

MESAEP

Mediterranean Scientific Association of Environmental Protection

20th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region

October 26-27, 2020

Book of Abstracts

2020

Edited by D. Sarigiannis, D. Seker, A. Gotti, M. Zucchetti

ISBN 9781005202804

MESAEP
Mediterranean Scientific Association of Environmental Protection

20th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region - October 26-27, 2020

Steering Committee

Denis Sarigiannis (Chair)
Alberto Gotti (IT)
Dimitrios Kotzias (GR)
Dursun Seker (TR)
Spyros Karakitsios (GR)
Massimo Zucchetti (IT)
Laura Mancini (IT)
Sani Dimitroulopoulou (UK)
Florentina Villanueva (ES)

Associated Members

Werner Bergheim (DE)
Manfred Kirchner (DE)

Organizing Committee

Denis Sarigiannis (Chair)
Alberto Gotti
Spyros Karakitsios
Laura Mancini
Dursun Seker
Massimo Zucchetti
Sani Dimitroulopoulou
Dimitrios Kotzias
Florentina Villanueva
George Sarigiannis
Marianthi Kermenidou
Ilias Frydas
Nafsika Papaioannou

Honorary Committee

M. Bahadir (DE), J. Cornejo (E), P. Foster (F), A. Kettrup (DE), K. Nikolaou (GR), H. Parlar (DE), A. Piccolo (I), G. Pilidis (GR), B. Rubin (IL), N. Senesi (I), G. Vasilikiotis (GR), U. Zoller (IL)

Scientific Committee

Albanis T. (Univ. Ioannina); A. Alimonti (ISS, Rome), N. Balkis (Istanbul University), D. Barcelo (CSIC, Barcelona), I. Bartzis (Univ. West Macedonia), B. Bayram (Yildiz Technical University – Turkey), S. Bilgili (Yildiz Technical University – Turkey), F.X. Bogner (Univ. Bayreuth), G. Calamandrei (ISS, Rome), P. Ciccioli (CNR, Rome), E. Diamadopoulos (TU Crete), S. Dimitroulopoulou (PHE, UK), D. Djordjevic (Univ. of Belgrade), A. Gotti (Eucentre), M.C. Hermosín (CSIC, Sevilla), I. Kabdasli (ITU, Istanbul), M. Karagiannis (Univ.Ioannina), S. Karakitsios (Univ. Thessaloniki), P. K. Katsifarakis (Univ.Thessaloniki), S. Kaya (ITU – Istanbul), D. Kotzias (ex-European Commission-JRC, Ispra), M. Loizidou (NTU Athens), L. Mancini (ISS, Rome), H. Mankolli (Univ. Tirana), St. Canna-Michaelidou (General State Laboratory of Cyprus), G. Michalopoulos (Univ. Crete), M. Mingazzini (IRSA-CNR), N. Moussiopoulos (Univ. Thessaloniki), K. Nikolaou (O.R.S.&P.E.), E. Papachristou (Univ. Thessaloniki), P. Papagiannakopoulos (Univ. Crete), D. Papameletiou (European Commission-JRC, Ispra), A. Paya-Perez (EC-JRC, Ispra, Italy), C. Samara (Univ. Thessaloniki), D. Sarigiannis (Univ. Thessaloniki), K. Schaefer (Forschungzentrum, Karlsruhe), D. Seker (ITU Istanbul), N. Sotiriou (GOIC, Athens), C. Stalikas (Univ. Ioannina), E. Stephanou (University of Crete), A. Tanik (ITU Istanbul), B. Topkaya (Akdeniz University – Turkey), A. Triantafyllou (TEI, West-Macedonia), V. Tsihritzis (Univ. Thrace), M. Tsimidou (Univ. Thessaloniki), R. Tzimou-Tsitouridou (Univ.Thessaloniki), C. Vassilakos (EC, Brussels), E. Voudrias (Univ. Thrace), A. Zabaniotou (Univ. Thessaloniki), K. Ziegler-Skylakakis (Technical University Munich, Germany), A. Zoumboulis (Univ. Thessaloniki), M. Zucchetti (Politecnico Torino), M. Horvat (JSI), E. Dogliotti (ISS), S. Vardoulakis (IOM), F. Villanueva (Univ. Castilla-La Mancha).

Foreword

The MESAEP biannual symposium on the state of the environment and its impact on the quality of life in the Mediterranean region has been established over the last fourty plus years as a scientific institution in the Euro-Mediterranean basin. The 20th symposium was meant to celebrate the 40 years of MESAEP, a track record that makes MESAEP the oldest scientific society catering for the environment in the region. The main topic of the 20th MESAEP symposium was climate change, its impacts and how to adapt and/or mitigate it. Participation and interest were very large by the whole Mediterranean scientific community and beyond. And then, SARS-CoV-2 stroke.

Originally we rescheduled the Symposium from the Spring to the Fall of 2020 hoping that the pandemic would have been controlled by then; when we realized that this would not be the case we transformed the Symposium to a fully virtual event that took place on October 26-27, 2020. Participation was high this time around as well, with more than 200 papers presented in oral and poster form from across the Mediterranean. In fact, the virtual character of the 20th Symposium of MESAEP facilitated many of our colleagues to present their work and allowed us to appreciate the high level of innovative and environmentally and socially relevant work that is being done across the Mediterranean basin.

A large part of the scientific contributions of the MESAEP community to the 20th Symposium focused on environment and health questions, including environmental and health inequalities and the socio-economic determinants of exposure, as well as new and emerging technologies for environmental and health applications. A special part of the Symposium focused on climate change mitigation and air pollution abatement in the quest to explore win-win solutions to these problems. This special session was organized in collaboration with the ICARUS consortium, funded by the European Commission's Horizon 2020 framework programme for research and innovation. Other sessions of interest focused on traditional MESAEP themes, such as indoor and outdoor air pollution, water and soil pollution and control, environmental economics, policy and education and other various environmental themes. Of particular interest were sessions focusing on the circular economy and promoting the UN sustainable development goals in the region, tackling issues such as sustainable natural resource and waste management; energy, environment and sustainability; and natural and man-made environmental disasters.

The scientific contributions to the 20th MESAEP Symposium were overall of high calibre and explored very pertinent environmental and societal questions to which modern day science strives to produce a comprehensive evidence basis. Going through the abstract book you will have the chance to see for yourselves that the MESAEP community produces very relevant research results that address some of the most important questions regarding environment, sustainability and life quality in the region. Significant effort is also being made to render these findings usable by policy makers to promote evidence-based policy making in environmental and life quality protection. I hope that you will find this abstract book interesting to read and that you will appreciate the work done by scientists in the Mediterranean and the rest of Europe in this regard.



Prof. Denis A. Sarigiannis, MESAEP President

Table of contents

ORAL PRESENTATIONS 11

Environmental and health inequities – socio-economic determinants of exposure . 12

Health and climate change focus on Mediterranean region 13

Mercury accumulation in western Mediterranean fish. Concentration and environmental risk 14

Sustainable natural resource and waste management 15

GIS-Based Approach for Determination of Sustainable Settlement Areas Suitable with Natural Environment 16

GIS Based Ecological Sensitivity Analaysis of Fethiye Göcek Sepa, Turkey 17

A GIS-based, sustainable, smart waste management system for urban areas: Municipality of Beykoz Case ... 18

Evaluation of recycling in the municipality of West Macedonia in Greece 21

Bioenergy generation from spent tea and potato wastes through anaerobic codigestion within bioeconomy approach 22

Environmental health and well-being 24

Nature is well-being: investing in prevention and health of children 25

Mercury concentrations in lean fish species from western Mediterranean Sea 26

Air quality and health risk assessment (HRA) around the Valdemingómez Environmental Complex located in Madrid 27

Green awareness in action – how energy conservation action forces on environmental knowledge, values and behavior in adolescence school life 29

Children's care for dogs, environmental values and ecological behavior 30

Determination of Environmental Attitudes of Recreational Activities Participants with New Ecological Paradigm Scale 31

Assessing the Ecosystem Services of Nestos Delta lagoons – Greece: coupling with sustainability indicators 32

One health and ecohealth in global public health strategy 34

Future trends on green and healthy cities. The Madrid (spain) case 35

Age-related dose deposition of particulate matter in human respiratory tract: findings from a birth cross-sectional study in Portugal 37

Organophosphate and pyrethroid pesticides in farmers and general population 39

Study of the protective effect of melatonin on hepatotoxicity induced by a Linuron herbicide in wistar rats ... 40

Involvement of free radical activity in the development of breast cancer in the wistar rat: protective effect of luteolin 41

Integrated exposure modelling for cadmium 42

Exposure modelling and risk assessment of endocrine disrupting chemicals 43

Exposure modelling assessment for flame retardants....45
Risk assessment of phthalates and DINCH starting from human biomonitoring data....46
European exposure and health examination survey (EXHES) study reveals the impact of prenatal exposure to metals, PFOS, PFOA, organophosphates, and organochlorines on early child development....48
Method development and optimization for the quantitative analysis BPA, BPS and BPF in human urine samples using an HRMS instrument....49
Method development and optimization for the quantitative analysis of phthalates and Hexamoll® DINCH metabolites in human urine samples....51
Multi-omics Analysis Reveals that Co-exposure to Phthalates and Metals Disturbs Urea Cycle and Choline Metabolism....53
Effects of heavy metals to neurodevelopment in a mother-infant cohort study....54
Source apportionment of polycyclic aromatic hydrocarbons (PAHS) in aerosols and study of their effect in human health: A comparison between the warm and the cold season of the year....55
Particle related air exposure during physical exercise: levels, dose and deposition in respiratory system....57

Climate change mitigation and air pollution abatement – towards win-win solutions....59

Modeling of Bioclimatic Comfort Change Depend on Global Climate Change: Case of West Mediterranean Basin of Turkey....60
Determination of bioclimatic comfort areas according to different age groups: Case of Fethiye Göcek SEPA / Turkey....61
Transition to Climate Friendly and Unpolluted Cities until 2050....62
Uncertainty associated with assesing personal exposure to particulate matter with high temporal resolution using low-cost portable sensors....64
Cost-benefit analysis of carbon mitigation measures in European cities: the importance of co-benefits....67
Development of an integral modeling system to study air quality climatic trends in European urban areas....69
Multi-sensor data collection for personal exposure monitoring: ICARUS experience....70
Air pollution health impact assessment and cost-benefit analysis of win-win policy solutions at the urban scale in the city of Milan....73
Integrated Assessment of Policy Scenarios for Air Pollution Control and Greenhouse Gas Emission Reduction in the City of Stuttgart....75
Fine particulate matter chemical composition and sources in 6 European cities: The ICARUS Project....77
A Comparative Investigation of Temperature Persistence: A Case Study of Western Turkey....79
Determination of Outdoor Thermal Comfort in Rural, Urban and Mass Green Areas in Summer Season with the Rayman Model....80
Investigating Thermal Comfort of Different Plant and Design Street Scenarios....81
A Research to Determine the Thermal Comfort Ranges of Erzurum City....82
Determining the Spatial Effects of Climate Change in Urban Areas....83
Determination of Resilience Levels of Cities in The East of Turkey According to Climate Chance Scenarios 84

Indoor and outdoor air pollution 85

Analysis of culturable airborne bacteria & fungi distribution using GIS based 3D model 86

Unravelling the indoor air mycobiome of residences in Athens 88

PAHs in fine particulate matter of six European cities: seasonal and spatial variations and implications for human health 89

Concentration and distribution characteristics of culturable airborne fungi in public transport modes in Istanbul 91

Fog or Smog:A Transfer Learning Approach to Detect Air Pollution from Images 92

Air pollution during 2020 COVID-19 lockdown: study case of main Portuguese Metropolitan Areas 93

Prediction of PM10 Concentrations based on Machine and Deep Learning 95

NPAHs and OPAHs in the atmosphere of two central European cities: seasonality, urban-to-background gradients and gas-to-particle partitioning 97

PM exposure using portable sensor data and human respiratory tract deposition modelling 99

Water and soil pollution and control 101

PAHs in arable soils of Serbia: levels, sources and potential health risks 102

The effect of glisinebetaine application of four cold season grass species under salinity stress 103

Occurrence of organophosphate flame retardants in aquatic environment of Northern Greece 104

Detecting Pipeline Deformations by Underwater Photogrammetric Techniques 105

A study of the post fire effects on dissolved organic matter in a coastal residential area 107

Elaboration and characterization of Cordierite/Anorthite supports for membranes filtration 109

Assessment of Water Quality Evaluation Performance of Geostatistical Techniques 110

Water Quality Evaluation Based on The Water Quality Index Method in Karacaören-II Dam Lake 111

Ecotoxicity and biodiversity 112

Impacts of climate change on an endemic medicinal-aromatic plant: Phlomis chimerae from Antalya, Turkey 113

Toxicity of a neonicotinoid insecticide (Thiamethoxam) against the adult females *Gambusia affinis*: impact on metric indices and biomarkers during a sexual rest period 114

Ecotoxicological risk assessment of two pesticides on a non-target shrimps Palaemon adspersus (Decapode, Palaemonidae): Toxicity and biomarkers 115

Energy, environment and sustainability 116

Urban Landscape Planning Approaches and Reflections on Ecodesign with Perception of Landscape Ecology 117

Combined investigation of indoor climate parameters and energy performance of a winery 118

Analysis of Net Ecosystem CO2 Exchange by Eddy Covariance Method over Canola Canopy 119

Utilizing Automated Machine Learning for Classification Levels of Occupancy in Buildings 120

Comparison of the success rates of different study scales in ANN-based urban climate simulations 122

Multi-Label Classification Application for Environmental Monitoring Applications with Deep Learning Approaches 123
Clustering Urbanization Form via Fractal Dimension Analysis 124
Innovative environmental and safety studies for advanced nuclear energy systems, in the frame of a sustainable European Union energy programme 125
Building Extraction with VHR Remote Sensing Imagery through Deep Learning 127

Environmental economics, policy and education 128

Raising the environmental awareness for sustainable food systems in Primary and Secondary Education 129
School as site of food experience and food system transformation 131
Evaluation of Zero Waste Management in University Campuses, A Case Study for Marmara University Anadoluhisari Campus in Turkey 133
The Mediterranean Engineering Schools Network Advances Changes in Gender Equality at the Mediterranean Higher Engineering Education 136

Natural and man-made environmental disasters 137

Analyzing Effects of Burned Forest Areas in the Neighboring Patches with Use of Data-sets from Google Earth Engine: Case Study of Izmir Forest Fire 138
Flood Mapping of Agricultural Fields with Use of SAR Images 139
Detection and Analysis of Burned Areas With Remote Sensing Techniques: 2019 İzmir / Karabaglar Forest Fire 141
FireAnalyst: A GIS Based, Early Fire Detection System for Outdoor Fire Disasters Using Mathematical Modelling 142
Mapping of burned areas by using remote sensing algorithm: Izmir- Karabaglar Forest Fire Case Study 144
Monitoring Urban Sprawl by Multi-temporal Satellite data with remote sensing approaches: A case study of Beylikdüzü istanbul 145
Characterization of flash flood impact on environmental using remote sensing approach: Giresun case study 146
Cytoprotective effect of melatonin on gonadal toxicity induced by local linuron herbicide in wistar rats 147

New and emerging technologies for environmental and health applications 148

A Lower-Cost PM/NO2 Air Quality Measurement Unit with a Low-Cost Air Dryer for Stationary Outdoor Use 149
Advanced QSAR for use in biokinetic models with special focus on neurodevelopmental disorders 154

Others 155

Photocatalytic TiO2 coated Ahlat Stone for self-cleaning and de-polluting applications 156
What can convection-permitting climate simulations (CPCSs) tell us differently about future climate change? 157
The Extraction of Vegetation from Aerial Point Clouds Using Object Based Image Analysis 158
Analysing the impacts of land cover changes on land surface temperature in northern İstanbul between 2009 and 2017 159

Effect of NAO on the evolution of zonal wind structure....160
Variation of polar stratospheric zonal wind during Quasibiennial Oscillation period....161
Short and Long-term Assessment Change of Lake Kuyucuk Ramsar Site with Satellite and Meteorological Data....162
Juxtaposing Environmental ethics and Bio-ethics: Issues and Trends....163
The application of technology of effective microorganisms (EM) in metal corrosion....164
Spatiotemporal Variation of Quasi-Biennial Oscillation (QBO) in Stratospheric Winds by Wavelet Analysis....166
Inter-comparison of Quasi-Biennial Oscillation in RCP4.5 Scenario with Three Different Models....167
Evaluation of The Tourism Potential of Kars (Turkey) Province with Swot Analysis....168
Microplastics characterization and impact on small fish: The case study of Thermaic Gulf....169
First Report of Clasterosporium pistaciae in Turkey....171
Biological Degradation of Historical Buildings....172
Use And Effect of Essential Oils in the Maintenance and Preservation of Historical Monuments....173

VIRTUAL POSTER PRESENTATIONS....174

Indoor climate assessment and energy analysis of a warehouse and sorting unit for agricultural products in Northern Greece....175
Indoor environment and energy performance analysis of an office building in Northern Greece....176
Phthalates concentration in house dust of Kozani city (Greece): Exposure estimation and their association with building characteristics....177
Air quality into cabin environment of different passenger cars: effects of car usage, fuel type and ventilation/infiltration conditions....178
Assessment of High Nature Value farmlands with ground thermal imaging techniques: the case of Mediterranean olive groves in Naxos Island, Greece....179
Trace element concentrations in sediments and their impact on trace element contents in mussels from Boka Kotorska Bay, Montenegro....180
Sampling strategy and data analysis for long-term monitoring of formaldehyde and other aldehydes in an urban area....182
Effects of Biofuels and Renewable Resources on Environmental Protection and Its Relationship with Agriculture....184
Heavy metal pollution in bottom sediments in coastal area of Montenegro....185
The effect of political and economical instability on environmental policy of Turkey....187
Winter Sports Tourism and Climate Change in Mediterrenian Region....188
Evaluation of toxic effects of coagulants used in coagulation- floculation process on anaerobic treatment plant....189
Sound Agricultural Practices in Turkey. Environmental Impact on the Enhancement of Soil Fertility....190

Improvement of permeability by using nano materials in landfill sites 191
Environmental Conditions and Geographical Indication Products Marketing in Agriculture in Turkey.....192
Evaluation of the ecological balance water flowrate effects on fish passages: examination in Rize – Turkey193
Tourism Oriented Urban Transformation and Environmental Effects on the Mediterranean Coast: The Case of Turkey 194
Effects of Pesticides and Chemicals on Environmental Pollution, Agriculture and Health.....195
Treatment of Confectionery Industry Wastewater: A Case Study 196
Fouling composition from the ports (south-eastern Adriatic Sea-Montenegro).....197
A research on the view of hotel managers in Istanbul on the environmental insurance.....198
Distribution of phytoplankton species in marina Porto Novi (Boka Kotorska Bay) 199
GIS-Based Monitoring of the Carbon Footprint Changes For Sustainable Campus Management; A Case Study of ITU Ayazaga Campus 200
Generating Road Data Set for Deep Learning Applications 202
Evaluating the effectiveness of infrared techniques in quantifying disturbances of post harvested pine forest systems 203
Geospatial analysis for tree hazard assessment using screening tools: implications for urban forest management 204
Hot spots, cluster detection, and spatial outlier analysis for estimating trees' structural defects.....205
Multidimensional indicators for evaluating impacts of climate change and air pollution on human health at local scale: a test case in Southern Italy 206
Estimation of Surface Energy Balance Components over Canola Canopy by Using Chaotic Approach 208
Ecosystem health assessment: an integrated approach in a tropical rainforest.....209
Correlation analysis between air pollutants levels and extreme temperature events in summer time.....210
An overview of the accomplishments of the ICSC program 212
The PRO.S.IT. project for the improvement of viticulture sustainability in Basilicata Region (Southern Italy) 213
Multivariate data analysis procedure for characterizing correlation structure of air contaminants in operating rooms 214
Using One-Soil for an easy and fast monitoring of the vineyard phenology 215
Environmental Effect Of The Activity Of The Boat/Yacht On Marine Water Quality And Marine Vegetation In Phaselis (Antalya, Turkey) And Ecological Status Assessment.....216
Home air purifiers in dwellings: health impacts on adult populations 217
Spontaneus tail movement in zebrafish embryo as indicator of neurotoxic substances in the environment....218
Genotoxicity indicators of transplanted mussels *Mytilus galloprovicialis* reveal early signs of marine pollution in the Boka Kotorska Bay, Montenegro 219
Health and climate change: the charter as a tool to promote actions.....220
The accreditation process, as innovative approach to enhance the reliability of vibrio fischeri assay.....221
Plants biodiversity in relation to medicine and human well-being.....222

Efficient, user-friendly water monitoring strategies and systems based on innovative technologies Intcatch: project H2020 223

A Decision Support System (DSS) for integrated climate forcing and air pollution reduction and in European Cities 224

Application of BlueHealth International Survey in Appia Antica Park (Italy) 226

Real time personal exposure assessment using low-cost sensors 227

Are children and adolescents from rural area of Slovenia exposed to glyphosate? 228

Comparison of ecological status in two lakes in Albania based on diatoms algae 230

Synergy of mass and night cooling in reducing mechanical-ventilation energy demand. The case of an earthen structure 231

Benzene measurements in the main metropolitan and industrial areas across Spain (2014-2017) 233

Personal exposure to air pollution: the milan sensor campaign in ICARUS project 234

Healthy ecosystems and healthy people? 236

Usability investigation of UAV based photogrammetry and lidar for forest inventories 237

Thermal comfort analysis of an education building in Istanbul 238

Dirty12 in Slovenia: An environmental legacy? 240

Seasonal Changes in Easterly and Westerly Phases of Quasi-Biennial Oscillation 242

The Inno_Olivo&Olio and O.R.G.OLI.O LUCANO projects for the characterization and mapping of olive cultivation in Basilicata Region (Southern Italy) 243

Development of a web-based platform for the provision of open, linked and semantically enriched environmental data for e-health applications 244

Growth and acetylcholinesterase levels in non-target fish *Gambusia affinis* in the Annaba-El Tarf region: Relationship with pollution 245

Characterization of shrimp Palaemon adspersus in Eastern Algeria: biometric parameters, reproductive potential and biomarkers activities 246

Lethal effects of a biopesticide Azadirachtin on development of the Mediterranean flour moth, Ephestia kuehniella Zeller 247

Characterization and remediation of an industrial contaminated site: a case study in the North-Italy 248

Prevalence of allergic rhinitis related to long-term exposure to indoor air pollution 250

Global environmental change and women 252

Investigation of BTEX pollutants in indoor air with INTERA platform in Southeastern Bulgaria 254

Investigations of thermal stability on different fuels and bio-wastes 255

Endocrine disrupting chemicals in indoor dust and the implications for human exposure: preliminary findings 256

Changes in metabolic profile of lettuce plants fertilized with olive oil mills sludge 259

Evaluation of bioindicators parameters of male rats Wistar exposed to fungicide chlorothalonil 261

Sustainability of compact, high magnetic field fusion reactors: the impact on environment, society and economy 263

Infertility: knowledge and attitudes of Moroccan young people. Gender approach 264
Cadmium Bioaccumulation and Translocation in *Brassica napus* L. at Flowering and Maturation: a Case Study 265
Effects of air pollution on daily hospital admissions for cardiovascular diseases in Castilla-La Mancha, Spain 266
The bactericidal effect of green algae Cladophora sp. against humans' pathogenic bacteria 268
The effect of titanium dioxide nanomaterials against cyanobacterial organisms.....269
Radiation damage investigation on ARC Reactor magnet components.....270
Formaldehyde, acrolein and other carbonyls in dwellings of university students. Levels and source characterization.....271
Study on the hepatotoxicity of a fungicide widely used in Algerian agriculture in the wistar rat.....272
A survey of Microplastics contamination in a tributary of Tiber river: Almone river (Rome, Italy).....273
Unravelling the indoor air mycobiome of residences in Athens 274
Sensitivity of two procedures to estimate the impact of the ionic liquid 1,3-dimetilimidazolio dimetilfosfato [C1C1Im][DMP] on soil microbial activity 275
Effects on growth and biomass production of patè olive cake for agronomic application.....277
The use of diatom from water quality assessment to forensics: a protocol to diagnose death by drowning....278
Food: an ally against breast cancer.....279
A New Host from Southern Anatolia: Quercus robur (English oak).....280
Promotion of tomato growth and inhibition of tomato foot and root rot severity using dehydrated and anaerobically digested sewage sludge 281
Effects of long-term exposure to silver nanoparticles on *daphnia magna* 282
Determination of Urban Regeneration Areas in Turkey: Current Approach and Suggestions for Sustainable Development.....283
Antimicrobial and Anti-biofilm Activities of Synthesized Hydroxyapatite Nanoparticles Against Drug-Resistance Bacteria.....284

ORAL PRESENTATIONS

Environmental and health inequities – socio-economic determinants of exposure

A Research to Determine the Thermal Comfort Ranges of Erzurum City

Elif Akpinar Külekçi, Işık Sezen, Süleyman Toy

Ataturk University, Architecture and Design Fac., Dept. of Landscape Architecture, 25240, Erzurum/Turkey

This research was carried out in the city of Erzurum, which is established in an area with a high altitude (approximately 3000 m). The effects of cold stress and perception patterns on people were tried to be determined with the survey study. The survey study was conducted in a centrally located area of the city, and there are many sitting places such as cafes and restaurants in the area. In the study, it has been tried to determine by using RayMan Model and Physiologically Effective Temperature (PET) values. Later, the values obtained were matched with the meteorological data in that region and the comfort of the individuals and the relationship between these values were tried to be determined. As a result of the study, it was found that all comfort intervals are different, sunlight directly affects the comfort value, and the felt and calculated PET values are different. As a result of the study, it was concluded that, with the improvement of thermal comfort conditions of outdoor people, their preference for being outside will increase.

Keywords: Thermal Comfort, Physiologically Effective Temperature (PET), RayMan Model, Erzurum, Turkey