CURRICULUM VITAE

Name : **Zoi Daoultzi-Malamou**

Date of Birth : 18 December 1949

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Education

- Degree in Mathematics, National and Kapodistrian University of Athens, 1971.
- Ph.D. in Pure Mathematics, National and Kapodistrian University of Athens, 1998.

Employment

- Teaching – Research Assistant, National and Kapodistrian University of Athens, Department of Mathematics, 1973 –1999.
- Lecturer, National and Kapodistrian University of Athens, Department of Mathematics, 1999 - today.

Undergraduate Courses

- Analytical Geometry
- Linear Algebra
- Differentiable Manifolds
- Differential Geometry
- Topological Algebras
- Topics in Algebra and Geometry

PhD Thesis

"Infinite-dimensional Holomorphy. Analytic Manifolds modelled on Topological Algebras and Extensions of Riemann Surfaces" (in greek), University of Athens, Department of Mathematics, 1998.

Publications

1. ***Strong spectral continuity in topological matrix algebras***. Boll. U.M.I 7 (2-A), (1988), 213-219.
2. ***Extensions of Riemann surfaces in topological algebras.*** Journal of Mathematical Sciences (New York), 96 (1999) 3747-3754.
3. ***Principal extensions of Riemann surfaces in topological algebras and local pectra.*** In Proc Intern. Workshop, Tartu, 1999. Est Math Soc., Tartu, 2001, p.p 78-81
4. ***Principal extensions of Complex sets and Riemann surfaces in topological algebras .*** In Proc. Intern. Conf. « Topological algebras and applications » Oulu,2001. Acta Univ. Ouluensis, Sc. Rer. Not. A408 (2004), p.p 161-168.
5. ***Generalized principal extensions in topological algebras.*** Complex Anal. Oper. Theory (2012), 561-564
6. (with A**.** Mallios, A. Conte-Thrasyvoulidou) ***Geometry of an A-Bilinear Form, Darboux Theorem: A Lagrangian Perspective,*** *In Press* in «Journal of Mathematical Analysis»

Participation in Conferences

1. **1997:** ***« Workshop on Toppological Algebras »,*** Athens, (30 minutes speech)
2. **1999:** ***« Fest –Colloquium »,*** *dedicated to Professor A. Mallios,* Athens.
3. **2001:** ***« International Conference on Topological Algebras and Applications»,*** Oulu, Finland, (30 minutes speech).
4. **2005**: ***«International Conference on Topological Algebras and Applications»***, Athens.

In cases 1, 2 and 4 participated as member of the Organizing Committee.

Participation in Seminars

Seminars in:

- "Topological Algebras"
- "Topological Q-Algebras"

- "Banach and Locally Convex Algebras"
- "Geometry of Vector Buddles"
- "Operator Theory using Banach Algebras"
- "Homology in Banach Algebras"
- "Differential Geometry and Topological Algebras with applications in Mathematical Physics".

Member of MSc and PhD Thesis Supervision Committee

- Konstantinos Tzironis, MSc Student of Department of Mathematics in Theoretical Mathematics. Thesis title: ***«The Multiplier Algebra in Topological Algebra with Involution»***, 2011.

- Konstantinos Tzironis, Phd Student of Department of Mathematics. Subject of PhD Thesis: ***«Representation of Complemented Topological Algebras»***, (under conduction).

Brief analysis of published papers

[1] Let A be a commutative locally m-convex Q-algebra with identity element. Then the algebra $M_n(A)$ of n×n matrices with entries in A has the strong spectral continuity.

[2] The principal extension of a Riemann surface in a suitable topological algebra is a strongly analytic manifold modeled on the topological algebra. Also, every a strongly analytic manifold can be embedded in the principal extension of a Riemann surface.

[3] The principal extension of a Riemann surface in a topological algebra, being proved to be an infinite-dimensional complex analytic manifold modelled on the topological algebra, are considered. The spectrum of an element of the principal extension, which is defined as a subset of the Riemann surface, is studied as an application. The notion is extended to a subset of the principal extension, while the principal extension of a subset of a Riemann surface are also considered.

[4] The principal extension of a complex set in a topological algebra is a subset of the algebra. The principal extension of a Riemann surface in a topological algebra is an infinite-dimensional strongly analytic manifold modelled on the topological algebra considered. The spectrum of an element of the principal extension is a subset of the Riemann surface at issue. This is extended to a subset of the principal extension, and is further applied to define the principal extension of a subset of a Riemann surface. As an application, the principal extension of the complexes in a topological algebra, is the topological algebra itself.

[5] The *"generalized principal extension"* of a subset of a topological algebra is, by definition, a subset of another topological algebra. Hence, the generalized spectrum of an element, "local spectrum", of a topological algebra is thus a subset of a topological algebra, not necessarily of $\mathbb{C}$. We also give a criterion for the continuity of the (generalized) Newburg map.

[6] The present account constitutes a further scrutiny and still amelioration and extension of the "geometric" perspective, selon Lagrange, of the classical "Geometric Algebra" (E. Artin), started already by the first papers of the senior author of this study with P. P. Ntumba, within a sheaf -theoretic context; the latter was motivated by a similar treatise in, followed by potential physical applications in theoretical physics: e.g. gauge theories and quantum gravity. In all this the classical aspect of a background, so-called "space-time" manifold has been replaced by a sheaf - theoretic context. An echo of the above with extensions /generalizations of fundamental aspects, pertaining to what we may call "geometry of a bilinear form", as rooted already in Lagrange work, is presented herewith. The values of the "forms" employed are taken, in view still of potential physical applications, in suitable real/complex (commutative unital associative) algebras.