

# Guidelines for Authors of *Eurasian Soil Science*

## 1. GENERAL REMARKS

*Eurasian Soil Science* is an English-language journal publishes original papers on global and regional theoretical and experimental studies of the genesis, geography, physics, chemistry, biology, fertility, management, conservation, and remediation of soils. Special sections are devoted to current news in the life of the international and Russian soil science societies and to the history of soil science.

The journal also includes translations of the papers simultaneously published in Russian in *Pochvovedenie* journal.

The journal invites authors to submit their papers regardless of country or nationality. The Editorial Board encourages the most important and interesting studies containing new results and innovative concepts or original analysis of published data. For this purpose, manuscripts are peer reviewed as a rule by two independent referees. Authors are invited to recommend appropriate referee candidates by specifying their names, affiliations, and e-mail addresses; however, an Editor maintains the right to use referees of his own choosing.

Peer reviews by referees will serve as the basis for preliminary acceptance of a manuscript for publication in one the journal series at Editor's discretion. The manuscript is then edited to ensure clarity and logic of presentation and the quality reproduction of graphics. After submission of changes for authors' approval and introducing them into the manuscript, the paper is considered finally accepted for publication and is sent by the Editorial Office to the publishing house IAPC Nauka/Interperiodica, which will at a later date e-mail the galley proofs to the authors as a PDF file. After publication of the paper, the publishing house sends a PDF version to the authors free of charge for noncommercial use only.

The Editorial Board has assumed obligations in conformance with the Ethical Guidelines for Publication in Journals and Reviews formulated by the European Association for Chemical and Molecular Sciences. Authors and referees should follow these guidelines, available via the Internet at <http://www.euchems.org/Publications/index.asp>. Instances of ethical violations (fictitious data, plagiarism, self-plagiarism, reference omission, and submission of papers that have been published elsewhere or have been submitted to other journals) may give cause for summary rejection of

both submitted and forthcoming papers from such authors.

## 2. SUBMISSION OF MANUSCRIPTS

Papers written by several authors should be presented by one of the authors (hereinafter, Author), who corresponds with the Editorial Office and the Publishing House.

Manuscripts must be submitted via the journal's by surface or electronic mail [esoils@yandex.ru](mailto:esoils@yandex.ru)

The Author should fill in and sign the copyright transfer agreement and submit it in the scanned form together with the manuscript. The Author Agreement Forms are available via the Internet at [http://pleiades.online/pub/agreements/copyright\\_eng.zip](http://pleiades.online/pub/agreements/copyright_eng.zip). The paper cannot be finally accepted for publication until the Author submits the above agreement. If the paper is rejected by the Editorial Board, the copyright transfer agreement is not signed by the Publisher.

After revision by the authors, the manuscripts are submitted in a similar way. The deadline of manuscript revision should not exceed six month unless the authors send to the Editorial Office a reasoned request for an extension. If this date is violated, the revised papers are regarded as newly submitted with a new date of manuscript receipt.

## 3. FORMATTING THE MANUSCRIPT

Papers should be written in legible and understandable English. Poor English may be cause for manuscript rejection. The manuscript must be formatted as follows: first page, abstract, key words, body of the text, and figures. Schemes and chemical formulas should be typed on a computer and placed directly in the text.

All pages should be numbered consecutively with the exception of figures. Figures should be placed individually on separate sheets, and the sequential number of the figure and the surname of the author should be typed at the bottom of a page.

The *abstract* should contain an as concise as possible description of the main results of research and the ways in which they were achieved with emphasis being placed on novelty. The use of abbreviations in the title and abstract is strongly discouraged. Key words (from three to five) that most precisely reflect the research area of interest should be appear in alphabetical order.

The *main text* should begin on a new page of the manuscript and should be logically composed. If necessary (in reviews), it should be preceded by a list of contents. The main text should contain the following sections: Introduction, Experimental

## SOIL PHYSICS

### AN IMPROVED MUALEM-VAN GENUCHTEN METHOD AND ITS VERIFICATION USING THE DATA ON BEIT NETOFA CLAY

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An improved Mualem-Van Genuchten method for estimating the soil hydraulic conductivity in vadose zone with usage the data on soil filtration coefficient and water-retention capacity of soil is proposed. The approach, offered Kosugi for a functional description of hydraulic conductivity of soil is applied here. To calculate the values of hydraulic conductivity by Mualem's formula, instead of function of integrated water capacity of soil, which describes the water-retention capacity of soil, a function of differential water capacity of soil with interpreted parameters is used. Approximations to functions of water-retention capacity and hydraulic conductivity of soil are offered here. On the basis of some concepts on the specific of the curve that describes the water-retention capacity of soil, the technique for identification of these parameters is developed. The experimental data from two parts of capillary pressure range, on which the water-retention capacity of soil is measured, are used in the technique. The first part corresponds to zone of the mainly film moisture, where the sorption component of the capillary-sorption forces, retaining the water in the soil, dominates. The second part includes: *a*) zone of the mainly capillary-suspended moisture, where the capillary component of the capillary-sorption forces dominates, and *b*) zone of the capillary-backed moisture. The improved method of estimating the relative values of hydraulic conductivity of soil has been verified with usage of the measured data for the soil *Beit Netofa clay*. The advantages of this method include the ability to identify the parameters of soil hydro-physical functions using relatively available soil indices, as well as higher accuracy of calculating the values of soil hydraulic conductivity in comparison with the original version of the method.

*Keywords:* differential water capacity, water-retention capacity, hydraulic conductivity of soil, physical and statistical interpretation

#### INTRODUCTION

The soil hydraulic conductivity function (HCF) describes the ability of liquid water to pass through the soil as a porous media [1]. The HCF is formulated as a dependence of water velocity  $k$  ( $\text{m} \cdot \text{s}^{-1}$ ) on volumetric water content  $\theta$  ( $\text{m}^3 \cdot \text{m}^{-3}$ ) [19, 27, 30] or capillary pressure

(Model and Method in theoretical and modeling studies), Results and Discussion, Conclusions, Appendices, Tables, Figure Captions, and References.

The introduction should be written in understandable language to attract the attention of a wide range of readers to the scientific issue touched upon in the paper. Previous results should be mentioned, and the main goal of the work should be legibly formulated.

The use of SI units and notations for physical quantities is acknowledged. Instead of describing well-known methods and properties, reference should be made to published data. Reference numbers should be placed in square brackets in sequence one after another. Abbreviations and other notations should be written in full upon first usage with the abbreviation or notation in parentheses, and then the abbreviation or notation should be used uniformly throughout the manuscript. Physical quantities should be italicized, while units and special mathematical symbols (e.g., max, sin, ln,  $\nabla$ ) should be typed in Roman. Use decimals, rather than fractions, with units of time or measure, for example,  $L = 7.3 \times 10_3 \text{ m}$  and  $E_3 = 14$

$\text{kJ/mol}$ . The use of the same notations for different units is impermissible. Mathematical formulas placed on separate lines should be enumerated consecutively with Arabic numerals in parenthesis, and chemical formulas should be denoted with Roman numerals. The text should contain references to all tables and figures. Do not cite experimental data and calculation results that are not discussed in the text, and do not use both graphs and tables to illustrate the same results.

Conclusions should not duplicate the abstract. In this section, the importance of the results discussed in the paper for development of the related research area should be substantiated and the prospects for studying the given issue should be considered. If necessary, acknowledgments for help in the work should be presented. Appendices should contain subsections that do not affect the understanding of the body of the text but are of importance for experts in this area of science.

All tables should be numbered, have a heading, and be aligned vertically. Graphs should have subheadings and should be separated by vertical lines. Avoid using abbreviations in the tables. Figure captions should be typed on a separate sheet.

The list of references should begin on a separate page. References in the text are numbers in square brackets [1] corresponding to the numbering in the list of references. Do not list references that are not cited in the text. All references should be given in their original languages except those using a non-Latin alphabet, which should be translated into English. Whenever possible, avoid using references to unpublished results. Papers that are accepted for publication may be cited with the journal's name followed by their Digital Object Identifier (DOI).

References should be listed in the following style:

Journal articles are formatted as follows:  
K. Ravenschlag, K. Sahm, and R. Amann, "Quantitative molecular analysis of the microbial community in marine arctic Sediments (Svalbard)," *Appl. Environ. Microbiol.* **67** (1), 387–395 (2001). doi: 10.1128/AEM.67.1.387-395.2001

References to books are formatted as follows:  
M. Pagliai and G. Stoops, "Physical and biological surface crust. Crusts and seals," in *Interpretation of Micromorphological Features of Soils and Regoliths*, Ed. by G. Stoops et al. (Elsevier, Amsterdam, 2010), pp. 419–440. doi: 10.1016/B978-0-444-53156-8.00019-2

*Figures* should be prepared on a computer. In general, color figures are not accepted: In rare cases, color printing of individual artwork is possible on condition that the author assumes the extra costs. It is recommended that the size of the figure in the manuscript be reproducible in the final printed version without scaling. Keep words and figures within the artwork to a minimum. Curves should be numbered and the numbers must be explained in the figure captions. Enlarged figure parts could be shown as separate figures rather than insets. For scanned photographs, indicate orientation (top–bottom) and scale.

The paper may contain Electronic Supplementary Material (ESM) comprising the details of experiments, schemes, tables, and figures (including color ones) that overburden the main text. ESM of a published paper is available on the Internet for free.

#### 4. PREPARATION OF THE ELECTRONIC VERSION

The electronic version of the manuscript should consist of the main text file and separate figure files (one figure per file). For convenience of peer review, the author could additionally submit a DOC, RTF or PDF file in which figures are directly inserted into the text. Electronic Supplementary Material, if any, should be submitted as one zip-archive.

When the revised manuscript is submitted, the figures should be refreshed regardless of which files have been changed.

The text file should be prepared with the latest available version of Microsoft Word for Windows. The authors are encouraged to use a template dot-file that can be downloaded from <http://pleiades.online/en/authors/guidelines/prepare-electronic-version/style/>. The text should be typed with a line spacing of 1.5 in 12-point Times New Roman font. The Enter key should be used only to start a new paragraph, which should begin with an indented line (1 cm indentation). Margins of 2.5 cm should be left at the bottom and both sides of each page, and a margin of 2 cm should be left at the top. The standard Word function is used for typing tables, and complex mathematic formulas should be typed with the MS Word Equation Editor. The use of MathType is discouraged. It is desirable to draw chemical structures with special programs (e.g., ChemDraw).

TIFF is the best format for figures (scanned graphics) and photographs, and EPS is preferable for vector graphics. Submission of figures in JPG, GIF, and DOC formats is admissible as well. Hand-drawn and then scanned figures are not accepted. High-resolution files (no less than 600 dpi for black and white line art and 300 dpi for 256 grayscale art) are desirable. Lines in the figures should be no thinner than 0.5 pt, and lettering should be no smaller than 5 pt. If the author submits artwork that needs to be reduced, he should use larger lettering and thicker lines so that, when reduced, the artwork meets the abovementioned parameters. The best fonts for figure captions are Arial and Helvetica.

The authors are encouraged to check files of the electronic version for computer viruses before submission. If the Editorial Office detects viruses, the submitted files will be deleted immediately. Manuscripts that do not conform to these instructions will be rejected without consideration of content.

**The Editorial Board of the journal wishes the authors success in their scientific activity and will provide them any support in the publication of new, interesting results.**

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