CURRICULUM VITAE

PERSONAL INFORMATION

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EDUCATION

2005-2010: Diploma of Electrical and Computer Engineering (5-year program), Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece, with Grade: **7.93/10**.

2010-2014 PhD from the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece, with Grade: **EXCELLENT**.

THESIS

2010: Papadopoulos-Filelis Christos: "Development of Scientific Computing Software in Modern Computing Environments" (**in Greek**), Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece, September 2010, Diploma Dissertation, 170 pages, Grade: **EXCELLENT** (10/10).

2014: Papadopoulos-Filelis Christos: "A Study of Advanced Computational Methods: High Performance Generic Sparse Approximate Inverse Preconditioning and Multilevel Techniques", Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece, September 2014, PhD Thesis, 456 pages, Grade **EXCELLENT** (10/10), http://hdl.handle.net/10442/hedi/35177.

SCIENTIFIC PUBLICATIONS

A. INTERNATIONAL JOURNALS

1. **Natsiou A.A., Gravvanis G.A., Filelis-Papadopoulos C.K. and Giannoutakis K.M. (2023):** An Aggregation-Based Algebraic Multigrid Method with Deflation Techniques and Modified Generic Factored Approximate Sparse Inverses, Mathematics, 11, 640, https://doi.org/10.3390/math11030640.
2. **Filelis-Papadopoulos C.K., Kyziropoulos P.E., Morrison J.P., O'Reilly P. (2022)**: Modelling and forecasting based on recursive incomplete pseudoinverse matrices, Mathematics and Computers in Simulation, 197:358-376, https://doi.org/10.1016/j.matcom.2022.02.020.
3. **Giannoutakis K.M., Filelis-Papadopoulos C.K., Gravvanis G.A. and Tzovaras D. (2021):** On the Optimization of Self-Organization and Self-Management Hardware Resource Allocation for Heterogeneous Clouds. Computers. 2021; 10(11):147. https://doi.org/10.3390/computers10110147.
4. **Giannoutakis K.M., Filelis-Papadopoulos C.K., Gravvanis G.A. and Tzovaras D. (2021):** Evaluation of Self-Organizing and Self-Managing heterogeneous HPC clouds through discrete-time simulation, Concurrency and Computations: Practice and Experience, DOI: 10.1002/cpe.6326.
5. **Filelis-Papadopoulos C.K. (2021):** Incomplete Inverse Matrices, Numerical Linear Algebra with Applications, 1– 17, https://doi.org/10.1002/nla.2380.
6. **Lipitakis A.D., Filelis-Papadopoulos C.K., Gravvanis G.A. and Anagnostopoulos D. (2020):** A Note on Parallel Approximate Pseudoinverse Matrix Techniques for solving linear least squares problems, Journal of Computational Science (JoCS), 41:101092, https://doi.org/10.1016/j.jocs.2020.101092.
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8. **Moutafis B.E., Gravvanis G.A. and Filelis – Papadopoulos C.K. (2020):** Hybrid Multi-Projection Method using Sparse Approximate Inverses on GPU clusters, International Journal of High Performance Computing Applications, 34(3), 282–305. https://doi.org/10.1177/1094342020905637.
9. **Filelis-Papadopoulos C.K., Endo P.T., Lynn T., Byrne J., Giannoutakis K.M., Gravvanis G.A., Tzovaras D., Bendechache M. and Svorobej S. (2020):** Towards simulation and optimization of large virtual Content Distribution Networks, Journal of Computational Science (JoCS), 39:101052, https://doi.org/10.1016/j.jocs.2019.101052**.**
10. **Filelis-Papadopoulos C.K., Xiong H., Morrison J.P. (2019):** A Scalable and Adaptable Allocation Framework for Heterogeneous Resources in a Large Cluster Environment, Concurrency and Computations: Practice and Experience (CCPE), https://doi.org/10.1002/cpe.5564**.**
11. **Svorobej S., Endo P.T., Bendechache M., Filelis-Papadopoulos C.K., Giannoutakis K.M., Gravvanis G.A., Tzovaras D., Byrne J. and Lynn T. (2019):** Simulating Fog and Edge Computing Scenarios: an Overview and Research Challenges, Future Internet, 11(3), 55, https://doi.org/10.3390/fi11030055**.**
12. **Grylonakis E.N.G., Gravvanis G.A., Filelis-Papadopoulos C.K. and Fokas A.S. (2019):** A Parallel Unified Transform Solver based on Domain Decomposition for solving Linear Elliptic PDEs, Journal of Supercomputing, 75, 4947–4985, https://doi.org/10.1007/s11227-019-02772-2.

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15. **Tselepidis N.A., Filelis-Papadopoulos, C.K. and Gravvanis G.A. (2018):** Distributed algebraic tearing and interconnecting techniques, Numerical Algorithms, 82:809–842**,** https://doi.org/10.1007/s11075-018-0628-6**.**
16. **Moutafis B.E., Filelis – Papadopoulos C.K. and Gravvanis G.A. (2018):** Parallel Schur Complement Techniques based on Multi-Projection Methods, SIAM J. Sci. Comp. 40(4), C634 – C654, https://doi.org/10.1137/17M1141795.
17. **Grylonakis E-N.G., Filelis-Papadopoulos C.K., Gravvanis G.A. and Fokas A.S. (2018):** An adaptive complex collocation method for solving linear elliptic PDEs in regular convex polygons based on the Unified Transform, Numerical Mathematics: Theory, Methods and Application 12(2):348-369, https://doi.org/10.4208/nmtma.OA-2018-0017.
18. **Grylonakis E.N.G., Filelis-Papadopoulos C.K. and Gravvanis G.A. (2018):** A class of unified transform techniques for solving linear elliptic PDEs in convex polygons, Applied Numerical Mathematics 129, 159-180, https://doi.org/10.1016/j.apnum.2018.03.007**.**
19. **Kyziropoulos P.E., Filelis-Papadopoulos C.K. and Gravvanis G.A. (2018):** A class of Symmetric Factored Approximate Inverses and Hybrid Two-Level Solver, International Journal of Computational Methods, 16(5), 1850050, 17 pages, https://doi.org/10.1142/S0219876218500500**.**
20. **Filelis-Papadopoulos C.K., Giannoutakis K.M., Gravvanis G.A. and Tzovaras D. (2018),** Large-Scale Simulation of a Self-Organising Self-Management Cloud Computing Framework, Journal of Supercomputing, 74(2), 530-550, https://doi.org/10.1007/s11227-017-2143-2.
21. **Kyziropoulos P.E., Filelis-Papadopoulos C.K., Gravvanis G.A. and Efthymiopoulos C. (2018):** Toward the design of a novel hybrid parallel N-body method in scope of modern cloud architectures**,** Journal of Supercomputing, 74(2), 569-591, https://doi.org/10.1007/s11227-017-2140-5**.**
22. **Filelis-Papadopoulos C.K., Gravvanis G.A. and Kyziropoulos P.E. (2018):** A framework for simulating large scale cloud infrastructures, Future Generation Computer Systems (FGCS), 79, 703-714, http://dx.doi.org/10.1016/j.future.2017.06.017.
23. **Grylonakis E.-N. G., Filelis-Papadopoulos C.K., Gravvanis G.A. (2017):** A hybrid method for solving inhomogeneous elliptic PDEs based on Fokas method, Computational Methods in Applied Mathematics (CMAM), 18(4), 653-672, https://doi.org/10.1515/cmam-2017-0053.
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32. **Kyziropoulos P., Filelis-Papadopoulos C.K. and Gravvanis G.A. (2015):** Parallel N-body simulation based on the PM and P3M methods using multigrid schemes in conjunction with generic approximate sparse inverses, Mathematical Problems in Engineering, vol. 2015, Article ID 450980, 12 pg, 2015, http://doi.org/10.1155/2015/450980**.**
33. **Gravvanis G.A., Filelis-Papadopoulos C.K. and Matskanidis P.I. (2014):** Algebraic multigrid methods based on generic approximate banded inverse matrix techniques, Computer Modeling in Engineering and Sciences (CMES), 100(4), 323-345, http://doi.org/10.3970/cmes.2014.100.323**.**
34. **Gravvanis G.A., Filelis-Papadopoulos C.K. (2014)**: Distributed generic approximate sparse inverses, Journal of Supercomputing 70, 365-384, https://doi.org/10.1007/s11227-014-1249-z.
35. **Filelis-Papadopoulos C.K., Gravvanis G.A. and Lipitakis E.A. (2014):** On the numerical modeling of convection–diffusion problems by finite element multigrid preconditioning method, Advances in Engineering Software 68, 56-69, https://doi.org/10.1016/j.advengsoft.2013.12.002.
36. **Filelis-Papadopoulos C.K. and Gravvanis G.A. (2014):** Parallel Multigrid Algorithms based on Generic Approximate Sparse Inverses: An SMP approach, The Journal of Supercomputing 67, 384-407, https://doi.org/10.1007/s11227-013-1006-8.
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39. **Filelis-Papadopoulos C.K. and Gravvanis G.A. (2013):** On the multigrid method based on finite difference approximate inverses, Computer Modeling in Engineering and Sciences (CMES) 90(3), 233-253, http://doi.org/10.3970/cmes.2013.090.232.

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41. **Filelis-Papadopoulos C.K., Gravvanis G.A., Matskanidis P.I. and Giannoutakis K.M. (2011):** On the GPGPU parallelization issues of finite element approximate inverse preconditioning, Journal of Computational and Applied Mathematics 236(3), 294-307, https://doi.org/10.1016/j.cam.2011.07.016.
42. **Gravvanis G.A., Filelis-Papadopoulos C.K. and Giannoutakis K.M. (2011):** Solving finite difference linear systems on GPUs: CUDA based Parallel Explicit Preconditioned Biconjugate Conjugate Gradient type Methods, Journal of Supercomputing 61, 590-604, http://doi.org/10.1007/s11227-011-0619-z.

B. PROCEEDINGS OF INTERNATIONAL CONFERENCES (with referees)

1. **Filelis-Papadopoulos C.K., Morrison J.P., O'Reilly P. (2022)**: GPU Accelerated Modelling and Forecasting for Large Time Series. In Computational Science – ICCS 2022: 22nd International Conference, London, UK, June 21–23, 2022, Proceedings, Part III. Springer-Verlag, Berlin, Heidelberg, 398–412. https://doi.org/10.1007/978-3-031-08757-8_33.
2. **Filelis-Papadopoulos C.K., Kyziropoulos P.E., Morrison J.P., O'Reilly P. (2021)**: Parallel frequency detection and modeling of large time series based on block recurrent pseudoinverse matrices, PDPTA'21- The 27th Int'l Conf on Parallel and Distributed Processing Techniques and Applications, **accepted**.
3. **Lipitakis A.D., Gravvanis G.A., Filelis-Papadopoulos C.K., Anagnostopoulos D. (2021):** A Note on the Sensitivity of Generic Approximate Sparse Pseudoinverse Matrix for Solving Linear Least Squares Problems. In: Arabnia H.R. et al. (eds) Advances in Parallel & Distributed Processing, and Applications. Transactions on Computational Science and Computational Intelligence. Springer, Cham. https://doi.org/10.1007/978-3-030-69984-0_21
4. **Filelis-Papadopoulos C.K., Kyziropoulos P.E., Morrison J.P., O'Reilly P. (2021)**: Modelling and Forecasting Based on Recurrent Pseudoinverse Matrices. In: Paszynski M., Kranzlmüller D., Krzhizhanovskaya V.V., Dongarra J.J., Sloot P.M. (eds) Computational Science – ICCS 2021. ICCS 2021. Lecture Notes in Computer Science, vol 12745, pp 229-242. Springer, Cham. https://doi.org/10.1007/978-3-030-77970-2_18.
5. **O'Leary K., O'Reilly P., Nagle T., Filelis-Papadopoulos C.K. and Dehghani M. (2021):** The Sustainable Value of Open Banking: Insights from an Open Data Lens Open Data as a Research Lens. In: Proceedings of Hawaii International Conference on System Sciences (HICSS-54), January 4-9, 2021, pp. 5891 - 5901.
6. **Giannoutakis K.M., Spathoulas G., Filelis-Papadopoulos C.K., Collen A., Anagnostopoulos M., Votis K. and Nijdam N. (2020):** A Blockchain Solution for Enhancing Cybersecurity Defence of IoT. In: 2020 International Workshop on Recent Advances of Blockchain Technologies for Cybersecurity (BlockCybersec) - 2020 International Workshop on Recent Advances of Blockchain Technologies for Cybersecurity, Rhodes Island, Greece, 2-6 November, 2020, pp. 490 - 495**.**
7. **Lipitakis A.D., Filelis-Papadopoulos C.K., Gravvanis G.A. and Anagnostopoulos D. (2020):** A Class of Generic Approximate Sparse Pseudoinverse Matrix Techniques based on Incomplete QR Factorization, The 2020 International Conference on Computational Science and Computational Intelligence (CSCI), December 16-18, 2020, Las Vegas, USA, pp**.** 1341-1347, DOI 10.1109/CSCI51800.2020.00250**.**

8. **Salamanis A.I, Gravvanis G.A., Filelis-Papadopoulos C.K. and Michail D. (2020):** Benchmark Comparison of Methods for Approximate Neighborhood Estimation of Road Segments in Large-Scale Traffic Networks, In Proceedings of the 24th Pan-Hellenic Conference on Informatics, PCI '20, in Athens, Greece, from 20 - 22 November, 2020, pp. 295-300.
9. **Salamanis A.I, Gravvanis G.A., Filelis-Papadopoulos C.K. and Tzovaras D. (2020):** An Efficient Method for Accelerating Training of Short-Term Traffic Prediction Models in Large-Scale Traffic Networks, In Proceedings of the 24th Pan-Hellenic Conference on Informatics, PCI '20, in Athens, Greece, from 20 - 22 November, 2020, pp. 289-294.
10. **Endo P.T., Loomba R., Quinn R., Filelis-Papadopoulos C.K., Giannoutakis K., Gravvanis G.A., Tzovaras D., Willis P., Svorobej S., Byrne J. and Lynn T. (2019):** Analyzing Resource Distribution over a Real-World Large-Scale Virtual Content Infrastructure, IEEE Symposium on Computers and Communications ISCC 2019, June 29 – July 3, 2019, Barcelona, Spain, pp. 1-7, doi: 10.1109/ISCC47284.2019.8969755**.**
11. **Endo P.T., Filelis-Papadopoulos C., Svorobej S., Gourinovitch A., Giannoutakis K., Gravvanis G., Tzovaras D., Manimaran Elango D., Byrne J. and Lynn T. (2018):** RECAP (Reliable Capacity Provisioning and Enhanced Remediation for Distributed Cloud Applications): The Simulation Approach, 7th European Conference on Service – Oriented and Cloud Computing 2018 (ESOCC 2018), 12 – 14 September 2018, Como, Italy, pp. 219-225**.**
12. **Makaratzis A.T., Filelis-Papadopoulos C.K., Giannoutakis K.M., Gravvanis G.A. and Tzovaras D. (2017):** A comparative study of CPU power models for cloud simulation frameworks, In Proceedings of the 21th Pan-Hellenic Conference on Informatics, PCI '17, Larisa, Greece, ACM, pp. 10:1 – 10:6, doi: 10.1145/3139367.3139409.
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15. **Xiong H., Dong D., Filelis-Papadopoulos C.K., Castane G.G., Lynn T., Marinescu D.C and Morrison J. (2017):** CloudLightning: a Self-Organized Self-Managed Heterogeneous Cloud, Proceedings of the 2017 Federated Conference on Computer Science and Information Systems, FedCSIS 2017, Prague, Czech Republic, September 3-6, 2017, (M. Ganzha and L. Maciaszek and M. Paprzycki eds), ACSIS, pp. 749–758, DOI: 10.15439/2017F274.
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26. **Pavlidou F.L., Safigianni A.S., Filelis-Papadopoulos C.K., Gravvanis G.A., Nikolaidis V.C. (2014):** Distributed generation influence on a network voltage profile, Conference Proceedings of The 9th Mediterranean Conference on Power Generation,

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27. **Grylonakis E-N.G, Filelis-Papadopoulos C.K., Gravvanis G.A. (2014):** Higher order finite difference scheme for solving 3D Black-Scholes equation based on generic factored approximate sparse inverse preconditioning using reordering schemes, 18th Panhellenic Conference on Informatics (**PCI 2014),** ACM, 2014, ISBN 978-1-4503-2897-5, https://doi.org/10.1145/2645791.2645821.
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30. **Grylonakis E.N.G, Filelis-Papadopoulos C.K., Gravvanis G.A. (2014):** On the numerical modelling and solution of multi-asset Black-Scholes equation based on Generic Approximate Sparse Inverse Preconditioning, NUMAN2014 Conference Proceedings, Recent Approaches to Numerical Analysis: Theory, Methods and Applications, Akrivis G., Dougalis V., Gallopoulos S., Hadjidimos A., Kotsireas I., Makridakis C., Saridakis Y. (editors), p.129-133.
31. **Kyziropoulos P., Filelis-Papadopoulos C.K. and Gravvanis G.A. (2013):** N-body simulation based on the Particle Mesh method using Multigrid schemes, Proceedings of the 2013 Federated Conference on Computer Science and Information Systems (FedCSIS 2013), 6th Computer Aspects of Numerical Algorithms (CANA 2013), p. 471-478, IEEE Computer Society Press.
32. **Gravvanis G.A., Filelis-Papadopoulos C.K. and Lipitakis E.A. (2013):** On numerical modeling performance of generalized preconditioned methods, Proceedings of the Sixth Balkan Conference in Informatics (BCI 2013), C.K. Georgiadis, P. Kefalas and D. Stamatis (Eds.), ACM, pp.23-30, https://doi.org/10.1145/2490257.2490266.
33. **Karamouta A., Filelis-Papadopoulos C.K., Gravvanis G.A. and Chrysomallis M.T. (2012):** On the numerical modelling and solution of a time harmonic 3D wave equation by explicit approximate inverse preconditioning, Proceedings 2012 Panhellenic Conference on Informatics (PCI 2012), eds. D.D. Vergados and C. Lambrinoudakis, pp. 223-227, IEEE Computer Society, http://doi.org/10.1109/PCi.2012.13.
34. **Gravvanis G.A., Filelis-Papadopoulos C.K. and Lipitakis E.A. (2012):** A note on the comparison of a class of preconditioned iterative methods, Proceedings 2012 Panhellenic Conference on Informatics (PCI 2012), eds. D.D. Vergados and C. Labrinoudakis, pp. 204-210, IEEE Computer Society, http://doi.org/10.1109/PCi.2012.12.
35. **Filelis-Papadopoulos C.K. and Gravvanis G.A. (2012):** A Multigrid method using explicit approximate inverses for the numerical solution of 2D time-dependent problems, Proceedings of the Eighth International Conference on Engineering Computational Technology 2012, B.H.V. Topping (editor), Civil-Comp Press, Stirlingshire, United Kingdom, (paper 89, 2012. http://doi.org/10.4203/ccp.100.89).
36. **Filelis-Papadopoulos C.K., Gravvanis G.A. and Lipitakis E.A. (2011):** Higher order Finite Difference Preconditioned Scheme: A multithreaded approach, Proceedings 2011

Panhellenic Conference on Informatics (PCI 2011), eds. P. Angelidis and A. Michalas, pp. 253-258, IEEE Computer Society, http://doi.org/10.1109/PCI.2011.9.

37. **Gravvanis G.A., Filelis-Papadopoulos C.K., Giannoutakis K.M. and Lipitakis E.A. (2010):** Approximate Inverse Preconditioning using POSIX threads on multicore systems, Conference Proceedings NumAn 201**0** - Recent Approaches to Numerical Analysis: Theory, Methods and Applications, eds: V. Dougalis, E. Gallopoulos, A. Hadjidimos, I.S. Kotsireas, D. Noutsos, Y.G. Saridakis, M.N. Vrahatis, pp. 93-99, ISBN: 978-960-8475-14-4.

C. BOOK CHAPTERS

1. **Giannoutakis K.M., Spanopoulos-Karalexidis M., Filelis Papadopoulos C.K., Tzovaras D. (2020):** Next Generation Cloud Architectures. In: Lynn T., Mooney J., Lee B., Endo P. (eds) The Cloud-to-Thing Continuum. Palgrave Studies in Digital Business & Enabling Technologies. Palgrave Macmillan, Cham, pp. 22-39. https://doi.org/10.1007/978-3-030-41110-7_2.
2. **Spanopoulos-Karalexidis M., Filelis-Papadopoulos C.K., Giannoutakis K.M., Gravvanis G.A., Tzovaras D., Bendechache M., Svorobej S., Endo P.T. and Lynn T. (2020):** Simulating across Cloud-to-Edge Continuum continuum (Chapter 5). In: Lynn T., Mooney J., Domaschka J., Ellis K. (eds) Managing Distributed Cloud Applications and Infrastructure: A Self-Optimising Approach, pp. 93-115**,** https://doi.org/10.1007/978-3-030-39863-7_5**.**
3. **Gravvanis G.A., Salamanis A. and Filelis-Papadopoulos C.K. (2018):** Advanced machine learning methods for traffic forecasting in the era of big data, MACHINE LEARNING PARADIGMS – Advances in Data Analytics (eds. G.A. Tsihrintzis, D. Sotiropoulos and L.C. Jain), Springer, INTELLIGENT SYSTEMS REFERENCE LIBRARY bookseries, pp. 199-232, https://doi.org/10.1007/978-3-319-94030-4_9.
4. **Xiong H., Filelis-Papadopoulos C.K., Castane G.G., Dong D. and Morrison J.P. (2018):** Self-Organising, Self-Managing Frameworks and Strategies (Chapter 3), In Advances in Cloud Computing: Heterogeneity, High Performance Computing and Self-Organization, Open Access Book (Lynn, Theo, Morrison, John, Kenny, David (Eds.)), Palgrave-Macmillan, ISBN 978-3-319-76038-4, doi: 10.1007/978-3-319-76038-4_3, pp. 63-88.
5. **Filelis-Papadopoulos C.K., Giannoutakis K.M., Gravvanis G.A., Kouzinopoulos C.S., Makaratzis A.T., Tzovaras D. (2018):** Simulating Heterogeneous Clouds at Scale (Chapter 5), In Advances in Cloud Computing: Heterogeneity, High Performance Computing and Self-Organization, Open Access Book (Lynn, Theo, Morrison, John, Kenny, David (Eds.)), Palgrave-Macmillan, ISBN 978-3-319-76038-4, doi: 10.1007/978-3-319-76038-4_6, pp. 119-150.
6. **Xiong H., Filelis-Papadopoulos C.K., Dong D., Castane G.G., Meyer S. and Morrison J.P. (2018):** Energy Efficient Servers and Cloud. In Hardware Accelerators in Data Centers (C. Kachris, B. Falsafi, D. Soudris eds.), Chapter 9, 163-180, Springer International Publishing AG, https://doi.org/10.1007/978-3-319-92792-3_9.
7. **Gravvanis G.A., Moutafis B.E., Papadopoulos-Filelis C.K. and Theodosiou H.G. (2017):** Parallel Semi-aggregation techniques for solving Parabolic Partial Differential Equations, Advances in Parallel, Distributed, Grid and Cloud Computing for Engineering, P. Ivanyi, B.H.V. Topping and G. Varady (eds), pp. 157-182, Saxe-Coburg Publications. **Invited half-hour review lecture.** The Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering (PARENG 2017), Pecs, Hungary, 30th-31st May, 2017.

8. **Gravvanis G.A., Kyziropoulos P.E., Filelis-Papadopoulos C.K. and Efthymiopoulos C. (2015):** Parallel N-body Particle Mesh Type Methods Based on Domain Decomposition and the Multigrid Method, Computational Science, Engineering and Technology Series 36, B.H.V. Topping and P. Ivanyi (eds), pp. 133-162, Saxe-Coburg Publications. **Invited half-hour review lecture**, The Fourth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering (PARENG 2015), 24-27 March 2015, Dubrovnik, Croatia.
9. **Gravvanis G.A. and Filelis-Papadopoulos C.K. (2014):** On a class of inexact type methods based on generic approximate sparse inverses multigrid method for solving nonlinear partial differential equations, Computational Methods for Engineering Technology, Computational Science, Engineering and Technology Series 35, B.H.V. Topping and P. Ivanyi (eds), pp. 191-221, Saxe-Coburg Publications. **Invited half-hour review lecture,** The Ninth International Conference on Engineering Computational Technology 2014 (ECT2014), 2-5September 2014, Naples, Italy.
10. **Gravvanis G.A., Filelis-Papadopoulos C.K. and Matskanidis P.I. (2013):** A survey on the parallelization issues of geometric and algebraic multigrid methods based on generic banded approximate inverses, Computational Technology reviews vol. 7, B.H.V. Topping and P. Ivanyi (eds), pp. 65-98, Saxe-Coburg Publications. **Invited half-hour review lecture**, The Third International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering (PARENG 2013), 25-27 March 2013, Pecs, Hungary.
11. **Gravvanis G.A., Filelis-Papadopoulos C.K. and Giannoutakis K.M. (2011):** Parallel Approximate Inverse Preconditioning using the Finite Difference Method: The General Purpose Graphics Processing Units approach, Trends in Parallel, Distributed, Grid and Cloud Computing for Engineering, P. Ivanyi and B.H.V. Topping (eds), pp. 291-319, Computational Science, Engineering and Technology Series: 27, Saxe-Coburg Publications. **Invited half-hour special review lecture**, The Second International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering (PARENG 2011), 12-15 April 2011, Ajaccio, Corsica, France.

D. SCIENTIFIC STUDENT CONFERENCES (with referees)

1. **Malliou C., Vasileiou I., Filelis-Papadopoulos C.K. and Gravvanis G.A. (2013):** On the parallelization issues of geometric multigrid methods for large sparse linear systems, Proceedings of the 6th Student's Conference of Electrical and Computer Engineering (ECESCON), pp. 174-179.

E. BOOKS

1. **Gravvanis G.A., Giannoutakis K.M. and Papadopoulos – Filelis C.K. (2012):** Programming Modern Computer Systems: OpenMP, MPI, POSIX Threads, CUDA. Papasotiriou Publishing, ISBN: 978-960-491-058-8 (**in Greek**).

F. INVITED LECTURES

1. **Filelis-Papadopoulos C.K (2020):** Simulating and Optimizing large vCDN Networks. University of Trento, Department of Computer Science, Italy. May 18, 2020.
2. **Filelis-Papadopoulos C.K. (2020):** Leveraging Cloud, Big Data and ML for FX and Treasury applications, Beyond the Hype: Investment-AI and Machine Learning. Warwick Business School. Friday (3rd April 2020) and Monday (6th April 2020).

3. **Filelis-Papadopoulos C.K., Gravvanis G.A. and Kyziropoulos P.E. (2017):** HPC in the Cloud: Scientific computations and simulation, The Sixth National Conference on Cloud Computing and Commerce (NC4), The Helix, DCU, Dublin, 11th April 2017.
4. **Filelis-Papadopoulos C.K. (2016):** Simulating Heterogeneous Resources in Cloud Computing, The Fifth National Conference on Cloud Computing and Commerce (NC4), The Helix, DCU, Dublin, 12th April 2016.

G. PUBLICATIONS SUBMITTED IN INTERNATIONAL JOURNALS AND CONFERENCES

1. **Filelis-Papadopoulos C.K., Kirshner S.N. and O'Reilly P. (2021):** Forecasting with Limited Data: Predicting Aircraft CO2 Emissions following COVID-19, **submitted.**

H. TECHNICAL REPORTS - DELIVERABLES

1. **Christos Filelis-Papadopoulos, Panagiotis Kyziropoulos, Rocio Isabel-Paez, Adrian Spataru and John Morrison (2022):** D4.1/4.2 Functional Prototypes Design Report, FINTECHNEXT, University College Cork.
2. **Christos Filelis-Papadopoulos, Panagiotis Kyziropoulos, Rocio Isabel-Paez, John O'Brien, Mark Hutchinson, John Morrison and Phil O'Reilly (2022):** D3.3.1 Algorithm Design, Development and Evaluation included in annual report, FINTECHNEXT, University College Cork.
3. **Christos Filelis-Papadopoulos, Panagiotis Kyziropoulos, Rocio Isabel-Paez and John Morrison (2022):** D3.2 FINTECHNEXT Design Report, including API spec, FINTECHNEXT, University College Cork.
4. **Panagiotis Kyziropoulos, Christos Filelis-Papadopoulos and John Morrison (2021):** D3.1 Define Emerging Disruptive Technologies for Supporting Novel Business Processes, FINTECHNEXT, University College Cork.
5. **Christos Filelis-Papadopoulos, Panagiotis Kyziropoulos and John Morrison (2021):** D2.2 Disruptive Technology Alignment Study Report, FINTECHNEXT, University College Cork.
6. **Tobias Becker, Gabriel Gonzalez-Castañe, Perumal Kuppuudaiyar, Malik Muhammad Zaki Murtaza Khan, Konstantinos Giannoutakis, Christos Filelis-Papadopoulos and Adrian Spataru (2018)**: D3.3.1 Evaluation Report, CloudLightning, Democritus University of Thrace.
7. **Christos Filelis-Papadopoulos, Konstantinos Giannoutakis, Antonis Makaratzis, George Gravvanis, George Sikotidis and Panagiotis Kyziropoulos (2017)**: D7.3.1 Simulation Report, CloudLightning, Democritus University of Thrace.
8. **Konstantinos Giannoutakis, Georgios Sikotidis, Charalampos Kouzinopoulos, Christos Filelis-Papadopoulos, George Gravvanis and Panagiotis Kyziropoulos (2017)**: D7.2.1 Large scale modelling and simulation framework, CloudLightning, Democritus University of Thrace.
9. **Christos Filelis-Papadopoulos, George Gravvanis, Panagiotis Kyziropoulos, Konstantinos Giannoutakis, Georgios Sikotidis and Charalampos Kouzinopoulos (2017)**: D7.1.1 Large scale modelling and simulation framework, CloudLightning, Democritus University of Thrace.
10. **John Morrison, Christos Filelis-Papadopoulos, Huanhuan Xiong, Adrian Spătaru, Gabriel Castañe, Dapeng Dong (2016):** D4.2.1: Local Decision Strategies, CloudLightning, University College Cork.

11. **John Morrison, Christos Filelis-Papadopoulos, Huanhuan Xiong, Adrian Spătaru, Dapeng Dong, Gabriel Castañe (2016):** D4.3.1: Coalition Formation, CloudLightning, University College Cork.
12. **Tobias Becker, Georgi Gaydadjiev, Perumal Kuppuudaiyar, Anne C. Elster, Malik M. Khan, George Gravvanis, Christos Papadopoulos-Filelis, Theo Lynn, David Kenny (2015):** D2.1.1: Use Case Requirements, CloudLightning, Democritus University of Thrace.
13. **Anne C. Elster, George A. Gravvanis,, Perumal Kuppuudaiyar, George A. Gravvanis, Malik M. Khan, Eleftherios-Nektarios, G. Grylonakis, Panayiotis E. Kyziropoulos, Christos K. Papadopoulos-Filelis, Surya Narayanan (2015)**: D6.1.1: Resource Characterization Report, CloudLightning, Democritus University of Thrace.

EDITORIALS

1. **Guest Editors: G.A. Gravvanis, J.P. Morrison, D.C. Marinescu and C.K. Filelis-Papadopoulos**, Special Issue on "Towards High Performance Computing in the Cloud", The Journal of Supercomputing, 74(2), 527-529**.**
2. **Guest Editors: G.A. Gravvanis, J.P. Morrison, Dana Petcu, Theo Lynn and C.K. Filelis-Papadopoulos**, Special Issue on "Recent Trends in Cloud Computing" Future Generation Computer Systems, 79(2), 700-702.

SPECIAL ISSUES OF INTERNATIONAL JOURNALS

1. **Guest Editors: G.A. Gravvanis, J.P. Morrison, D.C. Marinescu and C.K. Filelis-Papadopoulos, 2018,** Special Issue on "Towards High Performance Computing in the Cloud", The Journal of Supercomputing, 74(2), 527-664**.**
2. **Guest Editors G.A. Gravvanis, J.P. Morrison, D. Petcu, Theo Lynn and C.K. Filelis-Papadopoulos, 2018,** Special Issue on "Recent Trends in Cloud Computing" Future Generation Computer Systems, 79(2), 700-775.

INVENTION DISCLOSURE FORMS

1. **FX / Treasury Internal Liquidity Pool**: Professor Philip O'Reilly, Professor Mark Hutchinson, Professor John Morrison, Dr. Panagiotis E Kyziropoulos, Dr. Christos Papadopoulos-Filelis, Dr. John O'Brien, Dr. Tripti Sharma, Dr. Milad Dehghani, Dr. Kevin O'Leary, Dr. Dionysios Karavidas, 18/SP/3459, 20-066, 29/06/2020.
2. **FinTechNext Forecasting Engine:** Professor Philip O'Reilly, Professor Mark Hutchinson, Professor John Morrison, Dr. Christos Papadopoulos-Filelis, Dr. Panagiotis E Kyziropoulos, Dr. John O'Brien, Dr. Tripti Sharma, Dr. Milad Dehghani, Dr. Kevin O'Leary, Dr. Dionysios Karavidas, 18/SPP/3459, 20-067, 06/07/2020.
3. **FinTechNext Tokenization Platform:** Professor Philip O'Reilly, Professor Mark Hutchinson, Professor John Morrison, Dr. Christos Papadopoulos-Filelis, Dr. Kevin O'Leary, Dr. Panagiotis E Kyziropoulos, Dr. Tripti Sharma, Dr Nikiforos Panourgias, Dr. Milad Dehghani, Dr. Dionysios Karavidas, Dr. John O'Brien, Dr Tadhg Nagle, Mr Jeremy Hayes, 18/SPP/3459, 21-023, EI identifier: 2021-UCC-022-I, 06/04/2021**.**

CITATIONS

Google Scholar (4/1/2023)	Citations: 560 h-index: 11 i10-index: 14
Scopus (4/1/2023)	Citations: 398 Citations excl. self-citations of all authors: 224 h-index: 10

PARTICIPATION AS A REFEREE FOR INTERNATIONAL JOURNALS AND CONFERENCES

1. Reviewer, Mathematics, MDPI, International Journal.
2. Reviewer, Signal Processing, Elsevier, International Journal.
3. Reviewer, Algorithms, MDPI, International Journal.
4. Reviewer, Journal of Cloud Computing: Advances Systems and Applications (JoCCASA), International Journal.
5. Reviewer, AMS Mathematical Reviews.
6. Reviewer, ACM Transactions on Mathematical Software, International Journal.
7. Reviewer, Inverse Problems in Science & Engineering, International Journal.
8. Reviewer, Advances in Engineering Software (ADES), International Journal.
9. Reviewer, Journal of Computational Science (JoCS) , International Journal.
10. Reviewer, Central European Journal of Engineering (CEJE), International Journal.
11. Reviewer, Future Generation Computer Systems (FGCS), International Journal.
12. Reviewer, Concurrency and Computations: Practice and Experience (CCPE), International Journal.
13. Reviewer, Journal of Supercomputing (SUPE), International Journal.
14. Reviewer, Simulation Modelling: Practice and Theory (SIMPAT), International Journal.
15. Reviewer, 8th Workshop on Computer Aspects of Numerical Algorithms (CANA'15), Federated Conference on Computer Science and Information Systems (FedCSIS), International Conference.
16. Reviewer, 18th IEEE International Workshop on Parallel and Distributed Scientific and Engineering Computing (PDSEC 2017), International Conference.
17. Reviewer, The 2nd Workshop on Financial Technology on the Web (FinWeb), in conjunction with The Web Conference 2022 at April 25 (CET), 2022, Online.
18. Reviewer, International Conference on Computational Science: ICCS 2022, London, United Kingdom, 21-23 June, 2022, International Conference.
19. Reviewer, International Conference on Computational Science: ICCS 2021, Krakow, Poland, 16-18 June, 2021, International Conference.
20. Reviewer, International Conference on Computational Science: ICCS 2020, Amsterdam, Netherlands, 3-5 June, 2020, International Conference.
21. Reviewer, International Conference on Computational Science: ICCS 2019, Faro, Algarve, Portugal, 12-14 June, 2019, International Conference.
22. Reviewer, International Conference on Computational Science: ICCS 2018, Wuxi, China, 11-13 June, 2018, International Conference.
23. Reviewer, International Conference on Computational Science: ICCS 2017, Zurich, Switzerland, 12-14 June, 2017, International Conference.
24. Reviewer, International Conference on Computational Science: ICCS 2016, San Diego, California, U.S.A., 6-8 June, 2016, International Conference.

REFEREE IN PROJECTS

1. **Project:** "Funding scheme PRELUDIUM, Finite Element Modeling in Cyber-Physical Systems, mgr inż. Waldemar Mucha, No. 336857, Panel ST8", National Science Centre (Narodowe Centrum Nauki - NCN; http://www.ncn.gov.pl).

PARTICIPATION IN PROGRAM COMMITTEES OF INTERNATIONAL CONFERENCES

1. Program Committee Member of the The 2nd Workshop on Financial Technology on the Web (FinWeb), in conjunction with The Web Conference 2022 at April 25 (CET), 2022, Online.
2. Program Committee Member of the International Conference on Computational Science: ICCS 2022, London, United Kingdom, 21-23 June, 2022, International Conference.
3. Program Committee Member of the International Conference on Computational Science: ICCS 2021, Krakow, Poland, 16-18 June, 2021, International Conference.
4. Program Committee Member of the International Conference on Computational Science: ICCS 2020, Amsterdam, Netherlands, 3-5 June, 2020.
5. Program Committee Member of the International Conference on Computational Science: ICCS 2019, Faro, Algarve, Portugal, 12-14 June, 2019.
6. Program Committee Member of the International Conference on Computational Science: ICCS 2018, Wuxi, China, 11-13 June, 2018.
7. Program Committee Member of the International Conference on Computational Science: ICCS 2017, Zurich, Switzerland, 12-14 June, 2017.
8. Program Committee Member of the International Conference on Computational Science: ICCS 2016, San Diego, California, U.S.A., 6-8 June, 2016.

PROFESSIONAL EXPERIENCE

2011-2013: Supervision and maintenance of Computer Labs 1 and 2 as an administrator at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace (PN 1077, PN 2107) from 1/2/2011 – 31/1/2013.

2012-2019 Professional Experience as a Freelancer Electrical and Computer Engineer (19/04/2012 – 30/9/2019).

PROJECTS (EUROPEAN and Other) – RESEARCH LEADERSHIP

2015-2016: Participation to the European Project CLOUDLIGHTNING funded by the H2020 - The Framework Programme for Research and Innovation (2014-2020) with title "Self-Organising, Self-Managing Heterogeneous Cloud – CloudLightning" at the Democritus University of Thrace, School of Engineering, Department of Electrical and Computer Engineering, Xanthi, Greece with Scientific Responsible: Professor George A. Gravvanis from 1/2/2015 to 30/6/2016.

2016	Participation to the European Project CLOUDLIGHTNING funded by the H2020 - The Framework Programme for Research and Innovation (2014-2020) with title "Self-Organising, Self-Managing Heterogeneous Cloud – CloudLightning" at the University College Cork, Department of Computer Science, Cork, Ireland with Scientific Responsible: Professor John P. Morrison from 1/7/2016 to 31/8/2016.
2016-2018	Participation to the European Project CLOUDLIGHTNING funded by the H2020 - The Framework Programme for Research and Innovation (2014-2020) with title "Self-Organising, Self-Managing Heterogeneous Cloud – CloudLightning" at the Democritus University of Thrace, School of Engineering, Department of Electrical and Computer Engineering, Xanthi, Greece with Scientific Responsible: Professor George A. Gravvanis from 1/9/2016 to 31/1/2018.
2018-2019	Participation to the European Project GHOST: Safe-Guarding Home for Internet of Things (IoT) Environments funded by H2020 - The Framework Programme for Research and Innovation (2014-2020) at the Centre of Research and Technology Hellas – Information Technologies Institute, Thessaloniki, Greece, with Scientific Responsible Researcher C! Konstantinos Votis from 1/2/2018 until 30/6/2019.
2018-2019	Participation to the European Project RECAP: Reliable Capacity Provisioning and Enhanced Remediation for Distributed Cloud Applications funded by H2020 - The Framework Programme for Research and Innovation (2014-2020) at the Centre of Research and Technology Hellas – Information Technologies Institute, Thessaloniki, Greece, with Scientific Responsible Researcher A! Dimitrios Tzovaras from 1/1/2019 until 30/6/2019 (Collaboration from 1/3/2018 with Irish Centre for Cloud Computing and Commerce (IC4) on vCDN simulation framework).
2019-2023	Research Fellowship at the University College Cork, Cork, Ireland, in collaboration with FEXCO for FINTECHNEXT project with Scientific Responsible Professor Phillip O' Reilly, 16/7/2019 until 30/6/2023.
2023-Today	Assistant Professor of Mathematical and Computational Physics at the Democritus University of Thrace, School of Engineering, Department of Electrical and Computer Engineering, from 1/4/2023 until Today.

FUNDING

1. Participation in the writing of the proposal for CloudLightning H2020 EU Project (36 months – 3,957,050 €) as member of Democritus University of Thrace (DUTH) group that attracted funding of 138,000 € for DUTH.

DEVELOPMENT PROJECTS

2013-2014:	Participation on the Project "Provision of on-site technical support and training in Primary and Secondary education Schools" (Work Package 7.1) with PN 80946 and Scientific Responsible Professor Christos Koukourlis from 14/1/2013 to 31/12/2014.

TEACHING EXPERIENCE

1. **Academic Year 2010-2011**
   - **1st Semester:** Teaching Assistant: "Applied Numerical Analysis", "High Performance Computing: Parallel Algorithms and Computational Complexity" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece, from 1/11/2010
   - **2nd Semester:** Teaching Assistant: "Theory of Probabilities and Statistics", "Mathematical Software" and "Scientific Computing" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
2. **Academic Year 2011-2012**
   - **1st Semester:** Teaching Assistant: "Applied Numerical Analysis", "High Performance Computing: Parallel Algorithms and Computational Complexity" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
   - **2nd Semester:** Teaching Assistant: "Mathematical Software", "Scientific Computing" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
3. **Academic Year 2012-2013**
   - **1st Semester:** Teaching Assistant: "Applied Numerical Analysis", "High Performance Computing: Parallel Algorithms and Computational Complexity" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
   - **2nd Semester:** Teaching Assistant: "Mathematical Software", "Scientific Computing" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
4. **Academic Year 2013-2014**
   - **1st Semester:** Teaching Assistant: "Applied Numerical Analysis", "Advanced Scientific Computing" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
   - **2nd Semester:** Teaching Assistant: "Mathematical Software", "Scientific Computing" at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.
5. **Academic Year 2015-2016**
   - **1st Semester:** Co-teaching the course "Scientific Computing" at the Interdepartmental MSc program "Applied Mathematics" at Democritus University of Thrace, Xanthi, Greece.
   - **2nd Semester:** Teaching the course "Calculus of Variations" on the 8th Semester at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece as a Non-tenured adjunct faculty member under P.D. 407/80.

6. **Academic Year 2016-2017**
   - **1st Semester:** Teaching the course "Discrete Mathematics" on the 1st Semester at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece as a Non-tenured adjunct faculty member under P.D. 407/80.

     Co-teaching the course "Scientific Computing" at the Interdepartmental MSc program "Applied Mathematics" at Democritus University of Thrace, Xanthi, Greece.
   - **2nd Semester:** Teaching the course "Calculus of Variations" on the 8th Semester at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece as a Non-tenured adjunct faculty member under P.D. 407/80.
7. **Academic Year 2017-2018**
   - **1st Semester:** Teaching the Course Module PLI-10 (Introduction to Informatics) at the program "Computer Science" of the Hellenic Open University, Patra, Greece as Adjunct Academic Staff (Professor).
   - **2nd Semester:** Teaching the Course Module PLI-10 (Introduction to Informatics) at the program "Computer Science" of the Hellenic Open University, Patra, Greece as Adjunct Academic Staff (Professor).

     Teaching the course "Calculus of Variations" on the 8th Semester at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece as a Non-tenured adjunct faculty member under P.D. 407/80.
8. **Academic Year 2018-2019**
   - **1st Semester:** Teaching the Course Module PLI-10 (Introduction to Informatics) at the program "Computer Science" of the Hellenic Open University, Patra, Greece as Adjunct Academic Staff (Professor, Assistant Coordinator).

     Teaching the course "Advance Scientific Computing" on the 9th Semester at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece as a Non-tenured adjunct faculty member.
   - **2nd Semester:** Teaching the Course Module PLI-10 (Introduction to Informatics) at the program "Computer Science" of the Hellenic Open University, Patra, Greece as Adjunct Academic Staff (Professor, Assistant Coordinator).

     Teaching the courses "Calculus of Variations" on the 8th Semester and "Theory of Probabilities and Statistics" on the 4th Semester at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece as a Non-tenured adjunct faculty member.
9. **Academic Year 2023-2024**
   - **1st Semester:** Teaching the Course "Physics" and the labs of "Applied Numerical Analysis" and "Mathematical Software" on the 1st, 3rd and 3rd Semester, respectively, at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.

- **2nd Semester:** Teaching the Course "Calculus of Variations" and the labs of "Scientific Computing" on the 8th and 4th Semester, respectively, at the Department of Electrical and Computer Engineering, School of Engineering, Democritus University of Thrace, Xanthi, Greece.

THESIS SUPERVISION

1. Supervision of the MSc Thesis of Mrs Aikaterini Tzelepi entitled "Study of Numerical Methods of Data Mining", Interdepartmental MSc program "Applied Mathematics" 2016-2018 at the Democritus University of Thrace (Grade: 10/10).
2. Supervision of the MSc Thesis of Mrs Eleni Theodosiou entitled "Numerical Solution of Heat Transfer Problems", Interdepartmental MSc program "Applied Mathematics" 2015-2017 at the Democritus University of Thrace (Grade: 10/10).

ONLINE COURSES

1. Development of course material as part of the CloudLightning team for the course "High Performance Computing in the Cloud" hosted in Future Learn platform. Primary contributions: "Week 5: Cloud Orchestration, Resource Management and Heterogeneous Resources" and "Week 6: CloudLightning Architecture and Resource Management in CloudLightning". Attended by more than **2,840** people. https://www.futurelearn.com/courses/high-performance-computing-cloud.

WORKSHOP INSTRUCTOR

1. Instructor at the "DECENTRALIZED TRAINING SERIES" Workshop on November 19-20, 2018 at the Cube Athens – Coworking Space, Athens, Greece. Topics: "Fundamentals on Ethereum Smart Contracts II", "Advanced features on Ethereum dApp development" and the development of dApp for supply chain case study. https://dts.decentralized.com/

SOFTWARE

From my dissertation up to now (2009 - 2023), I have developed a large number of programs in C/C++ and Fortran using MPI, OpenMP, CUDA, MKL, MAGMA for the solution of large scale linear and nonlinear systems using parallel and distributed preconditioning techniques on modern hardware including: multicore CPUs, GPUs, Intel Xeon Phis, Distributed Supercomputing Infrastructures such as: Greek National Supercomputing Infrastructure ARIS (https://hpc.grnet.gr/en/) as part of production projects ScaleSciCompI – III (PR002040-ScaleSciComp, PR004033-ScaleSciCompII, PR006053-ScaleSciCompIII, ScaleSciCompIV, ScaleSciCompV). These preconditioned iterative methods include: Approximate Inverse Matrices, Domain Decomposition based on Multi-Projection or Tearing and Interconnecting, Multigrid and Multilevel Methods.

Moreover, I developed software for semi analytic techniques based on the Unified Transform and complex collocation techniques along with spatial stepping for accelerating the computation of the solution inside the domain. Furthermore, large scale simulation software has been developed for studying the secular evolution of galaxies through N-body simulation, for optimizing resource and energy consumption of large-scale heterogeneous Cloud Environments, for optimizing virtual Content Delivery Network, for Computational Heat Transfer application and for Traffic prediction at large scale. I have also designed and implemented large scale data analytics applications for supercomputing infrastructures.

I have also lead and co-lead the development of three Cloud based POCs (Proof-Of-Concept, TRL 7-8), during the course of the FINTECHNEXT Project, namely Forecasting Engine (Machine Learning, Statistical Analysis, Forecasting), CalmFX (Treasury and FX management) and Tokenization Engine (Token issuance, management and governance) based on microservices architecture, that have been integrated to industrial systems and platforms.

CERTIFICATIONS

1. Open and Remote Education (2018), Hellenic Open University, Internal Evaluation and Education Unit (in Greek).
2. Research Integrity: Concise (2019), EPIGEUM, Oxford University Press.
3. Human Subjects Protections (2019), EPIGEUM, Oxford University Press.
4. Conflict of interest (2019), EPIGEUM, Oxford University Press.
5. Safety and Health (2019), EPIGEUM, Oxford University Press.
6. Intellectual Property (2019), EPIGEUM, Oxford University Press.
7. The Humane Use and Care Of Animals In Research (2019), EPIGEUM, Oxford University Press.
8. Research Integrity: Core (2022), EPIGEUM, Oxford University Press.

OPEN SOFTWARE

1. **ReCAP vCDN simulator**: A Discrete Time Simulation software for simulating very large scale CDN networks. The simulator is parallelized using OpenMP and can handle graph type vCDN networks with arbitrary virtual caches and distribution of input tasks. The simulator is designed in C++ and is used in conjunction with a simulation engine for near-real time optimization of a real vCDN network. **To appear.**
2. **CloudLightning Simulator**: The CloudLightning Simulator is a generalized and extensible simulation framework that enables the seamless simulation and experimentation of emerging Cloud computing infrastructures and HPC applications. The framework is inherently parallel; it is written using the C/C++ programming language and the MPI and OpenMP APIs and enables the exploitation of distributed and shared memory parallel techniques for the acceleration of Cloud simulation. URL: https://bitbucket.org/cloudlightning/cloudlightning-simulator

LANGUAGES

Greek	Native Language
English	Pearson PTE General Level 5 (C2) with DISTINCTION Cambridge Certificate of Advanced English (CAE) (C1) IELTS (7.5)

IT KNOWLEDGE

Operating Systems:	Windows (3.1 – Windows 11), Windows Server (2000-2019), Linux, Macintosh (Tiger – Current).
Word Processing and Presentation Software:	Microsoft Word, Microsoft PowerPoint, Microsoft Publisher.
Data processing Software Packages:	Microsoft Excel, Microsoft Access.
Image and Video processing Software:	Adobe Photoshop, Adobe Premiere, Aperture, Final Cut Studio.
Programming Languages:	Fortran, C, C++, C#, QBASIC, Java, Javascript, Node.JS, Python, GO, PHP, AJAX, Assemblers (Z80, 68000), NVIDIA CUDA, OpenMP, MPI, ATI STREAM.
Computational Software Packages:	MATLAB, SPSS, SAS.
Simulation Software Packages:	Multisim, SPICE, NI LabVIEW, Max+Plus II, Modelsim, Leonardo Spectrum, ARM Development Suite, Network Simulator 2-3.
Computer-Aided Design Software Packages:	AutoCAD 2009, AutoCAD 2011-2016.
Website Development Software:	Adobe Dreamweaver CS4, Joomla, Drupal.
Cloud Related Software	OpenStack, Alien4Cloud, Brooklyn
Hypervisors-Virtualization	Xen, KVM, VMware
Job Schedulers	PBS, Slurm, Microsoft Azure, Google Cloud Platform, Amazon AWS

MILITARY SERVICE

I served the Hellenic Army and specifically the Artillery Directorate as a sniper-gunner in the 117th and the 139th Self Propelled Artillery Battalion from 28/1/2015 to 28/9/2015. During military service I worked as an Electrical Engineer and Computer Engineer for the 732nd Directorate of Military Projects, due to secondment, from 18/5/2015 to 25/9/2015, composing several studies for low and medium voltage installments as well as lightning protection of military buildings and facilities for various projects of the 732 Directorate of Military Projects.

OTHER

Member of the Technical Chamber of Greece from November 2011.