



PROCEEDINGS OF THE 8TH WORLD CONGRESS ON NEW TECHNOLOGIES (NEWTECH'22)

AUGUST 03 - 05, 2022 | PRAGUE, CZECH REPUBLIC

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WELCOME MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the 8th World Congress on New Technologies (NewTech'22).

NewTech is aimed to become one of the leading international annual congresses in the fields of new technologies. This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

While each conference consists of an individual and separate theme, the 4 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.

We thank you for your participation and contribution to the 8th World Congress on New Technologies (NewTech'22). We wish you a very successful and enjoyable experience.

Dr. Devika Chithrani

University of Victoria, Canada

Congress Chair and Proceedings Editor

NewTech'22

Dr. Domenico Lombardo

CNR - (Consiglio Nazionale delle Ricerche), Italy

Technical Program Chair and Proceedings Editor

NewTech'22

ABOUT NEWTECH'22

NewTech is aimed to become one of the leading international annual congresses in the fields of new technologies.

This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

There are 4 conferences included in the NewTech Congress:

ICNFA'22 - 13th International Conference on Nanotechnology: Fundamentals and Applications

ICEPR'22 - 12th International Conference on Environmental Pollution and Remediation

ICBB'22 - 8th International Conference on Bioengineering and Biotechnology

ICERT'22 - 6th International Conference on Energy Research and Technology

While each conference consists of an individual and separate theme, the 4 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.

The proceedings is published in Ottawa, Canada.

- All papers were peer-reviewed
- The congress proceedings is published under an ISSN and ISBN number
- Each paper is assigned a unique DOI number by [Crossref](#)
- The conference proceedings is indexed by [Scopus](#) and [Google Scholar](#)
- The proceedings is permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

Google Scholar

Scopus

Crossref

PORTICO

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SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the NewTech'22 Congress:



Dr. Devika Chithrani
University of Victoria, Canada
Congress Co-Chair



Dr. Domenico Lombardo
CNR - (Consiglio Nazionale
delle Ricerche), Italy
Technical Program Chair

Scientific Committee Members for ICNFA'22

- **Dr. Nicolas Abatzoglou**, Université de Sherbrooke, Canada
- **Dr. Yoshinobu Baba**, Nagoya University, Japan
- **Dr. Thomas M. S. Chang**, McGill University, Canada
- **Dr. Shaochen Chen**, University of California, San Diego, USA
- **Dr. Bernadeta Dobosz**, Adam Mickiewicz University in Poznań, Poland
- **Dr. Hans Fecht**, University of Ulm, Germany
- **Dr. Masami Furuuchi**, Kanazawa University, Japan
- **Dr. Luigi Falciola**, Università degli Studi di Milano, Italy
- **Dr. Jeff Th. M. De Hosson**, University of Groningen, , Netherlands
- **Dr. Redhouane Henda**, Laurentian University, Canada
- **Dr. Antonio Vicente Herrera Herrera**, Universidad de La Laguna, Spain
- **Dr. Kenichi Kasahara**, Ritsumeikan University, Japan
- **Dr. Alexander Korsunsky**, University of Oxford, United Kingdom
- **Dr. Mihaela Kusko**, National Institute for Research and Development in Microtechnologies, Romania
- **Dr. Dongyang Li**, University of Alberta, Canada
- **Dr. Rahul M. Mane**, Shivaji University, India
- **Dr. Daisuke Onoshima**, Nagoya University, Japan
- **Dr. Muthukumaran Packirisamy**, Concordia University, Canada
- **Dr. Harry E. Ruda**, University of Toronto, Canada
- **Dr. C N Ramchand**, MagGenome Technologies Pvt.Ltd India
- **Dr. K. K. Singh**, Birla Institute of Technology & Science Pilani, India
- **Dr. Sivaram Arepalli**, Rice university, USA
- **Dr. Aimin Song**, University of Manchester, UK
- **Dr. Jules Thibault**, University of Ottawa, Canada
- **Dr. Liqiu Wang**, University of Hong Kong, China
- **Dr. Jackie Y. Ying**, Institute of Bioengineering and Nanotechnology, Singapore
- **Dr. Ludwig Vinches**, École de Technologie Supérieure, Canada

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SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the NewTech'22 Congress:

Scientific Committee Members for ICEPR'22

- **Dr. Monika Bojko**, Jagiellonian University, Poland
- **Dr. Priscilla Boccia**, INAIL/DIT, Italy
- **Dr. Fabiana Corami**, CNR-IDPA, Italy
- **Dr. Francesca Costabile**, Institute of Atmospheric Sciences and Climate, Italy
- **Dr. Elisabetta Franchi**, Eni S.p.A., Italy
- **Dr. Dragos Gudovan**, University Politehnica of Bucharest, Romania
- **Dr. Jennifer Gubitosa**, University of Bari Aldo Moro, Italy
- **Dr. Charles Lee**, The University of Newcastle, Singapore
- **Dr. Woo Hyoung Lee**, University of Central Florida, USA
- **Dr. Jianbing Li**, Univeristy of Northern British Columbia, Canada
- **Dr. Domenico Morabito**, University of Orléans, France
- **Dr. Maria Rita Muzzi**, Universidade Federal de Minas Gerais, Brazil
- **Dr. Tomasz Płociniczak**, University of Silesia, Poland
- **Dr. Vito Rizzi**, University of Bari Aldo Moro, Italy
- **Dr. Marek Trojanowicz**, University of Warsaw, Poland
- **Dr. Chih-Huang Weng**, I-Shou University, Taiwan
- **Dr. Chunlong Zhang**, University of Houston-Clear Lake, USA

SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the NewTech'22 Congress:

Scientific Committee Members for ICBB'22

- **Dr. Yu-Cheng Chen**, University of Pennsylvania, USA
- **Dr. Giuliana d'Ippolito**, CNR-Istituto di Chimica Biomolecolare (ICB), Italy
- **Dr. Erwin Ilegems**, Karolinska Institutet, Sweden
- **Dr. Andreas Kremling**, Technische Universität München, Germany
- **Dr. Ponnusamy Senthil Kumar**, Sri Sivasubramaniya Nadar College of Engineering, India
- **Dr. Domenico Lombardo**, CNR - (Consiglio Nazionale delle Ricerche), Italy
- **Dr. Tau Chuan Ling**, University of Malaya, Malaysia
- **Dr. Jason Northey**,
- **Dr. Jason Northey**, UCSF, USA
- **Dr. Melanie MacGregor**, University of South Australia, Australia
- **Dr. Wensheng Qin**, Lakehead University, Canada
- **Dr. Bindu S.**, Ramaiah Institute of Technology, India

Scientific Committee Members for ICERT'22

- **Dr. Umberto Berardi**, Ryerson University, Canada
- **Dr. Alessandro Carmona-Martínez**, CIRCE, Spain
- **Dr. Wen-Feng Lin**, Loughborough University, UK
- **Dr. Ming-Chang Lu**, National Taiwan University, Taiwan
- **Dr. Grzegorz Sierpiński**, Silesian University of Technology, Poland
- **Dr. Kamaruzzaman Sopian**, National University of Malaysia, Malaysia

KEYNOTE SPEAKERS

THE PLENARY/KEYNOTE INFORMATION FOR THE 8TH WORLD CONGRESS ON NEW TECHNOLOGIES (NEWTECH'22) IS AS FOLLOWS:

Plenary Speaker



Dr. Rajasekhar Bala
National University of Singapore, Singapore
ICEPR'22 Plenary Speaker

Keynote Speakers



Dr. Umberto Berardi
Ryerson University, Canada
ICERT'22 Keynote Speaker



Dr. Marie-Abèle Bind
Harvard University, USA
ICEPR'22 Keynote Speaker



Dr. Mamadou Fall
University of Ottawa, Canada
ICEPR'22 Keynote Speaker



Dr. Huade Guan
Flinders University, Australia
ICEPR'22 Keynote Speaker



Dr. Dayan Ban
University of Waterloo, Canada
ICNFA'22 Keynote Speaker



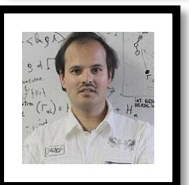
Dr. Can Bayram
University of Illinois, USA
ICNFA'22 Keynote Speaker



Dr. Sylvain Caillol
Montpellier University, France
ICNFA'22 Keynote Speaker



Dr. John Yeow
University of Waterloo, Canada
ICNFA'22 Keynote Speaker



Dr. Vladimir Baulin
Universitat Rovira i Virgili, Spain
ICBB'22 Keynote Speaker

ICEPR'22 PLENARY SPEAKER



Titles: Nature-based Systems (NbS) for Mitigation of Environmental Pollution

Dr. Rajasekhar Bala, National University of Singapore, Singapore

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Professor Balasubramanian (Bala) is a Full Professor in the Department of Civil and Environmental Engineering at National University of Singapore. He has established an internationally recognized interdisciplinary research program to study and solve environmental problems of major concern including air pollution and water pollution. He has recently introduced a new educational program in “Sustainable Urban Development” to create a new generation of intellects who are capable of discovering and providing innovative solutions to the intricate issues of energy crisis, renewable energy, global warming, climate change, and pollution. His research has resulted in about 280 papers, published in scholarly journals with 18,000 citations and an H-index of 75. He is a recipient of many research awards including “Alan Berman Research Publication Award (Department of the Navy (USA))”, “Highly Cited Research Article Award (Elsevier)” and “PROSE (Professional and Scholarly Excellence) Award”. He has also received numerous teaching awards. He is a Lead Author for the United Nations Environment Program (UNEP)’s 6th Global Environment Outlook Report. He is a member of the Science Panel of the Asia-Pacific Clean Air Partnership (APCAP), appointed by UNEP. He is a Fellow of the Royal Society of Chemistry. Prof Bala is on the editorial board of several international journals.

ICERT'22 KEYNOTE SPEAKER



Titles: Building Resiliency to Climate Change: What Path for the Building Energy Demand?

Dr. Umberto Berardi, Ryerson University, Canada

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Dr. Berardi is Canada Research Chair in Building Science, Full Professor, and Director of the BeTOP center at Ryerson University in Toronto, Canada. His main research interests are related to the study of innovative solutions and new materials for improving the performance within the built environment. Recently, he has been focusing on integrating nanotechnologies into building systems. He has mainly focused on organic PCMs, such as paraffin and bio-PCM, and on granular and monolithic aerogel. Dr. Berardi has an extensive publication record, including 130 peer-reviewed journals, 130 international conference papers, and five books.

For more information Please visit:

https://avestia.com/NewTech2022_Proceedings/files/speakers.html

ICEPR'22 KEYNOTE SPEAKER



Titles: Heterogeneous Ozone Effects on the DNA Methylation of Bronchial Cells Observed In a Crossover Study

Dr. Marie-Abèle Bind, Harvard University, USA

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Marie-Abele Bind is an Instructor of Investigation at the MGH Biostatistics Center. Her research interests focus on developing causal inference methods for quantifying the effects of randomized and non-randomized exposures on various outcomes and understanding the mechanisms explaining these effects. Her current research is funded by the NIH Early Independence Award program. She completed her joint PhD in Biostatistics and Environmental Health at the Harvard School of Public Health, working with Professors Joel Schwartz and Brent Coull. She then became a Ziff postdoctoral Fellow at the Harvard University Center for the Environment. In 2016, she was awarded an Early Independence Award (NIH High-Risk High-Reward research grant) and became Research Associate in the Department of Statistics. From 2017 to 2021, she became a John Harvard Distinguished Science Fellow.

ICEPR'22 KEYNOTE SPEAKER



Titles: Tailings-Based Engineered Barriers for Waste Containment

Dr. Mamadou Fall, University of Ottawa, Canada

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Dr. Mamadou Fall is a Full Professor in the Department of Civil Engineering at the University of Ottawa (Canada), the Chair of the Department of Civil Engineering and the Vice President Technical of the Canadian Geotechnical Society. He graduated from the Earth Science Institute at the University of Dakar (Senegal) and was awarded a PhD excellence scholarship for his PhD studies in Germany. Subsequently, he was granted a postdoctoral fellowship by the German Research Foundation and coordinated the German Research Chair of Environmental Geosciences and Geotechnics.

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ICEPR'22 KEYNOTE SPEAKER



Titles: Heat Mitigation in an Australian Coastal City with a Dry-Summer Climate

Dr. Huade Guan, Flinders University, Australia

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Dr Huade Guan is Associate Professor in Hydrology at Flinders University, Australia. His research interests are mostly focused on water resource and environmental issues from the interface of land surface and atmosphere, through soil and vegetation, to groundwater table. He leads ecohydrology and hydrometeorology research group (EcoH2OMe) at Flinders.

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ICNFA'22 KEYNOTE SPEAKER



Titles: High Performance Nanogenerators for Energy Harvesting and Sensing Applications

Dr. Dayan Ban, University of Waterloo, Canada

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Dayan Ban is a Professor of Nanotechnology Engineering in the Department of Electrical and Computer Engineering of the University of Waterloo. He received a B.Sc. and M.Sc. at the University of Science and Technology of China, Hefei, China. He received a Ph.D. in Electrical and Computer Engineering from the University of Toronto, Toronto, Ontario, Canada, in 2003. During 2001-2002, he was a visiting scientist at Nortel Networks Optical Components, Ottawa, Ontario, Canada. Dr. Ban was on staff at the Institute for Microstructural Sciences of the National Research Council, Ottawa, from Sept. 2002 to Oct. 2005.

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ICNFA'22 KEYNOTE SPEAKER



Titles: Through Physics and Smart Materials, Breaking the Efficiency (Droop) Barrier in Light Emitting Diodes for the Ultimate Solid-State Lighting

Dr. Can Bayram, University of Illinois, USA

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Prof. Can Bayram is an Associate Professor in the Department of Electrical and Computer Engineering, a resident faculty at the Nick Holonyak, Jr Micro and Nanotechnology Laboratory, and an affiliate faculty of the Carle Illinois College of Medicine and Health Care Engineering Systems Center of University of Illinois at Urbana-Champaign, IL, USA. He is an expert in III-V materials and photonic and electronic devices. He has performed more than 3,000+ epitaxial growths with metalorganic chemical vapor deposition systems and fabricated detectors, light emitting diodes, solar cells, resonant tunneling diodes, and transistors in class 100 and 1000 cleanrooms totaling 20,000+ hrs equipment usage.

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ICNFA'22 KEYNOTE SPEAKER



Titles: A Glance at Biobased and Sustainable Aromatic Polymers for Coatings and Binders

Dr. Sylvain Caillol, Montpellier University, France

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Sylvain Caillol is Research Director with CNRS. He graduated engineer from the National Graduate School of Chemistry of Montpellier in 1998 and then received his M. Sc. Degree in Chemistry from the University of Montpellier. He received his PhD degree in 2001 from the University of Bordeaux. Subsequently he joined Rhodia Company. Later, promoted Department Manager, he headed the Polymer Research Department in the Research Center of Aubervilliers. In 2007 he joined the CNRS at the Institute Charles Gerhardt of the University of Montpellier where he started a new research topic dedicated to Green Chemistry and Biobased Polymers. He is also Scientific Manager of Institute Carnot Chimie Balard Cirimat.

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ICNFA'22 KEYNOTE SPEAKER



Titles: Multi-Pixel Field Emission Based X-ray Generators

Dr. Can Bayram, University of Illinois, USA

View Abstract

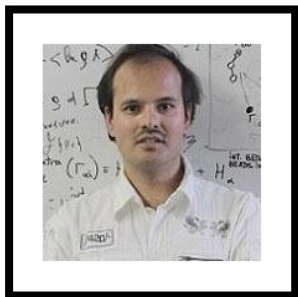
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ohn T. W. Yeow received the B.A.Sc. degree in electrical and computer engineering, and M.A.Sc. and PhD. degrees in mechanical and industrial engineering from the University of Toronto, Toronto, ON, Canada. He is currently a Professor and a University Research Chair in the Department of Systems Design Engineering at University of Waterloo, Waterloo, ON, Canada. He is focused on the development of micro/nanodevices for a wide range of applications.

For more information Please visit:

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ICBB'22 KEYNOTE SPEAKER



Titles: Mechanical Destabilization of Lipid Membranes by Nanoparticles: From Microplastics to Gold Nanoparticles.
Dr. Vladimir Baulin, Universitat Rovira i Virgili, Spain

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Vladimir Baulin did his doctorate studies in theory of polymers at Commissariat à l'Energie Atomique (CEA-Grenoble). He has obtained a PhD degree in physics from Université Grenoble-Alpes, France in 2003. In 2004-2006 he was a postdoctoral researcher at the Institut Charles Sadron, Strasbourg, France. Since 2008 Vladimir Baulin leads a group of Soft Mater theory at the University Rovira i Virgili (URV), Tarragona, Spain (<http://vbaulin.softmat.net>). In 2014-2018 he was a Coordinator of EU funded Initial Training Network SNAL: Smart Nano-objects for Alteration of Lipid bilayers (<http://itn-snal.net>). From 2021 he is a Distinguished researcher Beatriz Galindo at URV.

LIST OF PAPERS

The following papers were presented at the 8th World Congress on Mechanical, Chemical, and Material Engineering (NewTech'22)

Nanomaterials, Nanodevices: Fabrication, Characterization and Application

Hydrophobic Nanofibrous Materials for Prevention of Postoperative Tissue Adhesions

Authors: Marketa Klicova, Jachym Rosendorf, Michal Krejcik, Jana Horakova

Electronic Transport Study of Bistable Cr@C28 SingleMolecule Device for High-Density Data Storage Applications

Authors: : Chiara Elfi Spano, Fabrizio Mo, Yuri Ardesi, Massimo Ruo Roch¹, Gianluca Piccinini, Mariagrazia Graziano

Effect of Growth Medium of Fusarium Oxysporum in the Synthesis of Cadmium Sulfide Nanoparticles

Authors: J.D.A. Loa, J.L. Pichardo-Molina, A. Calvo-Olvera, O. Hernández-Jiménez, N. G. Rojas-Avelizapa

ZnO nanowire UV sensors by spray-coating and their transfer length measurement

Authors: Mindaugas Ilickas, Brigita Abakevičienė, Rasa Mardosaitė, Domantas Peckus, Simas Račkauskas

Influence of Magnetite Synthesis Method on the Structure, Morphology and Dielectric Properties

Authors: Adrian Radon, Rafal Babilas

Spectrally Resolved Nonlinear Optical Properties Of Colloidal Quantum Confined Semiconductor Dots, Rods And Nanoplatelets

Authors: Marcin Nyk, Magda Antoniak, Katarzyna Nawrot, Dominika Wawrzyńczyk, Marek Samoć

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Nanomaterials, Nanodevices: Fabrication, Characterization and Application

Oxidation Of Benzene, Toluene And Hexane Over Pt Modified Fly Ash Zeolite X

Authors: Yu. Kalvachev, T. Todorova, A. Liutcanova, R. Velinova, A. Naydenov

Experimental Methods for Nanofluidics: Focus On Sealing Technology for Delicate Nanomaterials

Authors: Said Pashayeva, Laboratoire Charles Coulomb (L2C), Univ. Montpellier & CNRS, France & Azerbaijan National Academy of Sciences, Azerbaijan

Development Of Nanocomposites Based On PLA And Functionalized Graphene Oxide

Authors: Raúl Quijada, Remilson Cruz, Humberto Palza, Mehrdad YazdaniPedram, Héctor Aguilar-Bolad

Determining Surface Energies of Nanoparticles from the Contact Angles Measured with the NanoTraPPED Method

Authors: Andrei Honciuc, Oana-Iuliana Negru

Self-closing Micro-Cuff for Neural Recording in the Locust

Authors: Hasti Sajedi, Navjot S. Randhawa, Dhara Parikh, Haleh Fotowat, Fabrizio Gabbiani, J. C. Wolfe

Conducting Polymer Based Nanofibers as SoftActuator/ Sensor Devices

Authors: Mihaela Beregoi, Alexandru Evangelidis, Sorin Ion Jinga, Ionut Enculescu

Interactive influence of Nanoparticle Size, Amount and Temperature on Thermal Conductivity and Dynamic Viscosity of Nanofluids

Authors: Mahmut Kaplan, Melda Ozdinc Carpinlioglu

Nanoencapsulation Of Neem Oil Using Inulin And Modified Starch For Use As Bioinsecticide

Authors: María Elizabeth Fuentes Campos, MARIA VERONICA CARRANZA OROPEZA

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Water and Wastewater Management and Treatment

Supported Geopolymer Adsorbents for Nutrient Removal from Urban Run-off Waters: Pilot Case Study

Authors: Tatiana Samarina, Outi Laatikainen

Assessing Transport of Microplastics in the Ergene River

Authors: Zeynep Akdoğan, Basak Guven, Ahmet E. Kideyşo

Inhibitory Effect of Silver and Nanosilver on Activated Sludge Fed with Proteinaceous Feed

Authors: Başak Kılıç, Ferhan Çeçen, Ayşe Gül Peker

Management of Asbestos-cement in Excavated Earths

Authors: Sergio Malinconico, Federica Paglietti, Sergio Bellagamba, Silvia Serranti, Giuseppe Bonifazi, Ivano Lonigro

Nematode response to soil rehabilitation of a nickel mining area in Hinatuan Island, southern Philippines

Authors: Joey Genevieve Martinez, Rowena Benavides, Judelyn Patero, Antoine Bonnefoy, Jamiel Macaraya

Analysis of the effectiveness of the system improving water quality in the WOPR facility

Authors: Bogna Buta, Mirosław Wiatkowski, Paweł Tomczyk, Łukasz Gruss, Witold Skorulski

Comparison of Effectiveness of Cl^2 /UV and PDS/Fe Advanced Oxidation Processes in Removing Diclofenac from the Aquatic Environment

Authors: Michał Nowakowski, Iwona Rykowska, Robert Wolski, Przemysław Andrzejewski

Removal Of Pesticides From Waters With Zeolites And Zeolite-Carbon Composites

Authors: Magdalena Andrunik, Mateusz Skalny, Tomasz Bajda

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Biotechnology

Fractionating of synthetic biology waste stream into nutrient rich extract for cosmetic industry

Authors: Bruno Bruno, Carla Cálix, João Burgal, Catarina Oliveira

Immobilized Biocatalysts in NSAIDs Utilization

Authors: Anna Dzionek, Danuta Wojcieszńska, Urszula Guzik

NSAIDs Biodegradation in Activated Sludge by DrugConsuming Bacterial Strains in SBR System

Authors: Ariel Marchlewicz, Katarzyna Hupert-Kocurek, Urszula Urszula, Danuta Wojcieszńska

The Non-Saponin Fraction Of Korean Red Ginseng Prevents Sarcopenia By Maintaining Immune Homeostasis In Old C57BL/6J Mice

Authors: Boo-Yong Lee, Hyun-Ji Oh, Heegu Jin

New Strategy to Develop Metabiotic Sourdoughs for GlutenFree Bread Functionalization

Authors: Bogdan Păcularu-Burada, Gabriela-Elena Bahrim , MihaelaAida Vasile

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Environmental Sustainability and Risk Assessments

Prediction of Drought Damage using Meteorological Factor Analysis in Corn

Authors: Seong Ju Lee, Sung Joo Kim, Tae Won Kim, Yang Yeol Oh, Tae Wan Kim

Contaminated Areas Management in Pipeline Clandestine Deviation Sites in Brazil

Authors: Leonardo Mansor

Assessment of Drought Tolerance using Chlorophyll Fluorescence Analysis in Garden Plants

Authors: Tae-seon Eom, Seong-ju Lee, Taek-jin Yoon, Seung-Won Han , Sung-Yung Yoo

Photochemical Characteristics of Radish (*Raphanus sativus*) Leaf Grown under Different Nitrogen (N) Fertilization

Authors: Tae-seon Eom, Seong-ju Lee , Ye-Bin Hwang, Tae Wan Kim

Promoting of Environmental Education via Outdoor Activities in Finland: Clean Games case

Authors: Tatiana Samarina, Anna Belenikhina, Outi Laatikainen

Effect of Environment-Like Amount and Environment-Like Shaped PET-microparticles (3-7 μm) on *Chlamydomonas reinhardtii* and *Chlorella vulgaris*

Authors: Katarína Molnárová, Michaela Durdáková, Ondřej Pěňčík

Are PBDEs In Marine Sediments From The Coast Of Baja California Mexico Increasing In Time? A Problem Revisited

Authors: J. Vinicio Macías-Zamora , Nancy Ramírez-Álvarez, Félix Augusto Hernández-Guzmán, Cristina Quezada-Hernández

PET Microparticles Has Severe Toxic Effects to *Arabidopsis thaliana* in Hydroponic Cultivation

Authors: Attila Kuscera, Daniel Klofáč, Ondřej Pěňčík

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Environmental Sustainability and Protection

Growth Kinetics Of Bacteria Isolated From The Microbiota Of Tussilago Farfara L. Growing In Post-Industrial Mercury Contaminated And Mercury Non-Contaminated Areas. Mera Gene Identification

Authors: : Magdalena Trojańska, Martyna Rogala, Anna Kowalczyk, Dariusz Latowski, Monika Bojko

Proposing Chitosan/Snail Slime Blended Films As Sustainable Functional Masks/Patches for Cosmetics and Biomedical Applications

Authors: Jennifer Gubitosa, Vito Rizzi, Angela Agostiano, Paola Fini, Pinalysa Cosma

Evaluation Of The Metal Removal Capability Of Endemic Chilean Species

Authors: Lazo Andrea, Lazo Pamela, Hansen Henrik K., Gutiérrez Claudia

Thermoreact® - An Innovative Remediation Product for In-Situ Neutralization of Halogens, Sulphur, Phosphorus and Mercury during Thermal Desorption

Authors: Ysaline Depasse, Aline Jorden, Hatem Saadaoui, Jan Haemers

Environmental Impact Of An Informal Settlement On A Headwater Area At High-Risk Of Erosion In Brazil

Authors: Maria Thereza Fonseca, Samuel L. L. Silva², João P. Ferreira, Rayssa S. Nunes, Hugo L. M. de Paula, Jonatas F. da Cruz, Arthur Antão, Izabel N. R. Santos, Juni Cordeiro, Luiz Alberto I. Saenz, Eliane Maria Viera, Ricardo Motta Pinto Coelho, Maria Rita Scotti

Sustainable Water Storage Technology Based On Biodegradable Waste Materials

Authors: Daria Marczak, Krzysztof Lejcuś

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Greenhouse Effect, Global Warming, and Climate Change

Analysis of Sea Surface Temperature due to Climate Change using Satellite Products and Spatial Gap-filling Approaches

Authors: Jihye Ahn, Yangwon Lee

Statistical Analysis of Plant Phenology in South Korea Using ASOS and MODIS Data

Authors: Geunah Kim, Yangwon Lee

Spatial Gap-filling of GK-2A/AMI AOD products for Estimation of Particulate Matter using Machine Learning

Authors: Youjeong Youn, Yangwon Lee

Atmospheric Correction of Sentinel-2 Satellite Images for Improvement of Vegetation Indices

Authors: Seoyeon Kim, Yangwon Lee

Biochemical analysis of Betalain Biosynthesis and Photosynthesis of Amaranth (*Amaranthus tricolor* L.) by Dessication under high-temperature

Authors: Seungyeon Jang, Jiyoung Shim, Yunjun Choe, Sung Joo Kim, Tae Wan Kim

Response of Pea Seedlings on Multi-Walled Carbon Nanotubes Seed Treatments

Authors: Anna Gorczyca, Ewa Pociecha, Ewelina Matras

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Environmental Protection

SAFE REMOVAL OF UNDERGROUND ASBESTOS-CEMENT WATER PIPES

Authors: Sergio Bellagamba, Federica Paglietti, Sergio Malinconico, Beatrice Conestabile della Staffa, Giuseppe Bonifazi2 Daniele Taddei

Heavy Metals and Polycyclic Aromatic Hydrocarbons in Soils and Plants Cultivated On Contaminated Soil after Application Of Fertilizers With The Addition Of Zeolite Composites Mixed With Leonardite

Authors: Justyna Szerement, Krzysztof Jurek, Adam Kowalski, Jakub Mokrzycki, Renata Jarosz, Lidia Marcińska-Mazur, Monika MierzwaHersztek

Starvation and Cadmium Affect Glutathione and Detoxifying Enzymes in Larvae of Spodoptera Exigua from Control and Cadmium Strain

Authors: Anna Pompka, Alina Kafel, Elżbieta Szulińska

Nanocomposite Membranes Based On Chitosan Embedded With Antimicrobial Nanoparticles for Water Purification Applications

Authors: Angela Spoială, Cornelia-Ioana Ilie, Roxana Doina Truşcă, Denisa Fica, Ludmila Motelică, Ovidiu Cristian Oprea, Anton Fica, Ecaterina Andronescu

Application of an innovative method of improving water quality on the Turawa Reservoir - Ventura facility

Authors: Paweł Tomczyk, Mirosław Wiatkowski, Bogna Buta, Łukasz Gruss, Witold Skorulski

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