INTERNATIONAL SUMMER ONLINE SCHOOL

STEM vs STEAM: Trends and Strategies

JUNE 28 – JULY 2, 2021

PROGRAMME

<u>June 28, Monday</u>

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	**Prof. Svetlana Konyushenko,** *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	**Dr. Dinara Saparova,** *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	**Dr. Olga Khudasova,** *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	**B. Akhmetova, S. Nurgalieva,** *doctoral students, Eurasian National University, Kazakhstan*	**STEM & Robotics**	
11.40-12.05	09.40-10.05	**Dr. Alexander Petruschenkov,** *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	**Dr. Lyazzat Zhaydakbayeva,** *Head of the Department of Computer Science, M. Auezov South Kazakhstan University, Kazakhstan*	**Universal design for learning**	

Time 1	Time 2	Speaker	Topic	Flag
12.25-12.50	10.25-10.50	*Dr. Sergey Kuzmin, Senior Lecturer of the Institute of Education, Immanuel Kant Baltic Federal University, Russia*	**Visualization as a component of STEAM-education**	
12.50-13.00	10.50-11.00	*Question-and-Answer Session*		
13.00-14.00	11.00-12.00	*Break time*		
14.00-14.25	12.00-12.25	*Dr. Oona Kiviluoto, Project planner in LUMA Centre* **Dr. Janina Taurinen,** *Research Assistant at Institute for Atmospheric and Earth System Research University of Helsinki, Finland*	**Multidisciplinary STEAM: Climate education and project-based learning**	
14.25-14.50	12.25-12.50	**Dr. Keelin Leahy,** *Senior Lecturer and Course Director of Technology Education, University of Limerick, Ireland*	**STEM to STEAM – for Transformative Learning with head, heart, and hand**	
14.50-15.15	12.50-13.15	**Dr. Gultekin Cakmakci,** *Director of Hacettepe STEM & Maker Lab Hacettepe University, Turkey*	**Public Engagement with STEM**	
15.15-18.15	13.15-16.00	**Mr. Jonas Bäckelin,** *Education Specialist, Linköping University, Sweden*	**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	*Session 1: Theoretical framework*		
16.00-16.15	14.00-14.15	*Break/questions*		
16.15-17.00	14.15-15.00	*Session 2: Practical framework*		
17.00-17.15	15.00-15.15	*Break/questions*		
17.15-18.00	15.15-16.00	*Workshop and demonstrations*		

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	**STEM-HACKATHON: PROJECT CASE SOLUTIONS** **Experts:** **Dr. Maxim Bondarev,** *Head of the Department of Primary Education, STEM project coordinator, Southern Federal University, Russia;* **Dr. Elizaveta Mukhanova,** *Senior Lecturer of the Department of General and Inorganic Chemistry, Southern Federal University, Russia;* **Dr. Ainash Davletova,** *Senior Lecturer of the Department of Information Technology, Eurasian National University, Kazakhstan;* **Dr. Manat Shomanbaeva,** *Senior Lecturer of the Department of Information Technology, M. Auezov South Kazakhstan University, Kazakhstan;* **Dr. Sergey Kuzmin,** *Senior Lecturer of the Institute of Education, Immanuel Kant Baltic Federal University, Russia* **Cases for solution:** − STEM-quest for pupils; − Interactive Tiny STEM-museum; **Instruments:** • 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

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10.00-12.00	08.00-10.00	**STEM-HACKATHON: PRESENTATIONS OF PROJECT CASE SOLUTIONS**		🇷🇺
12.00-13.00	10.00-11.00	*Break time*		
13.00-13.15	11.00-11.15	**STEM-HACKATHON RESULTS**		🇷🇺
13.15-13.40	11.15-11.40	*Vera Scherba, tutor, Centre for the development of modern competencies of children, Immanuel Kant Baltic Federal University, Russia*	**Animation workshop: from project to product**	🇷🇺
13.40-14.05	11.40-12.05	*Dr. Alexey Golubitskiy, Pricipal, School of the future, Kaliningrad, Russia*	**Transfer from STEAM to STREAM-education, or how to connect school with reality?**	🇷🇺
14.05-14.30	12.05-12.30	*Dr. Karina Baral, Manager of the project «Minor Academy of digital modeling «User-friendly interface», English language teacher, Gymnazium No.40, Kaliningrad, Russia*	**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	*Elena Yesina, M.A. student of the program "STEM-teacher Training", Belgorod State University, Russia*	**Difficulties and perspectives of STEM-education in Belgorod**	🇬🇧

14.55-15.20	**12.55-13.20**	***Dr. Polat Saidakhmetov,*** *Head of the Department of Physics, M. Auezov South Kazakhstan University, Kazakhstan*	**Hydrotaran with your own hands**	
15.20-15.45	**13.20-13.45**	***Dr. Ainagul Kadyrova,*** *Associate Professor of the Department of Computer Modeling and Information Technology, S. Amanzholov East Kazakhstan State University, Kazakhstan*	**STEM solutions to the applied problem of network design**	
15.45-16.10	**13.45-14.10**	***Svetlana Ponomareva,*** *Director, Children's Technopark "Marine Quantorium", Kaliningrad, Russia*	**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**	***Olga Matyushko,*** *Vice Director, Kindergarten No. 56, Kaliningrad*	**STEAM-technologies in preschool education: variations with Froebel's Gifts**	
16.35-17.00	**14.35-15.00**	***Question-and-Answer Session***		

July 2, Friday

Track 4. Reflection session
STEM vs STEAM: Space for Innovation?

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