

FIXED POINT THEORY AND APPLICATIONS TO VARIOUS DIFFERENTIAL/INTEGRAL EQUATIONS

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DESCRIPTION

Most of the real-world problems can be considered in a framework of differential and integral equations. In other words, differential and integral equations appear in numerous scientific issues to understand the various phenomena in physics, chemical technology, optimal control, finance, signal processing, etc. In qualitative sciences, most problems are modeled by different types of differential/difference/integral equations.

In addition, fixed point theory is a powerful mathematical tool to establish the existence and uniqueness of almost all problems modeled by nonlinear relations. Consequently, the existence and uniqueness problems of differential/difference/integral equations are studied using fixed point theory. For about a century, fixed point theory has begun to take shape and developed rapidly. Due to its applications, fixed point theory is highly appreciated and explored. Besides, this theory can be applied in many spaces, such as metric, Hilbert, Banach, and Sobolev. This feature of fixed point theory is valuable in studying numerous problems of practical sciences modeled by fractional ordinary and partial differential and difference equations.

This thematic special issue of *Demonstratio Mathematica* will collect theoretical advances on fixed point theory and applications to differential/difference/integral equations. We welcome both original research articles and articles discussing the current situation. Contributions to the Special Issue may address (but are not limited) to the following aspects:

- ▶ Fixed point theory and applications
- ▶ Topological fixed-point theory
- ▶ Metric fixed point theory
- ▶ The fixed points of certain operators on various abstract spaces
- ▶ Application to the difference equations
- ▶ Application to the integral equations
- ▶ Application to ordinary/partial differential equations
- ▶ Nonlinear problems with fixed point theory approaches

- ▶ Best proximity point and applications
- ▶ Controllability problems for nonlinear systems
- ▶ Critical point theorems and their applications
- ▶ Fractional Kirchhof equations and their applications
- ▶ Fractional variable exponent problems with logarithmic nonlinear terms

Authors are requested to submit their full revised papers complying the general scope of the journal. The submitted papers will undergo the standard peer-review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

HOW TO SUBMIT

Before submission authors should carefully read the [Instruction for Authors](#).

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's [LATEX template](#). Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. **For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.**

All submissions to the Special Issue must be made electronically via online submission system Editorial Manager: <https://www.editorialmanager.com/dema/>

All manuscripts will undergo the standard peer-review process (single blind, at least two independent reviewers). When entering your submission via online submission system please choose the option "*Special Issue on Fixed Point Theory and Applications to Various Differential/Integral Equations*".

Submission of a manuscript implies that the work described has not been published before and it is not under consideration for publication anywhere else.

The deadline for submissions is September 30, 2022, but individual papers will be reviewed and published online on an ongoing basis.

Contributors to the Special Issue will benefit from:

- ▶ critical peer-review
- ▶ no space constraints
- ▶ quick online publication upon completing the publishing process (**continuous publication model**)
- ▶ content converting to xml
- ▶ better visibility due to **Open Access** – free, unrestricted and permanent access to all the content
- ▶ **liberal policies on copyrights** (authors retain copyrights) and on self-archiving (no embargo periods)
- ▶ promotion of published papers to readers and citers
- ▶ **long-term preservation** – content archiving with [Portico](#)

We are looking forward to your submission!

In case of any question please contact Dr. Justyna Żuk (Managing Editor; Justyna.Zuk@degruyter.com).