

# **International Conference on Artificial Intelligent and Agriculture Engineering**

**(AIAE2021)**

*3-4 July, 2021*

*Moscow, Russia*

**AIAE2021 Conference Program**

**AIAE2021**

## **Conference Sponsors**

**Federal Scientific Agroengineering Center VIM**

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# AIAE2021 Conference Schedule

Friday, 2 July 2021

July 2, 2021

Join Zoom Meeting (Online Participation)

<https://us02web.zoom.us/j/87258278386?pwd=bjl0MzlkMkVoYlVNVzJUOFNaNEdEZz09>

Conference ID: 872 5827 8386

Access code: 179799

11-00 (Moscow) Welcome speech of the Conference of Academician-Secretary of the Agricultural Sciences Division of the Russian Academy of Sciences Lachuga Yu.F. Welcoming speech of the Conference of the Director of FNATS VIM, member of the Presidium of the Russian Academy of Sciences, Academician Izmailov A.Yu. Welcome speech of the Conference of the President of the Russian Physiological Society. I.P. Pavlov, Academician of the Russian Academy of Sciences M.A. Ostrovsky

Welcoming speech of the Conference by prof. Z.B. Hu (RAMECS, Hong Kong, China)

Welcoming speech of the Conference by prof. Igamberdieva A.U. (Memorial University of Newfoundland, Canada)

11-30 Opening remarks of the Conference of the Chairman of the Scientific Council on Artificial Intelligence of the Russian Academy of Sciences (NSMI RAS), Lektorsky V.A. Plenary talk by Academician V.I. Chernoiivanov

*ARTIFICIAL INTELLIGENCE IN SOCIETIES AND INDUSTRY. Fundamental issues of artificial intelligence for machines and mechanisms. Applications in the agro-industrial complex* (with the participation of co-speakers V.K.Finn, E.E. Vityaev, V.G. , A.A. Zhdanova, A.Yu. Alekseeva).

12-30

Zhdanov AA, Professor, Doctor of Physical and Mathematical Sciences, Chief Researcher of the Joint-Stock Company "Institute of Precision Mechanics and Computer Science named after S.A. Lebedev Russian Academy of Sciences ", Moscow

*Is there intelligence in traditional artificial neural networks? Autonomous robotics.*

12-50

Alekseev A.Yu., scientific secretary and coordinator of scientific programs of the NSMII RAS, Doctor of Philosophy, Leading Researcher of the Department of Philosophy and Methodology of Science, Faculty of Philosophy, Moscow State University. M.V. Lomonosov, Moscow

*The philosophy of artificial intelligence*

13-20

Tolokonnikov G.K., Ph.D., FNATS VIM, Moscow

*Category models of biomash systems*

13-40

Koblyakov A.A., professor, dean of the composition department of the Moscow state conservatory named after P.I. Tchaikovsky, head of the section "Aesthetic problems of artificial intelligence" NSMI RAS, Moscow,

Petukhov SV, Doctor of Physical and Mathematical Sciences, Co-Chair of the International Interdisciplinary Seminar "Algebraic Biology and Systems Theory" A.A. Blagonravova, Moscow

*The genetic basis of organisms and musical harmony. Works on genetic music and transdimensional transitions*  
Soshinsky I.S., composer, genetic music piece "Striving" performed by laureate of international competitions  
Natalia Cherkasova (Moscow Conservatory).

15-00

Tsoi Yu.A., Doctor of Technical Sciences, member. -corr. RAS, FNATS VIM, Moscow  
*Temporary technical-economic aspects of biomachsystems management*

15-20

Khrennikov A.Yu., Doctor of Physics and Mathematics, Professor of Mathematics, Faculty of Mathematics, University of Linnaeus, Director of the International Center for Mathematical Modeling (ICMM), University of Linnaeus, Sweden.

*Social laser for urban and rural societies: a quantum model of unconscious-conscious interaction*

15-40

Umryukhin A.E., Doctor of Medical Sciences, Head of the Department of Normal Physiology, Sechenov University, Moscow

*Physiology of humans and animals in the mathematical information model of a functional system according to P.K. Anokhin*

16-00

**A. Yu. Izmailov, V. D. Popov, E. V. Shalavina, M. Yu. Okhtilev, V.N. Koromyslichenko**  
*Digital monitoring system designed to address the challenges of making agricultural production environmentally friendly*

16-20

**Oleg Gurov, Conceptual Model of a Universal Agro-Industrial Cyborg**

16-40

**Yu. Lopatina, A. Sviridov S. Tuzilin, Application of 3D Printing and 3D Scanning Technologies in the Manufacture and Repair of Agricultural Machinery**

17-00

End of the first day of the Conference

July 2, 2021

Join Zoom Meeting (Online Participation)

<https://us02web.zoom.us/j/81533428502?pwd=UkhXbVA1bStJQjB1a0hBOVdBV1VuQT09>

Conference ID: 815 3342 8502

Access code: 154885

Scientific reports in English (online, program on the Conference website  
<http://www.icics.net/conf/2021/AIAE2021/index.html>)

July 3, 2021

Join Zoom Meeting (Online Participation) <https://us02web.zoom.us/j/85419214306?pwd=Q2JIREU1M0wrSVFJV29mUHZHMWRrQT09>

Conference ID: 854 1921 4306 Access code: 714860

Scientific reports in English (online, program on the Conference website  
<http://www.icics.net/conf/2021/AIAE2021/index.html>)

Adoption of decisions of the Conference. Closing of the Conference.

**Saturday, 3 July 2021**

<b>ID</b>	<b>Time</b>	<b>Title and the video link of the papers</b>	<b>E-mail for questions to the presentation of the paper</b>
<b>1508</b>	10:00-10:20	<a href="#">Mixed parametric and self-oscillations with delayed damping</a>	a.alifov@yandex.ru
<b>1509</b>	10:20-10:40	<a href="#">Method for Fuzzy Assessment of the Sustainability of Agricultural Engineering</a>	letter-boxNM@yandex.ru
<b>1510</b>	10:40-11:00	<a href="#">Strengthening of Agricultural Machinery parts by Cryogenic Laser Shock Processing Technology</a>	sakhvadze@mail.ru
<b>1511</b>	11:00-11:20	<a href="#">Selection of the optimal processing mode for cast and deformed doped alloy with shape memory effect</a>	sakhvadze@mail.ru
<b>1512</b>	11:20-11:40	<a href="#">Temperature and deformation modes of processing cast and deformed alloy with shape memory effect ligated with iron</a>	dinara.khasyanova@mail.ru
<b>1514</b>	11:40-12:00	<a href="#">Prediction of Heating Time of Palm oil by Combining YOLO and Regression Model</a>	594728573@qq.com
<b>1516</b>	14:00-14:20	Research on the prediction model of sow PSY classification under different breeding modes based on machine learning	1275962599@qq.com
<b>1519</b>	14:20-14:40	<a href="#">Conceptual Model of a Universal Agro-Industrial Cyborg</a>	gurov-on@ranepa.ru
<b>1520</b>	14:40-15:00	<a href="#">Cluster analysis for building the Generalized loading block in agriculture machines parts</a>	gadolina@mail.ru
<b>1522</b>	15:00-15:20	<a href="#">Risk Assessment of a Technical Re-Equipment Project Based on Fuzzy Logic</a>	letter-boxNM@yandex.ru
<b>1523</b>	15:20-15:40	<a href="#">Method of reducing friction in the plow moldboard with soil during cultivation</a>	b_constantine@ukr.net
<b>1524</b>	15:40-16:00	<a href="#">Artificial Intelligence in agricultural industry: theatrical conceptual framework</a>	pavelalexeev.work@mail.ru
<b>1525</b>	16:00-16:20	Semantics of values/purpose of computer systems in a uniform 3D format	aa65@list.ru
<b>1526</b>	16:20-16:40	A system approach for the agro-industrial complex based on the theory of biomachsystems	admcit@mail.ru
<b>1527</b>	16:40-17:00	<a href="#">Ways to reduce negative impacts from the use of rapeseed oil as a fuel for diesel engines</a>	evo-xpro-info@yandex.ru
<b>1528</b>	17:00-17:20	<a href="#">Intellectual Biotechnical Systems in Livestock: Theoretical Aspects</a>	geletiyd@gmail.com

<b>1531</b>	17:20-17:40	Digital Wireless Mini-Transduce of Plant Thermoregulation	natalia.86@inbox.ru
<b>1532</b>	17:40-18:00	<a href="#">The Installation on Water-Ice Phase Transition</a>	eig85@yandex.ru
<b>1533</b>	18:00-18:20	The Development of the Technology for Production of Humic Preparations	f-mitrofanoff2015@yandex.ru

**Sunday, 4 July 2021**

<b>ID</b>	<b>Time</b>	<b>Title and the video link of the papers</b>	<b>E-mail for questions to the presentation of the paper</b>
1534	10:00-10:20	Efficiency of Humic Preparations in Pre-seeding Treatment of Spring Wheat	f-mitrofanoff2015@yandex.ru
1536	10:20-10:40	<a href="#">Digital monitoring system designed to address the challenges of making agricultural production environmentally friendly</a>	shalavinaev@mail.ru
1537	10:40-11:00	Diagnostics and analysis of the technical condition of agricultural machinery using artificial intelligence	unlimited-007@yandex.ru
1538	11:00-11:20	<a href="#">Development of a robotic platform for apple harvesting</a>	alexeykutyrev@gmail.com
1540	11:20-11:40	<a href="#">Identification of the cow's nipples using a 3D camera with ToF technology</a>	deninfo@mail.ru
1542	11:40-12:00	Energy Evaluation of Technologies of Fallow Lands Recultivation at High Humidity depending on Degree of Weed Infestation	a.v.dobrinov@yandex.ru
1544	14:00-14:20	Convergence of the Autonomous System Control Technologies [in two parts], part 2: The Review of the Integration Components	rozhnovav@gmail.com
1545	14:20-14:40	<a href="#">Intelligent Telemedicine Systems for Countryside and Agriculture</a>	levelmoscow@mail.ru
1548	14:40-15:00	<a href="#">Neuroeconomic Modeling Of Distributed Barter Systems</a>	neurocomp.pro@gmail.com
1549	15:00-15:20	Agricultural Autonomous Robotic Platform Motion Control	GVMoiseev@fa.ru
1550	15:20-15:40	<a href="#">Using Computer Vision Techniques to Identify Disease-Infected Potatoes</a>	remueur@yandex.ru
1551	15:40-16:00	<a href="#">The Multi-cubic Neural Network and Basics of The Algebra of Signature</a>	alsignat@yandex.ru
1552	16:00-16:20	<a href="#">Application of 3D Printing and 3D Scanning Technologies in the Manufacture and Repair of Agricultural Machinery</a>	
1553	16:20-16:40	<a href="#">Assessment and analysis of the impact on the soil of agricultural tractors produced in Russia</a>	lera_zubina@mail.ru
1554	16:40-17:00	Temporary, technical and economic aspects of biomachsystems management	admCit@mail.ru
1555	17:00-17:20	<a href="#">Determination of the optimal speed of movement of the conveyor belt of the prototype weighing belt batcher</a>	shestov.d.a@gmail.com

<b>1556</b>	17:20-17:40	<a href="#">Development of the Installation on Water-Ice Phase Transition in Dairy Farming</a>	eig85@yandex.ru
<b>1557</b>	17:40-18:00	Mathematical model of the pathological process of toxic hepatitis when reproduction in the animal body as a result of intoxication with carbon tetrachloride	vak@kirovgma.ru
<b>1559</b>	18:00-18:20	<a href="#">Determination of the quality of overwintering of selection winter grain crops using vegetation indices</a>	smedia@vim.ru

**Note:** Please click on the title of the paper to watch the video presentation. Each video is about 20 minutes. If you have any questions, please contact the author's email. The authors should reply to any questions of the paper in time. If you have any questions, please don't hesitate to contact us by email [aiae@icics.net](mailto:aiae@icics.net).