Content

Sustainable Environmental Technologies 14

ANTIMICROBIAL ACTIVITY OF AN ECOFRIENDLY BEE-DERIVED PRODUCT **15**
Marcela Popa, Cosmin Herta, Laura Feodorov, Mihai Nita-Lazar

ATRAZINE ATTENUATION AND MICROBIAL RESILIENCE DURING INTENSIVE IN-VESSEL COMPOSTING OF BIODEGRADABLE WASTE **17**
Lidia Kim, Costel Bumbac, Vasile Ion Iancu

BALANCING MELT FLOW AND MECHANICAL RESPONSE IN MINERAL-FILLED SIBS COMPOSITES **19**
Marius Bumbac, Cristina-Mihaela Nicolescu, Germano Craia, Stefan-Cosmin Gherghinoiu, Costel Bumbac, Lidia Kim, Bogdan-Catalin Serban, Simona Mihai

CARBON NANO-ONION/POLYVINYLPYRROLIDONE FILMS ON FLEXIBLE SUBSTRATES: THERMISTOR PARAMETERS AND PERCOLATION-BASED DESIGN RULES FOR TEMPERATURE SENSING **21**
Bogdan Catalin Serban, Marius Bumbac, Cristina-Mihaela Nicolescu, Maria Ruxandra Salagean, Octavian Buiu

DEVELOPMENT AND CHARACTERIZATION OF AN ALGINATE-BASED BIOSORBENT FROM RESIDUAL MICROALGAL–BACTERIAL BIOMASS **23**
Tatiana Dragomir (Buse), Olga Tiron, Mihai Nita-Lazar

EFFECT OF FEEDING STRATEGY ON FUNCTIONAL MICROBIAL COMMUNITIES DURING INTENSIVE IN-VESSEL COMPOSTING OF URBAN BIOWASTE **25**
Costel Bumbac, Lidia Kim

ELECTRODE SPACING AND HUMIDITY RESPONSE IN CARBON NANO-ONION OXIDIZED NANOHORN POLYVINYLPYRROLIDONE COMPOSITES **27**
Bogdan Catalin Serban, Marius Bumbac, Cristina Mihaela Nicolescu, Maria Ruxandra Salagean, Octavian Buiu

EXPLORING THE POTENTIAL BIODEGRADATION OF SELECTED PERFLUOROALKYL CARBOXYLIC ACIDS IN BIOLOGICALLY ACTIVE WASTEWATER **29**
Victor Constantin Cojocaru, Catalina Stoica, Mihai Nita-Lazar, Florentina Laura Chiriac

HIGH-PERFORMANCE EQUIPMENT FOR ELECTRIC DISINFECTION OF WATER **31**
Daniela Simina Stefan, Camelia Ungurean, Attila Tókos, József Lingvay, Ana Iulia Stefan

MINERAL LOADING AND DEFORMABILITY IN BIO TPU COMPOSITES WITH BARIUM SULFATE **33**
Cristina-Mihaela Nicolescu, Marius Bumbac, Germano Craia, Stefan-Cosmin Gherghinoiu, Costel Bumbac, Lidia Kim, Bogdan-Catalin Serban, Simona Mihai

NOVEL WASTE-DERIVED CIRCULAR MATERIAL FOR WASTEWATER DECONTAMINATION **35**
Iolanda-Veronica Ganea, Paul-Sebastian Mureseanu

OXIDIZED CARBON NANOHORN/NANO-ONION/ CARBOXYMETHYLCELLULOSE COATINGS FOR SURFACE ACOUSTIC WAVE ACETONE SENSING: DESIGN AND SENSITIVITY ANALYSIS **37**
Bogdan Catalin Serban, Marius Bumbac, Cristina-Mihaela Nicolescu, Maria Ruxandra Salagean, Octavian Buiu

OXIDIZED CARBON NANOHORNS AND FLUORINATED GRAPHENE OXIDE ON POLYIMIDE: A RESISTIVE ACETONE SENSING CONCEPT **39**
Bogdan Catalin Serban, Marius Bumbac, Cristina-Mihaela Nicolescu, Maria Ruxandra Salagean, Octavian Buiu

PRELIMINARY SCREENING OF FOOD-WASTE-DERIVED BIOADSORBENTS FOR CARBAMAZEPINE REMOVAL **41**
Daniela Ion, Florentina Laura Chiriac, Vasile-Ion Iancu, Ana Maria Luntraru , Mihai Nita-Lazar

REMOVAL OF METHYLENE BLUE DYE FROM AQUEOUS SOLUTIONS USING LEMON POWDER AND DERIVED ADSORBENTS **43**
Gabriel-Valentin Serban, Vasile Ion Iancu, Ana-Maria Luntraru, Ioana Ionescu, Florentina Laura Chiriac, Daniela Simina Stefan

UNLOCKING THE POTENTIAL OF NEW SPINEL-TYPE MIXED OXIDES FOR RAPID AND EFFICIENT REMOVAL OF HAZARDOUS AQUEOUS CONTAMINANTS **45**
Ionela Grecu, Corneliu Cojocaru, Petrisor Samoila, Bogdan-Constantin Condurache, Bogdan-George Rusu, Andra-Cristina Enache

Pollution Assessment & Management Systems **47**

AN OVERVIEW OF FUNCTIONALIZED CELLULOSE-BASED ADSORBENTS FOR Cu(II) REMOVAL FROM AQUEOUS SYSTEMS **48**
Claudiu Spinu, Catalin Manea, Ancuta Diaconu

FROM DIRECT OBSERVATION TO ENVIRONMENTAL DNA: A COMPARATIVE ANALYSIS OF BIODIVERSITY ASSESSMENT METHODS **50**
Catalina Stoica, Cristina Iftode, Daniel Gheorghe Rudaru, Mihai-Nita-Lazar

OXYFLUORINATED CARBON NANO-ONIONS AND FLUORINATED REDUCED GRAPHENE OXIDE: PREPARATION ROUTE AND SENSING CONCEPT FOR ROOM-TEMPERATURE ACETONE DETECTION **52**
Bogdan Catalin Serban, Marius Bumbac, Cristina-Mihaela Nicolescu, Maria Ruxandra Salagean, Octavian Buiu

SHORT-TERM TOXICITY OF SUNSCREEN-RELATED: UV FILTERS TO *CYPRINUS CARPIO* **54**
Andreea-Valentina Petre, Camelia Ungureanu, Stefania Gheorghe, Florentina-Laura Chiriac

Pollution Control and Monitoring 56

ANALYTICAL INVESTIGATIONS FOR DETERMINING AIR QUALITY IN URBAN AND PERI-URBAN AREAS. CASE STUDY 57
Valeriu Danciulescu Simona Mariana Calinescu, Cristian Constantin, Maria Lavinia Moise, Gheorghita Tanase, Cornel Dan

ANTIBACTERIAL ACTIVITY OF *SALVIA OFFICINALIS* ESSENTIAL OIL OBTAINED BY ENZYME-ASSISTED HYDRODISTILLATION: COMPARISON WITH A COMMERCIAL SAGE ESSENTIAL OIL 59
Mihai Nita-Lazar, Laura Feodorov, Anca Maria Patrascu, Marcela Popa

ASSESSMENT OF MICROBIOLOGICAL RISK OF SWIMMING POOL WATER USING MONTHLY MONITORING DATA 61
Oana Ivascu-Vilcu, Laura Feodorov, Marcela Popa, Eugen Csaszar, Marian Haralambie Mircea, Cristina Iftode, Alina Roxana Banciu

ASSESSMENT OF OVERALL MIGRATION AND METAL CONTRIBUTION FROM PLASTIC FOOD CONTACT MATERIAL 63
Alexandra Madalina Ghita, Daniela Simina Stefan

COMPARATIVE STUDY OF SURFACTANT LOADS AND PHYSICOCHEMICAL CHARACTERISTICS OF CAR WASH WASTEWATER 65
Alina Silvia Pintilescu, Elena Adriana Albu, Mariana Tudor, Irina Dumitrescu, Daniel Gheorghe Rudaru, Denisa Andreea Caraman, Alina Roxana Banciu, Stefania Gheorghe

DETERMINATION OF AZOLE COMPOUNDS IN ENVIRONMENTAL SAMPLES: THE INFLUENT AND EFFLUENT OF WASTEWATER TREATMENT PLANTS 67
Ana-Maria Luntraru, Vasile Ion Iancu, Florentina Laura Chiriac, Florinela Pirvu, Iuliana Paun, Andreea Valentina Petre, Victor Cojocaru, Gabriel-Valentin Serban

EVALUATION OF ARSENIC SPECIATION IN GROUNDWATER SAMPLES FROM THE WESTERN ROMANIAN AQUIFER 69
Adina Pacala, Dorian Gabriel Neidoni, Iasmina Ionela Rus, Alexandru Paul Rus, Cristina Dinu

MICROPLASTIC-ASSOCIATED ORGANIC CONTAMINANTS IN THE BLACK SEA COASTAL ENVIRONMENT: OCCURRENCE OF OPFRS, PFAS AND BISPHENOLS 71
Ioana-Antonia Minzar, Marilena-Valentina Bujoreanu, Daniela Simina Stefan, Catalina Stoica, Stefania Gheorghe, Florentina Laura Chiriac

MOLECULAR APPROACHES FOR THE IDENTIFICATION AND DIFFERENTIATION OF *TILLETIA* SPECIES CAUSING WHEAT BUNT 73
Diana Mihaela Anghel, Oana Alina Boiu-Sicuia, Indira Galit

OCCURRENCE AND DISTRIBUTION OF METALS IN THE AQUATIC ECOSYSTEMS OF THE DANUBE RIVER AND SELECTED TRIBUTARIES 75
Marilena Valentina Stinga (Bujoreanu), Alexandru Paul Rus, Cristina Dinu, Gabriela Geanina Vasile, Catalina Stoica, Stefania Gheorghe, Gheorghita Tanase

OCCURRENCE OF EMERGING ORGANIC CONTAMINANTS IN ROMANIAN RIVERS 77
Florentina Laura Chiriac, Vasile Ion Iancu, Iuliana Paun, Florinela Pirvu, Valentina Andreea Petre

REGULATORY GAPS IN MICROPLASTIC POLLUTION CONTROL: CHALLENGES FOR AQUATIC ENVIRONMENTAL PROTECTION 79

Florinela Pirvu, Iuliana Paun, Florentina Laura Chiriac

RELEASE OF POTENTIALLY TOXIC METALS FROM CIGARETTE BUTTS IN SIMULATED ENVIRONMENTAL MEDIA **81**
Alexandru Paul Rus, Ana-Maria Luntraru, Marilena Valentina Stinga (Bujoreanu), Cristina Dinu, Vasile Ion Iancu, Gabriela Geanina Vasile, Florentina Laura Chiriac

RIBOFLAVIN AS AN INHIBITOR OF AQUATIC OXIDATIVE: SELF-PURIFICATION **83**
Angela Lis, Viorica Gladchi, Elena Bunduchi, Vladislav Blonschi

SEASONAL DYNAMICS OF ACTIVATED SLUDGE QUALITY IN A MUNICIPAL WASTEWATER TREATMENT PLANT: AN INTEGRATED PHYSICOCHEMICAL AND MICROBIOLOGICAL ASSESSMENT **85**
Daniel Rudaru, Laura Feodorov, Marcela Popa, Denisa Caraman, Catalina Stoica, Alina Roxana Banciu

THE CONTRIBUTION OF SAMPLING ACTIVITIES TO OBTAINING RELIABLE DATA IN ENVIRONMENTAL STUDIES **87**
Marian Haralambie Mircea, Marcela Popa

TWO-YEAR GROUNDWATER QUALITY EVOLUTION AT TWO CLOSED NON-COMPLIANT LANDFILLS IN ROMANIA **89**
Catalin Manea, Claudiu Spinu, Ancuta Diaconu

Green sustainable development, climate change and energy **91**

CLIMATE IMPACT AND ECOTOXICITY IN POLAR THERMOPLASTIC BIOCOMPOSITES **92**
Marius Bumbac, Cristina Mihaela Nicolescu, Gabriela Zinca, Daniela Cristiana Alexandrescu, Costel Bumbac, Lidia Kim, Cosmin Stefan Gherghinoiu, Germano Craia, Bogdan Catalin Serban, Octavian Buiu

FOOD WASTE DYNAMICS IN ROMANIA: A SECTORAL AND COMPARATIVE PERSPECTIVE WITHIN THE EUROPEAN UNION **94**
Ruxandra-Eugenia Pop, Steliana Rodino

PROTEINS AS FUNCTIONAL FILLERS IN THERMOPLASTIC ELASTOMER BLENDS: A DESIGN STRATEGY AGAINST PROCESSING-INDUCED DENATURATION **97**
Marius Bumbac, Cristina-Mihaela Nicolescu, Mihaela Valentina Savu, Ana Maria Hossu, Costel Bumbac, Lidia Kim, Cosmin Stefan Gherghinoiu, Germano Craia, Bogdan Catalin Serban, Octavian Buiu

SERVICE LIFE AND ENVIRONMENTAL SAFETY OF BIOMASS-FILLED SBS THERMOPLASTIC COMPOSITES **99**
Cristina-Mihaela Nicolescu, Marius Bumbac, Gabriela Zinca, Daniela Cristiana Alexandrescu, Costel Bumbac, Lidia Kim, Cosmin Stefan Gherghinoiu, Germano Craia, Bogdan Catalin Serban, Octavian Buiu

Talent Pass Workshop, Circularity in Practice: Water, Energy and Materials for a Resilient Future **101**

ECOFRIENDLY HYDROGELS – THE NEW FRONTIER IN SUSTAINABLE AGRICULTURE **102**
Daniela Ivanov

FROM COMPLIANCE TO IMPACT: HOW CIRCULAR ECONOMY POLICIES SHAPE SUSTAINABLE INNOVATION - LEGISLATIVE TRENDS AND INDUSTRY INITIATIVES **104**
Andra Mihaela Onas

FROM NATURAL POLYMERS TO MAGNETIC FUNCTIONAL MATERIALS: SUSTAINABLE SOLUTIONS FOR WATER AND WASTEWATER TREATMENT **106**
Andra-Cristina Enache, Ionela Grecu, Petrisor Samoila, Corneliu Cojocaru, Valeria Harabagiu

MATHEMATICAL MODELLING OF ODOROUS AIR POLLUTANT DISPERSION USING AERMOD: FROM NATIONAL INDUSTRIAL CASE STUDIES TO INTERNATIONAL SIMULATIONS THROUGH THE TALENT PASS PROGRAMME **108**
Cristian Constantin, Maria Lavinia Moise, Simona Mariana Calinescu Valeriu Danciulescu