



Ministry of Science and Higher Education of the Russian Federation  
Vyatka State University  
Institute of Biology of Komi Science Center  
of Ural Branch of the Russian Academy of Sciences  
Liaoning Institute of Science and Technology (Benxi, China)

## **INFORMATION LETTER**

International scientific and practical conference

# **ECOLOGY OF NATIVE LAND: problems and ways of their solution**

April 23-24, 2024

Kirov

## Dear colleagues!

We invite you to take part in the International scientific-practical conference "Ecology of the native land: problems and ways of their solution", which will be held in Kirov on April 23–24, 2024.

The conference is held in the framework of the events dedicated to the Decade of Science and Technology, the 300th anniversary of the Russian Academy of Sciences, 80th anniversary of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences and 650th anniversary of the city of Kirov.

### CONFERENCE ORGANIZERS

The conference events are organized and conducted by the Federal State Budgetary Educational Institution of Higher Education "Vyatka State University" (VyatSU) together with the Institute of Biology of Komi Science Center of the Ural Branch of the Russian Academy of Sciences (IB FRC Komi SC UB RAS) and Liaoning Institute of Science and Technology (Benxi, China).

The conference events are supported by the Ministry of Environmental Protection of the Kirov region, the Public Chamber of the Kirov region, the Vyatka Chamber of Commerce and Industry, Kirovo-Chepetsk Chemical Company of URALCHEM, Kirov Branch of Sberbank of Russia.

### ORGANIZING COMMITTEE

**Litvinets S. G.**, Ph.D. in Agricultural Sciences, Vice-Rector for Science and Innovation, VyatSU (Chairman);

**Chadin I. F.**, Ph.D. in Biology, Director of IB FRC Komi SC UB RAS (Deputy Chairman);

**Ashikhmina T. Ya.**, Doctor of Technical Sciences, Professor, Head (Chief Scientist) of the Research Laboratory of Biomonitoring (RLB) of IB FRC Komi SC UB RAS and VyatSU (Deputy Chairman);

**Bazhin K. S.**, Ph.D. in Pedagogical Sciences, Vice-Rector for Strategic Development and Project Activities of VyatSU;

**Fomin S. V.**, Candidate of Technical Sciences, Vice-Rector for International Activities of VyatSU;

**Kozulin D. A.**, Ph.D. in Chemistry, Director of the Institute of Chemistry and Ecology, VyatSU;

**Sazanova M. L.**, Ph.D. in Biology, Research Associate of the RLB of IB FRC Komi SC UB RAS and VyatSU (Secretary of the Organizing Committee);

**Ryabova E. V.**, Ph.D. in Biology, Head of the Department of Ecology and Environmental Science, Institute of Chemistry and Ecology, VyatSU;

**Khrapova N. V.**, Head of Department, Kirov Branch of Sberbank of Russia.

**Syrchina N. V.**, Ph.D. in Chemistry, Senior Researcher of the RLB of IB FRC Komi SC UB RAS and VyatSU;

**Kardakova E. M.**, senior laboratory assistant of the RLB of IB FRC Komi SC UB RAS and VyatSU (technical secretary).

## CONFERENCE ACTIVITIES

1. Regional youth competition "My Favorite City" dedicated to the 650th anniversary of Kirov.

2. International scientific and practical conference "Ecology of the native land: problems and ways of their solution".

## SCIENTIFIC PROGRAM

### **Regional youth competition "My Favorite City", dedicated to the 650th anniversary of the city of Kirov (April 23, 2024)**

The contest is open to students of general and professional educational organizations, students, postgraduates, young specialists, workers, artists and young scientists (up to 30 years of age inclusive) who have prepared a competitive work in the form of a project: a literary or musical work about the city, a historical almanac about the city and its people, an architectural model, a model of a public garden, park, street, a model of landscaping of the urban environment, projects to solve environmental problems, as well as oral reports with a presentation at the conference.

The contest is held in the following nominations:

1. Environmental protection and ecology
2. Environmental management
3. Agriculture and organic farming
4. Architecture and improvement of the urban environment
5. Culture and creativity
6. Science and new technologies
7. Education
8. Health and sports
9. Production of goods and services

The competition regulations and registration form are available at <http://envjournal.ru/ecolab/knf.php>.

Materials sent to the contest will not be placed in the conference proceedings.

**International Scientific and Practical Conference**  
**"Ecology of the native land: problems and ways of their solution"**  
**(April 23-24, 2024)**

The conference will be held in a hybrid format: face-to-face and remote participation. The work of the conference includes a plenary session and sections.

The conference program includes discussion of a wide range of topical fundamental and applied issues in the following scientific directions:

1. To the Jubilee - 650th anniversary of the city of Kirov - is dedicated (creative, author's works: Vyatka poets, writers, artists, architects).
2. Scientific research and development.
3. Ecological problems of the regions, ways of solution.
4. Ecological monitoring of the environment.
5. Chemistry and ecology of soils and microorganisms.
6. Biology and ecology of plants and animals.
7. Social ecology and health.
8. Digital technologies in ecology.
9. Production and consumption waste: environmental aspects.

Conference languages – Russian, English.

Information about the conference, participant registration form and requirements for the design of materials are available on the conference website <http://envjournal.ru/ecolab/knf.php>.

By the beginning of the conference the program will be published and posted on the conference website <http://envjournal.ru/ecolab/knf.php>.

The collection of conference articles is assigned ISBN, UDC, BBK. Conference materials will be included article by article in the Russian Science Citation Index (RSCI). The electronic version of the publication will be placed in the electronic library database [www.elibrary.ru](http://www.elibrary.ru).

**DEADLINE**

Registration and submission of paper (for Russian-speaking foreign participants)	March 25, 2024
Submission of the report/paper and report/paper presentation (for English-speaking foreign participants)	April 8, 2024
Payment of the organizational fee	April 15, 2024
Registration of participants and submission of materials for the competition	April 15, 2024
Summarizing the results of the competition	April 23, 2024
Opening of the conference: Plenary session	April 23, 2024
Work of the conference sections	April 24, 2024

### **For Russian-speaking participants:**

To participate in the conference it is necessary to fill in the electronic registration form **until March 25, 2024**, where you should place a file with the paper (3–5 pages) on the conference website <http://envjournal.ru/ecolab/frm.php>.

Requirements for the design of the article see in Appendix 2.

When preparing an article, you can use the template of article design (Appendix 3 and 4).

The official invitations will be sent to the e-mail address specified during registration. On the necessity of sending a personal invitation to make a note in the registration form.

Articles of students and graduate students are accepted only in co-authorship with the supervisor.

***Attention! Materials sent after March 25, 2024, or do not correspond to the conference theme, or made in violation of the requirements to the design (including the design of the references), are not considered and will not be published!***

Materials are not reviewed and can be rejected from publication by the decision of the Program Committee.

The Program Committee reserves the right, based on the content of the submitted materials, to determine the form of the applicant's report at the conference (plenary or sectional) and section.

### **For English-speaking participants:**

To participate in the conference it is necessary to fill in the registration form (Appendix 1) and send it with report/paper and report/paper presentation to the e-mail [confbioeco@gmail.com](mailto:confbioeco@gmail.com) or [usr11839@vyatsu.ru](mailto:usr11839@vyatsu.ru) **until April 8, 2024**. File titles – by first author's last name: *Longden\_reg.doc* (or *Longden\_reg.docx*), *Longden\_paper.doc* (or *Longden\_paper.docx*), *Longden\_pres.ppt* (or *Longden\_pres.pptx* or *Longden\_pres.pdf*)

Requirements for the design of the paper see in Appendix 2.

When preparing a paper, you can use the template of paper design (Appendix 3 and 4).

The official invitations will be sent to the e-mail specified in registration form. Make a note in the registration form if you need a personal invitation to the conference.

Papers of students and graduate students are accepted only in co-authorship with the supervisor.

***Attention! Materials sent after April 8, 2024, or do not correspond to the conference theme, or made in violation of the requirements to the design (including the design of the references), are not considered and will not be published!***

Materials are not reviewed and can be rejected from publication by the decision of the Program Committee.

The Program Committee reserves the right, based on the content of the submitted materials, to determine the form of the applicant's report at the conference (plenary or sectional) and section.

## ORGANIZATIONAL FEE

Organizational fee for each article for full-time participation is paid in the amount of 600 P, for absentee/online participation – 300 P. The organizational fee is intended for partial reimbursement of costs associated with the organization and conduct of the conference (payment for publication of materials, conference package, coffee breaks). Information about the order of payment of the organizational fee will be sent to the participant's e-mail specified during registration after acceptance of materials for publication.

Employees, postgraduates and students of VyatSU and IB FRC Komi SC UB RAS, as well as foreign participants are exempted from paying the organizational fee.

## OUR CONTACTS

610002, Kirov, 113 Lenina St., Biomonitoring Laboratory of IB FRC Komi Scientific Center, Ural RAS and VyatSU.

Legal and postal address: 36, Moskovskaya St., Kirov, 610000. Biomonitoring Laboratory of VyatSU.

Secretary of the Organizing committee – Sazanova Maria (usr11839@vyatsu.ru).

Technical Secretary – Kardakova Evgeniya.

Phone/fax (8332) 37-02-77

Website: <http://envjournal.ru/ecolab/>

e-mail: [confbioeco@gmail.com](mailto:confbioeco@gmail.com)

## REGISTRATION FORM

1	Last Name* <sup>1</sup>	
2	First Name*	
3	Last name, initials*	
4	Age (full number of years)*	
5	Full name of the organization*	
6	Position (year – for students)*	
7	Academic degree (if any)*	
8	Academic title (if available)*	
9	Contact phone number	
10	E-mail*	
11	<p>Scientific direction (select):</p> <ol style="list-style-type: none"> <li>1. To the Jubilee - 650th anniversary of the city of Kirov - is dedicated.</li> <li>2. Scientific research and development.</li> <li>3. Ecological problems of the regions, ways of solution.</li> <li>4. Ecological monitoring of the environment.</li> <li>5. Chemistry and ecology of soils and microorganisms.</li> <li>6. Biology and ecology of plants and animals.</li> <li>7. Social ecology and health.</li> <li>8. Digital technologies in ecology.</li> <li>9. Production and consumption waste: environmental aspects.</li> </ol>	
12	Report title*	
13	<p>Type of report (select)</p> <ul style="list-style-type: none"> <li>- face-to-face</li> <li>- on-line</li> <li>- poster</li> <li>- publication (without report)</li> </ul>	
	I need a personal invitation to the conference	
	I consent to the processing of personal data*	
	I consent to the processing of personal data authorized for dissemination*	

<sup>1</sup> Required fields are marked with an asterisk (\*).

## REQUIREMENTS FOR THE PAPER

3–5 pages of A4 format (including tables, figures and References). A Microsoft Word file (.doc, .rtf) submitted in electronic form.

Times New Roman, 14 pt, single line spacing, margins 2 cm on all sides, paragraph indentation in the text – 1.25 cm, hyphenation – automatic.

The title is indicated at the beginning: capital letters, bold font, alignment – in the center.

Across the blank line – initials and surname(s) of the author(s) in bold italics, right-aligned.

Next line – name of the institution and e-mail address: italicized, right-aligned.

Across the blank line – abstract (300–400 characters without spaces), then across the blank line – keywords (up to 8 words).

Through an empty line – the main text, alignment – width, paragraph indentation in the text – 1.25 cm. Articles should contain: justification of relevance, purpose of the study, objects and methods of research, results and discussion, conclusion or conclusions. ***Headings of sections should NOT be indicated!***

Hyphen and dash (extended) are executed according to the rules of the Russian language.

Quotation marks should be the same throughout the text (" ").

Abbreviations should be necessarily deciphered in the text. Latin names of genera and species are italicized.

Formatting of figures, diagrams, charts, diagrams, etc. All illustrations (figures, charts, diagrams, photographs, etc.) must be readable, must be in .jpg format with a resolution of at least 300 dpi in real size; maps, schemes, etc. must be accompanied by symbols. Figure caption (Times New Roman, 14 pt, center alignment).

If there is only one figure, it is not numbered. References to the placed figures are obligatory in the text. Color illustrations are allowed only if they are readable in black-and-white printing.

Formatting of tables. Table number and table name: Times New Roman, 14 pt, single line spacing. The table number is placed above the table, right-aligned, the next line contains the table name, bold font, center alignment. If there is only one table in the article, it is not numbered. The text in the table: Times New Roman, 12 pt, single line spacing, decimal fractions in numbers are separated by a comma. References to the tables are obligatory in the text.

References are given by numbers in square brackets in the order of mentioning in the text.

References are given at the end of the article. Font Times New Roman, 12 pt, single line spacing. Do not use automatic numbering. Rules for the design of references are given in Appendix 3.

A template of the article design is given in Appendix 4.



## RULES FOR THE DESIGN OF REFERENCES

*A book by one or three authors.*

Sokolov Ya. V., Sokolov V. Ya. Hydrobiology. Moskow : Master, 2011. 288 p. (in Russian)

*A book by four authors.*

Maximum permissible concentrations and negligible concentrations for rare earth elements (REEs) / F.E.C. Sneller, D.F. Kalf, L. Weltje, A.P. Van Wezel. Bilthoven : RIVM, 2002. 66 p.

*A book by five or more authors.*

Benefits and costs of inflation targeting in Russia / P. V. Trunin, A. V. Bozhechkova, E. L. Goryunov et al. Moscow, 2019. 61 p. (in Russian).

*A book without authors.*

Guide to Bashkiria / Eds. G. V. Vakhrushev, E. I. Kadilnikova, I. K. Kudryashov, A. A. Tsvetaev. Ufa : Bashknigoizdat, 1965. 500 p. (in Russian).

*An article from the journal of one or three authors.*

Trifonova T. A. Development of a basin approach in pedological and ecological studies // Pochvovedenie. 2005. No. 9. P. 1054–1061 (in Russian).

*An article from the journal of four authors.*

Terrestrial and satellite investigations of pasture productivity of Kalmykia with different degree of vegetation degradation / A. N. Zolotokrylin, T. B. Titkova, S. S. Ulanova, N. L. Fedorova. // Aridnyye ekosistemy. 2013. V. 19. No. 4 (57). P. 31–39. (in Russian).

*An article from a print magazine by five or more authors.*

Biogeochemical signatures in the lichen *Hypogymniaphysodes* in the mid Urals / O. W. Purvis, J. Longden, G. Shaw et al. DOI: 10.1016/j.jenvrad.2006.06.008 // Journal of Environmental Radioactivity. 2006. Vol. 90. No. 5. P. 151–162.

*An article from an electronic journal of five or more authors.*

A review on cathode materials for conventional and proton-conducting solid oxide fuel cells / N. N. M. Tahir, N. A. Baharuddin, A. A. Samat et al. DOI: 10.1016/j.jallcom.2021.162458 // Journal of Alloys and Compounds. 2022. Vol. 894. Art. No. 162458. URL: <https://www.sciencedirect.com/science/article/pii/S0925838821038688> (accessed: 03.08.2023).

*An article from a collection of articles, one to three authors*

Ivanov A. A., Petrov V. S., Zaitsev S. A. Bioindication of water bodies // Bioindication of natural environments : proceedings of the All-Russian scientific and practical conference with international participation : in 2 books, Book 1. Kirov : Raduga-PRESS Publ., 2016. P. 32–36.

*An article from the collection of the scientific conference of four authors.*

Application of GIS-technologies and remote sensing to assess the ecological condition of the Nurgush Nature Reserve / V. V. Rutman, G. Y. Kantor, T. A. Adamovich, T. Y. Ashikhmina // Scientific research as a basis for the protection of natural complexes of the reserve "Nurgush": materials of the All-Russian scientific and practical conference dedicated to the 25th anniversary of the state nature reserve "Nurgush". Kirov : LLC "Polygrafovna", 2019. C. 126–128. (in Russian).

*An article from the collection of a scientific conference of five or more authors.*

Models of transformation of soil algae communities in conditions of anthropogenic contamination / R. R. Kabirov, L. A. Gaisina, L. M. Safiullina et al. // Algae and cyanobacteria in natural and agricultural ecosystems: proceedings of international conference. Kirov : Vyatskaya GSHA, 2010. P. 140–145 (in Russian).

*An electronic resource.*

Types of Fuel Cells / HFTO // ENERGY.GOV : [website]. URL <https://www.energy.gov/eere/fuelcells/types-fuel-cells> (accessed: 03.08.2023).

## BIODIAGNOSTICS IN QUALITY ASSESSMENT SURFACE WATERS

**T. A. Ivanov<sup>1</sup>, I. N. Petrova<sup>2</sup>**

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The article presents the experience of application of biological methods of biodiagnostics to assess the quality of surface water bodies. The most sensitive to chemical pollution bioindication and biotesting methods that can be used to assess the condition of surface water bodies and watercourses are determined. The dependence between water quality and species composition of algae is revealed.

Keywords: bioindication, biotesting, surface waters, water quality, algae.

XXXXXXXXXX, XXXXXXXXXXXXX 1.38 XXXXXXXXXXXX *Daphnia magna* Straus [1–3].  
XXXXXXXXXXXXXXXXXXXXXXXXX [2, 3]. X XXXXXXXXXXXXXXXXXXXX (Fig. 1). XXXXXXXX  
XXXXXXXXXXXXXXXXXXXXX (Table 1).

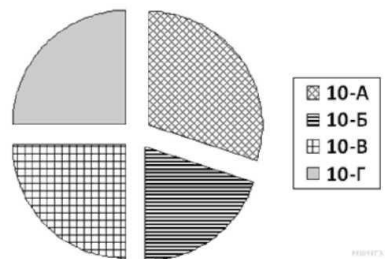


Fig. 1. Figure caption Times New Roman, 14 pt, center alignment.

Table 1

Table title Times New Roman, 14 pt, center alignment

Indicator	Indicator	Indicator	Indicator
Times New Roman, 12 pt, Single line spacing (1.0)	0,5±0,01	0,29±0,1	0,26±0,1

Note: XXXXXXXXXXXX.

### References

1. On the methodical approaches to the carbon footprint determination / B. I. Kochurov, M. Y. Glukhovskaya, M. Y. Garitskaya, T. A. Evstifeeva. DOI: 10.25750/1995-4301-2023-4-216-224 // Theoretical and Applied Ecology. 2023. № 4. C. 216-224.
2. A review on cathode materials for conventional and proton-conducting solid oxide fuel cells / N. N. M. Tahir, N. A. Baharuddin, A. A. Samat et al. DOI: 10.1016/j.jallcom.2021.162458 // Journal of Alloys and Compounds. 2022. Vol. 894. Art. No. 162458. URL: <https://www.sciencedirect.com/science/article/pii/S0925838821038688> (accessed: 03.08.2023).
3. Types of Fuel Cells / HFTO // ENERGY.GOV : [website]. URL <https://www.energy.gov/eere/fuelcells/types-fuel-cells> (accessed: 03.08.2023).