Efstratios Tsoukanis

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University of Maryland, Department of Mathematics
4176 Campus Dr, College Park, MD 20742

Education

University of Maryland — **College Park**
PhD in Mathematics, supervised by *Professor Radu Victor Balan.* — *2018-2024*

University of Crete — **Heraklion**
Master in Mathematics, supervised by *Professor Themistoklis Mitsis.* — *2016-2018*

- Thesis title: Fourier multiplier and Fefferman counter-example

University of Crete — **Heraklion**
BSc in Mathematics — *2012-2016*

University of Barcelona — **Erasmus**
2014

Research and Publications

My research lies in *Applied Harmonic Analysis* and *Geometric machine learning.*

1. Balan R., Tsoukanis E. (2023). Relationships between the Phase Retrieval Problem and Permutation Invariant Embeddings *Sampta Conference 2023* (arXiv:2306.13111)
2. Balan R., Tsoukanis E. (2023). G-Invariant Representations using Coorbits: Bi-Lipschitz Properties (arXiv:2308.11784)
3. Balan R., Tsoukanis E. (2023). G-Invariant Representations using Coorbits: Injectivity properties (arXiv:2310.16365)

Work experience

Teaching assistant at University of Maryland — **2018-2023**

- Teaching assistant in Calculus II,III, Linear Algebra and Differential Equations

Teaching assistant at University of Crete — **2015-2016**

- Teaching assistant in Calculus I and Analysis I

Other activities

- Research Interaction Team in Applied Harmonic Analysis: Fall 2021, Fall 2023.
- Research Interaction Team in Deep Learning: Fall 2022, Spring 2023, Fall 2023.
- Refereed at *Foundations of Computational Mathematics.*
- Refereed at *Applied and Computational Harmonic Analysis.*

Skills

programming skills

- Python • Matlab • Latex.

Languages

- English • Greek.

Graduate Coursework

- Measure Theory • Partial Differential Equations I, II • Algebra I,II • Riemann Geometry
- Functional Analysis • Complex Analysis • Probability I,II • Real Analysis II
- Harmonic Analysis • Dynamical System I • Geometric Methods in Analysis
- Numerical Methods for Data Science and Machine Learning • Methods for Random and Low-Rank Matrices
- Random Processes in Communication and Control

Selected talks

- Noise stability of functions with low influences. *Computational Learning Theory and Fourier Analysis summer school 2022.*
- Stability properties of Co-orbit emdeddings. *CodEx seminar 2023.*
- Relationships between the Phase Retrieval Problem and Permutation Invariant Embeddings. *Sampta conference 2023.*