RASTH-2021

International Conference on Recent Advances in Applied Sciences, Technology & Health (Virtual Mode)

Abstract Booklet

Theme: ENVIRONMENTAL SCIENCE AND TECHNOLOGY

Organised by

SRM Research Institute,

SRM IST. Kattankulathur. India

March 03-05, 2021

THEME: ENVIRONMENTAL SCIENCE & TECHNOLOGY

KEYNOTE SPEAKERS

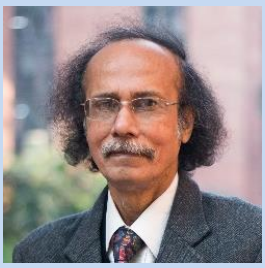
Prof. S.N Tripathi, IIT - Kanpur

Prof. Daniel D Snow Univ of Nebraska, USA

Prof. B.Loganathan Murray State Univ, USA

Special Issue: Bulletin of Environmental Contamination and Toxicology

POLICY EXPERTS



Dr. S K Sarkar TERI

Mr. Satish Sinha Toxics Link

Mr.Pankaj Kumar UNIDO

Dr.Girija Bharat Mu Gamma Consultants

INVITED SPEAKERS

Prof. Jagabandhu Panda, NIT Rourkela

Dr.Magdelena Urbaniak Univ of Lodz, Poland

Dr.Richa Kothari Central Univ of Jammu, IN

Dr.Vladimir Beskoski Univ. of Belgrade, Serbia

Dr. Siddharth Sankar Das, VSSC, Thiruvananthapuram

Dr.Zaffr Hashmi COMSATS Univ Pakistan

Dr.Rehana Shaik IIIT, IN

Mr.Vinod.P.G GeoVIn Solutions,IN

Contact

Dr. Paromita Chakraborty
Convener
Email: paromita.rasth2021@gmail.com
rasth2021@srmist.edu.in

Meeting link: https://zoom.us/j/92772463201?pwd=bnBiVkxQQ3dSbGhzL3ErMU9uSW03QT09
Meeting ID: 927 7246 3201
Passcode: 014380

Oral Presentation by Selected Senior Research Scholars

Ms. Kristina Joksimović, University of Belgrade, Serbia

Title: Power generation using parallel connected microbial fuel cells systems

Kristina Joksimović[1*], Aleksandra Žerađanin[1], Marija Lješević[1], Branka Lončarević[1], Danijela Randjelović[1], and Vladimir Beškoski[2]

[1]University of Belgrade, Institute of Chemistry, Technology and Metallurgy- National Institute of the Republic of Serbia, Department of Chemistry, 11001 Belgrade, Njegoševa 12, Serbia

[2]University of Belgrade - Faculty of Chemistry, 11001 Belgrade, Studentski trg 12-16, Serbia

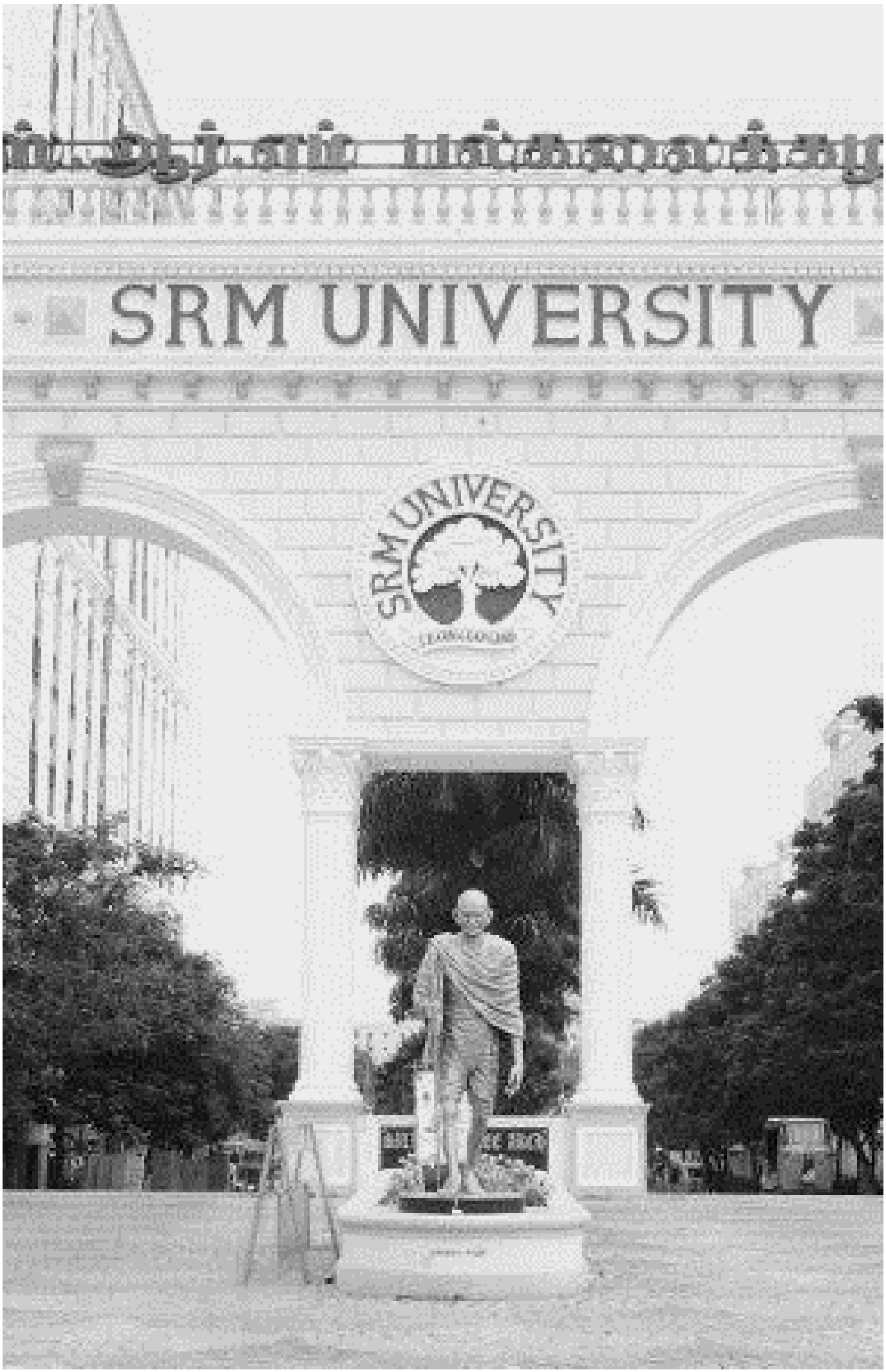
*kristina.joksimovic@ihtm.bg.ac.rs

Abstract

The use of microbial fuel cells (MFCs) for the purpose of obtaining energy from nature has grown in the second decade of the 21st century[1]. Due to the lack of fossil fuels and less and less available renewable energy sources, MFCs have great potential for obtaining small amounts of electricity[2]. Increasing attention is focused on the use of such types of energy.
The aim of this paper is to analyse the current generation of two parallel-connected MFC cells and the power generation obtained in this way.
Collected sediment from the confluence of the River Sava and River Danube in Belgrade, Serbia, after the addition of sawdust, sulphate, and carbonate was left in a thermostat at 28 °C, and only after a month, two cells were formed. The system is made so that the MFCs are connected in parallel and the values of voltage, current, and power are measured on a set of different resistors[3].
The measured values on the resistors were monitored for 5 days. The highest amount of measured voltage was 294.2 mV, reached on the third day after cell formation. The amount of current generated was 30 μA, while the power reached its maximum at 0.8 μW. These values were obtained for a total cell area of about 160 cm^2. These seemingly small amounts of electricity and power are sufficient to run some systems in wastewater treatment, so their amount should certainly not be neglected[4].
References:

1. Slate, A.J. et al., 2019. https://doi.org/10.1016/jrser.2018.09.044
2. Tampa, P. et al., 2020. https://doi.org/10.1007/s10311-020-00966-2
3. Randjelovic, D., V. et al., 2019. https://doi.org/10.1109/MIEL.2019.8889650
4. Khalik et al, 2017. http://dx.doi.org/10.1016/j.chemosphere.2017.05.160

Keywords: Microbial Fuel Cells, New Energy Sources, Free Energy, Power Generation


SRM UNIVERSITY
SRM UNIVERSITY