Curriculum Vitae

Dr. Efthimios Providas
Professor of Computational Mathematics
Department of Environmental Sciences
University of Thessaly
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Studies
- 1990   PhD in Computational Methods - Finite Element Methods
  Department of Mathematics and Statistics Brunel University, London, UK
- 1986   MSc in Numerical Analysis
  Department of Mathematics and Statistics Brunel University, London, UK
- 1984   BSc in Mathematics
  Aristotelean University of Thessaloniki, Greece

Professional Experience
- 2019 – today: Professor
  Department of Environmental Sciences, University of Thessaly, Greece
- 2004 – 2018   Associate Professor
  Department of Mechanical Engineering, Technological Educational Institution of Thessaly, Greece
- 2003 – 2003   Lecturer
  General Department, School of Engineering, University of Patras, Greece
- 1993 – 2002   Assistant Professor (Adjunct)
  University of Thessaly, Greece
- 1991 – 1992   Military service
  Department of Aeronautics, Applied Technology & Development Center (KETA), Hellenic Air Force
- 1990 – 1991   Research Fellow
  Brunel Institute of Computational Mathematics (BICOM), London, UK
- 1986-1991   Scholarship holder
  Materials and Structures Department, Royal Aerospace Establishment (RAE), UK

Teaching Courses
- Mathematics I, II
- Numerical Methods
- Statistics
- Computer Programming

Research Interests:
- Computational Methods, Finite Difference Methods, Finite Element Methods
- Exact and Computational methods for solving non-local problems for Differential Equations, Integral and integrodifferential Equations, Loaded Equations and Difference Equations.
- Mathematical Modeling in Sciences and Engineering.

Publications

Books:

Mathematical Analysis in Interdisciplinary Research
I.N. Parasidis, E. Providas, Th.M. Rassias,
Springer Optimization and Its Applications, vol. 179,
Chapters: 40,
Pages: 1060,
2021,
Springer, Cham
https://doi.org/10.1007/978-3-030-84721-0

Recent (last 3 years) Research Articles:
Journals:
- Providas, E.; Parasidis, I.N. A Symbolic Method for Solving a Class of Convolution-Type Volterra–Fredholm–Hammerstein Integro-Differential Equations under Nonlocal Boundary Conditions. *Algorithms* **2023**, 16, 36.
  https://doi.org/10.3390/a16010036
- Providas, E. An Algorithm for the Closed-Form Solution of Certain Classes of Volterra–Fredholm Integral Equations of Convolution Type. *Algorithms* **2022**, *15*, 203.
  https://doi.org/10.3390/a15060203
- Providas, E. Closed-Form Solution of the Bending Two-Phase Integral Model of Euler-Bernoulli Nanobeams. *Algorithms* **2022**, *15*, 151.
  https://doi.org/10.3390/a15050151
- Providas, E. On the Exact Solution of Nonlocal Euler–Bernoulli Beam Equations via a Direct Approach for Volterra-Fredholm Integro-Differential Equations. *AppliedMath* **2022**, *2*, 269-283.
  https://doi.org/10.3390/appliedmath2020017
- E. Providas, L.S. Pulkina, I.N. Parasidis: Factorization of ordinary and hyperbolic integro-differential equations with integral boundary conditions in a Banach space. Vestnik SamU. Estestvenno-Nauchnaya Ser. (Vestnik of Samara University. Natural Science Series), 27:1 (**2021**), 29–43.
  https://journals.ssau.ru/est/issue/viewIssue/514/340
- Providas, E.; Parasidis, I.N. A Procedure for Factoring and Solving Nonlocal Boundary Value Problems for a Type of Linear Integro-Differential Equations. *Algorithms* **2021**, *14*, 346.
  https://doi.org/10.3390/a14120346
- Providas, E. A Unified Formulation of Analytical and Numerical Methods for Solving Linear Fredholm Integral Equations. *Algorithms* **2021**, *14*, 293.
  https://doi.org/10.3390/a14100293

- Providas, E.; Zaoutsos, S.; Faraslis, I. Closed-Form Solutions of Linear Ordinary Differential Equations with General Boundary Conditions. *Axioms* **2021**, *10*, 226. https://doi.org/10.3390/axioms10030226
- I.N. Parasidis, E. Providas: Factorization method for solving nonlocal boundary value problems in Banach space. Journal of the Karaganda University: Mathematics Series, 3:103 (**2021**), 76–85. DOI 10.31489/2021Ì3/76-86

Book Series:
- E. Providas, I.N. Parasidis: Analytical Solution of nth Order Volterra Integro-Differential Equations of Convolution Type with Nonlocal Conditions. In: Analysis, Geometry, Non-Linear Optimization and Applications". World Scientific Publishing Company (**2023**). (To appear)
- Providas, E. Approximate Solution of Fredholm Integral and Integro-Differential Equations with Non-Separable Kernels. In: Approximation and Computation in Science and Engineering. Springer Optimization and Its Applications, vol 180. Springer, Cham (**2022**). https://doi.org/10.1007/978-3-030-84122-5_38
- E. Providas, I.N. Parasidis: On the Solution of Boundary Value Problems for Loaded Ordinary Differential Equations. Mathematical Analysis in Interdisciplinary Research. Springer Optimization and Its Applications, vol 179, pp. 641-659. Springer, Cham (**2021**). https://doi.org/10.1007/978-3-030-84721-0_29
- E. Providas: Factorization and Solution of Linear and Nonlinear Second Order Differential Equations with Variable Coefficients and Mixed Conditions. In: Nonlinear Analysis, Differential Equations and Applications. Springer Optimization and Its Applications, vol. 173, pp. 397-414. Springer, Cham (**2021**). https://doi.org/10.1007/978-3-030-72563-1_18
- E. Providas: Operator factorization and solution of second-order nonlinear difference equations with variable coefficients and multipoint constraints. In: Nonlinear Analysis and Global Optimization. Springer Optimization and Its Applications, vol. 167, pp. 427-443. Springer, Cham (**2021**). https://doi.org/10.1007/978-3-030-61732-5_20

Conferences:
- I.N. Parasidis, E. Providas: Solution to Factorable Multipoint Boundary Value Problems for fourth-Order Difference Equations. In: N.N. Vassiliev (eds), International Conference on Polynomial Computer Algebra (St. Petersburg 19-23 April 2021). Euler International Mathematical Institute, St.-Petersburg, Russia (**2021**). https://pca-pdmi.ru/2021/files/39/Providas-Parasidis.pdf