

SCI-MATH 2021

6TH WORLD CONFERENCE ON SCIENCE AND MATHEMATICS EDUCATION



ABSTRACTS BOOK

28-30 MAY 2021 | UNIVERSITY OF KYRENIA | KYRENIA, CYPRUS

www.sci-math.org

SCI-MATH 2021 Participant Flags



f @taegcenter
i @taeg_center
in @taeg-center
t @taeg_center

World Conference on
Science & Mathematics Education



**6th WORLD CONFERENCE ON SCIENCE AND
MATHEMATICS EDUCATION
ONLINE INTERNATIONAL CONFERENCE**

**University of Kyrenia
Kyrenia, Cyprus
28 - 30 May 2021**

ABSTRACTS BOOK

Organizing Committee

The Academic Events Group

Association for Human, Science, Natura, Education and Technology

Program Chair of the Conference

Haluk Soran

Hacettepe University (Retired), Biology Education

International Program Committee

Dr. Pooja Bansal, Jamia Millia Islamia, India

Burçin Işık, Near East University, Health Sciences Education

Engin Baysen, Near East University, Physic Education

Haluk Soran, Hacettepe University (Retired), Biology Educaion

Metin Berk Odabası, Warwick University, Chemistry education

Murat Tezer, Near East University, Mathematics Education

Nazım Kasot, Cyprus International University, Environmental Education

Shemsedin Vehapi, AAB University, Physical Education and Sports

Tahir Tavukçu, Cyprus Social Sciences University, ICT Education

Organizing Committee

Dr. Nihat Ekizoğlu, Ataturk Teacher Training Academy

Dr. Blerta Prevalla Etemi, AAB University

PhD Candidate. Beria Gökaydın, Near East University, Cyprus

PhD Candidate Nesli Bahar Yavaş, European University of Lefke

PhD Candidate Semih Çalışkan, Istanbul Aydın University

PhD Candidate Zeynep Genç, Istanbul Aydın University

PhD. Daniel Sekyere-Asiedu, Near East University, Cyprus

Lilia Trushko, Girne American University

Metin Berk Odabası, Warwick University, UK

Secretariat

Pembe Mehmet, *Florence Institute of Design International*, Florence, Italy

scimath.info@gmail.com

International Advisory Board

Adnan Baki, Karadeniz Technical University
Ahmet Işık, Atatürk University
Ahmet Kaçar, Kastamonu University
Alexandra Yeung, University of Sydney
Marjan Zadnik, Curtin University
Ali Azar, Zonguldak Kara Elmas University
Ali Rıza Akdeniz, Recep Tayyip Erdoğan University
Alipaşa Ayas, Bilkent University
Aydın Okçu, Balıkesir University
Aysun Umay, Hacettepe University
Ayşenur Toğral, Boğaziçi University
Ayşem Seda Önen, Hacettepe University
Aytekin İşman, Sakarya University
Basri Atasoy, Gazi University
Behiye Ubuz, Middle East Technical University
Besim Mustafa, Edge Hill University
Bilal Güneş, Gazi University
Bruno D'amore, University of Bologna
Carl Winsløw, University of Copenhagen
Cedric Linder, Uppsala University
Cengiz Alacacı, Bilkent University
Cheryl Mason, San Diego State University
Dean Zollman, Kansas State University
Dipak Sarker, University of Brighton
Fitnat Kaptan, Hacettepe University
George Bodner, Purdue University
Giray Berberoğlu, Middle East Technical University
Greg Dicoski, University of Tasmania
Gülay Kırbaşlar, Istanbul University
Hafize Keser, Ankara University
Hale Bayram, Marmara University
Halil İbrahim Yalın, Gazi University
Hamide Ertepinar, Marmara University
Hamza Yılmaz, Ankara University
Hülya Yılmaz, Ege University
Hüsamettin Coşkun, İnönü University
Hüseyin Alkan, Dokuz Eylül University
Immaculate Namukasa, University of Western Ontario
Janet Macaulay, Monash University
Keith Taber, University of Cambridge
Leman Tarhan, Dokuz Eylül University
Lianghuo Fan, University of Southampton
M. Yaşar Özden, Eastern Mediterranean University
Maija Aksela, University of Helsinki
Maria Dobritoiu, University of Petroşani
Medhat Rahim, Lakehead University
Norman Lederman, Illinois Institute of Technology
Patricia Bagget, New Mexico State University
Pauline Ross, University of Western Sydney
Roger Lewis, University of Wollongong
Simon Bates, University of Edinburgh
Steve Provost, Southern Cross University
Yu-Ling Lu, National Taipei University of Education

KEYNOTES



Dr. Arthur Bakker

Utrecht University, Utrecht, Netherlands Editor-in-Chief:
Educational Studies in Mathematics (Index in SSCI and
Scopus) <http://orcid.org/0000-0002-9604-3448>

Keynote Title: “Future themes of mathematics education
research: an international survey before and during the
pandemic”

<https://link.springer.com/article/10.1007/s10649-021-10049-w>

Abstract: Before the pandemic (2019), we asked: *On what themes should research in mathematics education focus in the coming decade?* The 229 responses from 44 countries led to eight themes plus considerations about mathematics education research itself. The themes can be summarized as teaching approaches, goals, relations to practices outside mathematics education, teacher professional development, technology, affect, equity, and assessment. During the pandemic (November 2020), we asked respondents: *Has the pandemic changed your view on the themes of mathematics education research for the coming decade? If so, how?* Many of the 108 respondents saw the importance of their original themes reinforced (45), specified their initial responses (43), and/or added themes (35) (these categories were not mutually exclusive). Overall, they seemed to agree that the pandemic functions as a magnifying glass on issues that were already known, and several respondents pointed to the need to think ahead on how to organize education when it does not need to be online anymore. We end with a list of research challenges that are informed by the themes and respondents’ reflections on mathematics education research.



Prof. Dr. Hüseyin Uzunboylu

Higher Education Planning, Supervision, Accreditation and Coordination
Board, Nicosia, North CYPRUS
Editor-in-Chief, Cypriot Journal of Educational Sciences (ERIC& SCOPUS)
President, Cyprus Educational Sciences Association (Members of EERA&
WERA)

huseyin.uzunboylu@gmail.com

Keynote Title: will be announced...

Bio: Hüseyin Uzunboylu graduated from Anadolu University, completing a degree in BSc Educational Communicating and Planning in 1991. He graduated from Ankara University; completed a degree in MA Curriculum and Instruction in 1995 and completed PhD in area of Educational Technology in 2002. He became Assistant Professor in 2013, Associate Professor in 2015 and Professor of Educational Technology in 2010 at Cyprus Near East University. He was elected to member of “Higher Education Planning, Supervision, Accreditation and Coordination Board” by the Republican of Parliament in November in 2019.

Determination of science and biology teachers' ethical sensitivities towards the use of experimental animals

Büşra Ceyhan, İstanbul Health and Technology University

Abstract

Purpose: It is important to determine the ethical sensitivities of teachers who have high potential to work with experimental animals due to their branches. With this purpose the current study aimed to determine science and biology teachers' ethical opinions about the use of experimental animals. **Method:** In order to collect data, the Questionnaire of Opinions about the Use of Experimental Animals developed by Yiğit, et al. (2015) was employed. The collected data were analyzed by using descriptive statistics, percentages, frequencies, mean values and t-test (N=70). **Findings:** While the science and biology teachers approached to the sixth item "Animals can be used in experiments in which they experience some pain for the benefits of humanity" with higher ethical sensitivity, the female participants were found to be more sensitive towards the second item "Alternative methods should be the first methods to be employed by researchers". **Implications for Research and Practice:** In light of the findings of the current study, it can be suggested that science and biology teachers who are more likely to be involved in experiments in which animals are used (according to the science and biology course contents published by YÖK) should be subjected to trainings during their pre-service and in-service years to raise their ethical sensitivities about the issue; thus, they can help their students more to recognize the value of animals.

Keywords: Teachers' sensitivity, ethics, animals, laboratory experiments

ADDRESS FOR CORRESPONDENCE: **Büşra Ceyhan**, İstanbul Health and Technology University

E-Mail Address: busra.ceyhan@istun.edu.tr

