

5th

**INTERNATIONAL CONFERENCE ON
SMALL AND DECENTRALIZED WATER
AND WASTEWATER TREATMENT PLANTS**

THESSALONIKI, AUGUST 26-29, 2018

Under the aegis of the Ministry of Environment and Energy

CONFERENCE PROGRAM

5th SWAT Conference

THESSALONIKI 2018

Thessaloniki is Greece's second major economic, industrial, commercial and political centre; it is a major transportation hub for Greece and southeastern Europe, notably through the Port of Thessaloniki. The city is renowned for its festivals, events and vibrant cultural life in general, and is considered to be Greece's cultural capital. Events such as the Thessaloniki International Trade Fair and the Thessaloniki International Film Festival are held annually, while the city also hosts the largest bi-annual meeting of the Greek diaspora. The Aristotle University of Thessaloniki is the largest university in Greece. The main campus is located in the centre of the city of Thessaloniki, and covers an area of about 33.4 hectares. It comprises 10 faculties which consist of 40 schools and 1 single-School Faculty.

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WELCOME

The **5th International Conference on Small and Decentralized Water and Wastewater Treatment Plants (SWAT)** was co-organized by the Department of Chemistry (Laboratory of Chemical & Environmental Technology), Aristotle University of Thessaloniki, the Department of Civil Engineering (Division of Hydraulics and Environmental Engineering), Aristotle University of Thessaloniki, Greece and the Food Technology Department, Alexander Technological Educational Institute of Thessaloniki.

It follows the tradition of previously successfully organized relevant SWAT Conferences (2006 in Portara, Pelion, Central Greece; 2008 in Skiathos Island; 2010 also in Skiathos Island; and 2013 in Volos, Central Greece).

The Conference takes place in **Thessaloniki**, Greece, in **August 26-29, 2018**. It aimed to present the best available drinking water and wastewater treatment techniques, as applied to small municipalities, communities, settlements, hotels or industrial plants, based on environmental, financial, technical and social criteria.

The Conference Proceedings includes totally **147 papers**.

These papers have been categorized in **9 thematic areas**:

- **Small and Decentralised wastewater treatment plants and management** (18 papers)
- **Drinking water treatment and management for small settlements – municipalities** (23 papers)
- **Urban and industrial wastewater treatment** (27 papers)
- **Natural systems for wastewater treatment** (13 papers)
- **Sludge and waste management** (21 papers)
- **Water quality, monitoring and pollution issues** (15 papers)
- **Recycling, Reuse and Reclamation of effluents** (9 papers)
- **Resource recovery and circular economy** (16 papers)
- **Legislation and policy issues** (5 papers)

Well known Greek and foreign scientists, researchers and administrative employees (from research, technical, construction and consulting companies) participated at the Conference, as well as representatives from local authorities.

Professor **Matthias Barjenbruch** from the Technical University of Berlin was invited to give a lecture on challenges and possibilities for water re-use.

Professor **Yannis Krestenitis** from the Aristotle University of Thessaloniki and currently serving as EYATH (Water and Sewerage Authority of Thessaloniki) President.

The editors would like to thank particularly:

- The sponsors of the conference for their financial support.
- The authors of the papers for the substantive and original character of their contribution.
- The scientists who were engaged in the review process of the submitted papers.
- All participants for their involvement in the exchange of knowledge, serving the conference's purpose and ensuring its success.

A. Zouboulis
A. Kungolos
P. Samaras

ORAL PRESENTATIONS

SUNDAY, AUGUST 26, 2018

Grand Hotel Palace

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| 18:00-21:30 | REGISTRATION |
| 19:00-21:30 | <p>SWAT Conference opening session CHAIRS: A. Zouboulis, A. Kungolos, P. Samaras</p> <p>Opening remarks by officials Socrates Famellos, Deputy Minister of Environment & Energy Michalis Geranis, Chairman of Regional Association of Solid Waste Management Bodies(FoDSA) of Central Macedonia Konstantinos Gioutikas, Regional Vice-Governor of Environment & Development, Region of Central Macedonia Theodore Laopoulos, Vice Rector for Research & Coordination, Research Committee, A.U.TH.</p> <p>Invited lectures Yannis Krestenitis Matthias Barjenbruch “CHALLENGES AND POSSIBILITIES FOR WASTER RE-USE”</p> |
| 21:30 | WELCOMING RECEPTION AT GRAND HOTEL PALACE |

MONDAY, AUGUST 27, 2018

Grand Hotel Palace

| | ROOM A | ROOM B |
|---------------|---|--|
| | <p>Small and Decentralised wastewater treatment plants I CHAIRS: M. Barjenbruch, M.S. Fountoulakis</p> | <p>Sludge and waste management I CHAIRS: P. G. Kougias, E.K. Oikonomou</p> |
| 09:30 – 09:45 | INVESTIGATION AND OPTIMIZATION OF A COMPACT UNDERGROUND SOIL FILTER A. Dixit, N.D. Tzoupanos and M. Barjenbruch | MASS AND ENERGY BALANCES FOR GASIFICATION OF PRIMARY SIEVED SOLIDS A. Manali and P. Gikas |
| 09:45 – 10:00 | DEZENTRALIZED WASTEWATER TREATMENT IN COASTAL TOURISTIC AREAS USING STANDARDIZED MODULAR BIOLOGICAL FILTRATION A. Rüdiger | THE USE OF MOBILE UNITS FOR SLUDGE DEWATERING G. Palantzas,, P. Kadigiannakis, E. Tzamos and A. Zouboulis |
| 10:00 – 10:15 | PERFORMANCE OF ANAEROBIC BAFFLED REACTOR/ GRAVEL BED FILTER TOWARDS TREATMENT OF DOMESTIC WASTEWATER H. Fatafta, S. Khalaf, J. van de Vossenberg, P. van der Steen and J. Shoqir | BIOGAS UPGRADING BY BIOLOGICAL METHANATION OF CO ₂ AND H ₂ IN CONTINUOUS REACTORS OVER A TWO YEAR OPERATIONAL PERIOD L. Treu, S. Campanaro, I. Angelidaki and P. G. Kougias |
| 10:15 –10:30 | COMPARING GREENHOUSE GAS EMISSIONS FROM DIFFERENT DECENTRALIZED WASTEWATER TREATMENT SYSTEMS C. Somlai-Haase, J. Knappe and L. Gill | BIOGAS PRODUCTION DURING CO-DIGESTION OF LIVESTOCK WASTES WITH MACROALGAL BIOMASS; FEEDSTOCK RATIO AND EFFECT OF SALINITY ON THE OVERALL PROCESS PERFORMANCE P. G. Kougias, P. Tsapekos, A. Rudatis and I. Angelidaki |

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| 10:30 – 10:45 | ESTIMATION OF GREENHOUSE GAS EMISSIONS FROM SMALL MUNICIPAL WASTEWATER TREATMENT PLANTS IN GREECE O.P. Koutsou, G. Gatidou, M.S. Fountoulakis and A.S. Stasinakis | OPERATIONAL EXPERIENCES FROM AN ANAEROBIC CSTR TREATING LIPID-RICH PRESSURE-STERILIZED ANIMAL BY-PRODUCTS A. Eftaxias, V. Diamantis, P. Charitidis and A. Aivasidis |
| 10:45 – 11:00 | MONITORING THE PERFORMANCE OF A FULL-SCALE SAND FILTER FOR SINGLE-HOUSE GREYWATER TREATMENT IN GREECE M.S Fountoulakis, N. Markakis, I. Petousi and T. Mantos | FOOD WASTES GENERATION AT HOUSEHOLD LEVEL AND THEIR POTENTIAL FOR BIOGAS PRODUCTION USING A COMPACT ANAEROBIC DIGESTER A.M. Ktisti, A. Eftaxias, V. Lytra and V. Diamantis |
| 11:00 – 11:30 | COFFEE BREAK | |
| | ROOM A | ROOM B |
| 11:30 – 11:45 | Small and Decentralised wastewater treatment plants II CHAIRS: V. Diamantis, N. D. Tzoupanos | Sludge and waste management II CHAIRS: A. Zafrakou, A. Zorpas |
| 11:45 – 12:00 | PERFORMANCE OF A COMPACT SEWAGE TREATMENT PLANT CONSISTING OF ACTIVATED SLUDGE PROCESS AND MEMBRANE TECHNOLOGY V. Diamantis, K. Azis, A. Eftaxias and A. Aivasidis | THE CONTRIBUTION OF CLINOPTILOLITE IN ANAEROBIC DIGESTION OF ORGANIC WASTE FROM SLAUGHTERHOUSE ACTIVITIES IN INSULAR COMMUNITIES UNDER WARM CLIMATE CONDITIONS A. Zorpas, A. Zafrakou and P. Loizia |
| 12:00 – 12:15 | WASTEWATER MANAGEMENT IN SMALL AND MEDIUM MUNICIPALITIES IN PALESTINE M. Diebes | A COMBINED METHOD OF DEWATERED SEWAGE SLUDGE VERMICOMPOSTING AND SOLAR DRYING BY OPEN-TYPE GREENHOUSE FOR USE IN AGRICULTURE A. Guitonas and E.K. Oikonomou |
| | OFF-THE-GRID TECHNOLOGY IN THE KIDRON/NAR VALLEY R. Laster, J. Shoqeir-Hassan, P. van der Steen, D. Livney and K. Septimus | STUDY OF THE REDUCTION OF HEAVY METAL CONCENTRATIONS IN LEAFY VEGETABLES USING MIXTURES OF COMPOST (OCEANICA POSIDONIA (L-)) AND ZEOLITE E.E. Golia, V. Antoniadis, A. Angelaki, E. Skoufogianni, D. Bartzialis and S. Vleioras |

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| 12:15 – 12:30 | INNOVATIVE TECHNOLOGY FOR DOMESTIC WASTEWATER TREATMENT BIOBLOCK® SUITABLE FOR SMALL AND DECENTRALIZED PLANTS D. Reppas | INCREASING BIOGAS PRODUCTION FROM ANAEROBIC DIGESTION OF WASTE ACTIVATED SLUDGE AND ORGANIC FRACTION OF MUNICIPAL SOLID WASTE WITH ENZYMATIC PRETREATMENT R. Gori, Z. Markov and A. Tuneska |
| 12:30 – 12:45 | FACTORS AFFECTING THE REMOVAL OF SELECTED ESTROGENIC COMPOUNDS IN SMALL WASTEWATER TREATMENT PLANTS E. Marsalkova, J. Sadílek, Š. Zezulka, B. Maršálek | MEASUREMENT OF SOIL PROPERTIES AND LEVELS OF NICKEL, COBALT AND LEAD IN THE INDUSTRIAL AREA OF VOLOS C. Mamaloudis, V. Antoniadis, E.E. Golia and A. Dimirkou |
| 12:45 – 13:00 | POLLUTANT PHOTO-NF REMEDIATION OF AGRO-WATER G. Romanos, P. Falaras, E. Markellou, E. Georgaki, D. Kizis and E. Karanasios | CO-FIRING OF SEWAGE SLUDGE AND COAL FOR ENERGY PRODUCTION: A THERMOANALYTICAL APPROACH A. Vasileiadou, A. Iordanidis and A. Asvesta |
| 13:00 – 13:15 | GREYWATER TREATMENT USING IN SITU PURIFICATION METHOD (ABSORPTION TRENCH) A. Alighardashi, M. Javad Mehrani and N.Fakhravar | EMPLOYING PHOTOCHEMICAL UV/H2O2 AND PHOTO-FENTON ADVANCED OXIDATION TECHNOLOGIES WASTE-ACTIVATED SLUDGE STABILIZATION AND REUSE M. Hasanpour , G. Badalians Gholikandi , K. Kazemi Rad, M. Amouamoutha |
| 13:15 – 13:30 | WHY BIOLOGICAL FILTRATION SYSTEMS ARE THE BEST SOLUTIONS FOR WASTEWATER TREATMENT UNDER MOST CONDITIONS R. Chhabra | |
| 13:30 – 13:45 | DECENTRALIZED WASTEWATER TREATMENT IN LEBANON: STRATEGIC CHOICES AND MANAGERIAL CHALLENGES M. Majdani and S. Corban | |
| 14:00- 15:00 | LUNCH BREAK (Light lunch is offered to conference participants) | |

| | ROOM A | ROOM B |
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| | <p>Workshop organized by A. Zafirakou</p> <p>CROSS-BORDER COOPERATION ON SUSTAINABLE WASTEWATER TREATMENT AND REUSE</p> <p>15:00-17:00</p> | <p>Natural systems for wastewater treatment</p> <p>CHAIRS: C.S. Akratos, I. Ntaikou</p> |
| 15:00 – 15:15 | | <p>OPTIMIZATION OF DECENTRALIZED DOMESTIC WASTEWATER TREATMENT AND SANITATION VIA CONSTRUCTED WETLANDS: A CASE STUDY</p> <p><i>I. Ntaikou, G. Antonopoulou, S. Dailianis, V. Drakopoulos, F. Harizaj, P. Laze, J. Shehu, I. Vyrides and G. Lyberatos</i></p> |
| 15:15 – 15:30 | | <p>FATE AND REMOVAL OF PHARMACEUTICAL RESIDUES IN NATURAL WASTEWATER STABILIZATION PONDS IN KENYA</p> <p><i>K.O. K'oreje, F.J. Kandle, L. Vergeynst, M. Abira, H. Van Langenhove, M.O. Okoth, K. Demeestere</i></p> |
| 15:30 – 15:45 | | <p>USING SOIL MOISTURE SENSORS TO TRACE THE INFLUENCE OF MICROBIAL BIOMASS ON POLLUTANT ATTENUATION IN SOIL TREATMENT UNITS</p> <p><i>J. Knappe, C. Somlai-Haase, H.F. Winstanley, J.G. Donohue, I.R. Moyles, A.C. Fowler and L. Gill</i></p> |
| 15:30 – 15:45 | | <p>USING SOIL MOISTURE SENSORS TO TRACE THE INFLUENCE OF MICROBIAL BIOMASS ON POLLUTANT ATTENUATION IN SOIL TREATMENT UNITS</p> <p><i>J. Knappe, C. Somlai-Haase, H.F. Winstanley, J.G. Donohue, I.R. Moyles, A.C. Fowler and L. Gill</i></p> |

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| 15:45 – 16:00 | | <p>REMOVAL OF EMERGING CONTAMINANTS AND CONVENTIONAL POLLUTANTS BY A CONSTRUCTED WETLAND DURING THE FIRST YEAR OF ESTABLISHMENT</p> <p><i>M. Hopson, D. McGrath, S. Torreano, M. Smith and M. Black</i></p> |
| 16:00 – 16:15 | | <p>CONSTRUCTED WETLAND TREATMENT PLANTS AS UNCONVENTIONAL WATER SOURCE FOR COMPLEMENTARY IRRIGATION IN THE WEST BANK</p> <p><i>G. Cesari and G. Cancelliere</i></p> |
| 16:15 – 16:30 | | <p>WINERY WASTEWATER TREATMENT USING BIOLOGICAL FILTER AND CONSTRUCTED WETLAND</p> <p><i>T.I. Tatoulis, A.G. Tekerlekopoulou, C.S. Akratos and D. V. Vayenas</i></p> |
| 16:30 – 16:45 | | <p>INCREASE REMOVAL NITROGEN EFFICIENCY OF A HORIZONTAL SUBSURFACE FLOW WETLANDS BY MEANS OF INNOVATING OF THE EFFLUENT CAPTURE AND EVACUATION DEVICE</p> <p><i>P. Cisterna-Osorio, M. Baeza, V. Lazcano, S. Quijada and N.Henriquez</i></p> |
| 16:45 – 17:00 | | <p>LAGOON MANAGEMENT FRAMEWORK ACROSS CANADA: EMPHASIS ON MILITARY ESTABLISHMENTS AND COOL REGIONS</p> <p><i>E. M. Skordaki and N. Vlachopoulos</i></p> |

TUESDAY, AUGUST 28, 2018 Grand Hotel Palace

| | ROOM A | ROOM B |
|---------------|--|---|
| | Urban and industrial wastewater treatment I CHAIRS: K. Komnitsas, I. Konstantinou | Drinking water treatment for small settlements – municipalities I CHAIRS: M. Mitrakas, K. Qureshi |
| 09:30 – 09:45 | BULK GRAPHITIC CARBON NITRIDE (g-C ₃ N ₄) AS A LOW-COST, ECO-FRIENDLY CATALYST FOR SOLAR-DRIVEN PHOTOCATALYTIC TREATMENT OF PHENOLICS IN WASTEWATERS <i>F. Bairamis, D. Athanasiadou, M. Zachou, D. Hela and I. Konstantinou</i> | A STUDY ON ADSORPTION OF SELENIUM FROM AQUEOUS SOLUTIONS <i>K.Kalaitzidou, N. Tsiftsakis and M. Mitrakas</i> |
| 09:45 – 10:00 | BIOBASED POLY(ETHYLENE FURANOETE)/TiO ₂ SUPPORTED NANOCOMPOSITES AS EFFECTIVE PHOTOCATALYSTS FOR ANTI-INFLAMM ATORY/ ANALGETIC POLLUTANT DRUGS <i>A. Koltsakidou, Z.Terzopoulou, G. Z. Kyzas, D. N. Bikiaris and D. A. Lambropoulou</i> | PERFORMANCE OBSERVATION AND CRITERIA TO CHOOSE SMALL SCALE DRINKING WATER TREATMENT SYSTEMS <i>N. Roettgers, M. Barjenbruch and J. Weinig</i> |
| 10:00 – 10:15 | AN INTEGRATED APPROACH FOR WASTEWATER AND SOLID WASTE MANAGEMENT AT PISTACHIO ORCHARDS <i>K. Komnitsas, M. Doula and D. Zaharaki</i> | OPTIMIZING FeOOH-COATED MAGNETIC NANOPARTICLES FOR THE REMOVAL OF ANTIMONY AND ARSENIC <i>K. Simeonidis, G. Mitraka and E. Kaprara</i> |
| 10:15 – 10:30 | ELECTROCOAGULATION IN THE TREATMENT OF WASTEWATER FROM PAINT INDUSTRY: COMPARISON OF BATCH AND CONTINUOUS PROCESSES <i>K. Rajaniemi, M. Raulio, S. Tuomikoski, U. Lassi</i> | THE DETERMINATION OF PHOTOCATALYTIC AND ANTIBACTERIAL PERFORMANCE OF NANOCOMPOSITE MEMBRANES DOPED WITH SILVER NANOPARTICLES <i>Ö. Kabak, A. Aktürk, M. Erol Taygun and S. Küçükbayrak</i> |

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| 10:30 – 10:45 | FOULING PROFILES OF MICROFILTRATION MBR MEMBRANES WITH DIFFERENT CHARACTERISTICS USED IN WASTEWATER TREATMENT <i>D. C. Banti, C. Tsiptsias, D. Georgiou, E. Kalogianni, P. Samaras, A. Zouboulis and M. Mitrakas</i> | REMOVAL OF CHROMIUM FROM AQUEOUS SOLUTION USING EMULSION LIQUID MEMBRANE (ELM) <i>Khadija Qureshi, Muhammad Moazam Baloch, Raja Fahad Qureshi, Abdul Samee Memon, Aamir Ali, Hammadullah, Muhammad Saleh, Mehboob Ali, Shabbir Ahmed, Waqas Ali, Abdul Ghaffar</i> |
| 10:45 – 11:00 | ENVIRONMENTAL MANAGEMENT SYSTEM IMPLEMENTATION IN AN URBAN SEWERAGE SYSTEM OPERATION ORGANIZATION <i>M. Tsangas, A. A. Zorpas, K. Papakyriakou and V. Konstantinidis</i> | EFFICIENCY OF WATER TREATMENT PROCESSES AND DEVELOPMENT OF INNOVATIVE MATERIALS FOR ELIMINATING PRIORITY POLLUTANTS <i>S. Racovita, S. Vasiliu, N. Marangoci, F. Bucatariu, C. Ghiorghita and M. Mihai</i> |
| 11:00- 11:15 | A REVIEW ON THE CURRENT SITUATION OF WASTEWATER TREATMENT IN LEBANON <i>N. Abi Chedid</i> | SITUATION OF WATER AND WASTEWATER IN LEBANON <i>J. Farah Frangieh</i> |
| 11:15 – 11:45 | COFFEE BREAK | |
| | Urban and industrial wastewater treatment II CHAIRS: P. Melidis, J. Wenk | Drinking water treatment for small settlements – municipalities II CHAIRS: S. Girotti, D. A. Lambropoulou |
| 11:45 – 12:00 | EVALUATION OF LEACHATE TREATMENT BY OZONATION <i>P. Melidis, I. Polatidou, K. Azis and S. Ntougias</i> | NEW STRATEGIES OF MICROBIOLOGICAL MONITORING IN WATER DISPENSERS <i>L. Bolelli, E. Ferri, G. Novelli, R. Scaranari and S. Girotti</i> |

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| 12:00 – 12:15 | OPTIMIZATION OF ANAEROBIC BAFFLED REACTOR EQUIPPED WITH ELECTROLYSIS SYSTEM EMPLOYING ARTIFICIAL NEURAL NETWORK AND ITS COMBINATION WITH FUZZY LOGIC <i>B. Inanloo Beklar, G. Badalians Gholikandi and M. Amouamouha</i> | PHOTOCATALYTIC PERFORMANCE OF CERAMIC NANOFIBER MEMBRANES UNDER UV AND SUNLIGHT IRRADIATION <i>N. Yerli, M. E. Taygun, S. Küçükbayrak</i> |
| 12:15 – 12:30 | APPLICATION OF PROXY MONOSULPHATE / UV PROCESS WITH THE AIM OF MUNICIPAL TREATED WASTEWATER DISINFECTION AND REMOVAL OF AMOXICILLIN MICRO-POLLUTANT <i>M. Amiri, G. Badalians Gholikandi, H. Masfih, A. Mollazadeh, G. Badalians Gholikandi, H. Masfih, M. Amiri</i> | PERFORMANCE INVESTIGATION AND COST EVALUATION OF NANOFILTRATION MEMBRANES IN GROUNDWATER REMEDIATION <i>M. Amouamouha and G. Badalians Gholikandi</i> |
| 12:30 – 12:45 | THE FEASIBILITY STUDY ON EMPLOYING PROXY MONOSULPHATE/OZONE PROCESS FOR URBAN TREATED WASTEWATER DISINFECTION AND REMOVING AMOXICILLIN MICRO-POLLUTANT <i>A. Mollazadeh, G. Badalians Gholikandi, H. Masfih, M. Amiri</i> | ATRAZINE TREATMENT WITH HETEROGENEOUS PHOTO-FENTON LIKE OXIDATION USING A STATISTICAL APPROACH <i>E. Çokay</i> |
| 12:45 – 13:00 | BIODEGRADATION OF SIMAZINE AND KINETIC MODELING <i>S. Eker and C.C. Uyar</i> | SELECTION OF THE APPROPRIATE ARSENIC TREATMENT PROCESSES FOR SMALL ESTABLISHMENTS BY AHP APPROACH <i>D. Dölgren and M. N. Alpaskan</i> |
| 13:00 – 13:15 | BIOFILM SYSTEMS FOR WASTEWATER TREATMENT CAPACITY INCREASE IN WARM CLIMATES-THEORETICAL BENEFITS AND PRACTICAL APPLICATIONS IN EL GOUNA <i>C. Riechelmann</i> | |
| 13:15 – 13:30 | UNDERSTANDING THE FATE OF TRACE ORGANIC CONTAMINANTS IN NATURAL ENGINEERED WATER TREATMENT COMBINED WITH PRE-OZONATION <i>G. Zourmpouli, O. Happel, B. Kasprzyk-Hordern and J. Wenk</i> | |

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| 13:30 – 13:45 | “NEW (GERMAN) DESIGN RULES FOR ACTIVATED SLUDGE PLANTS FOR HIGH WATER TEMPERATURES (20-30 DEGREES CENTIGRADE)” <i>M. Stenzel</i> | |
| 14:00 – 15:00 | LUNCH BREAK (Light lunch is offered to conference participants) | |
| | ROOM A | ROOM B |
| | Resource recovery and circular economy/ Legislation and policy issues | Water quality, monitoring and pollution issues |
| 15:00 – 15:15 | CHAIRS: <i>V. Karayannis, S. Malamis</i> WATER2RETURN, A RESOURCE-ORIENTED SOLUTION TO TURN SLAUGHTERHOUSES' WASTEWATER TREATMENT FACILITIES INTO “BIO-REFINERIES” <i>P. Zapata</i> | CHAIRS: <i>K. H. Gudulias, B. Škrbić</i> QUALITY OF WATER IN SENSITIVE ISLAND ECOSYSTEMS: THE CASE OF ZAKYNTHOS ISLAND <i>A. Kampioti, A. Kolokotsa, A. Konidari, C. Toki and D. Koulougliotis</i> |
| 15:15 – 15:30 | ISOLATION OF HYDROLYTIC MICROBIOTA FOR THE VALORIZATION OF ORANGE JUICE PROCESSING WASTEWATERS <i>I. Zerva, N. Remmas and S. Ntougias</i> | ENDOCRINE DISRUPTORS IN DIFFERENT TYPES OF WATER <i>M. Čelić, B. Škrbić, J. Živančev and M. Petrović</i> |
| 15:30 – 15:45 | RECOVERY OF SALT CO-PRODUCTS FROM MEDITERRANEAN SEAWATER BY MULTI EVAPORATION-COOLING METHOD <i>Ö. Kiliç and A.M. Kiliç</i> | THE INFLUENCE OF HYDRODYNAMIC CIRCULATION IN THE TROPIC STATUS OF WESTERN THESSALONIKI GULF COASTAL WATERS <i>A. Moriki, A. Antoniou, V. O. Stoilas and Y. Savvidis</i> |
| 15:45 – 16:00 | MOVING FROM WASTE WATER TREATMENT PLANT TO BIOREFINERY: AN INTEGRATE APPROACH FOR THE SLUDGE TREATMENT <i>D. Scaglione and M. Platè</i> | APPLIED TECHNIQUES AND PROPOSALS FOR THE CREATION OF A WATER RECYCLING NETWORK IN THE THRIASIO PLAIN OF ATTICA <i>A. Katsamagkou and I. Sibetheros</i> |

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| 16:00 – 16:15 | PHOSPHORUS RECYCLING IN SMALL WASTEWATER TREATMENT PLANTS <i>B. Maršálek, E. Marsalkova And M. Hulkova</i> | IRRIGATION WATER QUALITY OF AMYNATAO BASIN, GREECE <i>K. H. Gudulas</i> |
| 16:15 – 16:30 | ZOPLANKTON-BASED ECO-SUSTAINABLE WASTEWATER TREATMENT <i>N. Pous, J. Colomer, T. Serra and V. Salvadó</i> | WASTEWATER TREATMENT AND REUSE IN IRAN: SITUATION ANALYSIS <i>M. Hajirajabi and M. Tajrishi</i> |
| 16:30 – 16:45 | WATER DISTILLATION EXTRACTION OF ALBANIAN SIDERITIS RAESERI HERB AND CHARACTERISATION BY FTIR SPECTROSCOPY <i>K. Taraj, I. Malollari, J. Llupa, A. Ylli, F. Ylli, A. Andoni and L. Ciko</i> | PPC RENEWABLES SA : RENEWABLE ENERGY SOURCES AND WATER RESOURCES MANAGEMENT: PROSPECTS AND SUSTAINABLE DEVELOPMENT <i>A. Antoniadis, C. Keramiotis and I. Monacholias</i> |
| 16:45 – 17:00 | WATER PRIVATIZATION THROUGH PPPs IN THE EUROPEAN COUNTRIES: A CRITICAL APPROACH <i>M. Pempetzoglou and Z. Patergiannaki</i> | NITROGENOUS DISINFECTION BY-PRODUCTS UPON OZONATION AND SUBSEQUENT CHLORINATION OF WASTEWATER <i>A. Paloglou, A. Kozari and D. Voutsas</i> |
| 17:00 – 17:15 | STAKEHOLDERS' PERCEPTION OF SUSTAINABILITY KEY PERFORMANCE INDICATORS FOR URBAN WATER QUALITY, USING SOFT COMPUTING METHODOLOGIES <i>K. Kokkinos, E. Lakioti, P. Samaras and V. Karayannis</i> | QUALITY MANAGEMENT PROGRAM FOR WATER AND WASTEWATER TREATMENT FACILITIES ACROSS CANADA <i>E.M. Skordaki</i> |
| 17:15 – 17:30 | GOING BEYOND THE SEVEN ROADS INCISED BY TRANSLATION VARIABLES: SUPPLEMENTARY TERM INVESTIGATION BY THE USE OF A PSYCHOMETRIC QUESTIONNAIRE <i>S. Christidou and S. Kamaroudis</i> | |

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| 17:30 – 17:45 | MEDITERRANEAN SUSTAINABLE CITIES, A PLATFORM TO SHARE EXPERIENCE AND DEVELOP COOPERATION <i>E. Mino, M. Oueslati, B. Massabo and F. X. Imbert</i> | |
| 17:45 – 18:15 | Round table: Wrapping up the conference and concluding remarks CHAIRS: A. Zouboulis, A. Kungolos, P. Samaras | |
| 21:00 | | BANQUET |

WEDNESDAY, AUGUST 29, 2018

Optional field trip to Chalkidiki or Vergina and Mountain Olympus.

Akti Kalogrias Beach, Chalkidiki



Mount Olympus, Thessaly



Vergina, Imathia



POSTER PRESENTATIONS

MONDAY, AUGUST 27, 2018

| Morning session (11:00 – 14:00) | | | |
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| A01 | DRY ANAEROBIC DIGESTION OF SEWAGE SLUDGE IN SMALL AND MEDIUM WASTEWATER TREATMENT PLANTS <i>L. Pastor, J.E. Sánchez-Ramírez, S. Doñate, E. Aymerich, M. Esteban- Gutiérrez, J. García-Aguirre, R. Romaguera, C. Lardin and E. Mino</i> | | A12 PHOTOCATALYTIC REMOVAL OF PESTICIDES IN WATER BY TiO₂/GRAPHENE OXIDE COMPOSITES <i>C. Berberidou, G. Z. Kyzas, and I. Poullos</i> |
| A02 | SMALL AND DECENTRALIZED WASTEWATER TREATMENT PLANTS IN SMALL MUNICIPALITIES OF EAST CRETE <i>M. P. Kavvalakis and E. G. Dialynas</i> | | A13 "AQUASENSE": ADAPTIVE WATER CONSUMPTION MANAGEMENT SERVICE <i>D. Chondrogianni, S.Karatzas and P.G.Saranti</i> |
| A03 | STUDY ON THE TREATMENT OF ALCOHOL DISTILLERY WASTEWATER WITH ENERGY MICROALGAE <i>Zongxin Ran, Jiang Yu , Ye Du, Wei Wei, Weidong Peng, Yulong Hea and Yunxiao Peng</i> | | A14 REMEDIATION STUDY OF HERBICIDE terbuthylazine IN CONSTRUCTED WETLAND MICROCOSM PLANTED BY Typha latifolia L. <i>N. Papadopoulos and G. Zalidis</i> |
| A04 | INTELLIGENT SUSTAINABLE URBAN DRAINAGE SYSTEMS (I-SUDS): A FRAMEWORK FOR FLOOD MITIGATION AND RAINWATER REUSE <i>S. Karatzas, D. Chondrogianni and P. Saranti</i> | | A15 EFFECTIVENESS OF PLANT GROWTH-PROMOTING RHIZOBACTERIA INOCULATION OF CUPRESSUS SEMPERVIRENS IRRIGATED BY TREATED WASTE WATER <i>M. Girgis and M. El-Sayed</i> |
| A05 | OPTIMIZATION OF SILICA EXTRACTION FROM DIATOMACEOUS EARTH (DE) USING RESPONSE SURFACE METHODOLOGY (RSM) <i>O Izevbekhai, W Gitari and N Tavengwa</i> | | A16 QUALITATIVE ASSESSMENT OF WATER PARAMETERS IN THE AREA OF THESSALONIKI <i>I. Giannakis, C. Emmanouil and A. Kungolos</i> |
| A06 | NOBLE METAL MODIFIED TiO₂ NANOPARTICLES FOR EFFICIENT PHOTOCATALYTIC PURIFICATION OF DRINKING WATER <i>C. Berberidou and I. Poullos</i> | | A17 ANALYSIS OF SOME METALS IN THE SOLID-LIQUID PHASES FROM SOUTHEASTERN MEDITERRANEAN BASIN, EGYPT <i>Maha Ahmed Mohamed Abdallah</i> |
| A07 | ELIMINATION OF EMERGING POLLUTANTS WITH MEMBRANE PROCESSES: A REVIEW <i>J. Jaime Sadhwani Alonso, B. Del Rio- Gamero and C. Méndez-Montes</i> | | A18 IMPROVING PERFORMANCES OF NANO-CARBON MEMBRANES WITH ELECTROCHEMICAL ASSISTANCE FOR WATER TREATMENT <i>Xie Quan, Haiguang Zhang, Xinfei Fan</i> |
| A08 | ENVIRONMENTAL SOLUTIONS AND DEODORIZATION APPLICATIONS WITH DIATOMACEOUS EARTH <i>A.S. Dounavis, M. Nakou, A. Peleka, A. Maragkoulidis and X. Papanikos</i> | | A19 DIRECT RENEWABLE ELECTRICITY GENERATION FROM MUNICIPAL WASTEWATER SLUDGE SIMULTANEOUS WITH ITS DIGESTION BY A NOVEL TWO-CHAMBERED AEROBIC DIGESTER FOR SMALL COMMUNITIES <i>H. Rasouli Sadabad, G. Badalians Gholikandi, M. Amouamouha</i> |
| A09 | A COMPARATIVE STUDY OF THE CHARACTERISTICS OF RAW LEACHATES FROM TWO LANDFILL SITES (AN OPEN AND A CLOSED) IN THE THESSALONIKI PREFECTURE <i>A. I. Koumalas, A.S. Dounavis, E.M. P. Barampouti and S. Th. Mai</i> | | A20 SYNTHESIS AND CHARACTERIZATION OF MEMBRANE BASED ON CHITOSAN AND THEIR APPLICATION IN THE ENVIRONMENT: DISCOLORATION OF POLLUTED INDUSTRIAL WATERS <i>H. Laribi-Habchi , L. Adour , W. Arbia, A. Hamdouné and W. Ghomaid</i> |
| A10 | INDUSTRIAL SYMBIOSIS: FUR INDUSTRY WASTE UTILIZATION AS SECONDARY FUEL FOR SEWAGE SLUDGE DRYING (KOZANI WASTEWATER TREATMENT PLANT) <i>A. T. Zamanis, P. Barouchas and A. Zoumboulis</i> | | A21 ECO-SUSTAINABLE TEXTILE TREATMENTS TO MITIGATE THE RELEASE OF MICROPLASTICS IN THE WASTEWATER OF LAUNDRY PROCESSES <i>F. De Falco, V. Guarino, G. Gentile, R. Avolio, M. E. Errico, V. Ambrogi, E. Di Pace, M. Avella and M. Cocca</i> |
| A11 | CLOUD POINT EXTRACTION FOR ORGANICS ACIDS RECOVERY FROM TABLE OLIVE WASTEWATERS <i>J. Raiti, A. El-Abbassi, H. Kiai, A. Hafidi</i> | | A22 SEWAGE CHALLENGE IN THE AREA OF ZGHARTA – NORTH OF LEBANON <i>S. AbiDib Antoun</i> |

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| A23 | AN EXPERIMENTAL STUDY OF DOMESTIC WASTEWATER TREATMENT BY SOIL INFILTRATION ON LARGE UNDISTURBED SOIL CORES <i>M. Phalempin, P.A. Gerin and M. Vanclooster</i> | | A28 | EXPERIMENTAL STUDY OF DISCHARGING WATER TREATMENT PLANT SLUDGE INTO WASTEWATER SEWERAGE WITH THE AIM OF WASTE MANAGEMENT IN SMALL COMMUNITIES <i>H. Rasouli Sadabad, Z. Ekhtiarzadeh, H. Akbaryan Tefaghi and M. M. Zandi</i> |
| A24 | BRACKISH WATER SOFTENING USING A PLASTICIZED POLYMERIC MEMBRANE CONTAINING TRIOCTYLPHOSPHINE OXIDE TOPO AS CARRIER <i>N. Taoualit, F.Z. Errahmani, M. Lakhdari and D.E. Hadj- Boussaad</i> | | A29 | EXTRACTION OF PHENOLIC COMPOUNDS FROM ALGERIAN OLIVE PROCESSING WASTES <i>N. Moulai- Mostefa, S. Ferarsa and K. Boutemak</i> |
| A25 | EQUILIBRIUM, KINETICS AND THERMODYNAMIC STUDY ON SORPTION OF DYESTUFFS ON BIOSOURCED MATERIALS <i>K.Boutemak, B. Cheknane and H. Ammour</i> | | A30 | STUDY OF CHROMIUM AND ZINC ACTION ON ANTIOXIDANT DEFENSE SYSTEM OF ARTHROBACTER SPECIES <i>N. Asatiani, T. Kartvelishvili, N. Sapojnikova, M. Abuladze, M. Osepashvili, T. Varazi and R. Adamia</i> |
| A26 | EMPLOYING MUNICIPAL WASTEWATER SLUDGE ASH FOR ANAEROBIC STABILIZED SLUDGE CONDITIONING AND DEWATERING: A PROCESSUAL-ECONOMIC STUDY <i>S. Hafezi, G. Badalians Gholikandi and H. Masihi</i> | | A31 | SMALL WASTEWATER TREATMENT PLANTS IN GREECE: THE CASE OF THE MONASTERY OF MEGISTI LAVRA, ATHOS, GREECE <i>D. Markou</i> |
| A27 | WASTE-ACTIVATED SLUDGE TREATMENT EMPLOYING ELECTROCHEMICAL PEROXIDATION PROCESS WITH THE AIM OF CHROMIUM AND LEAD HEAVY METALS REMOVAL <i>M. Abbassi, G. Badalians Gholikandi and H. Rasouli Saadabad</i> | | A32 | ADVANCING Sn(II) OXY-HYDROXIDES ADSORBENTS BY INCREASING THEIR REDUCING CAPACITY. APPLICATION ON Cr(VI) REMOVAL FROM WATER <i>E. Kaprara, A. Alexiadou, K. Simeonidis, M. Mitrakas</i> |

TUESDAY, AUGUST 28, 2018

| Morning session (11:00 – 14:00) | | | | |
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| B01 | COMPARISON OF ARTIFICIAL NEURAL NETWORK (ANN) AND RESPONSE SURFACE METHODOLOGY (RSM) MODELING IN THE PREDICTION OF THE EFFICIENCY OF SLUDGE STABILIZATION IN PMS/O ₃ AND PS/O ₃ PROCESSES <i>N. Zakizadeh, G. Badalians Gholikandi, and H. Masihi</i> | | B05 | DISINFECTION OF MUNICIPAL WASTEWATER SLUDGE EMPLOYING PLASMA TECHNOLOGY <i>M. Nazem Bokaei, G. Badalians Gholikandi, M. Mirabi and H. Ghomi Marzdashti</i> |
| B02 | HYDRAULIC OPTIMIZATION AND MODELING OF HYDRO-CYCLONE-SYSTEMS FOR TREATMENT AND PURIFICATION OF ANY KIND OF WATERS <i>L. Spangemacher and S. Fröhlich</i> | | B06 | TREATMENT OF DRINKING WATER USING NATURAL COAGULANTS IN DEVELOPING COUNTRIES A POSSIBLE SOLUTION TO WATER TREATMENT: A CASE OF INFORMAL SETTLEMENTS IN KENYA <i>A. Wambui Mumbi, L. Fengting and A. Karanja</i> |
| B03 | DEVELOPMENT OF REDUCED GRAPHENE OXIDE MEMBRANE ON FLAT MOROCCAN CERAMIC POZZOLAN SUPPORT. APPLICATION FOR SOLUBLE DYES REMOVAL <i>A. Karim, B. Achiou, A. Bouazizi, A. Aaddane, M. Ouammou, M. Bouziane, J. Bennazha, S. Alami Younessi</i> | | B07 | CONSTRUCTED WETLANDS AS A SUSTAINABLE SOLUTION FOR IMPROVE THE WATER AND AGRICULTURAL SITUATION IN PALESTINE <i>Mohammed Mutawea and Saed walid</i> |
| B04 | HYDROUSA – Demonstration of water loops with innovative regenerative business models for the Mediterranean region <i>J. Kisser, E. Katsou, S. Malamis</i> | | B08 | ERECOVERY AND CONCENTRATION OF PHENOLIC COMPOUNDS BY MEMBRANE PROCESS <i>H. Mabroukia and D.E. Akretchea</i> |

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| B09 | REMOVAL OF NITROGEN COMPOUNDS FROM WASTEWATER WITH AEROBIC GRANULATED MICROORGANISMS <i>I. Kungulovski and Dz. Kungulovski</i> | | B20 | CITRUS AURANTIUM POWDER AS A BIOSORBENT TO REMOVE METHYLENE BLUE FROM AQUEOUS SOLUTIONS <i>G. Akgül, M. Ozkaleli and A. Erdem</i> |
| B10 | TREATMENT AND VALORIZATION OF AVOCADO OIL FOR THE DEVELOPMENT OF THE GREEN ECONOMY IN MOROCCO <i>S. Assia, F. Nadia, A. Mohammed, A. Mohammed</i> | | B21 | PHOTOVOLTAICS REVERSE OSMOSIS DESALINATION PLANT <i>A.Hadjivasili and P. A. Fokaides</i> |
| B11 | POLYPHENOLS RECOVERY FROM OLIVE MILL WASTEWATERS USING A MACROPOROUS POLYMERIC RESIN <i>Abdelilah El-Abbassi, Pinto R. Pinto, Inès F. Mota, Sonia A. O. Santos, Hajar Kiai, Abdellatif Hafidi and Alirio E. Redrigues</i> | | B22 | SUSTAINABLE APPROACH TOWARDS SMALL AND DECENTRALIZED WASTEWATER TREATMENT PLANTS USING MICROBIAL FUEL CELLS (MFCS); PROSPECTS, APPLICATIONS AND CHALLENGES <i>M.Nili Ardakani and G.Badalians Gholikandi</i> |
| B12 | OPTIMIZATION OF PARAMETERS ON PEROXI-PHOTOACOAGULATION TREATMENT OF BENZOIC ACID FROM AQUEOUS MEDIUM BY RESPONSE SURFACE METHODOLOGY <i>Vishal Kumar Sandhwar and Basheshwer Prasad</i> | | B23 | PHOTOCATALYTIC DEGRADATION OF A TEXTILE DYE USING SUN LIGHT AND ARTIFICIAL IRRADIATION <i>K.Akhrib and A.Bensmaili</i> |
| B13 | IMMOBILIZED TIO ₂ PHOTOREACTOR FOR WATER/WASTEWATER TREATMENT <i>Y. K. Abdel- Maksoud, E. Imam and A. R. Ramadan</i> | | B24 | POWER GENERATION AND WASTEWATER TREATMENT USING NAFION AND SPEEK/SGO MEMBRANES IN MICROBIAL FUEL CELLS <i>M. Shabani, H. Younesi, A. Rahimpour, M. Rahimnejad</i> |
| B14 | EFFECT OF CASUARINA GLAUCA PLANTS ON BIOFILTRATION OF HEAVY METALS FROM SECONDARY TREATED URBAN WASTEWATER <i>Z. Bejaoui, R. Slaimi, M. Abassi, K. Mguis and Y. Ammari</i> | | B25 | REMOVAL OF SILICA FROM BRACKISH UNDERGROUND WATER BY FENTON PROCESS COUPLED WITH γ -IRRADIATION <i>F. Djouider and M. S. Aljohani</i> |
| B15 | EFFECTS OF CEMENT EFFLUENT ON ECOPHYSIOLOGICAL RESPONSES OF CASUARINA GLAUCA PLANTS <i>M. Abassi, Z. Béjaoui and Y. Ammari</i> | | B26 | STATE OF PLAY OF THE TRADITIONAL HAMMAMS OF DAR BOUAZZA COMMUNITY, MOROCCO <i>N. Chakri, B. El Amrani, F. Berrada, H. Jounaid and F. Amraoui</i> |
| B16 | EFFICIENCY OF MICROALGAE SCENEDESMUS SP. PHYCOREMEDIATION FOR PUBLIC MARKET WASTEWATER TREATMENT <i>Radin Maya Saphira Radin Mohammed, Adel Ali Saeed Al- Gheethi, Aisha A Amhimmid Alqantosh, Najeeha Mohd. Apandi and Amir Hashim Mohd Kassim</i> | | B27 | VALORIZATION OF TWO PLANTS MELIA AZEDARACH AND SYLIBUM MARIANUM OF MOROCCO IN THE PRODUCTION OF BIODIESEL <i>Souâd Alaoui Ismaili, Banacer Himmi, Said Kitane, Assia Slita, Mohamed Alaoui El Belghiti</i> |
| B17 | ENHANCED CONFIGURATIONS FOR A SUPPLY WATER TREATMENT SYSTEM <i>S. Al Rabadi and M. Obaidat</i> | | B28 | TREATMENT OF OLIVE MILL WASTEWATERS USING INFILTRATION/ PERCOLATION SYSTEM <i>Majdouline Belaqqiz, Fatima Chamkh, Abdelilah Qatibi, Abdelilah El-Abbassi and El Khadir Lakhel</i> |
| B18 | THE APPLICATION OF MECHANOCHEMICALLY ACTIVATED ALUMINOSILICATE RICH CLAY SOILS FOR DEFLUORIDATION AND PATHOGEN REMOVAL FROM GROUNDWATER <i>O. A. Obijole, M. W. Gitari, P. Ndungu and A. Samie</i> | | B29 | TREATMENT OF OLIVE MILL WASTEWATERS USING INFILTRATION/ PERCOLATION SYSTEM <i>Majdouline Belaqqiz, Fatima Chamkh, Abdelilah Qatibi, Abdelilah El-Abbassi and El Khadir Lakhel</i> |
| B19 | WASTEWATER REUSE AND RECOVERY ALONG SUSTAINABLE MANAGEMENT: APPLICATIONS AND CHALLENGES; CASE STUDY: WASTEWATER MANAGEMENT AND REUSE IN FISHERY INDUSTRIES <i>M.Nili Ardakani and G.Badalians Gholikandi</i> | | B30 | MONITORING OF TREATED DOMESTIC WASTE WATER QUALITY <i>K. Poulli, E. Rossidou, S. Kozakou, N. Michael, E. Demetriou, M. Aletrari</i> |

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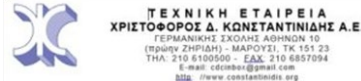
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