

## INSTRUCTIONS FOR AUTHORS

### GENERAL PROVISIONS

«Problems of Radiation Medicine and Radiobiology» is a yearly-published Collection of scientific papers. Peer-reviewed articles are published, being the completed works containing new results of theoretical and experimental research, or reviews of the current state and issues in radiation medicine and radiobiology, and being of interest to researchers, physicians, specialists in radiation hygiene, epidemiology, clinical radiobiology, experimental radiobiology, radiation endocrinology, hematology, oncology, radiology, and also teachers, graduate students and students of higher educational establishments.

#### Topics of publications:

- > study of the state of health of persons affected by the Chernobyl NPP accident and other nuclear accidents, who have had or are in contact with sources of ionizing radiation in occupational activities or under medical procedures;
- > organization of damage assessment and medical care in radiation emergencies;
- > assessment of medical and demographic consequences of radiation and nuclear accidents;
- > dosimetric studies, including retrospective ones;
- > medical and biophysical support of works on post-accident facilities of the nuclear fuel complex;
- > study of the mechanisms of direct and long-term effects of ionizing and non-ionizing radiation on humans and animals, the formation of long-term radiation effects;
- > radiation pathology and radiation pathomorphosis of diseases;
- > social and hygienic research and preventive measures aimed at protecting the health of population affected by the Chernobyl NPP accident and the population of the monitoring zones of the nuclear power plants;
- > radiation hygiene and radiation safety;
- > impact of warfare on radiation safety and public health.

By the decision of the Certification Board of the Ministry of Education and Science of Ukraine the Collection of scientific works «Problems of Radiation Medicine and Radiobiology» is included in the List of scientific professional publications of Ukraine (cate-

gory A), which may publish the results of dissertations in the field of knowledge: biological sciences (order of the Ministry of Education and Science of Ukraine dated November 7, 2018 № 1218); medical sciences (order of the Ministry of Education and Science of Ukraine dated 18.12.2018 № 1412), specialties: 091 – Biology and Biochemistry, 222 – Medicine.

The Collection is included in the Register of Media Entities under media identifier R30-04830 (decision of the National Council of Ukraine on Television and Radio Broadcasting on Registration of an Entity in the Field of Printed Media No. 2215 dated 06/27/2024).

The Collection is published once a year.

The Collection is indexed in the PubMed/MEDLINE, Scopus, INIS, EBSCO, Ulrich's Periodicals Directory, CrossRef, and Scientific Periodicals of Ukraine (of the V. I. Vernadsky National Library of Ukraine) databases.

Papers are published in two languages: Ukrainian and English.

Publication of scientific papers for employees of the Collection founding institution (the NRCRMHO) is free of charge. Authors from other institutions, **upon accepting the paper for publication**, have to pay an organizational fee for editorial processing of the paper. Estimated cost of publishing is UAH 200 per one page of a **manuscript in the MS Word format document prepared for layout** with all structural elements.

Payment of organizational fee is made upon approval of the paper by reviewers, final approval of the publication text and **acceptance of the article for publication** according to details sent to the responsible author by e-mail. If the author make no payment within 10 working days from the date of sending an electronic letter by the Editorial board, the article will be rejected from publication in the current issue of the Collection. After payment, the article may be published in the current or subsequent issues of the Collection.

Preparing the manuscripts authors should be guided by provisions developed by the Editorial board based on recommendations of the Attestation Board of the Ministry of Education and Science of Ukraine and «The

Uniform Requirements for Manuscripts Submitted to Biomedical Journals. Rules for Writing and Editing Materials» developed by the International Committee of Medical Journal Editors (Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts); <http://www.icmje.org>).

The names of Editorial board members, editorial ethics principles, review procedures, information for authors, content of the collection issues, abstracts of the papers with key words and authors' places of work are presented in Ukrainian and in English on the Collection website (<http://radiationproblems.org.ua>). The full texts of articles with figures, tables, lists of references are in a free access.

### MANUSCRIPT SUBMISSION

For the review of an article by editorial staff the following should be mailed by post or submitted in person:

- 1) a scanned copy of the printout of manuscript of the paper in Ukrainian and English (an authentic translation of the Ukrainian version of the article) in .pdf format, signed on the last page by all authors;
- 2) a scanned copy of the expert opinion on the possibility of open publication of the paper in .pdf format;
- 3) a cover letter-application from the organization where the work was performed (or a letter from the author) in .pdf format;
- 4) the manuscript of the paper in two languages in the Word document format, completely identical to the printout in .pdf format; the file name in both formats beginning with the surname of the first author in Latin letters and ends with the date of submission in the format year, month, day (YYMMDD), for example, borysov\_241001;
- 5) figures in a graphic format.

Electronic versions of the paper should be sent by e-mail to the editor's address: [rad\\_problems@ukr.net](mailto:rad_problems@ukr.net). The size of the original paper should not exceed 10–12 pages and 15–20 pages of the review. A larger size of papers with original research is allowed individually, according to the Editorial board decision.

### PEER REVIEW

All papers are subject to obligatory review on the profile of scientific research by independent experts i.e. specialists in the relevant field of science (the order of reviewing the articles is set forth on the website <http://www.radiationproblems.org.ua/poryadok.html>).

A review is conducted privately for both author(s) and reviewers. Manuscript is sent to reviewers without specifying the names of the author(s) and institution(s).

Editorial board informs authors about the review results by e-mail. In the absence of meaningful comments of reviewer the paper is accepted for further work. If amendment of manuscript are required according to the reviewer's comments, editors return manuscript and review statement to the authors for correction or reasoned response to reviewers. Manuscript rewritten by authors is repeatedly sent to reviewer and in case of no repeated comments the paper is accepted for further work.

In the event of a reviewer's conclusion that the paper cannot be published, the editorial board decides to reject it and informs the authors about that.

Final decision on the appropriateness of publishing the paper is made by the Editorial board.

Manuscripts of papers are not returned.

Original articles and reviews of them are stored in the Editorial office for 3 years from the date of publication.

### SPECIFICATION OF REQUIREMENTS TO THE TEXT OF A PAPER

The submitted papers should be typed in the MS Word for Windows software (font Times New Roman 12, spacing 1, paper size A4 (210 × 297 mm) page margins at all sides 1.5 cm, numbered pages). If the MS Word feature «Review» was used, then before saving the file one should cancel the «Review» function and then use the function «Accept all changes». Spaces and tabs are not allowed when formatting paragraphs and headings. Only a dash is used as a punctuation mark. Only dashes are placed between numbers in digital form and should not be spaced from numbers.

Such signs as #, %, ‰, symbols of mathematical operations and other symbols ( $\pm$ , ?, :, =, >, <,  $\geq$ ,  $\leq$ , etc.) should be separated from numbers by a continuous space.

All designations and denominations of units of physical values must be submitted in accordance with the International System of Units (SI). If the research was carried out using the devices that give values in other units, the latter should be transferred to the SI system by submitting the non-system units in round brackets. Terms are to be presented in accordance with the terms and concepts defined in the State Hygiene Regulations «Norms of Radiation Safety of Ukraine (NRBU-97)», international anatomical and histologi-

cal nomenclature, and rules of the genetic nomenclature; biochemical terms, abbreviations, symbols are to be given with taking into account the rules of their use, recommended by the Commission on Biochemical Nomenclature of the International Biochemical Union; the names of diseases – according to the International Classification of Diseases 10<sup>th</sup> version (ICD-10); names of pharmacologic drugs are to be stated according to the International Non-Patent Names (INN).

Abbreviations (capitalized only) are included in the text only after their first mention with full decryption.

Data presented in the tables should not duplicate data of the figures and text of the paper, and vice versa.

Original articles should conform to the IMRAD format «Introduction, Methods, Results and Discussion» and contain the following clearly separated sections: 1) introduction; 2) objective of the study; 3) materials and methods; 4) results and their discussion; 5) conclusions; 6) information about sources of research funding; 7) expression of gratitude; 8) information about conflict of interest; 9) list of sources used; 10) information about authors. Abstracts of original papers should also be structured accordingly: introduction, objective of the study, materials and methods, results and their discussion, conclusions, key words.

Review articles can be unstructured or divided into sections that have thematic subheadings.

**Sequence of manuscript components should be the following:**

- 1) initials and surnames of authors;
- 2) full official name of each institution where the work was performed with postal address;
- 3) paper title;
- 4) abstract;
- 5) key words (from 5 to 10 words or wordgroups relevant to the paper content);
- 6) paper text;
- 7) references;
- 8) information about authors.

The paper title is to be as short as possible (up to 10–12 words), conclusive with no acronyms.

No hyphenation in headings of all levels and in table headings is allowed.

If authors have different affiliations then each surname is to be marked at the end with a superscript figure indicating the respective affiliation. The corresponding author should be marked with an «envelope». The corresponding author should state clearly if his/her e-mail address can be shown in a published paper.

Paper submitted in English is to mandatorily include the abstracts in two languages.

The surname, first name, patronymic, post and e-mail address, phone numbers (office, home or cell) of the corresponding author are to be denoted on the last page of the paper.

**Abstract** of the original paper (up to 350 words) should be structured as following:

- a) introduction;
- b) objective of the study;
- c) materials and methods;
- d) results;
- e) conclusions;
- f) keywords.

Abstracts of the review papers are to be descriptive and unstructured. No abbreviations are allowed, except for commonly used ones.

### **Text of the article**

The paper should be thoroughly edited and verified by the authors. Presentation of the material should be clear, without long introductions and repetitions.

Authors are fully responsible for the content and reliability of data in the paper.

Original articles should contain the following clearly delimited sections: 1) introduction; 2) research objective; 3) materials and methods; 4) results and their discussion; 5) conclusions; 6) sources of funding; 7) information about the conflict of interest; 8) list of sources used; 9) information about the authors.

Review articles can be unstructured or divided into sections.

Size of an original paper should not exceed 10–12 pages, a review article – 15–20 ones. A larger volume of an article with original research is allowed on an individual basis by decision of the Editorial board.

**Introduction.** Substantiation of the conducted study should be outlined, providing an opportunity to assess the current state of the problem at a global level (including at least 15–20 references to periodical scientific publications published for the last 5–10 years). It should briefly cover the general statement of the problem and its connection with actual scientific or practical tasks, analysis of recent research and publications in which the solution of this problem was initiated and on which the author relies (authors rely), highlight the previously unresolved parts of the general problem to which the specified paper is devoted.

**Objective.** Just the objective of the study or hypothesis that has been tested are to be briefly and clearly formulated.

**Materials and methods.** Description of the research design and data analysis is to be provided in concise but clear way needed, so that other researchers can reproduce the research results. Here the reference(s) should be made to the commonly used methods, a detailed presentation of the already published, but still not wellknown methods are to be described briefly with a link to the source, while the description of new and substantially modified methods is to be stated with substantiation of their application. Detailed description is required for the new methods only. The names of machines, materials, reagents, and manufactures (companies) should be submitted.

This section should clearly and in detail describe how patients were selected for observations or animals for experiments (including control groups) with the inclusion and exclusion criteria statement.

In experimental studies, the species, gender and number of animals should be indicated both with methods of anesthesia during manipulations or taking samples, materials for laboratory research, and methods of euthanasia of animals in accordance with the European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Research (1986; [http://zakon5.rada.gov.ua/laws/show/994\\_137](http://zakon5.rada.gov.ua/laws/show/994_137)), general ethical principles of experiments on animals, adopted by the Law of Ukraine «On the Protection of Animals from Cruelty» (<https://zakon.rada.gov.ua/laws/show/3447-15>; revised 06.11.2023), decisions of the 1<sup>st</sup> National Congress of Ukraine on Bioethics («General Ethical Principles of Experiments on Animals», 2001), methodological recommendations of the bioethics committees under the presidiums of the National Academy of Sciences and Academy of Medical Sciences of Ukraine, the Central Bioethics Commission of the Ministry of Health of Ukraine, State Pharmacological Center of the Ministry of Health of Ukraine (2006) and the «Procedure for conducting the experiments on animals by scientific institutions» (approved by Order of the Ministry of Education and Science, Youth and Sports of Ukraine dated 01.03.2012 No. 249) (<http://zakon.rada.gov.ua/laws/show/z0416-12>).

Clinical trials should be conducted in accordance with the Good Clinical Practice standards (<https://www.ema.europa.eu/en/ich-e6-r2-good-clinical-practice>; [https://www.who.int/medicines/areas/quality\\_safety/safety\\_efficacy/gcp1.pdf](https://www.who.int/medicines/areas/quality_safety/safety_efficacy/gcp1.pdf)) and the principles of the Declaration of Helsinki of the World Medical Association on the Ethical Principles of Conducting Scientific Medical Research Involving Human Subjects (1964–2000), the Convention on

Bioethics of the Council of Europe (1997), the provisions of EU Directive 2010/63/64 of 22.10.2010. Research participants must be familiarized with the objective and main provisions of the research, after which they must sign a written consent to participate in the study.

Authors should give details of the procedures described in the study protocol and indicate the approval of the latter by the Medical Ethics Committee.

At the end of the section «Materials and Methods» a subdivision «Statistical data processing» is to be included, specifying the methods of data processing the author(s) had used.

When describing the research structure and statistical methods it is necessary to specify which statistical package (PC software) available to the average user was applied in statistical processing of the results.

Wherever possible, it is recommended that standard statistical techniques be used with reference to familiar manuals and textbooks. For the non-traditional or any new statistical methods the reference should be made, in which a detailed description of the applicable mathematical methods and algorithms is published.

**Results and discussion** should include an outline of the main research material with a full substantiation of the scientific results obtained.

**Results** should be represented in a logical sequence in the text, in tables and figures. The table and figure data are not to be repeated in the text, while only their comparison is required. Summarizing the quantitative data it is necessary to indicate not only relative (for example, percent), but also their absolute values, and also indicate which statistical methods have been applied for their analysis.

**Discussion. The separate section.** Contains only the interpretation of results, but not their repetition. It is necessary to highlight the new and important aspects of study results, analyze any possible mechanisms or interpretation of these data, if possible, compare them with data of other researchers (10–15 references to the papers in the international scientific journals over the last 5 years). Discussion may include the wellgrounded recommendations for practice and possible perspectives for applying the results in future studies.

**Conclusions.** Results of solving the problem indicated in the title and objective of the paper are to be stated here. Conclusions are to be concise, specific, include new information with no paraphrase of any sections of the article, including the «Discussion». Prospects for further research may be outlined.



It can be noted how the results correlate with expectations and previous research, if the article results support or not support previous theories, how the research influenced the progress of scientific knowledge.

**Funding.** All sources of research funding should be stated, including direct and indirect financial support (provision of equipment/materials, other types of support). The names of the organizations that funded the research must be fully specified.

**Acknowledgements.** Persons, institutions, organizations that contributed to the research and assisted in the work on the paper can be stated in this section.

**Conflict of interests.** A real or potential conflict of interest should be stated. If there is no conflict of interest, it should be written that «the author declares no conflict of interest».

**Information about the authors.** Information about all authors, indicating their first, second (abbreviated) and family names, academic degree, academic title, position and place of work should be stated in Ukrainian and English. The ORCID iD can be stated if available.

**Key words:** 3–6 words or phrases that do not duplicate the title, correspond to the content of work, and specify the information about the research are required presented with separations by semicolons.

### Illustrations

**Figures** should be clear, photos are to be rich in contrast. Figures should be placed in the body text, names of pictures and descriptions should be submitted under the figures. All curves, letters, numbers and other symbols on figures should be described there. Links to the main text are permitted to avoid repetition and misreading. The magnification and staining should be specified in descriptions of photomicrographs.

Figures (diagrams, graphs, charts, pictures) are to be submitted either in black and white or in color, the diagrams – made as MS Word charts or in MS Excel format. They should contain all the necessary notation of coordinate axes, curves, and other details. All lines, curves, symbols denoting the axes should be clearly depicted (curved line being thicker than coordinate axes).

Pictures with rendering and photos should be saved in TIFF or JPEG format.

Vector images should be saved in EPS format.

If the figures are composed of several elements, the latter should be grouped together. All figures should be submitted for editing with no additional reference to

the author (the separate MS Excel image files should be sent to the editor if necessary).

### Tables

Tables should be clear having the name and serial number and contain all the necessary data in a compressed style. The dimensions and form of data presentation ( $M \pm m$ ;  $M \pm SD$ ; Mt; Mo; percentile, etc.) are to be specified.

All figures, totals, and percentages in tables should be checked thoroughly and comply to the text content. Each table must be referenced in the text. All explanations including expanding of abbreviations are to be given in the notes.

### Formulas/equations

Formulas/equations should be formulated in Equation Editor – Math Type labeled/enumerated in parentheses on the right. The long equations can be written in several lines.

Symbols in mathematical formulas should be formatted in the Italic style with especial attention to uppercase and lowercase letters which hardly differ in their writing: P and p, C and c, K and k, etc.

### References

Preference should be given to publications in the recent (5–10) years.

Sources of literature are to be placed in order of mentioning in the text. If the cited article has a DOI, it should be specified at the end of the description. If there is no DOI for the cited source but is hosted on the Internet, it is advisable to include its URL in the description.

Recommended number of bibliographic references is 20–40 sources for the original papers and up to 100 sources for the review ones.

Self-citation (references to the author's publications) should not exceed 10–15% of the bibliography.

At least 50% references should be the sources from publications indexed in the international scientometric databases (Scopus, Web of Science).

Preference should be given to references to periodical scientific publications along with minimum citations of textbooks, manuals, reference books, dictionaries, theses, reports, dissertations, and other small-circulation publications that may not always be available.

References are to be stated in the text of paper in a sequence of their mentioning, being denoted as Arabic numerals in square brackets. References to unpublished works are not permitted.

The author(s) are responsible for the accuracy of the data sources used in the list.

When describing the electronic resources of remote access (from the Internet) it is necessary to specify the date of access to the document in parentheses after the electronic address.

When generating the References list the Vancouver style should be used, been formalized by the International Committee of Medical Journal Editors in the «Citing Medicine» document and adopted by the US National Library of Medicine database MEDLINE/PubMed.

More detailed information on preparation of References in accordance with this style can be found at: [https://www.nlm.nih.gov/bsd/uniform\\_requirements.html](https://www.nlm.nih.gov/bsd/uniform_requirements.html) and <http://www.nlm.nih.gov/citingmedicine>.

Titles of periodicals should be abbreviated according to the style adopted in the Index Medicus. Abbreviated titles of the journals can be revised (i.e. decoded or checked a correct reduction) on the respective journal websites or PubMed website: <https://www.ncbi.nlm.nih.gov/nlmcatalog/journals>.

### **Ethical issues**

Ethical issues of scientific publications are described in detail on the site of the Collection (<http://www.radiationproblems.org.ua/etika.html>).

Authors who submit the manuscript to the Collection of Scientific Papers for review ensure that all ethical standards of publication and ethical norms are met.

### **Authorship**

All persons designated as «authors» have to meet the criteria of this concept.

Participation in the work of each participant should be sufficient to take responsibility for its content.

The right of authorship is based on significant contribution to the conception and design of the study or to analysis and interpretation of data, preparation of the text of paper or making fundamental changes, final approval of the version submitted for publication.

Participation only in providing the funding or selection of material for the paper does not justify the inclusion to the authors' group. General management of the research team is also not considered sufficient for an authorship.

Sequence in which the authors are listed is defined by their joint decision.

All team members who do not meet the criteria of authorship should be listed with their consent in the «Acknowledgements» section.

Editors have a right to enquire the authors for contribution of each of them in the paper writing and this information may be published.

### **Conflict of interests**

Conflict of interest regarding the particular manuscript occurs when one of the participants of the review or publication process i.e. author, reviewer or editor has a commitment/obligation which could affect his or her opinion (even if it's absent) through scientific competition, intellectual preferences, personal or financial relationships.

All persons and organizations that promote the implementation of research (financial support, financial or other contribution to the collection, analysis and interpretation of data) should be referred to in the manuscript.

Participants of the review and publication process must disclose all conflicts of interest. Authors should indicate the names of those to whom in their opinion the manuscript should not be sent for reviewing usually due to the professional conflict of interests. Authors when submitting a manuscript are responsible for the disclosure of their financial and other conflicts of interest that can affect the work.

Reviewers must notify the Editorial board of any conflicts of interest that may affect their opinion about the manuscript, and they have to refuse from reviewing of a specific paper if consider it appropriate.

The Editorial board should be able to evaluate the objectivity of the reviews and decide whether or not it is necessary to refuse from the help of the reviewer. Editors may use information provided in the reports on the presence of conflicts of interests and financial interest as a basis for making the editorial decisions.

Editors who make decisions about manuscripts must have no personal, professional or financial interest/participation in any matter they can be addressed.

### **Compliance with patient rights and confidentiality**

Patients have the right to maintain confidentiality that cannot be disclosed without their consent. Information that allows the identification of a person, including patient names, initials, hospital numbers/codes and medical records, should not be published in the form of written descriptions, photographs and pedigrees unless this information is of high scientific value or if the patient (or the parent or guardian) will provide a written consent for the publication. Authors must inform the patient whether there is likely that the material allowing to ascertain identity of the person

will be available online after publication. Authors must provide to Editorial board a written informed consent of the patient to disseminate information and state this information in the article.

#### **Protection of humans and animals within scientific research**

If the paper contains descriptions of experiments involving human subjects, authors should indicate whether they were conducted in accordance with the ethical standards of the committee responsible for experiments involving human subjects (whether institutional or national), the standards of Good Clinical Practice (<https://www.ema.europa.eu/en/ich-e6-r2-good-clinical-practice>; [https://www.who.int/medicines/areas/quality\\_safety/safety\\_efficacy/gcp1.pdf](https://www.who.int/medicines/areas/quality_safety/safety_efficacy/gcp1.pdf)) and the principles of the World Medical Association Declaration of Helsinki on Ethical Principles of Conducting Scientific Medical Research Involving Human Subjects (1964–2000), the Council of Europe Convention on Bioethics (1997), and the provisions of EU Directive 2010/63/64 of 22.10.2010. Participants in the study should be informed of the objective and main provisions of the study and should then sign a written informed consent form.

In doubtful cases, authors should provide a justification for their approaches and evidence that the institutional review board has approved the aspects of the study that are questionable.

When describing experiments involving animals, authors must indicate whether the requirements of the European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Research (1986; [http://zakon5.rada.gov.ua/laws/show/994\\_137](http://zakon5.rada.gov.ua/laws/show/994_137)) were met, the general ethical principles of animal experiments adopted by the Law of Ukraine «On the Protection of Animals from Cruelty to Animals» (<https://zakon.rada.gov.ua/laws/show/3447-15>; revised 06.11.2023), the decisions of the 1<sup>st</sup> National Congress of Ukraine on Bioethics («General Ethical Principles of Animal Experiments», 2001), the

methodological recommendations of the bioethics committees under the presidiums of the National Academy of Sciences and Academy of Medical Sciences of Ukraine, the Central Bioethics Commission of the Ministry of Health of Ukraine, the State Pharmacological Center of the Ministry of Health of Ukraine (2006), and the «Procedure for Conducting Experiments on Animals at Scientific Institutions» (approved by Order of the Ministry of Education and Science, Youth and Sports of Ukraine dated 01.03.2012 No. 249) (<http://zakon.rada.gov.ua/laws/show/z0416-12>).

#### **Publication of negative results**

Many studies showing negative results are in fact incomplete/inconclusive. Possibility to publish the inconclusive research results is reviewed by Editorial board in a special manner, as such papers often are of no biomedical value.

#### **Multiple publications**

Editorial board does not accept for reviewing the manuscripts submitted simultaneously for publication to other journals, as well as works that are foremost already published as articles or are a part of another paper, provided or accepted for publication in other printed source or electronic media. This does not preclude the reviewing of articles not accepted for publication by another journal, or a complete description provided after the publication of preliminary results, i.e. abstracts or poster presentations at scientific conferences.

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Editors reserve the right for literary and scientific editing of papers.

Articles not meeting the specified requirements will be neither reviewed nor accepted.

Authors are sent the author's copies of the Collection of scientific papers.