

SCI-MATH 2022

7TH WORLD CONFERENCE ON SCIENCE AND MATHEMATICS EDUCATION

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World Conference on
Science & Mathematics Education



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27 -29 OCTOBER 2022 | ONLINE CONFERENCE | ISTANBUL, TURKEY

PROGRAM BOOK

SCI-MATH 2022 Participants Flags





7th
WORLD CONFERENCE ON SCIENCE AND
MATHEMATICS EDUCATION

“Online Conference”

**İstanbul, Turkey
27 – 29 October 2022**

Draft Program

Organized by

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KEYNOTES



Prof. Dr. Hüseyin Uzunboylu

Professor of Educational Technology

Member, Higher Education Planning, Supervision, Accreditation and Coordination Board, Nicosia, **North CYPRUS**

President, Cyprus Educational Sciences Association
(Members of EERA & WERA)

Keynote Title: “Internationalization in Higher Education: Perspectives of Mathematics and Engineering Departments”

Bio: Prof. Dr. Hüseyin Uzunboylu he had completed high school at 20 Temmuz High School in Cyprus. In 1995, his higher education career began by winning the Anatolia University, Department of Communication and Planning on Education in Turkey. And after he had completed his preparatory education in one year and he has completed his undergraduate degree in 1991. Prof. Dr. Hüseyin Uzunboylu has started his graduate education in Ankara University, the Department of Curriculum and Instruction in 1993 and graduated in 1995. He was accepted into the doctoral program in the same university, Educational Technology Department of Educational Sciences in 1995 and he has completed his PhD degree in 2002. In 2003, he became an Assistant Professor in the Department of Computer Education and Instructional Technology at the Near East University, he was an Associate Professor in 2005 in Ataturk Faculty of Education, and in December 2010, with respect to the members of juries he was appointed as a professor. After doctoral studies he started working at the Near East University, Faculty of Arts and Sciences Department of Psychology in 1996 and he taught courses that educational sciences and research methods. He coordinated of ‘Pedagogy Certificate Program’ which was conducted by the University from 1997 to 1999, and since he conducted Chairman of the Department of Computer Education and Instructional Technology from 2004 to 2013. From 2013 to 2018, he serves as a Dean of Faculty of Education.

Since 23 October 2019, he is appointed to member of Higher Education Planning, Supervision, Accreditation and Coordination Board by President of North Cyprus (TRNC). Prof. Dr. Uzunboylu has five academic books published by Turkey’s respected publishing firms; he has supervised five doctoral and 63 master’s theses up to now. He has 103 high-level articles that searching by Web of Science (SSCI, SCI, SCI-Expanded, ESCI); He has 27 searching article and published papers are presented on the international or national conferences. He is editor-in-chief of the Cypriot Journal of Educational Sciences; also, Prof. Dr. Uzunboylu serves as the boards of many journals referee within the searching in the Social Sciences Citation Index. Since 2004, he is taking place on the list as founders, and he is president of the Cyprus Educational Sciences Association (KEB-DER). In 2010, Prof. Dr. Uzunboylu has a major role representing KEB-DER and put effort on being a full member of European Educational Research Association.



Prof. Dr. Murat Tezer

Mathematics Education Department
Arts and Sciences Faculty
Near East University
Northern Cyprus.

Keynote Title: “Integration of mathematical modeling into STEM activities”

Abstract: Mathematical modeling involves a complex process in which a problem state encountered in real life is formulated mathematically, solved with the help of mathematical models, and the solution is interpreted and evaluated in the real world. In this process, mathematics is used to represent, analyze, predict, or otherwise make sense of real-world situations. In mathematical modeling, the individual tries to create a mathematical model that will

solve the problem that he/she encounters in real life or in the future. The model in question includes not only mathematical structures, but also estimates, assumptions, and strategies for solutions. In other words, the solution plan including the assumptions, estimations, and mathematical tools used to solve the problem is the mathematical model for the problem. In addition to being mathematically correct, the model should be meaningful and adaptable for real life. While solving the problem, the individual should also evaluate the meaning of the solution in the real world. All these processes and all the problem-solving solving in addition to the individual model are mathematical modeling’s.

Science, technology, engineering, and mathematics (STEM) education with technology age captured in the 21st century; It plays an important role in shaping cultural and economic development, embracing innovation, and caring about creative and problem solving. Due to the benefits of STEM education on the development of countries, intensive efforts are being made to reach the desired level between STEM and science education.

The mathematical modeling cycle commonly used in literature is developed by Blum and LeiB. Similar to other models, a distinction is made between the real world and mathematics in this model. A prerequisite for this model is that students should understand the mathematical problem and ensure that the model is developed in a real context. Although not mentioned here, it is important to keep in mind that the modeling process is in a repetitive natural loop.

If a good STEM integration is to be made, elements of the metacognitive and Vygotsky’s social development] should also be included. As shown in Figure 6, STEM integration can be facilitated if the instructors implement these selected theories. These two theories have been proposed based on the following principles for implementation.

When Piaget, who explained the theory of cognitive development, explained only the characteristics of the cognitive development age stages, he mentioned the best level of learning and the importance of age for thinking development. Thus, Flavell’s theory (metacognitive knowledge, metacognitive experience, and metacognitive strategies) can explain the students’ thinking, strategies, and actions to solve mathematical modeling problems. The problem-solving model of Polya may not be sufficient for a STEM practitioner.

Bio: He was born in Nicosia in 1972. After completing his primary education, he completed his high school at Nicosia Turkish Lycee in the year of 1990. In the same year, he started to Hacettepe University at Ankara for BA and graduated in 1994. He completed his MA (1996) and Ph.D. (2003) at the Faculty of Arts and Sciences, Applied Mathematics and Computer Sciences Department of Eastern Mediterranean University. He gave his Ph.D. Thesis about “Cycle Decompositions and Labeling of Graphs” in 2003. Between the years 1994 and 2003, he worked as full time instructor in the same university. Between the years in 2010-2014 he worked as a project advisor and project assistant at Yeniyüzyıl Kindergarten, Karaođlanođlu Primary School, Gönyeli Primary School, amlıbel Primary School, Őehit Hüseyin Ruso Secondary School, Yeşilyurt Primary School in Northern Cyprus and Kurtuluş Lycee and under the grant program supported by the European Union and also gave these school teachers Smart Board lessons. He gives in-service training courses (statistical software SPSS, further evaluation and assessment, and office programs) to the teachers these working in schools affiliated to the Ministry of Education.

To the numerous national and international scientific meetings and conferences, he participated in and worked as vice organizer, head of conference in some of them. More than 100 publications he published and cited in many publications in international journals. He directed more than 30 master/doctoral thesis advisor. In addition, he published book chapters about mathematics education in refereed publishing houses. After starting as a research assistant at Eastern Mediterranean University in 1994 then he attended as assistant professor doctor at the Near East University in 2003 and attended as an associate professor in 2015. Between the years, 2003-2010 he worked as vice head of Computer Education and Instructional Technology in Faculty of Education at the Near East University In 2008 he prepare the needs for Mathematics Education Departments. After the acceptance of departments of Primary Mathematics Education and Secondary School Mathematics Education by his efforts then he became the head of the Department of Elementary and Secondary Mathematics Education Department between the years 2009-2018. He worked as head of Secondary Science and Mathematics Education Department between the years 2009-2018, Vice-Dean of the Education Faculty of Near East University between the years 2013-2018. In addition, he is executive board member of the Cyprus Educational Sciences Association. He is married, has two children, and speaks English.

DRAFT PROGRAM 27/10/2022, Thursday

IMPORTANT EVENTS

27.10.2022 10:00 – 10:30	Opening Ceremony	
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TIME	TITLE	SPEAKER	HALL NAME
Keynote 1 10:30 – 11:30 27.10.2022 Thursday	“Integration of mathematical modeling into STEM activities”	Prof. Dr. Murat TEZER Mathematics Education Department Arts and Sciences Faculty Near East University Northern Cyprus.	1

11:30-12:30	Lunch	
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TIME	TITLE	SPEAKER	HALL NAME
Keynote 2 12:30 – 13:15 27.10.2022 Thursday	“Internationalization in Higher Education: Perspectives of Mathematics and Engineering Fields”	Prof. Dr. Huseyin Uzunboylu <i>Professor</i> of Educational Technology <i>Member</i> , Higher Education Planning, Supervision, Accreditation and Coordination Board, Nicosia, North CYPRUS <i>President</i> , Cyprus Educational Sciences Association (Members of EERA & WERA)	2

13:15-17:00	Oral Presentations	
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17:00	Closing Ceremony	
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27/10/2022, Thursday

13:15 – 15:00

HALL - 1

SCI-MATH

1	"Retrospective study of school failure in scientific subjects' case of Morocco"	YOUSSRA EL JANOUS, Mohamed LAFFOU; University of Abdelmalek Essaadi, Morocco
2	"Developing Improved Low-Cost Experiments Materials for High School Physics"	Anna Carmela Bonifacio, Voltaire Mallari Mistades; De La Salle University, Philippines
3	"Using algebraic manipulations and analogical transformations to problem-solving of contextual chemistry problems"	Eda Vula, Fatlume Berisha; University of Prishtina "Hasan Prishtina", Albania
4	"On S _N -summability method of multiple sequences in neutrosophic normed spaces"	Vijay Kumar, Sajid Suliman ^[1] , Archana Sharma; Chandigarh University, India
5	Students' difficulties in solving mathematical literacy problem level 3, level 4, and level 5	Ahbi Mahdianing Rum, Juandi Dadang; Indonesia University of Education, Indonesia
6	"Descriptive analysis of the attitude towards probability and its teaching of secondary school teachers of the Basque Country"	Ane Izagirre, Jon Anasagasti, Ainhoa Berciano;
7	"Factors Affecting Learners' Use of Educational Technology in Mathematics: A Low Socio-economic Perspective"	Mathomo Meriam Moila; University of South Africa, South Africa
8	"Language and metalanguage in teaching and learning mathematics"	Aslanbek Naziev; Ryazan State University, Russian Federation

15:00 – 16:45

HALL – 1

COMENG

1	"Examination of Billboards Prepared by the Ministry of Health within the Scope of Covid-19 with Eye Tracking Technique"	Rumeysa Erdogan; Bartin University, Turkey
2	"Developing strategic games " SUDOKU " for assistance in modern means of education."	Ramiz Musallam Salama; Near East University, Cyprus
3	"Evaluation of Real-Time Background Subtraction Technique for Moving Object Detection Using Fast-Independent Component Analysis"	Meriem Boumehed; Higher School of Electrical Engineering and Energetic- Oran, Algeria
4	"Development of Learning Management System"	Ramiz Musallam Salama; Near East University, Cyprus
5	Single Layer Substrate Integrated Waveguide Six Ports	Rahali Bouchra; Université Aboubekr belkaid Tlemcen , Algeria
6	"Linked List Implementation "Online Learning""	Ramiz Musallam Salama; Near East University, Cyprus
7	"MOVING OBJECTS LOCALIZATION IN STEREO VISUAL SURVEILLANCE SCENES"	Meriem Boumehed; Higher School of Electrical Engineering and Energetic- Oran, Algeria
8	"Design and development for the security of Airport Network by using Cisco Packet Tracer"	Ramiz Musallam Salama; Near East University, Cyprus

16:45-17:00	Closing Ceremony
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