



Co-funded by the
Erasmus+ Programme
of the European Union



Immanuel Kant
Baltic Federal
University



AUEZOV
UNIVERSITY
1943



AMANZHOLOV
UNIVERSITY

INTERNATIONAL SUMMER ONLINE SCHOOL

STEM vs. STEAM: TRENDS AND STRATEGIES

JUNE 28 – JULY 2, 2021

PROGRAMME










June 28, Monday

Official Start of International Summer School

Plenary Session:

Presentation of STEM-practices at Partner Universities






Moscow time	CET	Full name and position of the speaker, University (country)	Language
14.00-14.15	12.00-12.15	Summer School Opening, Faculty Presentation Dr. Olga Kim – Vice Rector for International Affairs, Immanuel Kant Baltic Federal University, Kaliningrad, Russia Prof. Anna Budarina – Director of the Institute of Education, Immanuel Kant Baltic Federal University, Kaliningrad, Russia	
14.15-14.35	12.15-12.35	Dr. Maxim Bondarev , Head of the Department of Primary Education, STEM project coordinator, Southern Federal University, Russia	
14.35-14.55	12.35-12.55	Dr. Maxim Velichko , Head of the Department of Mathematics, Belgorod State University, Russia	
14.55-15.15	12.55-13.15	Prof. Anna Budarina , Director of the Institute of Education, Immanuel Kant Baltic Federal University, Kaliningrad, Russia	
15.15-15.35	13.15-13.35	Mr. Jonas Bäckelin , Education Specialist, Linköping University, Sweden	
15.35-15.55	13.35-13.55	Dr. Gaukhar Omashova , Director of the Strategic Development Department, STEM-project coordinator, M. Auezov South Kazakhstan University, Kazakhstan	
15.55-16.15	13.55-14.15	Dr. Dinara Saparova , Head of the Department of Strategy, International Cooperation and Accreditation, S. Amanzholov East Kazakhstan State University	

June 29, Tuesday

Track 1. Metadisciplinary thinking

Moderator: *Dr. Kseniya Degtyarenko,*
Senior Manager for educational programs,
Immanuel Kant Baltic Federal University

Moscow time	CET	Full name and position of the speaker, University (country)	Topic	Language
10.00-10.25	08.00-08.25	<i>Prof. Svetlana Konyushenko,</i> Professor of the Institute of Education, Immanuel Kant Baltic Federal University, Russia	On introducing STEAM-practices in Bachelor educational programs	
10.25-10.50	08.25-08.50	<i>Dr. Dinara Saparova,</i> Head of the Department of Strategy, International collaboration and Accreditation, S. Amanzholov East Kazakhstan State University, Kazakhstan	The practice of implementing STEM education at Sarsen Amanzholov East Kazakhstan University	
10.50-11.15	08.50-09.15	<i>Dr. Olga Khudasova,</i> Director of Scientific and Educational Center "Engineering School of Belgorod National Research University", Belgorod State University, Russia	Robotics in Medicine	
11.15-11.40	09.15-09.40	<i>B. Akhmetova, S. Nurgalieva,</i> doctoral students, Eurasian National University, Kazakhstan	STEM & Robotics	
11.40-12.05	09.40-10.05	<i>Dr. Alexander Petruschenkov,</i> Senior Lecturer of the Institute of Education, Immanuel Kant Baltic Federal University, Russia	Implementing STEM-practices: international youth competitions in robotics EUROBOT	
12.05-12.25	10.05-10.25	<i>Dr. Lyazzat Zhaydakbayeva,</i> Head of the Department of Computer Science, M. Auezov South Kazakhstan University, Kazakhstan	Universal design for learning	

12.25-12.50	10.25-10.50	<i>Dr. Sergey Kuzmin, Senior Lecturer of the Institute of Education, Immanuel Kant Baltic Federal University, Russia</i>	Visualization as a component of S T E A M - education	
12.50-13.00	10.50-11.00	<i>Question-and-Answer Session</i>		
13.00-14.00	11.00-12.00	<i>Break time</i>		
14.00-14.25	12.00-12.25	<i>Dr. Oona Kiviluoto, Project planner in LUMA Centre</i> <i>Dr. Janina Taurinen, Research Assistant at Institute for Atmospheric and Earth System Research</i> <i>University of Helsinki, Finland</i>	Multidisciplinary STEAM: Climate education and project-based learning	
14.25-14.50	12.25-12.50	<i>Dr. Keelin Leahy, Senior Lecturer and Course Director of Technology Education, University of Limerick, Ireland</i>	STEM to STEAM – for Transformative Learning with head, heart, and hand	
14.50-15.15	12.50-13.15	<i>Dr. Gultekin Cakmakci, Director of Hacettepe STEM & Maker Lab Hacettepe University, Turkey</i>	P u b l i c Engagement with STEM	
15.15-18.15	13.15-16.00	<i>Mr. Jonas Bäckelin, Education Specialist, Linköping University, Sweden</i>	Applying STEM Instructional Strategies in the Classroom: A practical guide to virtual field trips, guest speakers and STEM-inspired escape rooms	
15.15-16.00	13.15-14.00	<i>Session 1: Theoretical framework</i>		
16.00-16.15	14.00-14.15	<i>Break/questions</i>		
16.15-17.00	14.15-15.00	<i>Session 2: Practical framework</i>		
17.00-17.15	15.00-15.15	<i>Break/questions</i>		
17.15-18.00	15.15-16.00	<i>Workshop and demonstrations</i>		

June 30, Wednesday

Track 2. STEM-Hackathon

*Moderator: Dr. Maxim Bondarev,
Head of the Department of Primary Education,
STEM project coordinator, Southern Federal University, Russia*

Moscow time	CET	Content Fields	Language
10.00-19.00	08.00-17.00	<p style="text-align: center;">STEM-HACKATHON: PROJECT CASE SOLUTIONS</p> <p>Experts:</p> <p><i>Dr. Maxim Bondarev, Head of the Department of Primary Education, STEM project coordinator, Southern Federal University, Russia;</i></p> <p><i>Dr. Elizaveta Mukhanova, Senior Lecturer of the Department of General and Inorganic Chemistry, Southern Federal University, Russia;</i></p> <p><i>Dr. Ainash Davletova, Senior Lecturer of the Department of Information Technology, Eurasian National University, Kazakhstan;</i></p> <p><i>Dr. Manat Shomanbaeva, Senior Lecturer of the Department of Information Technology, M. Auezov South Kazakhstan University, Kazakhstan;</i></p> <p><i>Dr. Sergey Kuzmin, Senior Lecturer of the Institute of Education, Immanuel Kant Baltic Federal University, Russia</i></p> <p>Cases for solution:</p> <ul style="list-style-type: none">– STEM-quest for pupils;– Interactive Tiny STEM-museum; <p>Instruments:</p> <ul style="list-style-type: none">• Telegram• Miro• Zoom	





July 1, Thursday

Track 3. Methodological session

Per aspera ad astra: Difficulties and Perspectives of STEM education

Moderators: Dr. Olesya Parakhina, Vice Director for Research and International Affairs,
Institute of Education, Prof. Svetlana Konyushenko,
Professor of the Institute of Education, Immanuel Kant Baltic Federal University

Moscow time	CET	Full name and position of the speaker, University (country)	Topic	Language
10.00-12.00	08.00-10.00	STEM-HACKATHON: PRESENTATIONS OF PROJECT CASE SOLUTIONS		
12.00-13.00	10.00-11.00	<i>Break time</i>		
13.00-13.15	11.00-11.15	STEM-HACKATHON RESULTS		
13.15-13.40	11.15-11.40	<i>Vera Scherba, tutor, Centre for the development of modern competencies of children, Immanuel Kant Baltic Federal University, Russia</i>	A n i m a t i o n workshop: from project to product	
13.40-14.05	11.40-12.05	<i>Dr. Alexey Golubitskiy, Pricipal, School of the future, Kaliningrad, Russia</i>	Transfer from S T E A M t o S T R E A M - education, or how to connect school with reality?	
14.05-14.30	12.05-12.30	<i>Dr. Karina Baral, Manager of the project «Minor Academy of digital modeling «User-friendly interface», English language teacher, Gymnasium No.40, Kaliningrad, Russia</i>	Art-strategies of implementing BIT Education program (on the project «Minor Academy of digital modeling «User-friendly interface»)	
14.30-14.55	12.30-12.55	<i>Elena Yesina, M.A. student of the program “STEM-teacher Training”, Belgorod State University, Russia</i>	Difficulties and perspectives of STEM-education in Belgorod	

14.55-15.20	12.55-13.20	<i>Dr. Polat Saidakhmetov, Head of the Department of Physics, M. Auezov South Kazakhstan University, Kazakhstan</i>	Hydrotaran with your own hands	
15.20-15.45	13.20-13.45	<i>Dr. Ainagul Kadyrova, Associate Professor of the Department of Computer Modeling and Information Technology, S. Amanzholov East Kazakhstan State University, Kazakhstan</i>	STEM solutions to the applied problem of network design	
15.45-16.10	13.45-14.10	<i>Svetlana Ponomareva, Director, Children's Technopark "Marine Quantorium", Kaliningrad, Russia</i>	STEM: "Marine Quantorium" as a center of additional education for children in the field of engineering sciences	
16.10-16.35	14.10-14.35	<i>Olga Matyushko, Vice Director, Kindergarten No. 56, Kaliningrad</i>	S T E A M - technologies in preschool education: variations with Froebel's Gifts	
16.35-17.00	14.35-15.00	<i>Question-and-Answer Session</i>		

July 2, Friday

Track 4. Reflection session

STEM vs. STEAM: Space for Innovation?

Moscow time	CET	Full name and position of the speaker, University (country)	Language
11.00- 12.30	09.00- 10.30	<i>Prof. Anna Budarina, Director of the Institute of Education, Immanuel Kant Baltic Federal University, Russia</i>	
		<i>Dr. Lyazzat Zhaydakbayeva, Head of the Department of Computer Science, M. Auezov South Kazakhstan University, Kazakhstan</i>	
		<i>Dr. Gaukhar Omashova, Director of the Strategic Development Department, STEM Project coordinator, M. Auezov South Kazakhstan University, Kazakhstan</i>	
		<i>Dr. Dinara Saparova, Head of the Department of Strategy, International Cooperation and Accreditation, S. Amanzholov East Kazakhstan State University, Kazakhstan</i>	
		<i>Dr. Maxim Bondarev, Head of the Department of Primary Education, STEM project coordinator, Southern Federal University, Russia</i>	
		<i>Dr. Maxim Velichko, Head of the Department of Mathematics, Belgorod State University, Russia</i>	
		<i>Dr. Olesya Parakhina, Vice Director for Research and International Affairs, Institute of Education, Immanuel Kant Baltic Federal University, Russia</i>	
		<i>Prof. Svetlana Konyushenko, Professor of the Institute of Education, Immanuel Kant Baltic Federal University, Russia</i>	

