Journal of Mathematics

Hindawi

Special Issue on

# Fixed Point Theory in Abstract Metric Spaces with Generalized Contractive Conditions: New Methods, Algorithms, and Applications

CALL FOR PAPERS

In the last decades, fixed point theory has been extended to various abstract spaces and has also been used extensively in the study of various scientific problems successfully, establishing a connection between pure and applied approaches and even including very relevant computational issues. In particular, several applications of fixed point theory have been introduced for the study and calculation of solutions to integral equations, differential equations, dynamical systems, models in economy and related areas, game theory, physics, engineering, computer science, or neural networks, among many others. Besides, they are basic tools for the study of nonlinear systems, by setting a framework which helps to elevate some basic properties of the solutions to linear models in order to deduce (or approximate) the behavior of the nonlinear ones, whose solutions can be found as the fixed points of a certain operator.

We invite investigators and researchers to contribute to this special issue with original and high quality articles proposing new concepts, methods, algorithms, and applications of fixed point theory to various branches of science, showing recent achievements and trends and new directions for the topic from the theoretical and applied approaches.

Potential topics include but are not limited to the following:

- Fixed point theory in abstract metric spaces and generalized metric spaces
- Algorithms for computation of fixed points of operators
- Fixed points of set-valued mappings and their applications
- Generalized contractive and nonexpansive operators in abstract metric spaces and their applications
- Fixed point theorems and best proximity points
- Fixed point theory on partially ordered metric spaces and partially ordered topological spaces
- Almost fixed points theorems in abstract metric spaces and their applications
- Results on the existence of common fixed points for families of operators
- Study of coupled fixed points for operators with applications
- Results on coincidence points for pairs of operators
- Applications of fixed point theory to the existence and multiplicity of solutions to differential equations and control systems
- Implications of fixed point theory to equilibrium issues, asymptotic properties, and optimization problems
- Applications of fixed point results to functional equations, differential inclusions, and fractional or fuzzy models
- Implementation of fixed point iteration processes and algorithms to approximate fixed points and the solutions to differential models numerically
- Aspects of fixed point index

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/jmath/analysis/fptam/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

**Lead Guest Editor**
Satish Shukla, Shri Vaishnav Institute of Technology & Science, Indore, India
*satishmathematics@yahoo.co.in*

**Guest Editors**
Rosana Rodríguez-López, Universidad de Santiago de Compostela, Santiago, Spain
*rosana.rodriguez.lopez@usc.es*

Dhananjay Gopal, S. V. National Institute of Technology, Surat, India
*gopaldhananjay@yahoo.in*

Ghasem S. Rad, Islamic Azad University, Tehran, Iran
*gh.soleimani2008@gmail.com*

Vildan Oztrurk, University of Artvin Coruh, Artvin, Turkey
*vildanozturk84@gmail.com*

**Submission Deadline**
Friday, 27 October 2017

**Publication Date**
March 2018