

## **CURRICULUM VITAE**



**DrGeorge C. Efthimiou**

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## 1. PERSONAL INFORMATION

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Nationality: Greek  
Place of Birth: Thessaloniki, Greece  
Date of birth: 23.09.1983  
Family Status: Married  
Military services: Completed 04.02.2011, Cyprus  
Driving license: Class B – 01.04.2005

## 2. EDUCATION

2006: Diploma in Engineering and Management of Energy Resources

Department of Engineering and Management of Energy Resources, University of Western Macedonia, Greece

Grade 8.08/10 (Among 2% of Department's all times best and 2<sup>nd</sup> best among same year graduates)

2013: PhD in Mechanical Engineering

Thesis Subject "Prediction of individual exposure using Computational Fluid Dynamics modelling"

Department of Mechanical Engineering, University of Western Macedonia, Greece.

PhD supervisor: Professor John G. Bartzis

## 3. HONOURS & AWARDS

2020: Recognized reviewer in Science of the Total Environment.

2020: Acquisition of scientific project and access to the RAAD2 supercomputer of the University of Texas A&M in Qatar. Project Title: "Incorporation of a fully coupled and dynamic exposure response methodology in Computational Fluid Dynamics for crowd evacuation numerical modelling in airborne-toxic environments".

2020: Acknowledgment by the scientific journal Environmental Fluid Mechanics for excellent review of scientific publications for the period January - December 2019.

- 2019: 3,000,000 core hours in supercomputer ARIS from the Greek Research and Technology Network. Name of project: CFD-RI, Duration: 12months.
- 2019: 100,000 core hours in supercomputer ARIS from the Greek Research and Technology Network. Name of project: CFD-CH, Duration: 2months.
- 2019: Recognized reviewer in Sustainable Cities and Society.
- 2019: Recognized reviewer in Science of the Total Environment.
- 2019: Recognized reviewer in Journal of Loss Prevention in the Process Industries.
- 2019: Recognized reviewer in Process Safety and Environmental Protection.
- 2018: Recognized reviewer in Applied Sciences and Atmosphere from MDPI.
- 2018: Recognized reviewer in Heliyon.
- 2018: 1,000,000 core hours in supercomputer ARIS from the Greek Research and Technology Network. Name of project: CFD-INVERSE, Duration: 12months.
- 2018: Recognized reviewer in Science of the Total Environment.
- 2018: Recognized reviewer in Building and Environment.
- 2018: Recognized reviewer in Process Safety and Environmental Protection.
- 2018: Outstanding reviewer in Sustainable Cities and Society.
- 2018: Participation of the publication Efthimiou et al., 2018. Journal of Industrial Ecology, 22, 6, 1465-1472 in the contest 2017 Graedel Prize of the journal.
- 2018: Acknowledgment by the scientific journal Environmental Fluid Mechanics for excellent review of scientific publications for the period January - December 2017.
- 2017: Recognized reviewer in Atmospheric Environment.
- 2017: 600,000 core hours in supercomputer ARIS from the Greek Research and Technology Network. Name of project: CFD-URB, Duration: 12months.
- 2016: Outstanding reviewer in Building and Environment.
- 2016: Outstanding reviewer in Atmospheric Environment.
- 2016: Recognized reviewer in Building and Environment.
- 2016: 3<sup>rd</sup> place for “Breaking the wall of Reynolds Averaged Navier Stokes” at the Falling Walls Lab Greece, 16 June 2016.
- 2015: 200,000 core hours in supercomputer ARIS from the Greek Research and Technology Network. Name of project: FLUEN, Duration: 6 months (<https://hpc.grnet.gr/en/awarded/1st-pilot-cal/>)
- 2015: Listed in Marquis Who’s Who in the World, 32<sup>nd</sup> edition.
- 2012: Honourable Distinction for excellent performance during academic studies by the Technical Chamber of Greece, Athens.
- 2011: Honourable Distinction for excellent performance during military services by the Greek Forces in Cyprus.
- 2006-2007: Honourable Distinction by the State Scholarships Foundation.
- 2005-2006: Honourable Distinction by the State Scholarships Foundation.

#### 4. LANGUAGES

Greek: Fluently, Mother Tongue

English: Certificate of Proficiency in English, The University of Michigan (2013)

#### 5. WORK EXPERIENCE

##### Present professional position

Dr George C. Efthimiou is currently a Research Associate:

- At the Laboratory of Heat Transfer and Environmental Engineering (LHTEE), Aristotle University of Thessaloniki, Thessaloniki, Greece,

##### Past professional positions

Dr George C. Efthimiou was a Research Associate:

September 2018 – June 2019                      At the Nuclear & Radiological Sciences & Technology, Energy & Safety, N.C.S.R. DEMOKRITOS, Aghia Paraskevi, Attiki, Greece,

Dr George C. Efthimiou was a Postdoctoral Research Fellow:

February 2014 – August 2018                      At the Nuclear & Radiological Sciences & Technology, Energy & Safety, N.C.S.R. DEMOKRITOS, Aghia Paraskevi, Attiki, Greece,

April 2013 – January 2014                      At the Environmental Technology Laboratory, Department of Mechanical Engineering, University of Western Macedonia, Kozani, Greece.

#### 6. RESEARCH ACTIVITIES

The field of research activities, as demonstrated in the various scientific publications and EU - National projects, includes:

- Computational Fluid Dynamics
- Atmospheric Dispersion with emphasis on Terrains of High Complexity
- Individual Exposure
- Modelling of emission sources in indoor environments
- Indoor Air Quality modelling

- Atmospheric Environment –Atmospheric Pollution
- Inverse modelling; Data assimilation
- Statistical Analysis and Dynamic Systems
- Probability distributions - Stochastic Applications
- Wind engineering
- Weather forecast
- Fluid Mechanics with emphasis on turbulent flows and their modeling
- Numerical Analysis - Computational Mathematics and Applications
- Applied physics
- Atmospheric dynamics
- Computational Modeling and Simulation of Systems
- Probabilities

## 7. EU - NATIONAL PROJECTS

Dr Efthimiou participated in 14 projects in the past and currently he participates in 2 projects.

National projects:	4
European projects:	11
Non-European projects	1
TOTAL:	16

In 2017 an ERC Starting Grant proposal was submitted for young scientists which received score B. In 2019 an EΛΙΔΕΚ proposal was submitted for postdoc researchers which received score A in the first phase and score 73 (excellent is 100) in the second phase. Also, in 2019 an ERC Starting Grant proposal was submitted again which received score B.

EU - National projects:

A/A	TITLE	FUNDING	DURATION OF PARTICIPATION	SUBJECT OF THE CONTRACT
1.	PANOPTIS	Horizon 2020	17/06/2020 – Today	Development of a Decision Support System for increasing the Resilience of Transportation Infrastructure based on combined use of terrestrial and airborne sensors and advanced modelling Tools.
2.	HYPERION	Horizon 2020	24/7/2019 – Today	Study of the impact of climate change and extreme events on the damage of historical areas using advanced modelling tools.
3.	Dispersion of pollutants - Environmental impacts	NCSR “DEMOKRITOS”	11/5/2019 – 30/6/2019	Research and development on computational methods for the study of the dispersion of pollutants in the air and environmental impacts. Emphasis is given to the dispersion of pollutants in urban areas and to the identification / assessment of unknown sources of hazardous pollutants.

4.	Computational techniques for the determination of air pollutant sources, and their impacts with emphasis on emergencies in urban areas	National Strategy for Research and Technology for Smart Specialization	1/9/2018 – 31/3/2019	Development of “smart” algorithms for the fast extraction of the information from databases with application in inverse problems i.e. source identification in urban areas.
5.	Study of the performance of the particulate collection system PM10 of Spraytecs Technologies Ltd. for real-world air cleaning in Italy	Spraytecs Technologies Ltd.	1/4/2018 – 11/4/2018	Implementation of a computational methodology for assessing the dispersion of hazardous pollutants into the atmosphere at street level.
6.	Icarus: Integrated Climate forcing and Air pollution Reduction in Urban Systems	Horizon 2020	1/12/2016 – 31/7/2017	Prediction of the air quality of nine European cities in the future.
7.	Advanced Emergency Preparedness and Response Tools for Airborne Hazardous Materials in Urban Environments	NPRP award [NPRP 7-674-2-252] from the Qatar National Research Fund	1/10/2015 – 31/8/2018	<ul style="list-style-type: none"> <li>• Development, implementation and evaluation of computational methodologies for the estimation of unknown release sources of hazardous pollutants in the atmosphere.</li> </ul>



				<ul style="list-style-type: none"> <li>• Incorporation of these computational methods in the computational fluid dynamics codes of the Environmental Research Laboratory.</li> <li>• Particular emphasis is given to the implementation of these methodologies in urban areas with a complex layout and in emergency cases from accidents or malicious actions.</li> <li>• Participation in dissemination activities of project results (publications in international journals and conferences).</li> </ul>
8.	PREPARE - Innovative integrative tools and platforms to be prepared for radiological emergencies and post-accident response in Europe	European Commission	1/2/2014 – 31/8/2014 1/9/2014 – 30/9/2015	<ul style="list-style-type: none"> <li>• Development of numerical models for the description of the deposition of particulate atmospheric pollutants and incorporation of these models on the</li> </ul>

				<p>numerical codes of the Environmental Research Laboratory.</p> <ul style="list-style-type: none"> <li>Numerical methods for the determination of the emitted quantities of radioactive pollutants from nuclear accidents using “inverse modelling” with combined use of atmospheric dispersion models and measurements.</li> </ul>
9.	HEALS - Health and Environment-wide Associations based on Large Population Surveys	European Commission	1/02/2014 – 30/10/2014	Application of the CFD model for the prediction of the spatial pollutant distribution in indoor environments and the effect of ventilation on their concentrations.
10.	OFFICAIR – On the reduction of health effects from combined exposure to indoor air pollutants in modern offices	European Commission	1/10/2012 – 31/01/2014	Application of CFD modelling for the prediction of the spatial distribution of the pollutants in indoor environments and the effect of ventilation on their concentrations.

11.	EPHECT – Emissions exposure patterns and health effects of consumer products in the EU.	European Commission	01/12/2012 – 31/08/2013	Development of numerical applications in computational models of air exchange rate prediction in indoor environments.
12.	SINPHONIE – Schools Indoor Pollution and Health observatory network in Europe.	European Commission	15/03/2012 – 30/09/2012	Manipulation of data samples, analysis of results and development of databases.
13.	RADPAR – Radon prevention and remediation	European Commission	01/03/2010 – 31/05/2010 01/08/2010 – 30/06/2011	Assessment of data relating to the human exposure to radon.
14.	PINDOS – Development of alternative forms of tourism by creating a network of walking trails in the prefecture of Kozani.	Prefecture of Kozani	12/06/2009 – 28/02/2010 01/06/2010 – 31/07/2010	Weather forecast & designing paths in the examined areas.
15.	BUMA – Prioritisation of Building Materials as indoor pollution sources.	European Commission	1/11/2008 – 31/5/2009	Development and parameterization of air pollution and ventilation models in indoor environments using the model BUMA (BEMES).
16.	GGET – Environmental management system and decision support for	Ministry of Development	21/6/2007 – 31/10/2008	Development and parameterization of CFD models for the dispersion

	SES operating region of Kozani / Ptolemais / Amyntaio / Florina (Regional Innovation Pole of Western Macedonia).			of air pollutants.
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## 8. PUBLICATIONS

Number of publications (total)	:95
➤ Scientific journals	:31
▪ Year of first publication: 2011	
▪ 431 total citations by 298 documents (Scopus 25/9/2020)	
▪ h-index (exclude self citations): 10 (Scopus 25/9/2020)	
➤ Books and Chapters	:8
➤ Conference proceedings	:48
➤ Projects	:10
➤ World-class scientific websites	:1

### 8.1. Scientific journals

No	Publications
1.	Nektarios Koutsourakis, John G. Bartzis, <b>George C. Efthimiou</b> , Ioannis Sakellaris, 2019. CFD studies of pollutant spatial distribution in a large office, <i>International Journal of Environment and Pollution</i> , 65, (1-3), 125-148.
2.	Spyros Andronopoulos, John G. Bartzis, <b>George C. Efthimiou</b> , Alexandros G. Venetsanos, 2019. Puff-dispersion variability assessment through Lagrangian and Eulerian modelling based on the JU2003 campaign, <i>Boundary Layer Meteorology</i> , 171, 3, 395-422.
3.	<b>George C. Efthimiou</b> , 2019. Prediction of four concentration moments of an airborne material released from a point source in an urban environment, <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 184, 247-255.
4.	<b>G.C. Efthimiou</b> , P. Kumar, S.G. Giannisi, A.A. Feiz, S. Andronopoulos, 2019. Prediction of the wind speed probabilities in the atmospheric surface layer, <i>Renewable Energy</i> , 132, 921-930.
5.	<b>George C. Efthimiou</b> , Ivan V. Kovalets, Christos D. Argyropoulos, Alexandros Venetsanos, Spyros Andronopoulos, Konstantinos Kakosimos, 2018. Evaluation of an inverse modelling methodology for the prediction of a stationary point pollutant source in complex urban environments, <i>Building and Environment</i> , 143, 107-119.
6.	Argyropoulos, C. D.; Elkhalfa, S.; Fthenou, E.; <b>Efthimiou, G. C.</b> ; Andronopoulos, S.; Venetsanos, A.; Kovalets, I. V.; Kakosimos, K. E., 2018. Source reconstruction of airborne toxics based on acute health effects information. <i>Scientific Reports</i> , 8, (1), 5596.
7.	I. C. Toliás, N. Koutsourakis, D. Hertwig, <b>G.C. Efthimiou</b> , A.G. Venetsanos, J.G. Bartzis, 2018. Large Eddy Simulation study on structure of turbulent flow in a complex city, <i>Journal of Wind Engineering &amp; Industrial Aerodynamics</i> , 177, 101-116.
8.	Kovalets, I. V.; <b>Efthimiou, G. C.</b> ; Andronopoulos, S.; Venetsanos, A. G.; Argyropoulos, C. D.; Kakosimos, K. E., Inverse identification of unknown finite-duration air pollutant release from a point source in urban environment. <i>Atmos. Environ.</i> 2018, 181, 82-96.
9.	Xiaole Zhang, <b>George Efthimiou</b> , Yan Wang, Meng Huang, 2018. Comparisons between a new point kernel-based scheme and the infinite plane source assumption method for radiation calculation of deposited airborne radionuclides from nuclear power plants, <i>Journal of Environmental Radioactivity</i> , 184-185, 32-45.
10	<b>G. C. Efthimiou</b> , S. Andronopoulos, J. G. Bartzis, 2018. Prediction of dosage-based parameters from the short-duration release of airborne materials in urban environments, <i>Meteorology and Atmospheric Physics</i> , 130(1), 107-124.
11	<b>G. C. Efthimiou</b> , P. Kalimeris, S. Andronopoulos, J. G. Bartzis, 2018. Statistical projection of

.	Material Intensity: Evidence from the global economy and 107 countries, <i>Journal of Industrial Ecology</i> , 22, 6, 1465-1472.
12	<b>G. C. Efthimiou</b> , I. V. Kovalets, A. Venetsanos, S. Andronopoulos, C. D. Argyropoulos, K. Kakosimos, 2017. An optimized inverse modelling method for determining the location and strength of a point source releasing airborne material in urban environment, <i>Atmospheric Environment</i> , 170, 118-129.
13	<b>G.C. Efthimiou</b> , S. Andronopoulos, J.G. Bartzis, 2017. Evaluation of probability distributions for concentration fluctuations in a building array, <i>Physica A</i> , 484, 104–116.
14	<b>Efthimiou G.C.</b> , Andronopoulos S., Tavares R., Bartzis J.G. 2017. CFD-RANS prediction of the dispersion of a hazardous airborne material released during a real accident in an industrial environment, <i>Journal of Loss Prevention in the Process Industries</i> , 46, 23-36.
15	<b>Efthimiou G.C.</b> , Andronopoulos S., Bartzis J.G., Berbekar E., Harms F., Leitl B. 2017. CFD-RANS prediction of individual exposure from continuous release of hazardous airborne materials in complex urban environments, <i>Journal of Turbulence</i> , 18, 2, 115-137.
16	S. Andronopoulos, T. Schichtel, <b>G. Efthimiou</b> , J.G. Bartzis, 2016. Updates of the atmospheric dispersion models inside the Local Scale Model Chain of RODOS regarding particles. <i>Radioprotection</i> 51(HS2), S101-S103.
17	<b>G. C. Efthimiou</b> , D. Hertwig, S. Andronopoulos, J.G. Bartzis, O. Coceal. 2017. A statistical model for the prediction of wind-speed probabilities in the atmospheric surface layer, <i>Boundary Layer Meteorology</i> , 163, 2, 179-201.
18	<b>Efthimiou G.C.</b> , Andronopoulos S., Toliás I., Venetsanos A., 2016. Prediction of the upper tail of concentration probability distributions of a continuous point source release in urban environments. <i>Environ Fluid Mech</i> , 16, 5, 899–921, DOI 10.1007/s10652-016-9455-2 ( <a href="http://rdcu.be/j93f">http://rdcu.be/j93f</a> ).
19	<b>George C. Efthimiou</b> , John G. Bartzis, Michail Palaikostas, 2015. Modelling Short-Term Maximum Individual Exposure from Airborne Hazardous Releases in Urban Environments. Part I: Validation of a Deterministic Model with Field Experimental Data, <i>Toxics</i> , 3, 249-258.
20	<b>George C. Efthimiou</b> , John G. Bartzis, Eva Berbekar, Denise Hertwig, Frank Harms, Bernd Leitl, 2015. Modelling Short-Term Maximum Individual Exposure from Airborne Hazardous Releases in Urban Environments. Part II: Validation of a Deterministic Model with Wind Tunnel Experimental Data, <i>Toxics</i> , 3(3), 259-267; doi:10.3390/toxics3030259.
21	Sani Dimitroulopoulou, Marilena Trantallidi, Paolo Carrer, <b>George C. Efthimiou</b> , John G. Bartzis, 2015. EPHECT II: Exposure assessment to household consumer products, <i>Science of the Total Environment</i> , 536, 890–902.
22	John G. Bartzis, <b>George C Efthimiou</b> , Spyros Andronopoulos, 2015. Modelling Short Term Individual Exposure from Airborne Hazardous Releases in Urban Environments, <i>Journal of Hazardous Materials</i> , 300, 182–188.
23	Bartzis, J., Wolkoff, P., Stranger, M., <b>Efthimiou, G.</b> , Tolis, E., Maes, F., Nørgaard, A. W., Ventura, G., Kalimeri, K., Goelen, E., Fernandes, O., 2015. On organic emissions testing from indoor consumer products' use, <i>Journal of Hazardous Materials</i> , 285, 37–45.
24	<b>George C. Efthimiou</b> , Eva Berbekar, Frank Harms, John G. Bartzis, Bernd Leitl, 2015. Prediction of the peak concentration and concentration distribution of a continuous point source release in a semi-idealized urban canopy using CFD-RANS modelling, <i>Atmospheric Environment</i> , 100, 48-56.
25	<b>George C. Efthimiou</b> , John G. Bartzis, 2014. Atmospheric dispersion and individual exposure of hazardous materials. Validation and intercomparison studies, <i>Int. J. Environment and Pollution</i> , 55, 76-85.
26	Denise Hertwig, <b>George C. Efthimiou</b> , John G. Bartzis, Bernd Leitl, 2012. CFD-RANS model validation of turbulent flow in a semi-idealized urban canopy, <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 111, 61–72.

27	Alexandros Syrakos, <b>Georgios Efthimiou</b> , John G. Bartzis, Apostolos Goulas, 2012. Numerical experiments on the efficiency of local grid refinement based on truncation error estimates, <i>Journal of Computational Physics</i> , 231, 6725-6753.
28	<b>G.C. Efthimiou</b> , J. G. Bartzis, 2011. Atmospheric dispersion and individual exposure of hazardous materials. <i>Journal of Hazardous Materials</i> , 188, 375-383.
29	<b>G.C. Efthimiou</b> , J.G. Bartzis, N. Koutsourakis, 2011. Modelling concentration fluctuations and individual exposure in complex urban environments. <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 99, 349-356.
30	<b>G. Efthimiou</b> , J.G. Bartzis, S. Andronopoulos, A. Sfetsos, 2011. Air dispersion modelling for individual exposure studies. <i>International Journal of Environment and Pollution</i> , Vol. 47, pp. 302 - 316.
31	Di Sabatino, S, R. Buccolieri, H. Olesen, M. Ketzel, R. Berkowicz, J. Franke, M. Schatzmann, H. Schlünzen, B. Leitl, R. Britter, C. Borrego, A. M. Costa, S. Trini- Castelli, T. Reisin, A. Hellsten, J. Saloranta, N. Moussiopoulos, F. Barmpas, K. Brzozowski, I. Goricsan, M. Balczò, J. Bartzis, <b>G. Efthimiou</b> , J. L. Santiago, A. Martilli, M. Piringer, M. Hirtl, A. Baklanov, R. Nuterman, A. Starchenko, 2011. COST 732 in practice: The MUST model evaluation exercise, <i>International Journal of Environment and Pollution</i> Volume 44, Issue 1-4, Pages 403-418.

## 8.2. Books and Chapters

No	Publications
1.	<b>George C. Efthimiou</b> , Spyros Andronopoulos, Ivan V. Kovalets, Alexandros Venetsanos, Christos D. Argyropoulos, Konstantinos Kakosimos, 2018. Validation of an inverse method for the source determination of a hazardous airborne material released from a point source in an urban environment, <i>Air Pollution Modeling and its Application XXV</i> , pp.329-332.
2.	Silvia Trini Castelli, Kathrin Baumann-Stanzer, Bernd Leitl, C. Maya Milliez, Eva Berbekar, Aniko Rakai, Vladimir Fuka, Antti Hellsten, Anton Petrov, <b>George Efthimiou</b> , Spyros Andronopoulos, Gianni Tinarelli, Richard Tavares, Patrick Armand, Claudio Gariazzo, Klara Jurcakova, Goran Gašparac: Evaluation of Local-Scale Models for Accidental Releases in Built Environments: Results of the Modelling Exercises in Cost Action ES1006. <i>Air Pollution Modelling and its Application XXIV</i> , 01/2016: pages 497-502; ISBN: 978-3-319-24476-1, DOI:10.1007/978-3-319-24478-5_79.
3.	Andronopoulos, S.; Barmpas, F.; Bartzis, J.G.; Baumann-Stanzer, K.; Berbekar, E.; <b>Efthimiou, G.</b> ; Gariazzo, C.; Harms, F.; Hellsten, A.; Herring, S.; et al. COST ES1006 Model Evaluation Protocol; University of Hamburg, Meteorological Institute: Hamburg, Germany, 2015; ISBN 987-3-9817334-1-9.
4.	Tamir G. Reisin, Bernd Leitl, Silvia Trini Castelli, Kathrine Baumann-Stanzer, Patrick Armand, Fotios Barmpas, Spyros Andronopoulos, Klara Jurcakova, <b>and all COST ES1006 Members</b> , 2015. Evaluation, Improvement and Guidance for the Use of Local-Scale Emergency Prediction and Response Tools for Airborne Hazards in Built Environments. Cost Action ES1006 – A European Experience. NATO Science for Peace and Security Series B: Physics and Biophysics, Volume 73, Pages 137-145.
5.	K. Baumann-Stanzer, S. Andronopoulos, P. Armand, E. Berbekar, <b>G. Efthimiou</b> , V. Fuka, C. Gariazzo, G. Gasparac, F. Harms, A. Hellsten, K. Jurcakova, A. Petrov, A. Rakai, S. Stenzel, R. Tavares, G. Tinarelli, S. Trini-Castelli: COST ES1006 Model evaluation case studies: Approach and results. Edited by Baumann-Stanzer, S. Trini-Castelli, S. Stenzel, 04/2015; University of Hamburg., ISBN: 987-3-9817334-2-6.
6.	John G. Bartzis, <b>George Efthimiou</b> , Alexandros Syrakos, Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes, <i>International Journal of</i>

	Environment and Pollution Volume, 50, Nos. 1/2/3/4, 2012.
7.	<b>Ευθυμίου Γεώργιος</b> , Καλημέρης Παναγιώτης, Κοζιάκης Νικόλαος, Κοπανίδης Αναστάσιος, Μήσσια Δάφνη, Νίτσας Λουκάς, Νούσκα Πασχαλίνα, Παγούνης Τρύφων, Με τη δύναμη του ανθρώπου και της φύσης, Δήμος Τσοτυλίου, Κοζάνη, 2010.
8.	Κοζιάκης Νικόλαος, Αγγέλη Ελένη, Σταμκόπουλος Νικόλαος, Μήσσια Δάφνη, <b>Ευθυμίου Γεώργιος</b> , Καλημέρης Παναγιώτης, Καβουρίδου Γεωργία, Νικοδήμου Χάιδω, Στα μονοπάτια των πέτρινων οικισμών, Οικολογική Κίνηση Κοζάνης, Κοζάνη, 2008.

### 8.3. Conference Proceedings

No	Publications
1.	J.G. Bartzis, S. Andronopoulos, G. C. Efthimiou. SIMPLIFIED APPROACHES IN QUANTIFYING EXPOSURE STATISTICAL BEHAVIOUR DUE TO AIRBORNE HAZARDOUS RELEASES OF SHORT TIME DURATION, International Conference on Air Quality – Science and Application, 12th International Conference on Air Quality, Thessaloniki, 9-13 March 2020.
2.	G. TSEGAS, <b>G.C. EFTHIMIOU</b> , E. FRAGKOU, F. BARMAS, E. CHOURDAKIS AND N. MOUSSIOPOULOS. High-resolution downscaling methodology for evaluating Climate Change impacts on historic areas, Protection and Restoration of the Environment, July 7-10, 2020, Kalamata, Greece.
3.	Spyros Andronopoulos, <b>George C. Efthimiou</b> , John G. Bartzis, Alexandros G. Venetsanos. Puff dispersion variability in complex urban environments: evaluation of Lagrangian and Eulerian modelling methodologies for its assessment, 19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes 3-6 June 2019, Bruges, Belgium.
4.	S. Andronopoulos, <b>G.C. Efthimiou</b> , A. Venetsanos, J.G. Bartzis. Atmospheric dispersion of hazardous substances, 5 <sup>th</sup> International Conference on Civil Protection & New Technologies, 31 October - 3 November 2018, Western Macedonia University of Applied Sciences Kozani, Greece.
5.	<b>George C. Efthimiou</b> , Ivan V. Kovalets, Spyros Andronopoulos. Inverse identification of unknown stationary air pollutant release from a point source in urban environment, 11η Επιστημονική Συνάντηση, Πανελλήνιο Συνέδριο για τα Φαινόμενα Μηχανικής Ρευστών, Κοζάνη, 23 – 24 Νοεμβρίου, 2018
6.	Ivan V. Kovalets, <b>George C. Efthimiou</b> , Spyros Andronopoulos, Alexander N. Romanenko, Alexander Venetsanos, Christos D. Argyropoulos, Konstantinos E. Kakosimos. Inverse identification of short duration release in atmospheric environment: from urban to planetary scale, 1st International Symposium on Mechanics, 9-12 July 2018 in Aberdeen, Scotland, United Kingdom.
7.	J. G. Bartzis, <b>G. C. Efthimiou</b> , S. Andronopoulos, A. Venetsanos. Langrangian modelling embedded in RANSCFD for air puff releases in urban environments. 11th International Conference on Air Quality – Science and Application, Universitat Pompeu Fabra Campus de la Ciutadella, Barcelona, 12-16 March 2018.
8.	C.D. Argyropoulos, <b>G.C. Efthimiou</b> , S. Andronopoulos, K.E. Kakosimos, N.C. Markatos. Modelling of toxic contaminants dispersion during a real industrial accident using large eddy simulation and RANS models. 18th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 October 2017 Bologna, Italy.
9.	Ivan V. Kovalets, <b>George C. Efthimiou</b> , Spyros Andronopoulos, Alexander G. Venetsanos, Konstantinos Kakosimos, Christos D. Argyropoulos. Development of the method for



	identification of the unknown short duration source in urban atmospheric environment using the CFD model. 18th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 October 2017Bologna, Italy.
10	John G. Bartzis, <b>George C. Efthimiou</b> , Spyros Andronopoulos, Alexandros G. Venetsanos. Langrangian modeling embedded in RANSCFD codes for concentrations and concentration fluctuations predictions from airborne hazardous releases in urban environments. 18th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 October 2017Bologna, Italy.
11	Nektarios Koutsourakis, John G. Bartzis, <b>George C. Efthimiou</b> , Ioannis Sakellaris. CFD simulations of pollutant spatial distribution in a large office. 18th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 October 2017Bologna, Italy.
12	J. G. Bartzis, <b>G. Efthimiou</b> , E. Tolis, P. Karagiannis, K. K. Kalimeri, V. Mpafafas, D. Sarigiannis, The HEALS Environmental Data Management System. The air NO <sub>2</sub> data statistical analysis. 19th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region, October 4 to 6, 2017, Rome – Italy.
13	John G. Bartzis, <b>George C. Efthimiou</b> , Spyros Andronopoulos, Short Exposure Times for Airborne Hazardous Releases in Urban Environments, 1st International Conference on CBRNE, 22-24 May 2017, Rome, Italy,
14	John G. Bartzis, <b>George C. Efthimiou</b> , Spyros Andronopoulos, Short time individual exposure from airborne hazardous releases in urban environments. The effect of time size, 4 <sup>th</sup> International Conference on Atmospheric Sciences and Application to Air Quality, 29-31 May 2017, Strasbourg, France.
15	<b>George C. Efthimiou</b> , Ivan V. Kovalets, Alexandros Venetsanos, Spyros Andronopoulos, Christos D. Argyropoulos, Konstantinos Kakosimos, Source determination of an airborne material released from a point source in an urban environment, 10η Επιστημονική Συνάντηση Πανελλήνιο Συνέδριο για τα Φαινόμενα Μηχανικής Ρευστών Πάτρα, 2-3 Δεκεμβρίου, 2016.
16	<b>George C. Efthimiou</b> , Spyros Andronopoulos, Ivan V. Kovalets, Alexandros Venetsanos, Christos D. Argyropoulos, Konstantinos Kakosimos, Validation of an inverse method for the source determination of a hazardous airborne material released from a point source in an urban environment, 35th International Technical Meeting on Air Pollution Modelling and its Application, 3-7 October 2016, Chania, Crete, Greece.
17	Nektarios Koutsourakis, John G. Bartzis, <b>George C. Efthimiou</b> , Alexandros G. Venetsanos, Ilias C. Tolias, Nicolas C. Markatos, Denise Hertwig, Bernd Leitl, LES study of unsteady flow phenomena in an urban geometry – the need for special evaluation methods, 17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 May 2016 Budapest, Hungary.
18	<b>Efthimiou G.C.</b> , Andronopoulos S., Bartzis J.G., CFD-URANS prediction of individual exposure from continuous release of hazardous airborne materials, 17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 May 2016 Budapest, Hungary.
19	<b>George C. Efthimiou</b> , Spyros Andronopoulos, Alexandros Venetsanos, Ivan V. Kovalets, Konstantinos Kakosimos and Christos D. Argyropoulos, Modification and validation of a method for estimating the location of a point stationary source of passive non-reactive pollutant in an urban environment, 17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes 9-12 May 2016, Budapest, Hungary.
20	Elkhalifa, Samar, Argyropoulos, Christos D., Kakosimos Konstantinos E., <b>Efthimiou, George C.</b> , Andronopoulos, Spyros., Venetsanos Alexandros G., Kovalets, Ivan V., On the exploitation of dose-response information for the source-reconstruction in the case of

	atmospheric hazardous material releases, 17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 9-12 May 2016 Budapest, Hungary.
21	J.G. Bartzis, G.C. Efthimiou and S. Andronopoulos, CFD-URANS prediction of dosage-based parameters from short-term releases (puffs) of hazardous airborne materials, 10th International Conference on Air Quality – Science and Application, Milan, 14-18 March 2016.
22	J. G. Bartzis, E. Tolis, <b>G. Efthimiou</b> , P. Wolkoff, M. Stranger, F. Maes, E. Goelen G. Ventura, E. de Oliveira Fernandes, Product Emissions by Laboratory Testing. The EPHECT Project Experience, 14th international conference on indoor air quality and climate ‘Indoor Air 2016’, July 3-8th 2016, Ghent, Belgium.
23	D.A. Missia, I. Sakelaris, <b>G. Efthimiou</b> , C. Dimitroulopoulou, J.G. Bartzis, Indoor Air Quality Model evaluation in a modern office, 14th international conference on indoor air quality and climate ‘Indoor Air 2016’, July 3-8th 2016, Ghent, Belgium.
24	John G. Bartzis, Nektarios Koutsourakis, <b>George Efthimiou</b> , Spatial exposure variation aspects from CFD Simulations in a Large Office, 14th international conference on indoor air quality and climate ‘Indoor Air 2016’, July 3-8th 2016, Ghent, Belgium.
25	Trini Castelli S., Baumann-Stanzer K., Leitl B., Milliez C.M., Berbekar E., Rakai A., Fuka V., Hellsten A., Petrov A., <b>Efthimiou G.</b> , Andronopoulos S., Tinarelli G., Tavares R., Armand P., Gariazzo C., Jurcakova K., Gašparac G. and all COST ES1006 Members, Evaluation of local-scale models for accidental releases in built environments – results of the modelling exercises in COST ACTION ES1006, 34th International Technical Meeting on Air Pollution Modelling and its Application, 4-8 May 2015, Montpellier, France.
26	<b>Efthimiou G.C.</b> , Andronopoulos S., Bartzis J.G., CFD-URANS prediction of dosage-based parameters from short-term releases (puffs) of hazardous airborne materials, 9ο Πανελλήνιο Συνέδριο "Φαινόμενα Ροής Ρευστών" Αθήνα, 12-13 Δεκεμβρίου, 2014.
27	Trini Castelli S, Baumann-Stanzer K., Leitl B., Milliez C.M., Berbekar E., Rakai A., Fuka V., Hellsten A., Petrov A., <b>Efthimiou G.</b> , Andronopoulos S., Tinarelli G., Tavares R., Armand P., Gariazzo C. and all COST ES1006 Members, Evaluation of local-scale models for accidental releases in built environments – results of the modelling exercises in COST ACTION ES1006, 34rd International Technical Meeting on Air Pollution Modelling and its Application, 4-8 May, 2015, Montpellier, France.
28	Bartzis G. John, <b>Efthimiou C. George</b> , Venetsanos Alexandros, CFD-RANS modelling of turbulent flow, hygrothermal parameters and pollutant dispersion in real working environments, 16th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 8-11 September 2014, Varna, Bulgaria
29	Baumann-Stanzer K., Leitl B., Trini Castelli S., Milliez C.M., Berbekar E., Rakai A., Fuka V., Hellsten A., Petrov A., <b>Efthimiou G.</b> , Andronopoulos S., Tinarelli G., Tavares R., Armand P., Gariazzo C. and all COST ES1006 Members, Evaluation of local-scale models for accidental releases in built environments – results of the “Michelstadt exercise” in COST Action ES1006, 16th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 8-11 September 2014, Varna, Bulgaria
30	Trini Castelli Silvia, Barmpas Fotios, Franke Jörg, Leitl Bernd, Harms Frank, Andronopoulos Spyros, Balczon Marton, Hellsten Antti, <b>All contributing authors</b> , COST ACTION ES1006. Model evaluation protocol for cases of emergency response in urban areas, 6th International Symposium on Computational Wind Engineering - CWE2014, June 8 - 12, 2014, Hamburg.
31	<b>Efthimiou, George</b> Bartzis, John, CFD-RANS modelling of turbulent flow in a semi-idealized urban canopy. Validation and intercomparison studies, 6th International Symposium on Computational Wind Engineering - CWE2014, June 8 - 12, 2014, Hamburg.
32	J. G. Bartzis, A. K. Malkogianni, <b>G. C. Efthimiou</b> , D. Missia, D. D’ Agostino, P. Congedo, Human Exposure from Building Material Emissions in Modern Offices, “Emissions and Odours from materials”, CERTECH, 17 & 18 October 2013, Brussels – Belgium.

33	<b>George C. Efthimiou</b> , John G. Bartzis, Atmospheric dispersion and individual exposure of hazardous materials. Validation and intercomparison studies, 15th Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes – 6-9 May 2013, Madrid, Spain.
34	Nektarios Koutsourakis, Denise Hertwig, <b>George C. Efthimiou</b> , Alexander G. Venetsanos, John G. Bartzis, Bernd Leitl, Evaluation of the ADREA-HF LES code for urban air quality assessment, using the CEDVAL-LES wind tunnel database, 8th International Conference on Air Quality - Science and Application 19-23 March 2012, Greece.
35	J. G. Bartzis, <b>G. C. Efthimiou</b> , D. Hertwig, B. Leitl, R. Fischer, F. Harms, I. Bastigkeit, V. Mytilinou, (2011). Modelling individual exposure from airborne releases. 14 <sup>th</sup> Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes – 2-6 October 2011, Kos, Greece.
36	Martilli A., Santiago J. L., Reisin T.G., Baklanov A., Nuterman A., Bartzis J., <b>Efthimiou G.</b> , Buccolieri R., Di Sabatino S., Costa A.M., TAVARES R., Franke J., Hellsten A., How to choose the best simulation for a specific purpose? 14 <sup>th</sup> Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes – 2-6 October 2011, Kos, Greece.
37	<b>G. C. Efthimiou</b> , D. Hertwig, R. Fischer, F. Harms, I. Bastigkeit, N. Koutsourakis, A. Theodoridis, J. G. Bartzis, B. Leitl, Wind flow validation for individual exposure studies, The “13th International Conference on Wind Engineering” held in July 2011 in Amsterdam.
38	<b>G. C. Efthimiou</b> , D. Hertwig, F. Harms, J. G. Bartzis, B. Leitl, Validation study of flow and concentration fields in a semi-idealized city “International Workshop on physical modelling of flow and dispersion phenomena”, August 22-24th, 2011.
39	Denise Hertwig, <b>George C. Efthimiou</b> , Frank Harms, Rasmus Fischer, Ilona Bastigkeit, John G. Bartzis, Bernd Leitl, Aspects of RANS model validation for unsteady urban flows, 14th Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes – 2-6 October 2011, Kos, Greece.
40	John G. Bartzis and <b>George C. Efthimiou</b> , Maximum individual exposure estimation using CFD-RANS modelling, 13 <sup>th</sup> Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes – 1-4 June 2010, Paris, France.
41	John G. Bartzis, <b>George C. Efthimiou</b> , Nektarios Koutsourakis, Modelling concentration fluctuations and individual exposure in complex urban environments, The Fifth International Symposium on Computational Wind Engineering, 23-27 May 2010, Chapel Hill, North Carolina, USA.
42	Silvana Di Sabatino, Alexander Baklanov, John Bartzis, Ruwim Berkowicz, Riccardo Buccolieri, Ana Margarida Costa, <b>George Efthimiou</b> , Jörg Franke, Matthias Ketzel, Bernd Leitl, Roman Nuterman, Helge Rørdam Olesen, Richard Tavares, Analyses, critical issues and outcome from COST732 CFD evaluation exercise, The Fifth International Symposium on Computational Wind Engineering, 23-27 May 2010, Chapel Hill, North Carolina, USA.
43	A. Sfetsos, A. Syrakos, M. Politis, <b>G. Efthimiou</b> , N. Gounaris, D. Vlachogiannis, N. Koziakis, J. G. Bartzis, G. Nikolaou, M. Voutsinas, The development of a decision support system for the operation of the PPC thermal power plants in Western Macedonia, 4 <sup>th</sup> International Symposium on Information Technologies in Environmental Engineering, 2009, Thessaloniki, Greece.
44	Di Sabatino, S, R. Buccolieri, H. Olesen, M. Ketzel, R. Berkowicz, J. Franke, M. Schatzmann, H. Schlünzen, B. Leitl, R. Britter, C. Borrego, A. M. Costa, S. Trini- Castelli, T. Reisin, A. Hellsten, J. Saloranta, N. Moussiopoulos, F. Barmpas, K. Brzozowski, I. Goricsan, M. Balczò, J. Bartzis, <b>G. Efthimiou</b> , J. L. Santiago, A. Martilli, M. Piringer, M. Hirtl, A. Baklanov, R. Nuterman, A. Starchenko, COST 732 in practice: The MUST model evaluation exercise, 12 <sup>th</sup> International Conference on Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes, 2008, Cavtat, Croatia.
45	<b>G.C. Efthimiou</b> , J.G. Bartzis, S. Andronopoulos, A. Sfetsos, Modelling the concentration

.	fluctuation and individual exposure in complex urban environments. 12 <sup>th</sup> International Conference on Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes, 2008, Cavtat, Croatia.
46	Franke J., Bartzis J.G., Barmpas F., Berkowicz R., Brzozowski K., Buccolieri R., Carissimo B., Costa A., Di Sabatino S., <b>Efthimiou G.</b> , Franke J., Goricsan I., Hellsten A., Ketzl M., Leitl B., Nuterman R., Olesen H., Polreich E., Santiago J. & Tavares R., The MUST model evaluation exercise: statistical analysis of modelling results, 12th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 2008, Cavtat, Croatia.
47	Olesen H.R., Baklanov A., Bartzis J.G., Barmpas F., Berkowicz R., Brzozowski K., Buccolieri R., Carissimo B., Costa A., Di Sabatino S., <b>Efthimiou G.</b> , Franke J., Goricsan I., Hellsten A., Ketzl M., Leitl B., Nuterman, R., Polreich E., Santiago J. & Tavares R., The MUST model evaluation exercise: patterns in model performance, 12th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 2008, Cavtat, Croatia.
48	Bartzis J.G., Sfetsos A., <b>Efthimiou G.</b> , Andronopoulos S. & Venetsanos A., "Validation exercise utilizing ADREA and STAR-CD codes in Urban Scale. The MUST Experiment", 11th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 2007, Cambridge, UK.

#### 8.4. Projects

No	Publications
1.	<b>George Efthimiou, George Tsegas and Fotios Barmpas</b> , (2020), D.3.2 High-resolution surface parameter maps, HYPERION project.
2.	<b>Aristotle University of Thessaloniki</b> , (2020), D 2.4 Geographic data and services inventory, HYPERION project.
3.	<b>Efthimiou, G.</b> , Andronopoulos, S., Bartzis, J.G., (2015), Dry and wet deposition modelling of particles in DIPCOT, PREPARE project.
4.	A., Malkogianni, <b>G. C. Efthimiou</b> , J. G. Bartzis, D. D' Agostino, P. Congedo, (2014) Report and delivery of CFD model for spatial distribution, OFFICAIR project.
5.	Missia, D., <b>Efthymiou, G.</b> , Dimitroulopoulou, C., Bartzis, J. (2012) Updated IAQ model, EPHECT project (Milestone M3).
6.	Bartzis, J., Tolis, E., <b>Efthimiou, G.</b> , Wolkoff, P., Stranger, M., Goelen, E., Ventura, G., Fernandes, E., (2013). Guidance on product emissions by laboratory testing: The EPHECT experience, EPHECT Report WP6; 2013. p. 1–38.
7.	Stranger, M., Maes, F., Goelen E., Nørgaard, A. W., Wolkoff, P., Ventura, G., Fernandes, E., Tolis, E., <b>Efthimiou, G.</b> , Kalimeri, K., Bartzis, J., Letzel, T., (2013). Quantification of the product emissions by laboratory testing, Part II: Results of product testing experiments, EPHECT Report WP6; 2013. p. 1–102.
8.	Carrer, P., Trantallidi, M., Dimitroulopoulou, S., <b>Efthimiou, G.</b> , Sakellaris, I., Bartzis, J., Wolkoff P., (2013). Report on the health risk associated with emissions from household use of selected consumer products, EPHECT Report WP7; 2013. p. 1–136..
9.	<b>Γεώργιος Ευθυμίου</b> , Αλέξανδρος Συράκος, Ιωάννης Γ. Μπάρτζης (2013), Αξιολόγηση του αναβαθμισμένου συστήματος, Αναβάθμιση και υποστήριξη του λογισμικού με τίτλο "Σύστημα Περιβαλλοντικής Διαχείρισης και Υποστήριξης Αποφάσεων" της Δ.Ε.Η.
10.	Ευθύμιος Τάγαρης, Αλέξανδρος Συράκος, <b>Γεώργιος Ευθυμίου</b> , Ιωάννης Γ. Μπάρτζης (2012), Βελτίωση απογραφής εκπομπών, Αναβάθμιση και υποστήριξη του λογισμικού με τίτλο

"Σύστημα Περιβαλλοντικής Διαχείρισης και Υποστήριξης Αποφάσεων" της Δ.Ε.Η.
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### 8.5. World-class scientific websites

No	Publications
1.	<b>George C. Efthimiou</b> (2018). Advanced Computational Fluid Dynamics modelling for the prediction of the dispersion of airborne materials from puff releases in complex urban environments, Science Trends, <a href="https://sciencetrends.com/advanced-computational-fluid-dynamics-modeling-for-the-prediction-of-the-dispersion-of-airborne-materials-from-puff-releases-in-complex-urban-environments/">https://sciencetrends.com/advanced-computational-fluid-dynamics-modeling-for-the-prediction-of-the-dispersion-of-airborne-materials-from-puff-releases-in-complex-urban-environments/</a> .

## 9. SCIENTIFIC REVIEWS

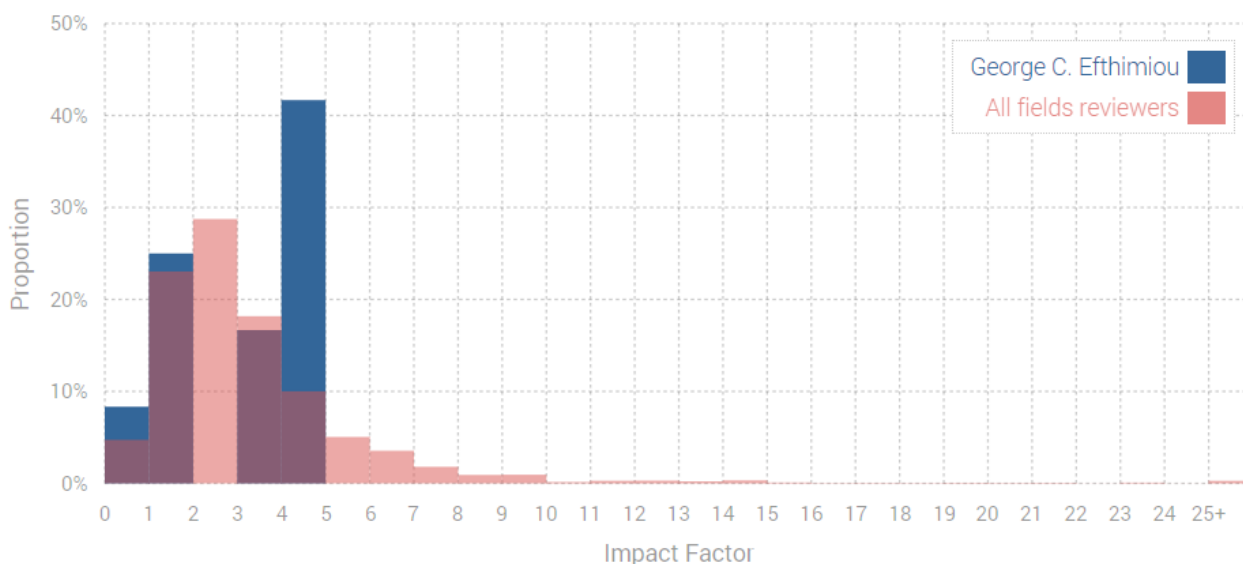
Dr Efthimiou reviews papers in scientific journals including:

- Atmospheric Environment;
- Journal of Wind Engineering and Industrial Aerodynamics;
- Journal of Hazardous Materials;
- Advances in Science and Research (ASR);
- Journal of Technology Innovations in Renewable Energy;
- Wind and Structures An International Journal;
- Building and Environment;
- Multidiscipline Modeling in Materials and Structures;
- Environmental Fluid Mechanics;
- Atmosphere;
- Sustainable Cities and Society;
- Process Safety and Environmental Protection;
- Geoscientific Model Development;
- International Journal of Environment and Pollution;
- IEEE Transactions on Control Systems Technology;
- The Open Atmospheric Science Journal;
- Applied Sciences;
- Fluid Mechanics Research International Journal;
- Science of the Total Environment;

- Heliyon;
- Meteorology and Atmospheric Physics;
- Journal of Loss Prevention in the Process Industries;
- Water;
- Energies;
- International Journal of Environmental Research and Public Health.

## Journal Impact Factors of journals reviewed for

The distribution of the Journal Impact Factors of journals you have reviewed for.



### 10. REVIEWS IN DISSERTATIONS

1. Hana Chaloupecká. Sudden release of toxic gas in built-up environment, Department of Atmospheric Physics, Faculty of Mathematics and Physics, Charles University, Prague 2019.

### 11. SKILLS

Computer Technology:

Operating systems:

Advanced user of MS Windows and Linux

Office applications:

Advanced user of Microsoft Office

Programming/math applications:

Advanced Knowledge of Fortran, Matlab, Bash script.

Ability to work with computer clusters and to perform high-performance computing using various compilers and two workload managers (Slurm and PBS).

Numerical Simulations:

Advanced experience in:

Commercial codes:

STAR-CD

In-house codes:

ADREA, ADREA-HF, ADREA-HF\_DA, DIPCOT, FLEXPART

Open-source codes:

MM5, WRF, SMOKE, CMAQ, HYSPLIT, WRF-Chem

Exposure models:

MIAQ, CONC-CPM, EMIS

Relative pre-processing tools:

DELTA\_B

Relative post-processing tools:

TECPLOT

CAD:

Programs: FreeCAD

Type of files: Shape, Stl, Iges

GIS:

Programs: QGIS

Collaboration:

Collaboration with Greek and non-Greek institutions (Germany, Italy, Belgium, Qatar, UK, China, Japan, France)

Teaching:

At Department of Mechanical Engineering, Aristotle University of Thessaloniki, Greece:

2019 – 2020 **Teaching assistant** for “Heat Transfer”

At Department of Mechanical Engineering, University of Western Macedonia, Greece:

2005 – 2014 **Teaching assistant** for “Numerical Analysis”

2005 – 2014 **Teaching assistant** for “Emissions and transport of airborne pollutants”

2007 – 2014 **Teaching assistant** for “Computational Mechanics”

Supervision of graduate students:

2012 – 2017 MSc students supervised: 4

Department of Mechanical Engineering, University of Western Macedonia, Greece:

1) Athanasia Iona (2014); Thesis Title: “Computational estimation of the pollutant concentration in a real office of the University of Western Macedonia”

2) Antonis Zgouros (2014); Thesis Title: “Mathematical simulation of the thermal comfort and indoor air quality in offices”

3) Varvara Mytilinou (2013); Thesis Title: “Mathematical simulation of the flow around a car”

N.C.S.R. Demokritos:

4) Iason Tsetoglou (2017); Thesis Title: “Prediction of the turbulent flow of two US Environmental Protection Agency wind tunnel experiments with the CFD-RANS methodology”

Contribution to PhDs

- 1) Eva Berbekar, 2016. Transient phenomena of scalar transport during accidental gas releases in urban environments, University of Hamburg.
- 2) Νεκτάριος Κουτσοουράκης, 2014. Τυρβώδης ροή και διασπορά ρύπων στο αστικό περιβάλλον, Τμήμα Μηχανολόγων Μηχανικών, Πανεπιστήμιο Δυτικής Μακεδονίας.
- 3) Denise Hertwig, 2013. On Aspects of Large-Eddy Simulation Validation for Near-Surface Atmospheric Flows, University of Hamburg.

## 12. PARTICIPATION IN SCIENTIFIC ACTIONS/JOURNALS/INVITED TALKS

- 2020: Review panel member of scientific proposals - National Council for Scientific Research (CNCS) and its Executive Agency for Higher Education Research Development and Innovation Funding (UEFISCDI), (<https://www.uefiscdi-direct.ro/>).
- 2016: Review panel member, Ministry of National Education and Scientific Research and its Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), (<https://www.brainmap.ro/>), Romania.
- Reviewing Editor of the journal “Experimental Results” of Cambridge University Press (<https://www.cambridge.org/core/journals/experimental-results/information/editorial-board>).
- Member of the Association of the Associated Postdoctoral-Researchers of the National Centre of Scientific Research "Demokritos".
- Guest Editor of the journal “Atmosphere”, Special Issue: CFD Modelling of Air Pollutant Dispersion and Inverse Source Reconstruction, ([https://www.mdpi.com/journal/atmosphere/special\\_issues/CFD\\_modelling](https://www.mdpi.com/journal/atmosphere/special_issues/CFD_modelling)).
- Guest Editor of the journal “International Journal of Environment and Pollution”.
- Member of the Network of Proposers of the COST Action Proposal OC-2017-1-22445 "Source Term Estimation for Hazardous Air Releases".
- Working member of COST Action 732 (Quality Assurance and Improvement of Micro-Scale Meteorological Models).
  - 2008: Short-term Scientific Mission, Torino, Italy, Host researcher: Dr Silvia Trini Castelli.
- Working member of COST Action ES1006 (Evaluation, improvement and guidance for the use of local-scale emergency prediction and response tools for airborne hazards in built environments).
  - 2013: Short-term Scientific Mission, Hamburg, Germany, Host researcher: Prof. Bernd Leitl.



- Working member of UDINEE (Urban Dispersion International Evaluation Exercise).
- Participation in the bilateral, Greece-German, programme IKYDA 2010
  - MODEX project (Modelling individual exposure from airborne hazardous releases)
- Invited talks:
  - Introduction to Computational Fluid Dynamics and Applications in Green Buildings, Summerschool, July 2013, UOWM, Kozani, Greece.
  - Emissions and Transport of Air Pollutants, Transboundary Pollution, Summerschool, July 2014, UOWM, Kozani, Greece.
  - Prediction of human exposure related parameters of hazardous airborne materials using CFD-RANS modelling, 21 July 2014, University of Reading, UK.
  - The Computational Fluid Dynamics as an emergency response tool in cases of airborne hazardous released agents (chemical, biological and radioactive) in urban and industrial environments, July 2015, NCSR Demokritos, Athens, Greece.
  - CFD-URANS modelling of turbulent flow, hygrothermal parameters and pollutant dispersion in real working environments, NANO-HVAC GA no: 314212 Novel Nano-enabled Energy Efficient and Safe HVAC ducts and systems contributing to a healthier indoor environment, 28th August 2015, Lavrio, Greece.
  - Statistical analysis of dynamical systems, Department of Mathematics, University of the Aegean, 23 November 2017, Athens, Greece.
  - Research activities in the past, present and future ideas and plans, Institute of Chemical Engineering Sciences (ICE-HT), 12 December 2017, Patra, Greece.
  - Applied physics, Department of Civil Engineering, University of Thessaly, 27 March 2018, Volos, Greece.
  - Research activities in the past, present and future ideas and plans, Department of Mechanics and Aerospace Engineering, Southern University of Science and Technology (SUSTech), 27 April 2018, Shenzhen, China.
  - Probabilities, Department of Mathematics, University of the Aegean, 11 June 2018, Athens, Greece.
  - Advanced modeling of Computational Fluid Mechanics for the prediction of the dispersion of airborne materials from instantaneous releases in complex urban environments, 53<sup>rd</sup> Summer School, 4 July 2018, NCSR DEMOKRITOS, Aghia Paraskevi, Greece.
  - Research activities in the past, present and future ideas and plans, Institute for Environmental Research and Sustainable Development (IERSD), National Observatory of Athens, 12 September 2018, Palea Penteli, Greece.
  - Research activities in the past and present, Physics Department, Department of Environmental Physics - Meteorology, National and Kapodistrian University of Athens, January 17, 2019, Zografou, Greece.

- Prediction of the Aspropyrgos populations' exposure to airborne material released from the solid waste landfill of the area, 11 February 2019, Aspropyrgos, Greece.

### 13. TRAINING/SEMINARS/SUMMER SCHOOLS

A/A	ORGANIZATION	COMPANY/UNIVERSITY/ INSTITUTE	DURATION OF PARTICIPATION	OBJECTIVE
1.	GRNET   Networking Research and Education	PRACE Training Center	13/3/2019 – 14/3/2019	Accelerator Programming-GPU programming using CUDA
2.	GRNET   Networking Research and Education	PRACE Training Center	11/12/2018 – 12/12/2018	Efficient Use of HPC Systems
3.	EducationalOrganizationAKMON SA	Educational OrganizationAKMON SA	18/10/2017 - 10/11/2017	Seminar“Autocad2D”
4.	National Technical University Of Athens	School of Chemical Engineering	10/7/2017 – 13/7/2017	Seminar: Large-Scale Scientific Calculations
5.	NCSR DEMOKRITOS	Athens, Greece	7/5/2015 – 8/5/2015	Seminar: Managementof radiological and nuclear incidentsfor first responders. Response to incidents of radioactive pollution old metals and other materials
6.	UNIVERSITY OF WESTERN MACEDONIA	DEPARTMENT OF MECHANICAL ENGINEERING	21/8/2014 – 23/8/2014	3 <sup>rd</sup> nek5000 Users and Developers Meeting

7.	NATIONAL CENTRE OF SCIENTIFIC RESEARCH	INSTITUTE OF NUCLEAR TECHNOLOGY – RADIATION PROTECTION SECTOR – Athens, Greece	28/9/2009 – 2/10/2009	Seminar: High-Performance Computing
8.	CORIA/OBS. DE LA CÔTE D'AZUR/PMMH - ESPCI	INSTITUT D'ÉTUDES SCIENTIFIQUES DE CARGESE - Cargèse, Corsica, France	13/8/2007 – 25/8/2007	Summer school: Small-scale turbulence: Theory, Phenomenology and Applications
9.	NATO-CMAS	NIMH – Sofia, Bulgaria	1/8/2007 – 10/8/2007	Summer school: Introduction to WRF, SMOKE and CMAQ
10.	PUBLIC POWER CORPORATION S.A. DEPARTMENT OF EDUCATION	OPERATION DEPARTMENT/THERMAL POWER STATION OF KARDIA – Kozani, Greece	5/7/2006 – 4/8/2006	Summer training: Study of the constructional data of the Thermal Power Station; Detailed study of functional data of the primary and auxiliary systems of the Thermal Power Station; Examination of the sequence of the transformation effects on fuels' chemical energy to electric; Control of the independence of all operations using telemetry
11.	MARATHON DATA SYSTEMS	MARATHON DATA SYSTEMS – Athens, Greece	14/6/2006- 16/6/2006	Seminar: Training in Geographical Information Systems

12.	HELLENIC ASSOCIATION OF CHEMICAL ENGINEERS	DEPARTMENT OF CENTRAL & WEST MACEDONIA – Kozani, Greece	3/6/2006	Participation of meeting: Energy and environment in Western Macedonia
13.	INSTITUTE OF SOLAR TECHNOLOGY	ARISTOTLE UNIVERSITY THESSALONIKI – Thessaloniki, Greece	29/3/2006 – 31/3/2006	Participation of conference: 8 <sup>th</sup> National Conference of the Renewable Energy Sources
14.	IAESTE	JKP NOVOSADSKA TOPLANA - Serbia, NoviSad	18/7/2005 – 5/9/2005	Summer training: Information about the process of production, distribution and delivery of thermal energy for heating and preparation of sanitary hot water
15.	ERCOFTAC	ARISTOTLE UNIVERSITY THESSALONIKI – Thessaloniki, Greece	5/9/2004 – 11/9/2004	Summer school: Large-Eddy Simulation (LES) of Reacting Flows
16.	OPERATIONAL PROGRAMME FOR EDUCATION AND INITIAL VOCATIONAL TRAINING	NATIONAL CENTER OF RESEARCH AND TECHNOLOGY DEVELOPMENT – Kozani, Greece	19/7/2004 – 27/8/2004	Summer training: Hydrogen Production using electrochemical techniques
17.	ARISTOTLE UNIVERSITY OF THESSALONIKI - RESEARCH COMMITTEE	ARISTOTLE UNIVERSITY OF THESSALONIKI – Thessaloniki, Greece	130 hours during September 2003	Seminar: Training in Informatics
18.	HELLENIC ASSOCIATION OF GRADUATED MECHANICAL / ELECTRICAL ENGINEERS	PERIPHERAL DEPARTMENT OF THE WESTERN MACEDONIA – Kozani, Greece	21/3/2002 – 23/3/2002	Participation of preconference: ENERGY 2002

#### 14. OTHER INTERESTS

- Volunteer at the pre-event of European Researchers night in 2016 at the NCSR Demokritos.

## 15. SELECTED RECOMMENDATIONS

- Ivan Kovalets: Head of Department  
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