Curriculum Vitae
Stefania Maria Zoi

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EDUCATION

Ph.D. in Mathematics, National and Kapodistrian University of Athens, Thesis: "Mathematical Theory of Thermoelasticity", Grade: Excellent, 2023.

M.Sc. in Applied Mathematics (2-year programme), National and Kapodistrian University of Athens, Thesis: "The Scalar and Vector Helmholtz Equation", Grade: Excellent, 2014.

B.Sc. in Mathematics, National and Kapodistrian University of Athens, Direction: Applied Mathematics, Grade: Very Good, 2011.

RESEARCH INTERESTS

Partial Differential Equations, Mathematical Modeling, Scattering Theory, Wave Field Propagation, Inverse Problems, Continuum Mechanics, Mathematical Physics, Numerical Methods.

CURRENT POSITION

Research and Teaching Associate, Hellenic Naval Academy (HNA), Section of Mathematics, since the Fall Semester 2026–2027.

TEACHING EXPERIENCE

1. **Adjunct Professor**, National Technical University of Athens (NTUA)
   School of Electrical and Computer Engineering.
   - **Spring Semester 2025–2026**
     Differential Equations

2. **Adjunct Professor**, University of West Attica (UNIWA)
   School of Engineering, Department of Surveying and Geoinformatics Engineering.
   - **Fall Semester 2025–2026**
     Mathematical Analysis
     Linear Algebra and Matrix Analysis

3. **Adjunct Professor**, University of West Attica (UNIWA)
   School of Engineering, Department of Naval Architecture.
   - **Spring Semester 2024–2025**
     Mathematical Analysis II

– **Fall Semester 2024–2025**
Linear Algebra
Probability and Statistics

– **Spring Semester 2023–2024**
Mathematical Analysis II

Authored comprehensive original course notes and problem sets in LaTeX.

4. **Teaching Assistant**, National and Kapodistrian University of Athens (NKUA)
School of Science (Ph.D. period).
Conducted tutorials for undergraduate courses in Vector Calculus, Mathematical Analysis and Differential Equations. Authored comprehensive course notes in LaTeX.

ACADEMIC SERVICE

1. Journal Referee: *Mathematics and Mechanics of Solids* (2025).

2. Scientific Committee Member: 39th Panhellenic Conference of Education Mathematics, Hellenic Mathematical Society (HMS) (2024).

PUBLICATIONS

Peer-Reviewed Journal Articles

[1] Thermoelastic wave scattering by a multi-layered object, E. S. Athanasiadou, V. Sevroglou and S. Zoi, *Computers and Mathematics with Applications*, 163, pp. 186-200, 2024, https://doi.org/10.1016/j.camwa.2024.03.028.

[2] A near-field inverse scattering problem for an elastic ellipsoid, E. S. Athanasiadou and S. Zoi, *Journal of Computational and Applied Mathematics*, vol. 373, 112529, pp. 1-12, 2020, https://doi.org/10.1016/j.cam.2019.112529.

[3] Scattering relations of elastic waves by a multi-layered thermoelastic body, E. S. Athanasiadou, V. Sevroglou and S. Zoi, *Springer Optimization and Its Applications*, vol 159, 2020, https://doi.org/10.1007/978-3-030-44625-3_1

[4] Near-field inverse electromagnetic scattering problems for ellipsoids, C. E. Athanasiadis, E. S. Athanasiadou, S. Zoi and I. Arkoudis, *Zeitschrift für angewandte Mathematik und Physik (ZAMP)*, 70:73, 2019, https://doi.org/10.1007/s00033-019-1118-y.

[5] An inverse electromagnetic scattering problem for an ellipsoid, E. S. Athanasiadou, S. Zoi and I. Arkoudis, *Progress In Electromagnetics Research M (PIER M)*, vol. 83, pp. 141-150, 2019, https://doi.org/10.2528/PIERM19051005.

[6] Scattering theorems of elastic waves for a thermoelastic body, E. S. Athanasiadou, V. Sevroglou and S. Zoi, *Mathematical Methods in the Applied Sciences*, vol. 41(3), pp.998-1004, 2016, https://doi.org/10.1002/mma.4051.

Peer-Reviewed Conference Proceedings

[1] A numerical solution of an electromagnetic scattering problem for a penetrable chiral body in two-dimensions, I. Arkoudis, P. Roupa and S. Zoi, Springer Proceedings in Mathematics & Statistics (PROMS, vol. 542, In Press 2026).

[2] An inverse two-dimensional electromagnetic scattering problem in chiral media for the reconstruction of a perfectly conducting body, I. Arkoudis, S.C. Athanasiadis, P. Roupa and S. Zoi, Springer Proceedings in Mathematics & Statistics (PROMS, vol. 542, In Press 2026).

[3] The MFS for a Thermoelastic Scattering Problem, I. Arkoudis and S. Zoi, AIP Conference Proceedings, vol. 3489, 280033, 2026, https://doi.org/10.1063/5.0328610.

[4] The MAS in Electromagnetic Scattering by an Impedance Surface in Chiral Media in 2D, I. Arkoudis, S.C. Athanasiadis, P. Roupa and S. Zoi, AIP Conference Proceedings, vol. 3489, 280034, 2026, https://doi.org/10.1063/5.0328611.

[5] Identification of an Imperfectly Conducting Scatterer in a Chiral Environment, I. Arkoudis, S. C. Athanasiadis, P. Roupa and S. Zoi, IEEE Proceedings of DESSERT 2024, pp. 1-4, 2025, https://doi.org/10.1109/DESSERT65323.2024.11122244.

[6] The MFS for a Mixed Electromagnetic Scattering Problem in Chiral Media, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, IEEE Proceedings of DESSERT 2024, pp. 1-7, 2025, https://doi.org/10.1109/DESSERT65323.2024.11122189.

[7] The MFS for electromagnetic scattering by a layered chiral object, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, IEEE Proceedings for DESSERT 2023, pp. 1-8, 2024, https://doi.org/10.1109/DESSERT61349.2023.10416545.

[8] The MFS for electromagnetic scattering by a chiral object in two dimensions, I. Arkoudis, S. C. Athanasiadis, P. Roupa and S. Zoi, IEEE Proceedings for DESSERT 2023, pp. 1-6, 2024, https://doi.org/10.1109/DESSERT61349.2023.10416487.

[9] Thermoelastic wave scattering by a penetrable two-layered object, E. S. Athanasiadou and S. Zoi, IEEE Proceeding for DESSERT 2022, 2022, https://doi.org/10.1109/DESSERT58054.2022.10018664.

[10] Detection of a rigid thermoelastic ellipsoidal scatterer, E. S. Athanasiadou and S. Zoi, AIP Conference Proceedings, 2293, 090003, 2020, https://doi.org/10.1063/5.0026779.

[11] An inverse scattering problem for the dielectric ellipsoid, C. E. Athanasiadis, E. S. Athanasiadou, S. Zoi and I. Arkoudis, AIP Conference Proceedings 1978, 470055, 2018, https://doi.org/10.1063/1.5044125.

RESEARCH PRESENTATIONS

International Conference Presentations

1. Direct–Inverse Chiral Electromagnetic Scattering with Mixed Boundary Conditions: Variational Formulation and MFS, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, Numerical Analysis and Scientific Computation with Applications (NASCA26), Kalamata, Greece, June 9-12, 2026.

2. Reconstruction of a perfectly conducting body in a chiral medium using a discretized RGF method, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, 15th Conference on DESSERT, Athens, Greece, Dec 19-21, 2025.

3. The MFS for a Mixed Electromagnetic Scattering Problem in Chiral Media for Lipschitz Domains, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, 14th DESSERT, Athens, Greece, Oct 11-13, 2024.

4. The MFS for a Thermoelastic Scattering Problem, I. Arkoudis and S. Zoi, 22nd ICNAAM, Crete, Greece, Sept 11-17, 2024.

5. The MAS in Electromagnetic Scattering by an Impedance Surface in Chiral Media in 2D, I. Arkoudis, S. C. Athanasiadis, P. Roupa and S. Zoi, 22nd ICNAAM, Crete, Greece, Sept 11-17, 2024.

6. The MFS for electromagnetic scattering by a layered chiral object, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, 13th DESSERT, Athens, Greece, Oct 13-15, 2023.

7. Thermoelastic wave scattering by a multi-layered object, E. S. Athanasiadou, V. Sevroglou and S. Zoi, NASCA23, Athens, Greece, July 3-6, 2023.

8. Thermoelastic wave scattering by a penetrable two-layered object, E. S. Athanasiadou and S. Zoi, 12th DESSERT, Athens, Greece, Dec 9-11, 2022.

9. Detection of a rigid thermoelastic ellipsoidal scatterer, E. S. Athanasiadou and S. Zoi, 17th ICNAAM, Rhodes, Greece, Sept 23-28, 2019.

10. Imaging of an elastic ellipsoid using near-field data, E. S. Athanasiadou and S. Zoi, M2A19, Rabat, Morocco, April 1-4, 2019.

11. Scattering theorems in thermoelasticity, E. S. Athanasiadou, V. Sevroglou and S. Zoi, M3ST 2018, Kalamata, Greece, Sept 2-4, 2018.

12. A near-field inverse scattering problem for a thermoelastic ellipsoid, E. S. Athanasiadou and S. Zoi, NASCA 2018, Kalamata, Greece, July 2-6, 2018.

13. An inverse scattering problem for the dielectric ellipsoid, C. E. Athanasiadis, E. S. Athanasiadou, S. Zoi and I. Arkoudis, 15th ICNAAM, Thessaloniki, Greece, Sept 25-30, 2017.

14. Scattering of elastic waves by a two-layered thermoelastic body, E. S. Athanasiadou, V. Sevroglou and S. Zoi, 4th OPTIMA, Vari, Greece, May 25-26, 2017.

15. Scattering relations of elastic plane waves for a thermoelastic body, E. S. Athanasiadou, V. Sevroglou and S. Zoi, M3ST 2015, Kalamata, Greece, Aug 30 – Sept 1, 2015.

National Conference Presentations

1. The inverse scattering problems in detecting ellipsoidal objects, E. Athanasiadou, I. Arkoudis and S. Zoi, 35th Panhellenic Conference of Education Mathematics, Hellenic Mathematical Society (HMS) Marousi, Greece, Dec. 7-9, 2018.
   Publication of the paper to the conference proceedings after review.

Workshops and Special Scientific Meetings

1. A numerical solution for an electromagnetic scattering problem by a penetrable chiral body in two-dimensions, I. Arkoudis, G. Halikias, P. Roupa and S. Zoi, International Workshop N2ADS25, Athens, Greece, April 7-8, 2025.

2. Solving inverse electromagnetic scattering problems in a chiral environment using the method of fundamental solutions, I. Arkoudis, E. S. Athanasiadou, P. Roupa and S. Zoi, Conference N2ADS24, Athens, Greece, May 20, 2024.

3. Mixed scattering problems in thermoelasticity, E. S. Athanasiadou and S. Zoi, Workshop on Data Manipulation under Modern Machine Learning Techniques, Athens, Greece, Sept 16, 2022.

4. The wave scattering in detection of ellipsoidal obstacles, E. S. Athanasiadou and S. Zoi, Conference in honor of Constantin Petridi, Athens, Greece, Oct 14, 2019.

TECHNICAL SKILLS

Software: LaTeX, Matlab, Microsoft Office.