to space. *Chemistry in Europe - Newsletter for European Chemistry published by EuChemS,* **2**, 2022. (invited)

Presentations in international conferences with reviewers (IC)

IC1. E.P. Kalogianni, C. Altiparmakis, S. Evgenidis, T. Mesimeris, G. Sideridis, T.D. Karapantsios. In-Vivo Embolic Detector (IVED): Phase I. *Biennial Meeting – General Assembly, E.L.G.R.A.*, Santorini, Greece, September 21 – 23, 2005. (oral)

IC2. S. Evgenidis, T.D. Karapantsios, M. Kostoglou. Characterization of electrically conducting liquid bridge. *6th European Conference on Foams, Emulsions and Applications-EUFOAM 2006*, Potsdam, Germany, July 2 - 6, 2006. (poster)

IC3. S.P. Evgenidis, T.D. Karapantsios, Bubble size distribution by optical, electrical and acoustical measurements. *COST P21 Workshop: The Physics of droplets*, Liege, Belgium, June 12, 2007. (oral)

IC4. K. Zacharias, S.P. Evgenidis, T.D. Karapantsios. Detection of bubbles in liquids with acoustical and electrical measurements. *COST P21 Workshop: The Physics of droplets*, Twente, Netherlands, October 08, 2007. (poster)

IC5. S.P. Evgenidis, K. Zacharias, T.D. Karapantsios. Detection of bubbles in two-phase flows with optical and electrical measurements. *COST P21 Workshop: The Physics of droplets*, Twente, Netherlands, October 08, 2007. (poster)

IC6. S.P. Evgenidis, X. Zabulis, T.D. Karapantsios. Effect of surfactant and electrolyte on bubble size distribution in low gas fraction bubbly flows. *COST P21 Workshop: The Physics of droplets*, Capri, Italy, May 15, 2008. (poster)

IC7. K.A. Zacharias, S.P. Evgenidis, T.D. Karapantsios. An advanced Acoustical Technique for measuring bubbles in stagnant and flowing liquids. *COST P21 Workshop: The Physics of droplets*, Capri, Italy, May 15, 2008. (poster)

IC8. T.D. Karapantsios, M. Kostoglou, S.P. Evgenidis. From single bubbles on solid surfaces to massive bubbly flows during decompression sickness. *Life in Space for Life on Earth Symposium,* Angers, France, June 22-27, 2008. (oral)

IC9. M. Kostoglou, T.D. Karapantsios, A. Zamanis, S.P. Evgenidis. A new device for measuring thin film drainage around single foam bubbles. *9th European Conference on Foams, Emulsions and Applications-EUFOAM 2008*, ESA/ESTEC, Noordwijk, The Netherlands, July 8 - 10, 2008. (oral)

IC10. S.P. Evgenidis, K. Zacharias, M. Kostoglou, T.D. Karapantsios. Effect of gravity level on heat transfer from small spheroids. *ELGRA Biennial Symposium and General Assembly "In the Footsteps of Columbus",* Bonn, Germany, September 1 - 4, 2009. (oral)

IC11. A. Hatzidafni, S. Evgenidis, I. Lioumbas, T. Karapantsios. Electrical Resistance Tomography in upward co-current bubbly flow. *4th International Workshop ''Bubble and*

Drop Interfaces'' jointly organized with COST P21 Action ''Physics of Droplets'' 8th Management Committee + Working Groups Meeting, Thessaloniki, Greece, September 23 – 25, 2009. (poster)

IC12. S. Evgenidis, K. Zacharias, T. Karapantsios. Characterization of bubble clouds in steady and pulsatile bubbly flows. *4th International Workshop ''Bubble and Drop Interfaces'' jointly organized with COST P21 Action ''Physics of Droplets'' 8th Management Committee + Working Groups Meeting*, Thessaloniki, Greece, September 23 – 25, 2009. (poster)

IC13. S. Evgenidis, T. Karapantsios. Non-invasive techniques for the determination of bubbles characteristics during liquids handling and processing. *European Advanced Life Support Workshop - ESA*, Universitat Autònoma de Barcelona, Spain, June 2 – 4, 2009. (oral)

IC14. S.P. Evgenidis, K. Zacharias, L. Papazoglou, T.D. Karapantsios. In-Vivo Embolic Detector: A non-invasive electrical technique for the determination of bubbles characteristics during Decompression Sickness. *E.L.G.R.A. Biennial Symposium and General Assembly "Gravity: from μ to x!"*, Antwerp, Belgium, September 6 – 9, 2011. (oral)

IC15. S. Evgenidis, K. Zacharias, K. Samaras, L. Papazoglou, T. Karapantsios. A new electrical technique for the detection of bubbles in living subjects. *5th International Workshop on Bubble and Drop Interfaces (B&D 2012)*, Krakow, Poland, May 20 – 24, 2012. (oral)

IC16. K. Slenzka, S. Podhajsky, J. Hochstein, S. Evgenidis, T. Karapantsios. Modular design of 4 ISS relevant multi-phase flow experiments using an in-vivo embolic detector (I-VED). *Seventh International Symposium on TWO-PHASE SYSTEMS FOR GROUND AND SPACE APPLICATIONS*, Beijing, China, September 17-22, 2012. (poster)

IC17. S.P. Evgenidis, K. Zacharias, T.D. Karapantsios, I. Savvas, K. Pavlidou, L. Papazoglou, M. Patsikas. An electrical technique for detection of micro-bubbles in living subjects with in-vitro validation. *Smart and Green Interfaces 2013*, Prague, Czech Republic, March 21-22, 2013. (oral)

IC18. P.K. Gkotsis, S.P. Evgenidis, T.D. Karapantsios. Influence of pseudoplasticity and surface tension on gas volumetric concentration and bubble characteristics in two-phase co-current upward flow. *Smart and Green Interfaces 2013*, Prague, Czech Republic, March 21-22, 2013. (poster)

IC19. V. Papadopoulou, S. Evgenidis, R.J. Eckersley, C. Balestra, M.-X. Tang, T. Karapantsios. Effect of different tissue surfaces on decompression induced bubble growth from gas saturated solutions. *Smart and Green Interfaces 2013*, Prague, Czech Republic, March 21-22, 2013. (oral)

IC20. P.K. Gkotsis, S.P. Evgenidis, T.D. Karapantsios. Study of isolated bubbles and bubble clusters in co-current upward two-phase flow. *Workshop-COST Action MP1106: Multiphase flows with/without phase change,* Zaragoza, Spain, September 3-4, 2013. (oral)

IC21. V. Papadopoulou, S. Evgenidis, R. Eckersley, C. Balestra, M. Tang, T. Karapantsios. Decompression Induced Bubble Growth on Tissue Surfaces from Gas Saturated Solutions. *Tricontinental Scientific Meeting on Diving and Hyperbaric Medicine-EUBS 2013*, St. Gilles, Reunion Island, Indian Ocean, September 22-29, 2013. (poster)

IC22. M. Petala, S. Evgenidis, V. Tsiridis, J. Georgieva, M. Kostoglou, S. Sotiropoulos, E. Darakas, T. Karapantsios. International Space Station drinking water: Biocide management for long term water storage. *Smart and Green Interfaces 2014*, Marseilles, France, April 22-24, 2014. (poster)

IC23. S.P. Evgenidis, K. Zacharias, T. Mesimeris, T.D. Karapantsios. In-Vivo Embolic Detector (I-VED): Electrical impedance response of different human body sites. *Smart and Green Interfaces 2014*, Marseilles, France, April 22-24, 2014. (poster)

IC24. S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios. A novel centrifugal technique for studying droplet's contact line motion dynamics on solid substrates under the influence of varying body forces. *Smart and Green Interfaces 2014*, Marseilles, France, April 22-24, 2014. (poster)

IC25. V. Papadopoulou, S. Evgenidis, R. J. Eckersley, T. Mesimeris, C. Balestra, M.-X. Tang, T. Karapantsios. Decompression induced bubble growth on tissue surfaces. *Smart and Green Interfaces 2014*, Marseilles, France, April 22-24, 2014. (poster)

IC26. A. Mesimeris, S.P. Evgenidis, K. Zacharias, T.D. Karapantsios, T. Mesimeris, G. Karagiannis, S. Stefanidou, M. Kotsiou. In-Vivo Embolic Detector (I-VED): Exploitation of electrical impedance spectroscopy measurements for bubbles detection in human body. *40th Annual Scientific Meeting of the European Underwater and Baromedical Society (EUBS 2014)*, Wiesbaden, Germany, September 24-27, 2014. (oral)

IC27. V. Papadopoulou, S. Evgenidis, R.J. Eckersley, T. Mesimeris, C. Balestra, M.-X. Tang, T. Karapantsios. A study of decompression induced bubble dynamics on different tissue surfaces with a novel experimental set-up. *40th Annual Scientific Meeting of the European Underwater and Baromedical Society (EUBS 2014)*, Wiesbaden, Germany, September 24-27, 2014. (oral)

IC28. S.P. Evgenidis, K. Zacharias, A. Mesimeris, T.D. Karapantsios, T. Mesimeris, G. Karagiannis, S. Stefanidou, M. Kotsiou. In-Vivo Embolic Detector (I-VED): Research advancements on bubbles detection in living subjects. *Smart and Green Interfaces 2015,* Belgrade, Serbia, March 30-April 01, 2015. (oral)

IC29. O. Oikonomidou, S. Evgenidis, M. Kostoglou, T.D. Karapantsios. Assessment of parameters affecting "flow" decompression degassing performance. *Smart and Green Interfaces 2015,* Belgrade, Serbia, March 30-April 01, 2015. (poster)

IC30. M. Petala, V. Tsiridis, I. Mintsiouli, T. Spanos, S. Evgenidis, M. Kostoglou, S. Sotiropoulos, E. Darakas, T. Karapantsios. Combining bulk and surface chemistry to understand silver fluctuation in the International Space Station water storage and supply system. *12th Greece-Cyprus Chemistry Conference,* Thessaloniki, Greece, May 08-10, 2015. (poster)

IC31. S.P. Evgenidis, M. Vlachou, P.K. Gkotsis, T.D. Karapantsios. Study of bubble clumps in vertical co-current upward gas/non-newtonian liquid flow. *6th International Workshop on Bubble and Drop Interfaces,* Potsdam/Golm, Germany, July 06-10, 2015. (poster)

IC32. O. Oikonomidou, S. Evgenidis, M. Kostoglou, T. Karapantsios. Bubble Size Evolution During Decompression Flow Degassing Under Terrestrial and Hypergravity Conditions. *22nd ELGRA Symposium and General Assembly*, Corfu, Greece, September 29-October 1, 2015. (poster)

IC33. S. Evgenidis, K. Zacharias, V. Papadopoulou, S. Theunissen, C. Balestra, T. Karapantsios. In-Vivo Embolic Detector (I-VED): Recent Advancements on the Diagnosis of Decompression Sickness through Electrical Measurements of Exceptional High Temporal and Spatial Resolution. *22nd ELGRA Symposium and General Assembly*, Corfu, Greece, September 29-October 1, 2015. (poster)

IC34. W. Tzevelecos, S. Evgenidis, K. Zacharias, T. Karapantsios, S. Van Vaerenbergh. Development of a Solutal Distribution Measurement Technique for Self-Rewetting Fluids Investigation: SELENE space project. *22nd ELGRA Symposium and General Assembly*, Corfu, Greece, September 29-October 1, 2015. (oral)

IC35. S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios, Study of void fraction fluctuations dependence on bubble size through experimental and simulated electrical signal analysis, *Smart and Green Interfaces 2016,* Athens, Greece, May 04-06, 2016. (poster)

IC36. S.P. Evgenidis, P. Zikou, T.D. Karapantsios. Application of electrical resistance tomography and differential pressure method for low void fraction values determination in bubbly flow of sub-millimeter bubbles. *Smart and Green Interfaces 2016,* Athens, Greece, May 04-06, 2016. (poster)

IC37. K. Kalic, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios. "Kerberos": A three camera headed (X-Y-Z) centrifugal device for studying liquid spreading on solid substrates under the influence of varying body forces. *Smart and Green Interfaces 2016,* Athens, Greece, May 04-06, 2016. (oral)

IC38. 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,* Athens, Greece, May 04-06, 2016. (oral)

IC39. A. Zamanis, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios, Experimental determination of thin film drainage around single foam bubbles, *Smart and Green Interfaces 2016,* Athens, Greece, May 04-06, 2016. (poster)

IC40. S.P. Evgenidis, K. Zacharias, V. Papadopoulou, N. Renne, S. Theunissen, C. Balestra, T.D. Karapantsios. Application of an innovative electrical technique for the detection of post-dive endothelial dysfunction. *42th Annual Scientific Meeting of the European Underwater and Baromedical Society (EUBS 2016)*, Geneva, Switzerland, September 13-16, 2016. (poster)

IC41. S.P. Evgenidis, K. Zacharias, V. Papadopoulou, S. Theunissen, C. Balestra, T.D. Karapantsios. Post-dive detection of bubbles in scuba divers employing electrical impedance spectroscopy measurements. *42th Annual Scientific Meeting of the European Underwater and Baromedical Society (EUBS 2016)*, Geneva, Switzerland, September 13-16, 2016. (oral)

IC42. 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"* COST MP1305 Conference*,* Porto, Portugal, January 23-27, 2017. (oral)

IC43. S.P. Evgenidis, K. Zacharias, V. Papadopoulou, N. Renne, S. Theunissen, C. Balestra, T. D. Karapantsios. Investigation of post-dive endothelial functionality through electrical impedance measurements. *"Flowing Matter 2018" COST MP1305 Conference*, Lisbon, Portugal, February 5-9, 2018. (poster)

IC44. S. Evgenidis, K. Zacharias, V. Papadopoulou, N. Renne, S. Theunissen, C. Balestra, T. Karapantsios. Post-dive detection of endothelial dysfunction and bubbles as markers of decompression stress in scuba divers. *8th Bubble and Drop Conference*, Sofia, Bulgaria, June 24-28, 2019. (poster)

IC45. I. Rios-Lopez, S. Evgenidis, M. Kostoglou, T. Karapantsios. Droplet spreading & sliding on solid substrates under controlled body forces. *8th Bubble and Drop Conference*, Sofia, Bulgaria, June 24-28, 2019. (oral, invited keynote)

IC46. O. Oikonomidou, S. Evgenidis, C.J. Schwarz, J.W.A. van Loon, M. Kostoglou, T. Karapantsios. Degassing of a liquid jet under various gravitational accelerations. *8th Bubble and Drop Conference*, Sofia, Bulgaria, June 24-28, 2019. (oral)

IC47. J. Lioumbas, S. Evgenidis, T. Tsilipiras, M. Kostoglou, T. Karapantsios. Effect of micro-gravity on boiling during the immersion of a water saturated porous matrix in hot oil. *26th ELGRA Symposium and General Assembly*, Granada, Spain, September 24-27, 2019. (poster)

IC48. O. Oikonomidou, S. Evgenidis, C.J. Schwarz, J.W.A. van Loon, M. Kostoglou, T. Karapantsios. Bubbles forming under hypergravity accelerations due to the degassing of a liquid jet. *26th ELGRA Symposium and General Assembly*, Granada, Spain, September 24-27, 2019. (oral)

IC49. A.P. Chondrou, S.P. Evgenidis, M. Kostoglou, T.D. Karapantsios. Design of an experimental device qualified for parabolic flights for the dynamic behaviour and stability study of emulsions. *36th Conference of the European Colloid and Interface Society (ECIS 2022)*, Chania, Crete, Greece, September 4-9, 2022. (poster)

IC50. P. Manoudis, Z. Chughtai, V. Tsiridis, S. Evgenidis, I. Karapanagiotis, T. Karapantsios, P. Spathis. A superhydrophobic and oleophobic composite coating for the protection of stone-built cultural heritage. *7th Symposium on Archaeological Research & New Technologies – ARCH_RNT*, Kalamata, Greece, October 6-8, 2022. (poster)

IC51. Z. Chunghtai, P. N. Manoudis, V. Tsiridis, S. P. Evgenidis, I. Karapanagiotis, T. D. Karapantsios, P. K. Spathis. A superhydrophobic and oleophobic composite coating for the protection of marble. *EuroMed2022: Digital Cultural Heritage Documentation, Preservation and Protection*, Limassol, Cyprus, 31 October – 4 November, 2022. (oral)

IC52. O. Oikonomidou, S. Evgenidis, D. Aslanidou, S. Vincent-Bonnieu Y. Karapanagiotis, T. Karapantsios. Spreading and sliding of condensed air humidity droplets over metallic substrates under non-isothermal conditions. *2022 Melissa Conference: Current and future ways to closed life support systems*, Toulouse, France, November 8-10, 2022. (oral)

IC53. P. Spathis, P. Manoudis, Z. Chughtai, V. Tsiridis, A. Konstantinidis, S. Evgenidis, K. Devlioti, I. Karapanagiotis, T. Karapantsios. A superamphiphobic composite coating for the protection of marble. *3rd International Conference on Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage*, Athens, Greece, March 20-23, 2023. (oral)

IC54. M. Kostoglou, T. Karapantsios, S. Evgenidis. Modeling Bubble-Particle Turbulent Collision Frequency. *9th Bubble and Drop Conference*, Lublin, Poland, June 11-16, 2023. (poster)

IC55. S. Evgenidis, M. Kostoglou, T. Karapantsios. Influence of bubble size on the undulations of experimental and simulated gas volumetric fraction time-series in co-current upward bubbly flow. *9th Bubble and Drop Conference*, Lublin, Poland, June 11-16, 2023. (poster)

IC56. 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 on-board the International Space Station; The Multiscale Boiling Experiment. *9th Bubble and Drop Conference*, Lublin, Poland, June 11-16, 2023. (poster)

IC57. O. Oikonomidou, S. Evgenidis, N. Manoudis, D. Aslanidou, S. Vincent-Bonnieu, I. Karapanagiotis, T. Karapantsios. SiO_2 nanoparticles as an agent to accelerate the collection of condensed humidity droplets in International Space Station. *9th Bubble and Drop Conference*, Lublin, Poland, June 11-16, 2023. (poster)

IC58. A.P. Chondrou, S.P. Evgenidis, T.D. Karapantsios, M. Kostoglou, L. Liggieri, F. Ravera, L. Cristofolini, V. Lorusso, R. Miller, J.K. Ferri. Performance assessment of an innovative emulsification device resembling experimental conditions employed at EDDI project in the ISS. *9th Bubble and Drop Conference*, Lublin, Poland, June 11-16, 2023. (poster)

IC59. S. Evgenidis, P. Gkotsis, T. Karapantsios. Investigating the behaviour of bubble clusters rising in a non-Newtonian liquid through electrical impedance signal and digital image analysis. *9th Bubble and Drop Conference*, Lublin, Poland, June 11-16, 2023. (oral)

Invited Research Seminars (RS)

RS1. S.P. Evgenidis, K. Zacharias, T.D. Karapantsios. In-Vivo Embolic Detector (I-VED): Technology for bubbles detection in living subjects. *Invited Research Seminar,* Joint Department of Biomedical Engineering-UNC Chapel Hill & NC State University, February 4, 2019.

Presentations in Scientific Events (SE)

SE1. S. Evgenidis, J. Lioumbas, T. Karapantsios. Emerging technologies in diagnostics and industrial applications. *Successful R&I in Europe 2014 – 6th European Networking Event,* Dusseldorf, Germany, 30-31 October, 2014. (oral, invited lecture)

SE2. S. Evgenidis, K. Zacharias, G. Karagiannis, T. Karapantsios. Innovative Impedance Spectroscopy device for early indication and diagnosis of Coronary disease. *"Down to Earth Competition 2014, Greece" by European Space Agency*, Athens, Greece, 27 November, 2014. (oral)

SE3. S. Evgenidis, K. Zacharias, G. Karagiannis, T. Karapantsios, Innovative portable impedance spectroscopy device for the diagnosis of Coronary Artery Disease (Cor-IS), *"Falling Walls Lab in Athens 2015" Innovation Competition*, Athens, Greece, 8 October, 2015. (oral)

SE4. S. Evgenidis, K. Zacharias, G. Karagiannis, T. Karapantsios. Breaking the Wall of Coronary Artery Disease, "*Falling Walls Lab in Berlin 2015" Innovation Competition*, Berlin, Germany, 8-9 November, 2015. (oral)

SE5. S. Evgenidis, K. Zacharias, G. Karagiannis, T. Karapantsios. Electrical Impedance Spectroscopy device for the diagnosis of Coronary Artery Disease, *DLD Innovation Festival*, Tel-Aviv, Israel, 26 September, 2016. (oral, invited lecture)

SE6. S. Evgenidis, K. Zacharias, G. Karagiannis, T. Karapantsios. Technology Transfer from Space: Electrical Impedance Spectroscopy device for the diagnosis of Coronary Artery Disease. *When Space meets health*, ESA European Space Research and Technology Centre (ESA/ESTEC), Netherlands, 8 November, 2016. (oral, invited lecture)

SE7. S. Evgenidis, K. Zacharias, G. Karagiannis, T. Karapantsios. A medical device from space for Coronary Artery Disease diagnosis, *11th International University Competition on Entrepreneurship and Innovation 2018-Ennovation 2018,* Athens, Greece, 30 January, 2019. (oral)

Distinctions (D)

D1. Qualification and participation to Innovation Competition "*Falling Walls Lab in Berlin*" including the 100 greatest breakthroughs of the world in 2015, with the "*Innovative portable impedance spectroscopy device for the diagnosis of Coronary Artery Disease-Cor-IS*", Berlin, Germany, 8 November, 2015.

D2. Publication **A7** was awarded with "*TOP25*" Certification from Elsevier-ScienceDirect as the 13th most downloaded article of the *International Journal of Multiphase Flow* between July and September 2015.

D3. Top 100 Entry in the "Create the Future 2017 Design Contest" among 1100 innovative engineering products from 60 countries, organized by Tech Briefs Media Group (publisher of NASA Tech Briefs, the largest-circulation design-engineering magazine worldwide and Aerospace & Defense Technology, the largest-circulation engineering magazine for the military/aero market), for "*Portable and Non-Invasive Electrical Device for the Diagnosis of Coronary Artery Disease (Cor-IS)*", 11 November, 2017.

D4. Publication **A12** was awarded from Elsevier with the "*Most Downloaded Article*" Certification of the *International Journal of Heat and Fluid Flow* between June and September 2018 (measured by SCOPUS).

D5. Winner of "*Technology Innovation Award*" and "*National Bank of Greece Business Seeds Award*" for "*A medical device from space for Coronary Artery Disease diagnosis*" among 204 projects in the "*11th International University Competition on Entrepreneurship and Innovation 2018-Ennovation 2018*", Athens, Greece, 30 January, 2019.

D6. Selection of *Dr. Sotiris Evgenidis* to represent *Thallium* in the Periodic Table of Younger Chemists for the celebration of *IUPAC100* and *International Year of the Periodic Table* (https://iupac.org/100/pt-of-chemist/#sortiris-evgenidis-tl) due to innovative research focused on: a) transport phenomena study in extra-terrestrial conditions (zero-gravity and hyper-gravity up to 20g) and b) successful technology transfer from space to ground, Murcia, Spain, 11 February, 2019.

D7. Member of the Editorial Board (Review Editor) of *Frontiers in Space Technologies – Microgravity*, April 2020-present.

D8. Member of European Space Agency Topical Team "*Bioprocess and Bioreactors in space*", 2021-2023.

D9. Publication **A34** has been chosen for the Online Educational Portal of Undersea and Hyperbaric Medicine Journal that offers Continuing Medical Education (CME) and Maintenance of Certification (MOC) credits to physicians in order to fulfill requirements for Board Certification in the United States.