

International Conference on Academic Studies in **SCIENCE AND EDUCATION**

December 13-15, 2025

Istanbul/TURKEY

ICASSE2025

13-15 December Istanbul/TURKIYE

ABSTRACT BOOK



PRESIDENTS

Mehmet Ozaslan, Gaziantep University, Turkiye

Samantha M. Curle, University of Bath, United Kingdom

SCIENTIFIC BOARD

Alemka Knapp, Zagreb University of Applied Sciences, Croatia

Ana Kazaishvili, Georgian National University SEU, Georgia

Artur Rada, University of Tirana, Albania

Aruna M. Jarju, Monroe College, United States

Brian Hibbs, Dalton State College, United States

Christopher Dignam, Governors State University, United States

Cristea Mihaela, Alexandru Ioan Cuza University of Iasi, Romania

Ebenezer Bonyah, Akenten Appiah-Menka University, Ghana

Erick T. Baloran, University of Mindanao, Philippines

Farah Diba Yasmin, Bangladesh University, Bangladesh

Gibson Muridzi, University of Johannesburg, South Africa

Haruni Machumu, Mzumbe University, Tanzania

Irida Nasufi, University of Tirana, Albania

Liene Briede, Daugavpils University, Latvia

Liyana Shuib, University of Malaya, Malaysia

Maria Teresa Tascon Fernandez, Universidad De Leon, Spain

Maeve Liston, Mary Immaculate College, Ireland

Maxwell Asare, St. Paul Methodist School, Ghana

Mehmet Ozaslan, Gaziantep University, Turkiye

Nick Burgmeier, Purdue University, United States

Olinda Maria Dos Santos Sequeira, Instituto Polit cnico De Tomar, Portugal

Oya Tunaboylu, Trakya University, Turkiye

Sara Garner, Southeast Missouri State University, United States

Seidu Sofo, Southeast Missouri State University, United States

Salaheldin Farah Attallah Bakhiet, King Saud University, Saudi Arabia

Takuya Matsuura, Hiroshima University, Japan

Yousef Sabbah, Al-Quds Open University, Egypt

Zairi Ismael Rizman, Universiti Teknologi MARA, Malaysia

ORGANIZING COMMITTEE

Ahmet Kurnaz, Adana Science and Technology University, Turkiye
Gulzhaina K. Kassymova, Abai Kazakh National Pedagogical University, Kazakhstan
Habibe Gunes, Fırat University, Turkiye
Helen Crompton, Old Dominion University, United States
Mehmet Ozaslan, Gaziantep University, Turkiye
Mustafa Tevfik Hebebcı, Necmettin Erbakan University, Turkiye
Naci K   kkgen  ay, Ministry of Education, Turkiye
Selahattin Alan, Sel uk University, Turkiye
Samantha M. Curle, University of Bath, United Kingdom

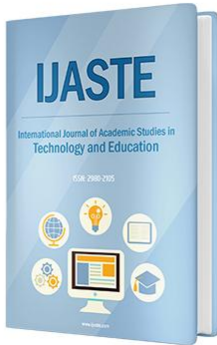
TECHNICAL STAFF

B nyamin Bi er, Necmettin Erbakan University, Turkiye

The academic initiatives supported by **ARSTE** are indexed by some or all of the following sources.



Journals by ARSTE



International Journal of Academic Studies in Technology and Education (IJASTE) publishes cutting-edge research in educational technology. Indexed by EBSCO, H.W. Wilson, and Index Copernicus, IJASTE upholds high academic standards and contributes broadly to global scholarship.

www.ijaste.com



International Journal of Academic Studies in Science and Education (IJASSE) publishes cutting-edge research in science and education. Indexed by EBSCO, H.W. Wilson, and Index Copernicus, IJASSE upholds high academic standards and contributes broadly to global scholarship.

www.ijasse.com



Publications by ARSTE



Current Academic Studies in Technology and Education 2025 are peer-reviewed scholarly online books. The invited papers are reviewed by at least two international reviewers with expertise in the relevant subject area. The book has a double-blind review.

PARTICIPATING COUNTRIES



Table of Content

MAJOR TRENDS IN CURRENT EDUCATIONAL RESEARCH	1
BRIDGING THEORY AND PRACTICE: A SIMULATION-DRIVEN E-MODULE FOR GLOBAL MATHEMATICS EDUCATION	2
INTEGRATING AL-QUR'AN VALUES AND NDONESIAN LOCAL WISDOM INTO NEWTON'S LAWS FOR PHYSICS LEARNING IN SOCIETY 5.0: HOW IT WORKS?	3
CAUSES AND IMPACTS OF STUDENTS' ATTITUDES AND BELIEFS TOWARDS PHYSICS: A SYSTEMATIC LITERATURE REVIEW	4
"SYSTEMATIC LITERATUR REVIEW: A DIGITAL-BASED MATH LEARNING INTERVENTION FOR STUDENTS WITH AUTISM SPECTRUM DISORDER"	5
POP-UP BOOK KINEMATICS: AN EDUCATIONAL APPLICATION BASED ON REAL MOTION ANIMATION AND FORMATIVE FEEDBACK	6
SCIENCE LITERACY IN THE 21ST CENTURY: A BIBLIOMETRIC REVIEW OF RESEARCH TRENDS AND FOCUS AREAS	7
AESTHETIC MATERIALIST: A DISCUSSION ON THE INTERDISCIPLINARY TEACHING MODEL IN CONTEMPORARY ART EDUCATION	8
AUTOMATED DATA COLLECTION AND AI-DRIVEN ANALYSIS PLATFORM FOR MOBILE NETWORKS.....	9
DIGITAL ARCHIVES AND THEIR USE IN LITERATURE AND CREATIVE WRITING COURSES; THE CASE OF THE CAVAFY ARCHIVE.....	10
EVOLUTION AND PRESERVATION OF ETHNOGRAPHIC AND TOPONYMIC ELEMENTS IN THE ERSEKË–LESKOVİK REGION: A LINGUISTIC AND QUANTITATIVE ANALYSIS	11
SIMULATION AND ANALYSIS OF HEAT TRANSFER AND CURE PROGRESSION IN THE PULTRUSION OF THERMOPLASTIC COMPOSITES	12
4C-BASED PEDAGOGICAL INNOVATION IN UZBEKISTAN'S PRE-SERVICE TEACHER EDUCATION	13
CONTEXT-AWARE FAIRNESS-ORIENTED MIXTURE MODELING FOR KNOWLEDGE TRACING WITH EDUCATIONAL DIALOGUES	14
PHYSICAL EDUCATION TEACHER CANDIDATES' EXPERIENCES, ATTITUDES, AND INTENTIONS TO TEACH EDUCATIONAL DANCE IN K-12 SCHOOLS	15
INTERACTION EERGY COMPUTATION AND HRMC SIMULATION COMBINATION FOR SOLVATION STRUCTURE OF AQUEOUS LICL STUDY	16

MIGRATION, DEMOGRAPHICS AND RETURN INTENTIONS: A STUDY OF CROATIAN CITIZENS IN BAVARIA	17
ANALYZING THE CURRENT STATUS OF MENTAL HEALTH AMONG SYRIAN ADOLESCENTS IN POST-CONFLICT SETTINGS: A MULTIVARIATE QUANTITATIVE STUDY OF RECOVERY NEEDS, RISK FACTORS, AND COPING AND SUPPORT PATTERNS.....	18
ON A NEW CONCEPT OF DIFFERENTIATION AND INTEGRATION	19
NATURAL LANGUAGE PROCESSING–BASED AUTOMATIC SCORING OF TURKISH OPEN-ENDED EXAM RESPONSES: A SYSTEMATIC REVIEW	20
TEACHING AGAINST STEREOTYPES: USING MOHJA KAHF'S THEORETICAL IDEAS TO EMPOWER YOUNG ARAB/MUSLIM FEMALE STUDENTS.....	21
TEACHING CULTURAL STUDIES THROUGH POSTCOLONIAL LITERATURE: FOSTERING EMPATHY AND CRITICAL THINKING IN THE CLASSROOM.....	22
ANALYZING TEACHER TURNOVER IN RURAL SCHOOLS USING NATIONAL EDUCATIONAL DATABASE OF KAZAKHSTAN	23
THE STRUCTURAL EVOLUTION OF NUMBER SYSTEMS AND THEIR POSSIBLE PEDAGOGICAL IMPLICATIONS	24
CEREBRAL HEMISPHERIC DOMINANCE IN ENGINEERING EDUCATION	25
NUMERICAL ANALYSIS OF A DELAY-ROBUST TELEOPERATION SYSTEM IMPLEMENTED IN MATLAB/SIMULINK	26

SIMULATION AND ANALYSIS OF HEAT TRANSFER AND CURE PROGRESSION IN THE PULTRUSION OF THERMOPLASTIC COMPOSITES

Vineta Srebrenkoska *

Goce Delcev University Stip, Republic of Macedonia

Razieh Izadi

Luxembourg Institute of Science and Technology, Luxembourg

Salim Belouettar

Luxembourg Institute of Science And Technology, Luxembourg

Sara Srebrenkoska

Goce Delcev University Stip, Republic of Macedonia

Sashko Dimitrov

Goce Delcev University Stip, Republic of Macedonia

Dejan Krstev

Goce Delcev University Stip, Republic of Macedonia

Abstract: This work presents the numerical modelling of the pultrusion process for Elium®-based thermoplastic composites, with an emphasis on coupling heat transfer and cure kinetics to predict the curing degree and temperature distribution along the die. A thermochemical model was developed in COMSOL Multiphysics®, incorporating the exothermic heat released during polymerisation. The model implements heat transfer and cure kinetics equations using a modified Kamal–Sourour formulation and reflects realistic process conditions, including die zoning, heating temperatures, pulling speed, and material properties. Simulations were conducted to predict temperature and curing profiles both along the die length and across the composite cross-section. The results enabled the identification of thermal hotspots and provided insight into the spatial progression of curing. It was observed that curing initiates at the die wall where heat transfer is most intense and advances towards the core, with complete curing predicted approximately 700 mm from the die inlet, consistent with experimental measurements. This study not only validates the proposed thermochemical model but also enhances the understanding of Elium® composite pultrusion, supporting process optimisation and defect minimisation. The work was carried out within the framework of the EuMINE network, fostering collaboration and knowledge exchange between institutions and laying the foundation for future joint research in thermoplastic composite processing.

Keywords: thermoplastic composites; pultrusion; heat transfer; cure kinetics; numerical modelling.