Proceedings of the Workshop on Applied Topological Structures

editors
Josefa Marín and Jesús Rodríguez-López

WATS'16

Valencia, Spain, June 22-23, 2016

Universitat Politècnica de València

EDITORS

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Workshop on Applied Topological Structures WATS'16

June 22-23, 2016

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Main Speakers

Carmen Alegre *(Universitat Politècnica de València, Spain)*

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Preface

General Topology has become one of the fundamental parts of mathematics. Nowadays, as a consequence of an intensive research activity, this mathematical branch has been shown to be very useful in modeling several problems which arise in some branches of applied sciences as Economics, Artificial Intelligence and Computer Science. Due to this increasing interaction between applied and topological problems, we have promoted the creation of an annual or biennial workshop to encourage the collaboration between different national and international research groups in the area of General Topology and its Applications. This year it has been given the name of Workshop on Applied Topological Structures (WATS).

This book contains a collection of papers presented by the participants in this workshop which took place in Valencia (Spain) from June 22 to 23, 2016.

All the papers of the book have been strictly refereed.

We would like to thank all participants, the plenary speakers and the regular ones, for their excellent contributions.

We express our gratitude to the Instituto Universitario de Matemática Pura y Aplicada for its financial support without which this workshop would not have been possible.

We are certain of all participants have established fruitful scientific relations during the Workshop.

The Organizing Committee of WATS'16

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Some results on weak fuzzy normed spaces

Carmen Alegre [1]

Instituto Universitario de Matemática Pura y Aplicada, Universitat Politècnica de València, 46022 Valencia, Spain

(calegre@mat.upv.es)

Abstract

The notion of weak fuzzy norm appears in the theory of fuzzy normed spaces when dealing with duality in this framework. We present canonical examples of weak fuzzy norms and sumarize some results about the topological structure of the weak fuzzy normed spaces.

1. Introduction

The study of fuzzy normed spaces is relatively recent in the field of fuzzy functional analysis. The first definition of fuzzy norm on a linear space was given by Katsaras [9] in 1984 while studying topological vector spaces. Following this work, Felbin [7] offered in 1992 an alternative definition of a fuzzy norm on a linear space with an associated metric of Kaleva and Seikkala's type [8]. In 1994 Cheng and Mordeson [6] gave another definition of fuzzy norm that corresponds with the notion of a fuzzy metric as defined by Kramosil and Michalek in [10].

[1]This research is supported under grant MTM2015-64373-P (MINECO/FEDER, UE).

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