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**Podar Educational Campus, Nawalgarh - 333042 (Raj.)**  
**Website: [www.podarcollege.com](http://www.podarcollege.com)**

### **DVV CLARIFICATION**

**3.2.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years**

<p><b>3.3.2.</b> <b>Q<sub>n</sub>M</b> <b>3.3.2.1.</b></p>	<p><b>Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years</b></p> <p><b>Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year wise during last five years</b></p> <table border="1"> <tr> <td colspan="6">HEI Input</td> </tr> <tr> <td><b>Year</b></td> <td>2021-22</td> <td>2020-21</td> <td>2019-20</td> <td>2018-19</td> <td>2017-18</td> </tr> <tr> <td><b>Number</b></td> <td>2</td> <td>23</td> <td>8</td> <td>25</td> <td>20</td> </tr> </table>	HEI Input						<b>Year</b>	2021-22	2020-21	2019-20	2018-19	2017-18	<b>Number</b>	2	23	8	25	20	<p>5</p>
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<p><b>DVV</b> <b>Asked</b></p>	<p>Provide Cover Page, Content Page and first page of</p> <p><b>2021-22</b> Bioremediation: Plants and Microbes for restoration of heavy metal contaminated soils</p> <p><b>2020-21</b> Macroscopic Quantum Phenomena Decay in LTS and HTS Josephson Junction Abhimanyu Anand Upanyasome Chitrit Sanskritikm and naitik Mulyankan Structural, Electronic and Optical Properties of ZnO based Resistive Random Access Memory Device Innovative Methods for Teaching in Higher Education During Covi-19</p> <p><b>2019-20</b> National Conference on Science, Technology and Emerging Application of Microscopy(Biodeterioration of Paper: A SEM Study of Fungal Spoilage reproduce under Controlled Condition) First Principles Calculations Electronic structure and magnetic Properties of Ti<sub>2</sub>FeSb Heusler Alloy Impact of Climate Change and Urban Environment on Insect</p> <p><b>2017-18</b> Deterioration of Palm Leaf Manuscripts and Traditional Methods for their Conservation Effects of Sulphur di Oxide Pollution on Plants around Cement Plant Biotechnology: A boon for Sustainable Rural Development The History of Mughal through Manuscripts and Conservation of Manuscripts by Different innovative controlling Methods Role of Travel Journalist: In responsibility to the Audience.</p>																			

# Session 2021-22

## 1. Bioremediation: Plants and Microbes for restoration of heavy metal contaminated soils

ISBN No: 978-0-367-48913-7

Book Title: Bioenergy Crops: A sustainable means of Phytoremediation

Paper Title: Bioremediation: Plants and Microbes for restoration of heavy metal contaminated soils

Author: Harsh Kumar, Shumailah Ishtiyag, Mayank Varun, Paulo J. C. Favas, Clement O. Ogunkunle, Manoj S. Paul

Department: Botany

Name and Year of Publication: Science Publishers (CRC Press/Taylor & Francis Group) 2022



*Editors*

**Jos T. Puthur**

**Om Parkash Dhankher**

# **BIOENERGY CROPS: A Sustainable Means of Phytoremediation**

*Dr*

**Principal**

**Seth G.B. Podar College**

**Nawalgarh - 333042**



**CRC Press**  
Taylor & Francis Group

**A SCIENCE PUBLISHERS BOOK**



## Bioremediation: Plants and Microbes for Restoration of Heavy Metal Contaminated Soils

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Harsh Kumar<sup>1\*</sup>, Shumailah Ishtiyag<sup>1</sup>, Mayank Varun<sup>2</sup>, Paulo J.C. Favas<sup>3,4</sup>,  
Clement O. Ogunkunle<sup>5</sup> and Manoj S. Paul<sup>1</sup>

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### 3.1 Introduction

The build-up of heavy metals (HMs) and metalloids within the environment and notably in soils and the subsequent transfer along the food chain to man is a matter of growing environmental concern. At present, HMs and metalloids such as As (first place), Pb (second place), Hg (third place), and Cd (seventh place) are currently on the top ten priority list of threatening substances as issued by the American Agency for the toxic substances and Disease Registry (ASTDR 2019).

Heavy metal(loid)s contamination of soil and wastewater is a serious environmental downside that has a detrimental effect on living organisms and is harmful or toxic even at low levels. The contamination of heavy metal(loid)s is becoming a grave issue with the increased growth of industries and phantom alteration of regular biogeochemical cycles. Heavy metal is a typical generic term used for a category of metal(loid)s with an atomic density  $>5 \text{ g cm}^{-3}$  (Hawkes 1997). Heavy metal(loid)s include arsenic (As), cadmium (Cd), lead (Pb), cobalt (Co), nickel (Ni), iron (Fe), zinc (Zn), chromium (Cr), silver (Ag) and the platinum (Pt) group elements. Their toxicity to plants is dependent on plant type/species, the precise nature of the metal, and its concentration, pH, and soil composition.

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Heavy metal(loid)s can strongly bound to the soil particle. Heavy metals cannot be degraded by biological or chemical activities as in the case of organic material. A pollutant is any environmental element that can result in undesired effects like harm living organisms, deteriorate life, and can cause death even when present in low concentrations. Heavy metals in soil can cause toxicological effects on plants and soil microbiota and thus consequently reduce the microbial population of soil and their enzymatic activities (Khan et al. 2010).

Some heavy metal(loid)s like Cd, As, Hg, Se, Pb, and Se are non-essential, as they do not play a vital role in the plant's physiology. Further to such non-essential HMs and metalloids, some HMs such as Zn, Fe, Mn, and Cu are crucial for proper growth and expansion. However, at high doses, certain metals cause some lethal consequences and are identified as environmental toxicants (Kumar et al. 2016). Due to their persistent and tenacious nature, these HMs accumulate in the environment and cause serious health problems. They get accumulated along the ecological food chain through direct uptake by the primary producers and enter the next successive ecological levels. Heavy metals are cytotoxic even at low levels and can induce malignancies in humans (Dixit et al. 2015).

## **3.2 Toxic Metals Sources and Their Impact on the Environment**

A number of sources of toxic metals have been identified in the ecosystem such as natural sources, agricultural activities, domestic effluents, industrial activities, atmospheric sources, and traffic emissions.

### **3.2.1 Natural sources**

The primary natural sources of serious metal(loid) pollutants within the soil are surface erosion, volcanic activities, urban/municipal runoffs, and suspended aerosols/particles. Volcanic eruptions have been reported to have a venturous effect on the environment, including the climate and human health of the exposed populations. Volcanic eruptions contain high levels of Cu, Pb, Mn, Hg, Ni, and toxic gases.

Several significant metals are present in inland coastal areas because of aerosols created in oceanic practices. Aerosols (fine mixture particles or water droplets within the air) carry a completely different form of contaminants, such as smoke clouds and HMs. The aerosols that contain significant amounts of HMs usually settle on leaf blades within a variety of fine particulates and might penetrate through stomata into the leaf mesophylls (Sardar et al. 2013).

### **3.2.2 Agricultural sources**

Organic and inorganic fertilizers are the most prominent sources of HMs and metalloids pollution in farming soil including the dumping of urban and industrial wastes and atmospheric emission from motor vehicles and the burning of fossil fuels (Zhang 2006). Increased amounts of these heavy metals in soils will have a detrimental effect on plant physiological activities resulting in plant growth reductions, dry matter accumulation, and yield (Suciu et al. 2008).



# Session 2020-21

## 1. **Macroscopic Quantum Phenomena Decay in LTS and HTS Josephson Junction**

ISBN No: NA

Paper Title: Macroscopic Quantum Phenomena Decay in LTS and HTS Josephson Junction

Author: Poonam Sharma

Department: Physics

Organized by: Online International Conference on Recent Trends in Science, Humanities and Engineering in association with Advance Research Education Society

Name and Year of Publication; NA 2020

## 2. **Abhimanyu Anat k Upanyaso me Chitrit Sanskratikm and naitik Mulyankan**

ISBN No: NA

Paper Title: Abhimanyu Anat k Upanyaso me Chitrit Sanskratikm and naitik Mulyankan

Author: Annapurna Soni

Department: Hindi

Organized by: U.P. Language Institute, Lucknow U.P. 2020

Name and Year of Publication; NA

## 3. **Structural, Electronic and Optical Properties of ZnO based Resistive Random-Access Memory Device**

ISBN No: 978-0-367-48913-7

Book Title/Conference title: One Day online International Conference on Advance Materials

Paper Title: Structural, Electronic and Optical Properties of ZnO based Resistive Random Access Memory Device

Author: Vivek kumar Jain

Department: Physics

Organized by: P.C. Jabin Science College, Vidhyangar Hubballi Karnataka

Name and Year of Publication: Conference Proceeding 2020

## 4. **Innovative Methods for Teaching in Higher Education During Covi-19**

ISBN No: 978-81-922167-2-0

Book Title/ Conference Title: Two Day National E- Conference on Literature

Paper Title: Innovative Methods for Teaching in Higher Education During Covi-19

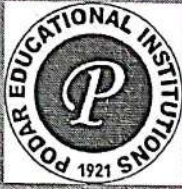
Author: Ravindra Goswami

Department: Botany

Organized by: Department of Language Saroji Vanita Mahavidhyalaya

Name and Year of Publication: Sarojini Naidu Vanita Maha Vidyalaya, Hyderabad. 2020





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**IQAC Initiative**

**Proceeding**  
**of**  
**Online International Conference on**  
**"Recent Trends in Science, Humanities & Engineering"**  
**18-19, June 2021**  
**in Association with**  
**Advance Research Educational Society (ARES)**





		DISTRICT, TAMILNADU, INDIA.	
MA-06	D. P. PATIL	K.T H.M. COLLEGE, NASHIK (M.S.) INDIA	Application of Sawi transform in Partial differential equations with variable coefficients
MA-07	TANUJA PUNETHA	DOON UNIVERSITY, DEHRADUN, UTTARAKHAND	Some Maclaurin symmetric mean aggregation operators based on Schweizer-Sklar operations for Picture fuzzy numbers and their application to decision making
MA-08	SANA	ALIGARH MUSLIM UNIVERSITY, ALIGARH	E-Bayesian estimation for two-parameter bathtub-shaped lifetime distribution based on upper record values
MA-09	UMAR MUHAMMAD MODIBBO	ALIGARH MUSLIM UNIVERSITY	Multiobjective Optimization For Sustainable Supply Chain Management Under Fuzzy Environment
MA-10	MANOJ KUMAR	CENTRAL UNIVERSITY OF HARYANA	Bayesian Inference for the Number of Species in a Stochastic Abundance Using Poisson Lindley Model
MA-11	PARUL SINGH	BABA MASTNATH UNIVERSITY (ROHTAK)	Some Fixed Point Theorems in S-Metric Space with new Contractive Mapping
MA-12	SHALINI NAGPAL	BABA MASTNATH UNIVERSITY, ASTHAK BOHAR, ROHTAK	Fixed point results for various contractive conditions in b-MMS (Multiplicative Metric Space)
MA-13	RUCHIKA SHARMA	SETH G B PODAR COLLEGE, NAWALGARH	Area of Linear Algebra

  
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23		UNIVERSITY, AJMER (RAJASTHAN)	Climate Change With Time Delay
MA- 24	ARVIND KUMAR	RPS DEGREE COLLEGE BALANA MAHENDERGARH	Swing Trends in mathematics and its handouts to different streams
MA- 25	DURGESH PAREEK	GOVT KAMLA MODI GIRLS COLLEGE NEEMKATHANA	Mathematical Modelling and Environmental Problems

**Day-2, Paper Presentation-19 June-2021 9:00AM-12:00 PM**

**Science**

**Session Chair**

1.	<b>Prof.S. B. L. Tripathy,</b> Government College Degana, Nagor (Rajasthan)
2.	<b>Prof. Anil Kumar Gupta,</b> S P C Government College, Ajmer (Rajasthan)
3.	<b>Prof. Shashi Kala Gupta</b> SGSGGovernment College Nashirabad, Ajmer (Rajasthan)

**Presenter**

S.N.	Authors Name	Name of University /Institute	Title of the Paper
SC- 01	Kumari Priyanka	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Effects of Marine Exhaust Water on Algae
SC- 02	SONI KUMARI	MADHYANCHAL PROFESSIONAL UNIVERSITY,BHOPAL, M.P.	Synthesis, characterization of transition metal(II) complexes with bidentate thiocarboxamide ligand
SC- 03	Priya Saini	S.S. Jain Subodh P.G. College Jaipur	Innovative measures for quality improvement in higher education
SC-	Aadil	Madhyanchal	Screening of the phytochemicals,





04	Khursheed	Professional University	antioxidant, antimicrobial and anticancer activity of different solvent extracts of Rheum emodi wall. ex Meissn leaves: growing wild in Kashmir Himalayas
SC-05	Satyendra Singh	S.V.N.P.G. College, Kalan, Sultanpur, U.P., India	Treatment of Pneumoconiosis by the Interaction of methyldeoxypodophyllotoxin with the Tubulin Receptor
SC-06	Ab Rouf Wani	Madhyanchal professional University	Phytochemical analysis, antioxidant and hepatoprotective effects of different solvent extracts of Malva sylvestris L. leaves: growing wild in Kashmir Himalayas
SC-07	Rakesh Kr. Jangir	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Recent Technique in Science, Humanities & Biotechnology
SC-08	Radheykant Sharma	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Pharmaceutical Studies of the Bark of Parkinsonia Aculeata
SC-09	Manish Kumar Omar	Singhania University, Pacheri Bari, Jhunjhunu, Rajasthan, India	Treatment of Human pancreatic cancer by the interaction of steganacin with the tubulin receptor
SC-10	AMAR SINGH MOUNPRIA	S N D B Govt. PG College, Nohar	Evaluation of Antimicrobial Potential of Adhatodavastica leaf extract against clinical pathogens
SC-11	Mohd Kadeer Siddiqui	Singhania University Pacheri beri Distt. Jhunjhanu (Rajasthan) India	Determination of Antioxidant and Phenolic Contents of Pineapple
SC-12	Manju Bala	Bhagwant university Ajmer(Rajasthan)	Thermoluminescence properties of natural minerals
SC-	Vandana	Bhagwant university	Melt processing and Microstructure



13	Yadav	Ajmer(Rajasthan)	ofNdBCO Superconductor
SC-14	Mausam kumari	Bhagwant university Ajmer(Rajasthan)	A Research Study on 3-D Soliton in Photonic Lattice and Photonic Crystal Fibre
SC-15	Kritika	Amity university Haryana	Role of 4,7-Dihydroxycoumarin based dyes in textile industry
SC-16	SUNDER SINGH	MSJ Govt college (Bharatpur) Rajasthan India	E-waste : environment problems and management
SC-17	Shilpa bargujar	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Impact of pesticide on human health and its treatment
SC-18	Shagufa Qureshi	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Mosquito control by biological method
SC-19	Kausar khatri	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Water waste management
SC-20	Rajpal Singh	S. V. Govt. College, Khetri	Angular Dependence of Photonic Bandgap in 1-D Chalcogenide Photonic Crystal
SC-21	Chetan Dadheech	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Science: - on the criterion of Psychology and Philosophy
SC-22	Anil Kumar	The Technological Institute of Textile & Sciences, Bhiwani (Haryana)	Indian Technical Textiles: A review
SC-23	PREMLATA NARWARIA	Jiwaji University Gwalior Madhya Pradesh	Ab initio Study of electronic properties of doped Silicon Carbide nanoribbons
SC-24	Seema	Bhagwant university Ajmer(Rajasthan)	Binding Energy, Lattice Excitation and Compressibility
SC-25	Sandeep Sharma	SRRM Govt. College Jhunjhunu Raj	Green synthesis and characterization of iron oxide

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			nanoparticles by mangifera indica
SC-26	Shubham Yadav	Seth G.B. Podar College, Nawalgarh (Rajasthan).	Superconductors , its applications and A Short Review on Cuprate-Perovskite Ceramic ,Liquid nitrogen(LN <sub>2</sub> ), Mercury(Hg) and Hydrogen sulphide(H <sub>2</sub> S)
SC-27	Bhupendra Singh Rathore	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Structural and thermal properties of laser beam irradiated polycarbonate/polystyrene bilayer films
SC-28	Suman Saini	Seth G.B. Podar College, Nawalgarh (Rajasthan)	The role of botanical gardens in scientific research, conservation and citizen science
SC-29	Ravindra Sharma	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Recent Trends In Science Humanities And Engineering
SC-30	Virpal Singh	Centre For Electronic Governance, Jhalana, Jaipur.	
SC-31	Poonam Sharma	Seth G.B. Podar College, Nawalgarh (Rajasthan)	Macroscopic Quantum Phenomena Decay in LTS and HTS Josephson Junction

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SC-31

## Macroscopic Quantum Phenomena Decay in LTS and HTS Josephson Junction

Poonam Sharma

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333042, India

Corresponding Author Email: [poonamsharma23799@gmail.com](mailto:poonamsharma23799@gmail.com)

### Abstract

Macroscopic quantum phenomena leave their quantum signature in the switching process from the zero voltage to the finite voltage branch in the current voltage (I-V) characteristics. Macroscopic effects encode their fingerprints as well in the I-V curve. We investigate escape dynamics in junction of reduced dimensions, characterized by different levels of dissipation. In moderately damped junctions phase diffusion processes coexist with thermal activation and macroscopic quantum tunneling. Measurements are carried out both on high and low Critical temperature superconductor Josephson systems, characterized by different type of barriers, i.e. grain boundary and standard insulating layers. Experimental data are compared with numerical outcomes giving proof of quantum coherent transport and size effects. Flavors of novel features appearing in escape dynamics are discussed.

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# उत्तर प्रदेश भाषा संस्थान

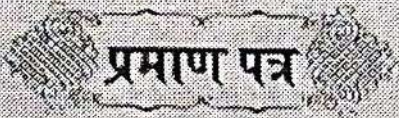
(भाषा विभाग, उत्तर प्रदेश शासन के नियंत्रणधीन कार्यरत संस्थान)

राधा

हिन्दी तथा आधुनिक भारतीय भाषा विभाग, लखनऊ विश्वविद्यालय, लखनऊ  
के संयुक्त संचालन में



दिनांक : 22, 23 एवं 24 फरवरी 2020, स्थान : लखनऊ विश्वविद्यालय परिसर



## प्रमाण पत्र

प्रो०/डॉ०/बी/सुश्री/श्रीमती ..... **अन्नपूर्णा सेनी** ..... संस्था

**सेठ जी. बी. पौदार महा०** ..... ने 22, 23, 24 फरवरी 2020 को  
लखनऊ विश्वविद्यालय में आयोजित

## भारतीय भाषा महोत्सव - 2020

में प्रतिभाग किया।

आयुक्त द्वारा **अभिप्रेत** (अनंत वे. उपाध्याय) में सांस्कृतिक विषय पर  
**शोधपत्र/वक्तव्य/अध्यक्षीय वक्तव्य/अतिथि वक्तव्य**

प्रस्तुत किया गया।

**H**  
(श्रीमान सुभाष दीर्घ, 2019-2020)  
निदेश  
2020 भाषा संस्थान

**WZU**  
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2020 भाषा संस्थान





# उत्तर प्रदेश भाषा संस्थान

(भाषा विभाग, उत्तर प्रदेश शासन के नियंत्रणाधीन कार्यरत संस्था)

तथा

हिन्दी तथा आधुनिक भारतीय भाषा विभाग  
लखनऊ विश्वविद्यालय, लखनऊ

के संयुक्त तत्वावधान में



◆ चिंतन – भारतीय भाषाओं पर

◆ मंथन – भारतीय साहित्य पर ◆ मनन – विश्व हिन्दी पर

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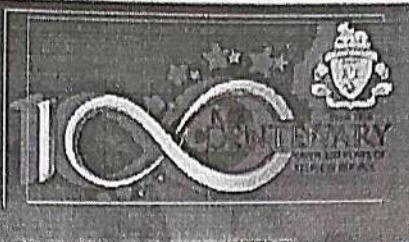
दिनांक :

22, 23 एवं 24 फरवरी, 2020

कार्यक्रम स्थल:

लखनऊ विश्वविद्यालय परिसर





K.L.E. SOCIETY'S

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# Abstract Book

IQAC Initiative  
Department of Physics organised

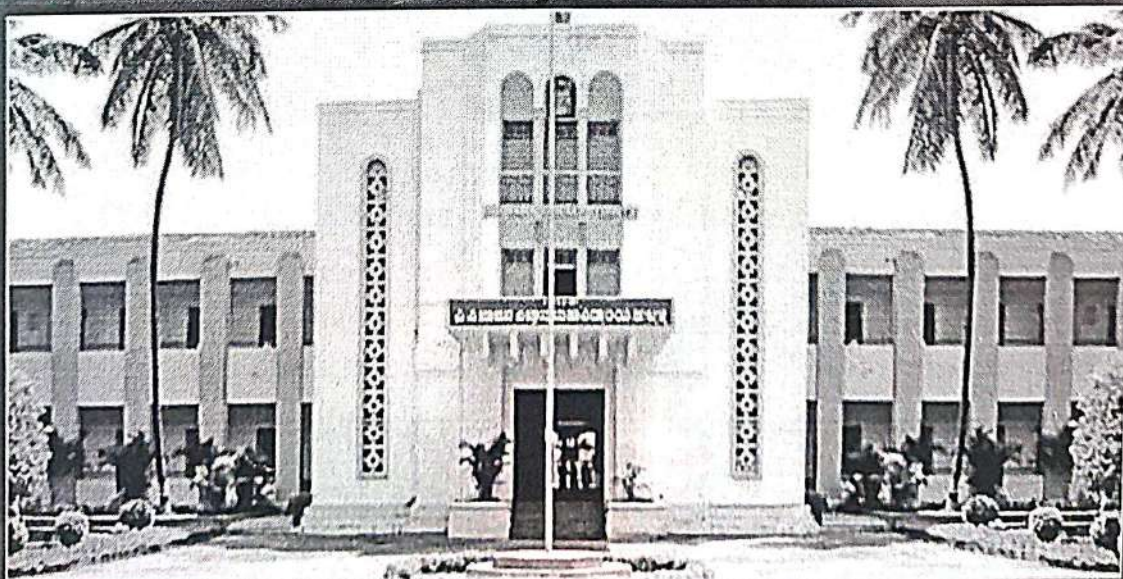
One day online International Conference

on

# Advanced Materials

held on

20<sup>th</sup> July 2020



*[Signature]*  
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Seth G.B. Podar College  
Hubballi - 580031



## Structural, Electronic and Optical Properties of ZnO based Resistive Random Access Memory Device

Archana Jain<sup>1</sup>, Praveen Kumar Jain<sup>1</sup> and Vivek Kumar Jain<sup>2</sup>

<sup>1</sup>Swami Kesvanand Institute of Technology, Management and Gramothan, Jaipur, Rajasthan 302017, India

<sup>2</sup>Department of Physics, Seth G. B. Podar College, Nawalgarh, Rajasthan, 333042, India  
Email: archanajain.rbt@gmail.com

Structural, electronic and optical properties of ZnO were performed using the full potential linearized augmented plane wave (FP-LAPW) method with generalized gradient approximation implemented in WIEN2k. Structure of ZnO stabilizes in Wurtzite form of hexagonal closed packed lattice. Total and partial densities of states (DOS) of ZnO show semiconductor behavior. Band structure diagram shows a band gap of 0.6 eV along  $\Gamma$ - $\Gamma$  band lines. Optical conductivity shows this material is conductive in presence of visible light and Ultraviolet light and prominent material for solar cell device. The Cu and Pt electrode are used at upper and lower side of ZnO material for fabrication of Resistive random access memory device in Figure 1. SET voltage is observed 0.91 volt while RESET voltage is 1.51 volt from I-V characteristics curve of this fabricated device. Temperature dependence of High and Low resistance state remains same from 300 K to 450 K from electrical resistivity measurement.

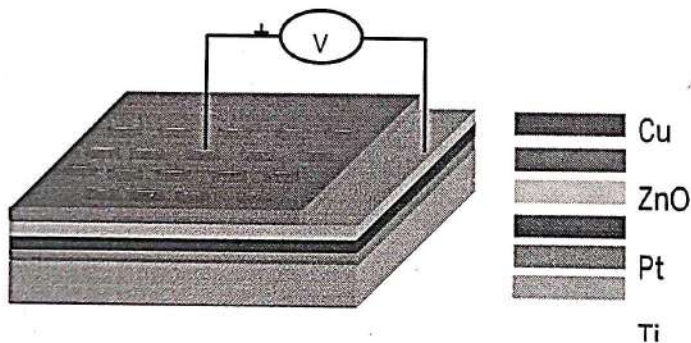


Figure 1: Designed structure of ZnO based Resistive Random Access Memory

## Structural Characterization of Chemically Prepared Reduced Graphene Oxide

Thejas R., Kirana Kumar H. V., Naveen C. S.\*

Department of Physics, School of Engineering, Presidency University, Bangalore -560064, Karnataka, India.  
Email: naveen@presidencyuniversity.in

The Reduced Graphene Oxide (RGO) was synthesized from modified Hummers method using commercially available Graphene Oxide (GO) and Graphite powder. The synthesized RGO was structurally characterized





# SAROJINI NAIDU VANITA MAHA VIDYALAYA

Affiliated to Osmania University

(Sponsored & Managed jointly by Osmania Graduates' Association and Exhibition Society)

Exhibition Grounds, Nampally, Hyderabad. Ph-04024603266

NAAC Accredited (3rd Cycle)



**Two-Day National E-Conference  
On**

**Language & Literature**

**28<sup>th</sup> & 29<sup>th</sup> May 2020**

Organized by

Department of Languages

(English, French, Hindi, Telugu, Sanskrit,  
Urdu and Arabic)





# SAROJINI NAIDU VANITA MAHA VIDYALAYA

(Sponsored & Managed jointly by Osmania Graduates' Association and Exhibition Society)  
Exhibition Grounds, Nampally, Hyderabad. Ph-04024603266  
NAAC Accredited (3<sup>rd</sup> Cycle)



## *Two-Day National E-Conference*

*On*

## **LANGUAGE AND LITERATURE**

*Organized by*

*Department of Languages*

(English, French, Hindi, Telugu, Sanskrit, Urdu and Arabic)

*On 28th & 29th May, 2020*

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NAAC Accredited (3<sup>rd</sup> Cycle)



1<sup>st</sup> Edition: 2020

Date of the Publication: 03-07-2020

ISBN: 978-81-922167-2-0

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Published For:

**Sarojini Naidu Vanita Maha Vidyalaya, Hyderabad.**

Published by:

**Sarojini Naidu Vanita Maha Vidyalaya, Hyderabad.**

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Two Day National E-Conference on “Language and Literature”

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# INNOVATIVE METHODS FOR TEACHING IN HIGHER EDUCATION DURING COVID-19

Ravindra Goswami, Research Scholar  
Department of Botany, R.B.S. College Agra

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## **Abstract:**

Every challenge is an opportunity; if we can set our mind to this thought can change the scenario. Whenever I have been thinking about the impact of the coronavirus it seems that it destroys all our functions of life and break our life line. Yes, this damaged a lot of around the world by taking us back few years but we humans always ready to fight against the drastic situations and during this Covid-19 Era too. With the precaution while the students are lost their studies and precious time we should focus on the kinds of tools and services that could be focused on ensuring that students don't miss a beat in their learning. COVID-19 has brought home the reality that education technology that delivers great content and engages students and teachers has never been more important. While many Academicians and education systems have resisted changing their 150-year-old structure, necessity now compels them to do what declining student achievement could not. Thousands of entrepreneurs and innovations can help the students keep moving in their educational journey no matter where this virus disruption takes them. While we are all upset by this global problem, we can and we must overcome it. And fortunately, the tools to do so are at hand. In our college we start online education with the help of what's app group and Zoom which is very simple to operate and handle.

**Keywords:** Covid-19, online Teaching, Challenges, Opportunity.

## **Introduction:**

Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of Covid-19 pandemic. These nationwide closures are impacting over 91% of world's student population (UNESCO 2020). In most of countries, schools and universities are deploying a mix of innovative and renewed approaches to ensure the right to education. Nowadays, everyone around the globe is suffering from the negative impact of the coronavirus (COVID-19) pandemic. The teaching in all educational institutions disturbed and they are searching a medium to stop the loss of students. In some institutions has been shifted from the old teaching structure to distance learning through online platforms. Meetings, seminars, and conferences have been rescheduled to be held online through video conferencing software programs such as Zoom, WebEx meet, Google meet Webinar and so on. While many people are considering the implementation of new technology used during this pandemic to education as an innovative step towards the development of smart online education, teaching



online has some challenges for both professor and students. There are several challenges face to accept online teaching, one of the most common challenges of distance learning is the lack of engagement between professor and student. After talking to many students from various universities about their first-time experience with online classes as a result of COVID-19, they told about how they are not motivated to attend any lecture due to lack of engagement between their professors and them. There are many causes that effect the education around the globe. Armed conflicts, forced displacement, climate change induced disasters and protracted crises have disrupted the education of 75 million children and youth around the world. And that number is growing in an unprecedented way with the spread of COVID-19. Education has been hit particularly hard by the COVID-19 pandemic with 1.53 billion learners out of school and 184 country-wide school closures, impacting 87.6% of the world's total enrolled learners affected by this. Drop-out rates across the globe are likely to rise as a result of this massive disruption to education access.

While other critical needs such as health, water and sanitation are being responded to, educational needs cannot be forgotten and these have an equally detrimental impact if left unaddressed. The 'pile-on effect' of the coronavirus, during the global COVID-19 pandemic, interruptions to education can have long term implications that cannot avoided especially for the most vulnerable. There is a real risk of regression for children whose basic, foundational learning (reading, math, languages, etc.) was not strong to begin with. And millions of children who have already been deprived of their right to education, particularly girls, are being more exposed to health and well-being risks (both psychosocial and physical) during COVID-19. In these unprecedented times, ODL can support learning in the non-formal and informal sectors, as well as the formal education sector.

The unique idea of parents to teach children without fancy gadgets

However, in the absence of fancy gadgets, internet connection and in some cases even electricity, those living in the hinterlands have come up with unique ideas like using fruits, vegetables, buttons, pulses etc. to teach their kids how to count and identify different shapes, sizes and colours. In a video shot in a remote village in Odisha, a mother can be seen using tomatoes, onions and green chillies to teach her child how to count while another similar clip from a village in Jharkhand shows a mother teaching her child about different shapes through drawings that she made on the ground using a piece of chalk. The practical sessions are used by the parents to engage their children and to teach them.

Vision for Future: Teaching and Learning after the Pandemic

Coronavirus outbreak has significantly accelerated development of online education in most of the country's higher education. Internet, big data, Artificial Intelligence, 4G, and cloud-based platforms, among other technologies, have been put into service of education. However, more flexible way of teaching and learning does not end up with infrastructure due to any of the pandemics. Rather, infrastructure we can use it as only the first step towards a new paradigm of teaching and learning in post-pandemic time. This paradigm represents a shift from traditional, teacher-centered, and lecture based old traditional activities towards more now student-centered activities including group activities, discussions, hands-on learning activities, and somehow limited the use of traditional lectures. For this purpose, there is a need of conceptual and philosophical rethinking of nature of teaching and learning, roles, and connections among teachers, learners, and teaching materials, in post-digital learning communities (Jandrić et al. 2018). Full long-term integration of online teaching and learning into university curricula implies further attention to quality. Nearing the end of Covid-19 pandemic, we think that our further steps should be focused to the following activities:

1. We need an urge to continue development of open educational platforms which allow access to the high quality of learning resources which is the modern need.
2. We need to conduct quantitative and qualitative research and evaluate current models of online teaching and learning, with a focus to their long-term sustainability which is beneficial to students as well as support Teachers also.
3. We need to develop staff-teacher's capacity for online teaching, and professional staff capacity for supporting teachers and online systems and also create the system which help teacher to learn the better ways of effective online teaching.
4. We need to encourage and support cooperation between universities, colleges, international organizations, private sector, civil society, and other stakeholders, to promote high-quality online learning throughout the society.

Teachers are crucial for inclusive and equitable provision of high-quality distance education for the higher education. They are expected to have knowledge, skills, and ethics to conduct online teaching, and that calls for more flexible and dynamic post-pandemic teacher education. For this purpose, they to training to gain skills for the face to face teaching with the online tools available and they will be used for the teaching. Post-pandemic national teacher education composed of face-to-face teacher education, blended teacher education, and online teacher education (Zhu 2020). Online teacher education could be categorized into sections which provide learning opportunities to future teachers at all levels they can be includes early



childhood education, primary education, and secondary education, vocational education sectors and so on. Online teacher education platforms could function as a traditional teacher education institute which provides pre-service and in-service programs to train them for future online education system. The system could be supported by online platforms with rich digital materials and resources so they can learn and adopt themselves as able for better online teaching. The other changes need to do that curriculum and pedagogy need to be updated, and should become models of successful online pedagogies that could be taken into future teachers' practices. Last but not the least, it is critical and very difficult to build up an enabling institutional environment for sustainable online teaching. We have to think about to develop evidence-based policies supported by solid based guidelines for their implementation. We have to focused on provide professional reference base for online teacher education, a frame work of competencies for conducting online teaching, and other standards, should also be developed for sustainable online teaching. In the post digital context, online and offline (teacher) education cannot be thought of without each other (Jandrić et al. 2018). Therefore, we need and have to advocate development of a holistic teacher education system, regardless of used mode of delivery, which could strongly support present and future teachers in becoming more resilient to crisis similar to the Covid-19 pandemic. Covid-19 pandemic has brought about a huge disruption to all spheres of human life. In higher education Universities in particular, have responded to the crisis with reasonable success. However, this is the strong believer of many educationist that the impact of Covid-19 pandemic on world education system should extend well beyond tacking the current crisis—it should also bring out potential development opportunities for the future (Jandrić 2020). The current situation of the world requires innovation and renewed attention to more research, study, and reflection, about each sector of education globally. It is only by doing the hard work in research within the pandemic that we can develop a more sustainable, inclusive, and equitable education after the pandemic is gone.

### **UNESCO's COVID-19 Education Response**

The list of educational applications, platforms and resources below aim to help parents, teachers, schools and school administrators facilitate student learning and provide social care and interaction during periods of school closure. Most of the solutions curated are free and many cater to multiple languages. While these solutions do not carry UNESCO's explicit endorsement, they tend to have a wide reach, a strong user-base and evidence of impact. They are categorized based on distance learning needs, but most of them offer functionalities across multiple categories.

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# Session 2019-20

1. National Conference on Science, Technology and Emerging Application of Microscopy  
Biodeterioration of Paper: A SEM Study of Fungal Spoilage reproduce under Controlled Condition  
ISBN No: 978-0-367-48913-7  
Book Title/Conference title:  
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Author: Ravindra Goswami  
Department: Botany  
Organized by:  
Name and Year of Publication: Conference
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Book Title/Conference title: BICON-2019 Sustainable Development Goals Emeging sustainable technologies and innovations for safe water and Health  
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Author: Vivek kumar Jain  
Department: Physics  
Organized by: Biyani Grooup f Colleges Departemnet of Science and Nursing Jaipur India  
Name and Year of Publication: Conference Proceeding 2019
3. Impact of Climate Change and Urban Environment on Insect  
ISBN No: NA  
Book Title/Conference title: National Seminar on Climate change Biodiversity and Urban Environment: Trends and Challenges in the conservation of Urban and Peri-Urban Biodiversity  
Paper Title: Impact of Climate Change and Urban Environment on Insect  
Author: Daulal Bohra  
Department: Zoology  
Organized by: University School of Enviromnent Management Guru Govind Singh Indraprastha Universiity, Dwarika New Delhi  
Name and Year of Publication: NA



# NATIONAL CONFERENCE



on

## Science, Technology and Emerging Applications of Microscopy (STEAM-2019)

November 11-12, 2019



*Jointly Organized by*

**Academy of Microscope Science and Technology (AMST), India**

&

**Department of Chemistry, Institute of Basic Sciences**

**Dr. Bhimrao Ambedkar University, Khandari Campus, Agra**

**Abstract Book**





# **NATIONAL CONFERENCE**

on

**Science, Technology and Emerging  
Applications of Microscopy  
(STEAM-2019)**



**November 11-12, 2019**

## **Abstract Book**

*Jointly Organized by*

**Academy of Microscope Science and Technology (AMST), India**

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**NATIONAL CONFERENCE**  
**on**  
**Science, Technology and Emerging Applications of Microscopy**  
**(STEAM-2019)**  
**&**  
**6th Annual Meeting of**  
**Academy of Microscope Science & Technology (AMST), India**

**Tentative Technical Program**  
**Nov 11, 2019 (Monday)**

**Technical Session I**

9.00AM-10.00AM	On the Spot Registration
10.00AM-11:45AM	Inauguration & Key note Address by Prof. Avinash. C. Pandey, IUAC, New Delhi
11.45AM-12.15PM	High Tea

**Technical Session II**

12:15AM-01.30PM	<b>INVITED LECTURES</b> Chairperson: Prof O.P Pandey and Co-Chairperson: Prof. B.P. Singh 1) Prof. Bhuvanesh Gupta, IIT New Delhi 2) Prof. P.D. Gupta CCMB, Hyderabad 3) Prof. Radhaballabh Bhar, MAKA University, Nadia, West Bengal 4) Dr. Karuna Shankar, CSIR-CIMAP, Lucknow
1.30PM-02:15 PM	Lunch

**Technical Session III**

2:15PM-03:45PM	<b>INVITED LECTURES</b> Chairperson: Prof. Bhuvanesh Gupta and Co-Chairperson: Prof. Radhaballabh Bhar 1) Prof. Prashant Bhawe, VJTI, Mumbai 2) Prof. O.P. Pandey, Thapar Instt. of Engg. & Tech., Patiala 3) Prof. Sachindranath Das, Jadavpur University, Kolkatta 4) Dr. Pooja Khare, CSIR-CIMAP, Lucknow 5) Dr. Rajesh Kumar Tiwari, DMSRDE, Kanpur
3.45PM-4.00 PM	Tea
4:00PM-5.00 PM	Oral Presentation( OP01-OP06) Chairperson: Prof. Sachindranath Das and Co-chairperson: Dr. Rajneesh Kumar Agnihotri

**Technical Session IV**

5.00PM-6.00PM	Poster Presentation (PP01-PP75) Chairpersons : Prof. Rajesh Kumar Dhakarey, Prof. P.D. Gupta and Prof. K.N. Pandey
6.00PM-7.30PM	Cultural Programme
7.30PM-8.30PM	Dinner



**Nov 12, 2019 (Tuesday)**

**Technical Session V**

9.00AM-11.30AM	INVITED LECTURES Chairperson: Prof. Prashant Bhawe and Co-Chairperson: Dr. Seema Bhadaurla 1) Prof. Navinchandra G. Shimpi, University of Mumbai, Mumbai 2) Prof. Shivadhar Sharma, Magadh University, Bodhgaya 3) Prof. P.G. Satsangi, Pune University, Pune 4) Prof. Sanjay Kanojia, DMSRDE, Kanpur Oral Presentation: (OP7-OP13)
11.30AM-11:55AM	Tea

**Technical Session VI**

11.55AM-1:25PM	INVITED LECTURES Chairperson: Prof. Shivdhar Sharma and Co-Chairperson: Prof. Sanjay Kanojia 1) Prof. D.C. Tiwari, Jiwaji University, Gwalior 2) Prof. Sahab Das, DEI, Dayalbagh, Agra 3) Prof. G.S. Gupta, MGCGVV University, Chitrakoot, MP Oral Presentation: (OP14-OP16)
1.25PM-2.15 PM	Lunch

**Technical Session VII**

2.15PM-3.30 PM	INVITED LECTURES Chairperson: Prof. Navinchandra Shimpi and Co-Chairperson: Mr. Ram Sunil Kumar Lalji 1) Dr. Seema Bhadauria, RBS College, Agra 2) Dr. Shripal, PPN College, Kanpur Oral Presentation: (OP17-OP22)
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**Technical Session VIII**

3.30PM-4:30PM	Poster Presentations (PP76-PP149) Chairpersons: Prof. Rajesh Kumar Dhakarey, Prof. P.D. Gupta and Prof. K.N. Pandey
4:30PM-5:30PM	Valedictory
5:30 PM-6.00PM	High Tea

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damage to environment and ecosystem, the promising incentives to develop alternative energy resources with high efficiency and low emission are of great importance. Among the renewable energy resources, the energy through the photovoltaic (PV) effect can be considered the most essential and prerequisite sustainable resource because of the ubiquity, abundance, and sustainability of solar radiant energy. Numerical modeling is increasingly used to obtain insight in to the details of the physical operation of solar cells. Over the years several modeling tools specific to PV devices have been developed. A number of these tools have reached amateur status and are available to the PV community. Photovoltaic solar cell modeling is often approached in two different directions: i) numerical simulations based on drift and diffusion models, and ii) analytical analysis based on detailed balance models. Although commercial simulation software can predict a reasonable performance for a given design, complex simulations consume a large amount of computation time and it is not straightforward to extract device physics from complicated numerical calculations, especially for multi-junction solar cells. Moreover, most commercial software packages consider both radiative and non-radiative recombination. On the contrary, detailed balance models are only capable of clarifying the fundamental limitations of ideal solar cells by neglecting many important mechanisms that occur in real devices. In the present work, some of the most commonly used models and programs are presented and the possibilities as well as the shortcomings are discussed. Also, for the different devices an overview is given of modeling efforts and achievements.

### **PP-145 : Organic Solar Cell : A Remarkable Development in Solar Cell Technology**

**Jolly Sharma, Rashmi, Nand Kishore, A.S. Mathur and B.P. Singh**

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In order to meet the demand for renewable energy, the photovoltaic sector has experienced exponential growth over the last years. Photovoltaic devices are taking advantage of solar energy by converting energy of solar light directly into electricity by the photovoltaic effect. However, the existing silicon-based solar cells are restricted to the terrestrial PV market due to their high production and environmental costs. With the inorganic solar cell technology running into cost bottlenecks for large area applications, the simple and cheap fabrication process of Organic solar cells (OSCs) provides a huge potential for large area applications. Organic solar cells (OSCs) have attracted strong attention in recent years, due to the advantages of flexibility, thinness, and simple manufacturing process. Organic materials are constituted from carbon which is an abundant source on earth. Therefore, photovoltaics constituted by organic materials that are significantly cheaper than inorganic materials aim to a dramatic fabrication cost reduction. Additionally, their material properties can be infinitely tailored by modifying their chemical structure, resulting in greater customization than traditional solar cells allow. In the present work, an overview of the basics of OSCs has been done. The basics of organic semiconductors are first described. Then the details of the four steps in the operation principles of OSCs, including exciton generation, exciton diffusion, exciton dissociation, and charge collection have been described. The basic architecture of OSC and the methods of characterization of OSCs are also explained. Conventional structures of OSCs, include the bilayer, BHJ and tandem cells.

### **PP-146 : Biodeterioration of Paper : A SEM Study of Fungal Spoilage Reproduced Under Controlled Conditions**

**Ravindra Goswami and Seema Bhaduria**

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Biodeterioration phenomena, a complex of physical and chemical alteration processes in various materials, such as organic, inorganic and composite in nature those constituting the objects that represent our rich cultural heritage. The biodegradation of paper is conditioned by several



variables such as the materials from which cellulose is obtained during process, the manufacturing processes employed, the occurrence of other affecting substances such as lignin or metallic compounds, and by the environmental conditions in which papers are conserved. In the study, biodeterioration of paper was artificially induced in order to evaluate the role of a range of chemical and physical variables on damage caused by cellulolytic fungi. A variable pressure SEM instrument was used to characterize paper samples with different fibre origins, and alterations obtained in vitro. Two fungal strains, *Aspergillus terreus* and *Chaetomium globosum*, which are cellulolytic species frequently associated with paper deterioration, were used to produce stains with characteristics very close to those observable on the art objects made from paper. The stains obtained during the study on the different samples of paper were compared at both low and high magnification, in order to visualize the macro and microscopic characteristics of paper fibers, inorganic constituents, impurities, and the deteriorating agents related to the spoiled areas. During the study it was observed that single paper characteristics can strongly influence the intensity and the results of the fungal action. For example, the activity of a fungal strain on paper grades containing fibers of the same origin, but with different sizing, led to the formation of profoundly different stains and alterations. Moreover fungal structures, analyzed by low vacuum SEM, in areas on paper corresponding to the stains appeared in different physiological states suggesting an important effect of paper constituents on fungal growth and their sporulating ability.

### **PP-147 : Study of Agricultural and Paper Wastes as Thermal Insulation Materials**

**Vijay Shekhar Sharma<sup>1</sup> and A. Dwivedi<sup>2</sup>**

<sup>1</sup>Delhi Technological University, Delhi-110042

<sup>2</sup>Department of Physics, Institute of Basic Sciences, Khandari, Agra-282002

Cellulose fiber insulation is an ecofriendly thermal insulation material made from recycled project fibers. It offers good thermal properties and has a low embodied energy. However due to lack of expertise in its application and properties, cellulose insulation is not widely used in comparison to more traditional insulation materials. In the present work, we have focused on physical properties of cellulose insulation and environmental factors which affect these properties. Considering the sustainable energy strategy for buildings and external wall insulation system are expected to play an important role in building energy conversation. So that higher energy efficiency drives our demands for much thicker thermal insulation materials. However, it does not mean that the thicker the better, especially considering various requirements and properties. These materials have mechanical strength, aging durability, water resistance, construction difficulty and even fire safety performance. The composites were prepared by using agricultural and paper wastes as the reinforcement components. Natural products of high insulating value can be obtained that can provide alternative insulation materials and reduce the import of insulation materials. The results of above study can solve two industrial problems. One of them is providing a new useful construction material and the other is utilizing agricultural and paper wastes to reduce their harm to the environment. **Keywords:** Agricultural and paper wastes, cellulose materials, mechanical strength, non-renewable resources, thermal insulation, water resistance.

### **PP-148 : Synthesis and Characterisation of Polyaniline, Graphene and Titanium Dioxide Nanocomposites**

**Prakash Chandra<sup>\*</sup> and Sarvesh Kumar Singh**

Department of Chemistry, Bundelkhand University, Jhansi-284128

E-mail : prakash@bujhansi.ac.in

Polyaniline is considered to be a unique conducting polymer owing to its physical and chemical properties. The metal oxides can improve the properties of PANI in the field of electricity and magnetism and graphene based polymer nanocomposites can be used in sensing materials. I used



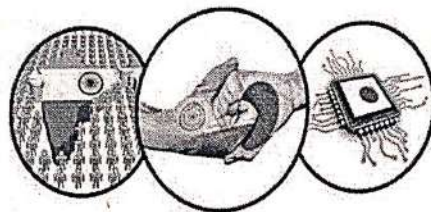


*Emerging Sustainable Technologies and Innovations for Safe Water and Health*

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**SUSTAINABLE DEVELOPMENT GOALS**  
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ISBN : 978-93-83462-95-7


Organized by:



**Biyani Group of Colleges**  
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Jaipur, India

14<sup>th</sup> Biyani International Conference (BICON-19)

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## FROM THE CONVENER'S DESK

It gives me great pleasure to extend to you all a very warm welcome on behalf of Department of Science and Nursing, Biyani Girls' College. We are grateful to all the speakers, delegates, organizers and guests, who have accepted our invitation to participate in the BICON 2019.

It is an opportune time to renew contacts and discuss opportunities of mutual interest with delegates from both Japan and India bilaterally.

It is gratifying to note that the agenda of the Seminar covers a wide range of very interesting items relating to higher education frontiers in India and Japan, and resulting opportunities for both countries.

No matter how much we can do by ourselves on the national level, whether it be research or development, it is never enough. In a spirit of true cooperation, we in Asia, and particularly in Japan and India, are proud of nurturing past and present civilizations and cultures. We must join in an action-oriented effort to recognize and capitalize on the bilateral opportunities in the higher education sector in both countries.

The utter sincerity and dedication of the management, the teaching faculty, non-teaching staff and the students at Biyani Girls' College has brought this event to fruition. It is an outcome of the hard work and persistent efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over. Once again, a very warm welcome to you all.



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## First Principles Calculations: Electronic Structure and Magnetic Properties of $\text{Ti}_2\text{FeSb}$ Heusler Alloy

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### Abstract

Calculation of electronic structure and magnetic properties of  $\text{Ti}_2\text{FeSb}$  were performed using the full potential linearized augmented plane wave (FP-LAPW) method implemented in WIEN2k code based on DFT. The Perdew–Burke–Ernzerhof generalized gradient approximation (PBE-GGA) was used for the exchange correlation function, energy threshold between the core and the valence states was set to  $-6.0 \text{ Ry}$ ,  $R_{\text{MT}} \times K_{\text{Max}}$  set to 8 where  $R_{\text{MT}}$  is the smallest of the MT sphere radius and  $K_{\text{Max}}$  is the largest reciprocal lattice vector used in the plane wave expansion and the magnitude of the largest vector in charge density Fourier expansion  $G_{\text{Max}}$  was 12 (a.u.)<sup>-1</sup>. The energy convergence criterion was set to  $10^{-5} \text{ Ry}$  and 3000 k-mesh points taken in the irreducible part of Brillouin zone integration. We have calculated the energy vs. volume curve using Murnaghan's equation of state in  $\text{Hg}_2\text{CuTi}$ -type structure. The equilibrium lattice constant of  $\text{Ti}_2\text{FeSb}$  is 6.32 Å. The bulk modulus, and its pressure derivative are 125 GPa and 7 GPa respectively.

Total DOS shows semiconductor in both majority spin and minority spin. Fermi level is mainly due to the 3d states of the Ti[A], Ti[B] and Fe. In majority spin at Fermi level, contribution of the Ti[B] 3d states is small compared to the Ti[A] and Fe 3d states. The calculated total magnetic moment of the  $\text{Ti}_2\text{FeSb}$  is  $2.99 \mu_B$  in the unit cell. The individual atomic moments are  $1.40 \mu_B$  for Ti[A],  $0.41 \mu_B$  for Ti[B],  $0.81 \mu_B$  for Fe and  $0.02 \mu_B$  for Sb. The magnetic moment of Ti[A] is more than magnetic moment of Ti[B] due to the different surrounding environment of the atoms. This is because the Ti[A] atom is surrounded by four nearest Ti[B] atoms, four nearest Sb atoms and six next-nearest Fe atoms, while the Ti[B] atom is surrounded by four nearest Ti[A] atoms, four nearest Fe atoms and six next-nearest Sb atoms (Fig. 1).

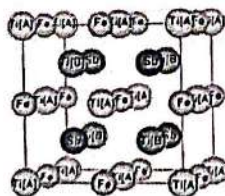
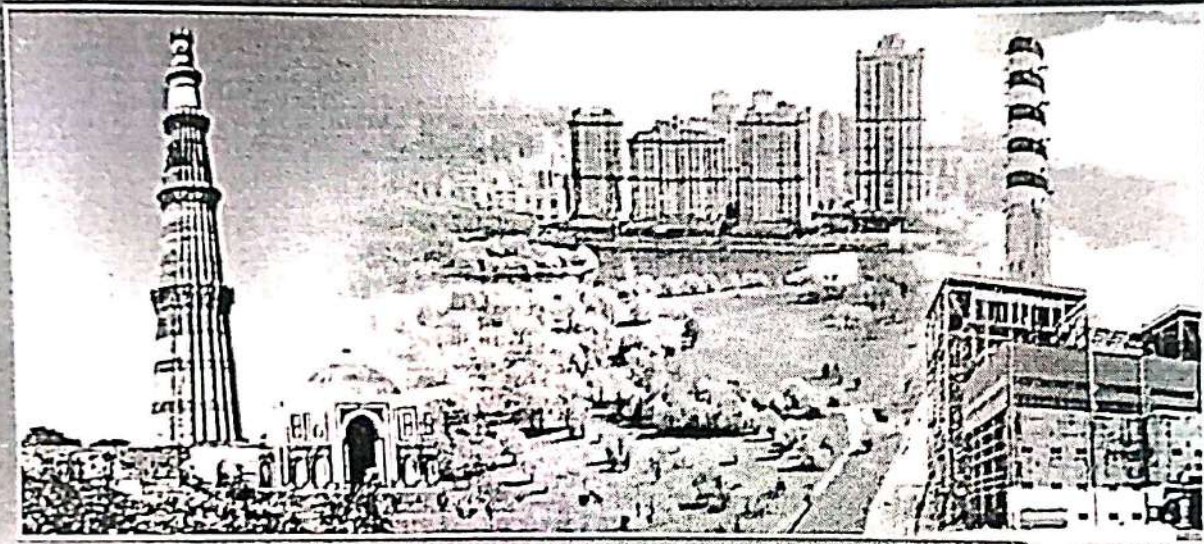


Figure 1. Crystal structure view of inverse Heusler alloy  $\text{Ti}_2\text{FeSb}$



# **National Seminar on Climate Change, Biodiversity and Urban Environment: Current Trends and Challenges in the Conservation of Urban and Peri-urban Biodiversity**



**On 26<sup>th</sup> April 2019**



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## Impact of Climate change and urban environment on insect Biodiversity in Shekhawati region of Rajasthan

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Loss of the biodiversity due to urbanization is one the world's present threats. The massive degradation of the natural habitats is the prime reason behind this loss. The destruction, fragmentation and degradation of the natural habitats together with the increasing climatic changes, pollution levels, invasion of competent species and urban anthropogenic activities have lead to destabilizing the natural ecosystems. Biodiversity is both ecologically and economically important for the better development of a better world. Some of the important roles played by insects are pollination, degradation, biological control, food chain regulation, bio indicators etc. The continuous use of insecticides and pesticides to improve crop yield have lead to the depletion in the biodiversity of not only the pests but also the beneficial insect species. Also the other fauna gets severely affected and thus depleted by consuming the food loaded with pesticides and insecticides.

The paper focuses on assessment of locally available insecticides and pesticides and their uses for crop utility in Shekhawati region. Trial approaching on different crop patterning with classified insecticides and pesticides. Also the assessment of insecticide residues in the bodies of insect pests. The use of insecticides and pesticides for the control of pests should be limited and can be partially or fully be avoided. The Chemical build up in the bodies of beneficial insects and other organisms like bats, cattle can lead to loss of biodiversity in Shekhawati region. The study focuses on incorporating IPM (integrated pest management) rather than chemicals for pest control.

Keyword: Biodiversity loss, IPM, insect biodiversity, pesticides, insecticides, Bifenthrin , Chlorothalonil , Cypermethrin

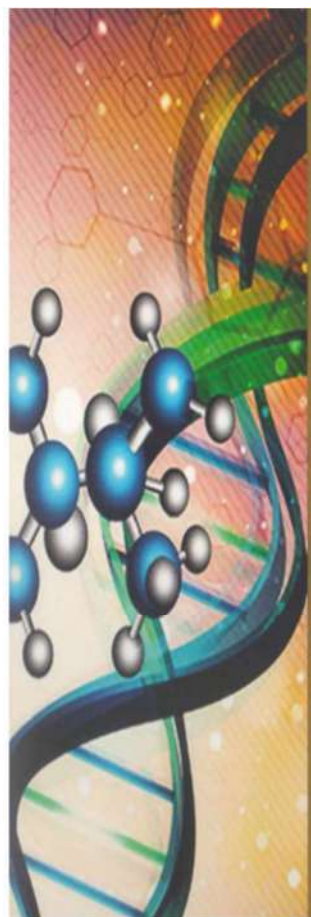
  
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Paper Title: Biotechnology: A boon for Sustainable Rural Development  
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Department: Botany  
Organized by: Department of Botany, R.B.S. College, Agra  
Name and Year of Publication: NA
2. The History of Mughal through Manuscripts and Conservation of Manuscripts by Different innovative controlling Methods  
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Paper Title: The History of Mughal through Manuscripts and Conservation of Manuscripts by Different innovative controlling Methods  
Author: Ravindra Goswami  
Department: Botany  
Organized by: Department of History, Dr. B. R. A. University, Agra  
Name and Year of Publication: 2017
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ISBN No: NA  
Book Title/Conference title: Dimension of Travel Writing: Yesterday, Today and Beyond  
Paper Title: Role of Travel Journalist: In responsibility to the Audience.  
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ISBN No: NA  
Book Title/Conference title: International Seminar on Innovative Technologies Towards Energy Environment Food & Sustainable Agriculture  
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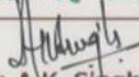
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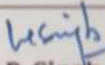
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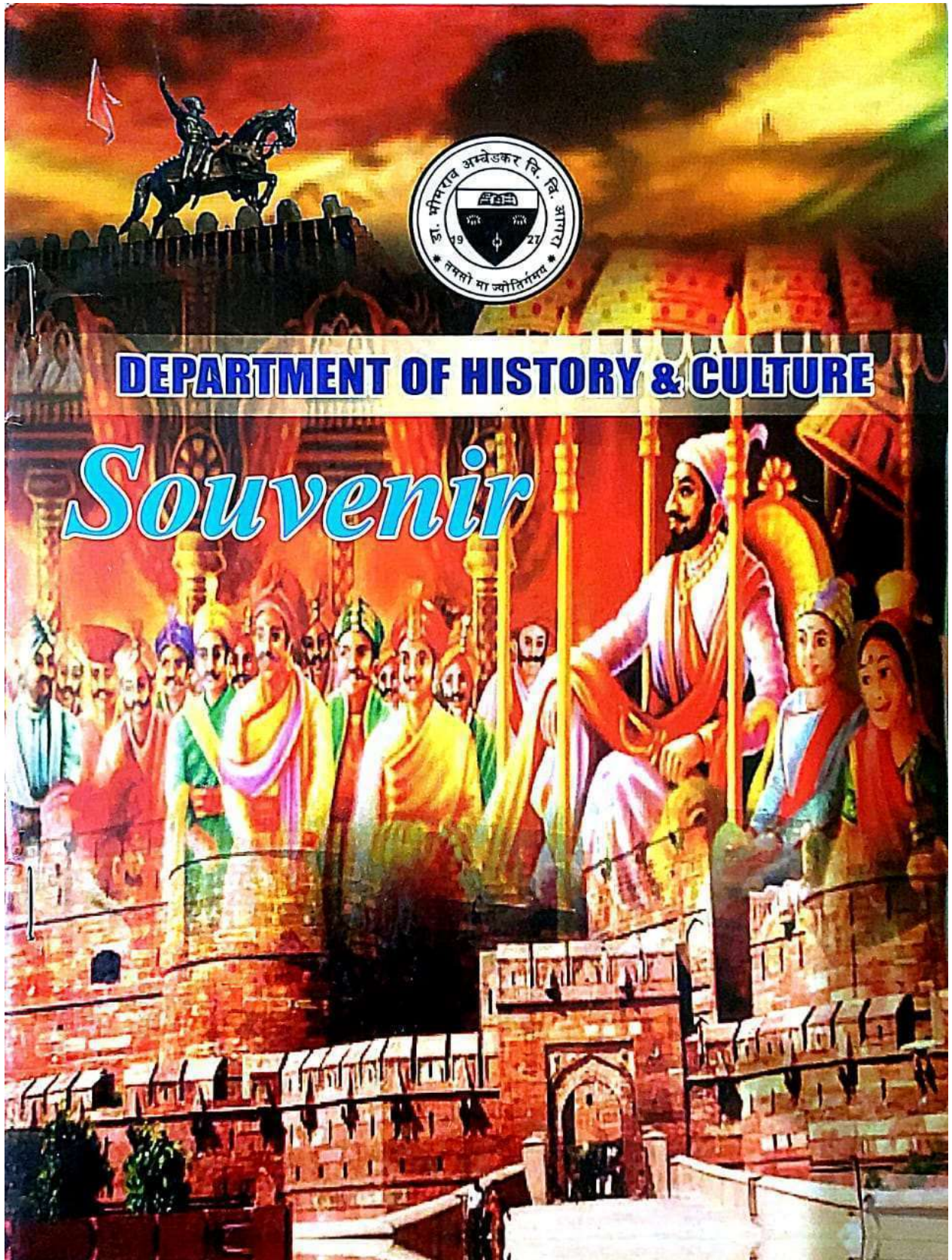
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**Mr. Mohd. Rais**



## The History of Mughals through Manuscripts and Conservation of Manuscripts by Different Innovative Controlling Methods

The relationship between History and Records is similar to the relationship between a tree and its fruit. Records are the trees of knowledge and history are its fruit. We utilize the fruit of these trees which were sowed by our ancestors and sow new trees for our future generation. Manuscripts are the collection of documents and records, contain written or printed matter, drawing and paintings, have great value as evidence and rich source for future reference. Records are by-product of activities but they serve as a primary source for historical research. In case of Mughals, manuscripts and paintings explain history itself. Many of Mughals are art lover; they promote art activities during their time. A lot of Records (manuscripts) related to social, economic and administration found which provide information about the Mughals. Written documents (such as biographies and others) of Mughals, explain political as well as social life of Mughals. With this information we also come to know about the relationship of Mughals with other rulers of that time. Mughal paintings are particular style of South Asian painting, generally confined to miniatures either as book illustrations or as single works to be kept in albums, which emerged from Persian miniature painting. Many miniatures and other form of paintings show their life style and administration as well. Painting painted with gouache and gold on fine cotton fabric reflect their skilled knowledge. Besides the historical importance they are our rich cultural heritage also. Many of Mughal paintings show that Mughal emperors also celebrate Muslim as well as Hindu festivals. And many other manuscripts also provide information about their religious policies. And show that people of different religions, castes and of different countries were presented at Mughal courts and were free to practice their own religion. Conservation is the action taken to prevent decay. It embraces all the acts that prolong the life of our cultural and natural heritage. The conservation of cultural property of any country includes anything related to the country's heritage; it can be historical buildings, manuscripts or it can be even be a tiny artifacts. This study focuses on conservation of manuscripts and artifacts as these are the most important, precious cultural heritages found all over the world that have significantly historical, scientific and aesthetic value. But unfortunately which often found neglected in many parts of the world including our country for decades. Therefore there is a need to develop basic researches to preserve and conserve these cultural heritages.

**Key words:** Manuscripts, Miniature painting, Primary source, Mughals, Relationship, Conservation

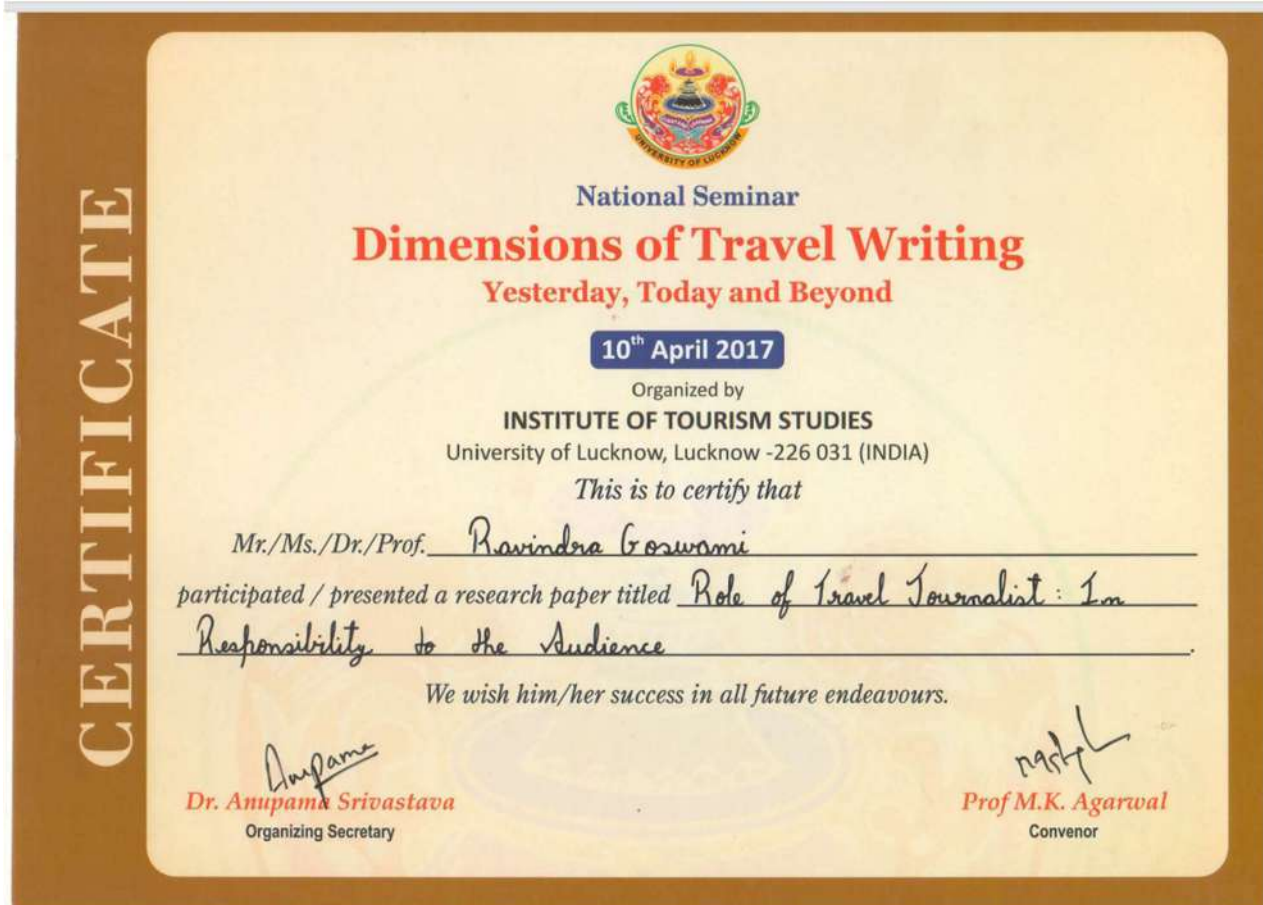
**Ravindra Goswami**

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Goswami.raaj23@gmail.com  
Mob no: 9997381619





3. Role of Travel Journalist: In responsibility to the Audience.  
NA (As the proceeding was not published and only certificate is provided by the Institution for presentation.)



*International Conference*

ON

# **INNOVATIVE TECHNOLOGIES TOWARDS ENERGY, ENVIRONMENT, FOOD & SUSTAINABLE AGRICULTURE**



**FEB 26-28, 2018**

Organized By

**Department of Mechanical Engineering**



**Raja Balwant Singh Engineering Technical Campus  
Bichpuri (Agra) India**

*In Collaboration With*



*In Association With*



ICSA, Germany





**INTERNATIONAL CONFERENCE ON  
INNOVATIVE TOWARDS ENERGY, ENVIRONMENT,  
FOOD & SUSTAINABLE AGRICULTURE  
FEB 26-28, 2018**

**PROGRAM SCHEDULE**

**DAY-1 (FEBRUARY 26, 2018) (MONDAY)**

REGISTRATION 8:20 am - 10:00 am  
INAUGURAL SESSION 10:00 am - 11:00 am

REGISTRATION  
INAUGURAL SESSION

KEYNOTES SPEAKERS

Sr. No.1. : Dr. M. Kern, Agri Excellencee.K., Germany

Sr. No.2. : Arthur Riedacker, Co-Nobel Prize Winner with IPCC Chair of Oikos Institute

Hi-Tea 11:00 am - 11:30 am

**TECHNICAL SESSION -1**

11:00 am - 2:00 pm

**BIOTECHNOLOGY AND BIO ENERGY**

**Oral Presentation**

Sr. No.	Author	Title Of The Paper	Page No
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2	Dhamendra Pal Singh <sup>1</sup> <sup>1</sup> Department Of Botany, R.B.S. College, Agra	Assessment Of Harvest Index And Plant Maturity In Linseed Plant under Saline conditions	4
3	Jyoti Rana Plant Biotechnology Research Group, WA State Agricultural Biotechnology Centre, School Of Veterinary And Life Sciences, Murdoch University, Perth, WA 6150, Australia	Root Lesion Nematodes: Neglected Underground Pests	5
4	Manish Dubey Department Of Biotechnology, School Of Life Sciences, Dr. B. R. Ambedkar University Agra	Development Of Biogenic Silver Nano Particles By Plants Crude Extracts And Their Characterization	6

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5	Mayank Varun Department Of Botany, St. John's College, Agra	Effectiveness Of Using <i>Abelmoschus Esculentus</i> For Phytoremediation Of Cadmium Contaminated Soil	6
6	Monica Chaudhary, Machiavelly Krishna Netralaya Super Ethical Eye Hospital, Gurugram	Vernal Keratoconjunctivitis (VKC: Severe Grade Of Ocular Allergy in Children can Induce and Create Changes in Refractive Error)	7
7	Preetesh Kumari ICAR-National Research Centre On Plant Biotechnology, Pusa Campus, New Delhi	De Novo Synthesis Of Trigenomic Allohexaploid Of Brassica ( <i>B. Juncea</i> + <i>Sinapis Alba</i> ) With Stability In Subsequent Generations And Resistance To <i>Alternaria Brassicae</i>	8
8	Rohini Singh, Department Of Chemistry, Faculty Of Science, Dayalbagh Educational Institute (Deemed University), Dayalbagh, Agra-5 (India)	Microbial Characteristics Of Ambient Fine Particulate Matter Over Semi-arid Region)	8
9	Rudrakshi Batra, Department of Botany, R.B.S. College, Agra	Antimicrobial Activity Of Aqueous Extract Of <i>Syzygium Aromaticum</i> (Clove) Against Multidrug Resistant <i>Staphylococcus Aureus</i>	9
10	Rudrakshi Batra, Department Of Botany, R.B.S. College, Agra	Antimicrobial Activity Of Aqueous Extract Of <i>Cinnamomum zeylanicum</i> (Cinnamon) Against Multidrug Resistant <i>Staphylococcus Aureus</i>	10
11	Shiva Shirotiya, Department Of Biotechnology J.C. Bose Institute Of Life Science Bunde Khand University Kampur Road Jhansi-284128	Gold Nanoparticles Synthesis From Waste Fruit Peel Extract And Its Applications	10
12	Shiwani Shakya Dept. Of Zoology, School Of Life Sciences, Khandari Campus, Dr. B.R.Ambedkar University, Agra -282002	Alteration In The Hematological Parameters Of <i>Clarius Batrachus</i> (Linn.) After Short Term Exposure To Sub Lethal Concentration Of Lead Nitrate	11
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14	Vikas Bhadauria, Scientist Sustainable Technology Research Division, New Delhi,	Generating Entrepreneurship Through Soil Testing And Organic Bio Formulation Development By Farmers	12
15	Shulda Ashish, Department of Biotechnology, Raja Balwant Singh Engineering Technical Campus Bichpuri, Agra	Optimization of Beta Galactosidase Production Through Innovative immobilization Techniques	13
16	Srivastava, V.K. Department of Biotechnology, Raja Balwant Singh Engineering Technical Campus Bichpuri, Agra	Bioplastic Environmental Cleanup Technologies	14
17	Ravaneet Chiug, Amity Institute of Biotechnology, Rajasthan	Studies on Heavy Metals Sequestration Capabilities of Extracellular Polymeric Substance (EPS) Extracted From <i>Bacillus Subtilis</i> In Aqueous System	14
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12	Lavisha, Department of Biotechnology, Raja Balwant Singh Engineering Technical Campus Bichpuri, Agra	Contribution of Biotechnology in Bio Energy Production from Wastes	24
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LUNCH		2:00 pm - 3:00 pm	

### KEYNOTES SPEAKERS

Sr. No.1. : Dr. Ranjit Kumar, Department of Chemistry, Faculty of Science DEI, Agra

## TECHNICAL SESSION -2

3:00 am - 5:30 pm

## ENVIRONMENT POLLUTANT & THEIR REMEDIATION

### Oral Presentation

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2	Dr. B. D. K. Patro, Dept. of CSE, Rajkiya Engineering College, Kanauj IOT Applications in Energy, Environment, Food & Sustainable Agriculture	IOT Applications in Energy, Environment, Food & Sustainable Agriculture	39
3	B.P.S Chauhan, Paliwal PG College, Sikohabad, UP	Impact of Protection on the vegetation of the river of Otangan River at Kahander, Agra, UP	40
4	Chandra Pal Singh, Chemical Engineering Department, Raja Balwant Singh Engineering Technical Campus, Bichpuri	Kinetic And Isotherm Behavior Of Cadmium Removal From Wastewater Using Neem Bark As A Natural Adsorbent	40
5	Sapna Tomar, Department of Chemistry, RBSETC, Bichpuri, Agra	Physical and Chemical Analysis of the Ground Water at the Town of Achhnera, Agra	41
6	Jogander Singh, Department of Botany, D. S. College, Aligarh	Effect of Sulphur Dioxide (SO <sub>2</sub> ) Pollution On Plants Around Cement Plant	41
7	Kuldeep Singh, Department of Chemical Engineering, R.B.S.Engineering Technical Campus, Bichpuri [Agra]	INDUSTRIAL WASTE WATER TREATMENT BY USING FLY ASH	42
8	N. Gupta, Directorate of Plant Protection of Quarantine & Storage, Faridabad, India	Surfactant Enhanced Remediation (Ser): Removal Of Water Hardness By Agrowaste Prepared From Wheat Husk	42
9	Rahul	Phytoremediation Of Toxic Elemental And Organic Pollutants	42
10	Sarita Rana, Department of Biochemistry, SSSUTMS, Sehore, Bhopal	Assessment of Physico-chemical and Bacteriological Quality of Pond Water	43
11	Sharad Mittal, Department of Botany, Paliwal PG College, Shikohabad	Distribution of Algal Flora in Polluted Region of Karwan River at Agra	43
12	Shivam Rai, Department of Mechanical Engineering R.B.S Engineering Technical Campus, Bichpuri	Assessment of Ground Water Pollution in Industries in Agra Region	44
13	Shreyakata, Department of Mechanical Engineering R.B.S Engineering Technical Campus, Bichpuri	Environmental Pollution: Its Effects On Human Life And Its Prevention	44
14	Shubham Jain, Department of Mechanical Engineering, Raja Balwant Singh Engineering Technical Campus, Bichpuri, Agra.	Ozone Layer Depletion, Its Effect and Its Prevention	45
15	Venkaateswar Rao Bella, Department of Chemical Engineering, R.B.S. Engg.Tech.Campus, Bichpuri, U.P.	Simultaneous Catalytic Control of CO, HC, NOx and PM Emissions from Diesel Fuelled Vehicles : A Review	45
16	Yashoda Rani, Faculty of Architecture and Town Planning in RBS Engineering Technical Campus, Agra	Water Pollution	46

TEA

5:30 pm - 6:00 pm

CULTURAL PROGRAM

6:00 pm - 7:30 pm

DINNER

7:30 pm - 8:30 pm

## **ORAL PRESENTATION**



### **Deterioration of Palm Leaf Manuscripts and Traditional Methods for Their Conservation**

<sup>1</sup>Ravindra Goswami, <sup>2</sup>Namrata Kunwar,

<sup>1</sup>Department of Botany, R.B.S. College, Agra

<sup>2</sup>Indira Gandhi National Centre for the Arts, Delhi

#### **ABSTRACT**

This is noted during the survey that the palm leaf manuscripts, one of the common materials for writing was used commonly before the advent of paper in the northern part of India. Manuscripts over the ages have been written on leaves from only a few varieties of palm trees. The two most common being the Palmyra Palm (*Borassus flabellifer* Linn) and the Talipot Palm, Fan palm (*Corypha umbraculifera* Linn). Different types of Damages noticed in palm leaf manuscripts because of many physical, chemical and biological reasons. In tropical countries, biological agents cause great damage to palm leaves manuscripts. The most important biological organisms are fungi, bacteria, algae, yeast and protozoa. Insects such as Cockroaches, Silverfish, and Termites damage the manuscripts made of palm leaf. Beside them, insects inflict heavy damage on palm leaves, probably much more than on paper. Other biological agents of physical deterioration are light, heat, moisture, mishandling and neglect of proper storage. Due to these factors, the manuscripts may change its colour and may get progressively brittle, breaking down by even the slightest touch. The traditional methods used in earlier time are effective as it does not harm the material as well as the conservator. The result using the traditional preventive remedies give surprising results in preserving these manuscripts.

### **Assessment of Harvest Index And Plant Maturity in Linseed Plant under Saline conditions**

Dharmendra Pal Singh<sup>1</sup> and Jagriti Sharma<sup>2</sup>

<sup>1</sup>Department of Botany, R.B.S. College, Agra

<sup>2</sup>Department of Microbiology, School of Life Sciences, Khandari campus,

Dr. B.R. Ambedkar University, Agra.

#### **ABSTRACT**



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2	Dr. B. D. K. Patro, Dept. of CSE, Rajkiya Engineering College, Kanauj IOT Applications in Energy, Environment, Food & Sustainable Agriculture	IOT Applications in Energy, Environment, Food & Sustainable Agriculture	39
3	B.P.S Chauhan, Paliwal PG College, Sikohabad, UP	Impact of Protection on the vegetation of the river of Otangan River at Kahander, Agra, UP	40
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15	Venkaateswar Rao Bella, Department of Chemical Engineering, R.B.S. Engg.Tech.Campus, Bichpuri, U.P.	Simultaneous Catalytic Control of CO, HC, NOx and PM Emissions from Diesel Fuelled Vehicles : A Review	45
16	Yashoda Rani, Faculty of Architecture and Town Planning in RBS Engineering Technical Campus, Agra	Water Pollution	46

TEA

5:30 pm - 6:00 pm

CULTURAL PROGRAM

6:00 pm - 7:30 pm

DINNER

7:30 pm - 8:30 pm

Langmuir and Freundlich isotherm models were employed to discuss the adsorption behaviour. It has been found that adsorption data was found to be best for Langmuir isotherm. The monolayer adsorption capacity ( $q_{max}$ ) calculated from Langmuir isotherm has been found to be 11.24 mg/g.

## **Physical and Chemical Analysis of the Ground Water at the Town Of Achhnera, Agra**

**Sapna Tomar**

**Department of Chemistry, RBSETC, Bichpuri, Agra,**

### **ABSTRACT**

Ground water samples were collected in polythene bottles from six different sites namely site I station bazaar, site II Railway loco colony, site III- Rathiya mohalla, site IV- Jatwan mohalla, site V- Shekhan mohalla and site VI- Bajahera mohalla in Achhnera, Agra for their physico-chemical studies. Laboratory tests were performed for analysis of sample for total dissolved solids, Electrical conductivity and major ions eg., Calcium, Magnesium, Nitrite, Fluoride, Sodium and Potassium. This paper highlights the analytical results for main ions contributing towards total dissolved solids. On comparing the results against drinking water quality standard laid by Indian Council of Medical Research (I.C.M.R.), it is found that most of the water samples are not suitable for human beings due to high concentration of one parameter or the other. Most of the samples have total dissolved solids values much higher than the maximum permissible level stipulated by ICMR. The high values of these parameters may have health implications and therefore they need attention.

## **Effect of Sulphur Dioxide (SO<sub>2</sub>) Pollution on Plants around Cement Plant**

**Jogander Singh<sup>1</sup>, Ravindra Goswami<sup>2</sup>**

**Department of Botany, D. S. College, Aligarh<sup>1</sup>**

**Departments of Botany, R. B. S. College, Agra<sup>2</sup>**

### **ABSTRACT**

Environmental air pollution is harmful changes in environment that adversely affecting living and non living organisms. The present study concerned with air pollution, air pollution is the presence of unwanted substances in atmosphere which affecting life and property. In this study investigated the effect of seasonal concentrations of sulphur dioxide on plants in ambient air at various sites around Aligarh cement plant. The seasonal concentrations of sulphur dioxide in the ambient air of different sites were recorded during the study. It has been found that the value of average chlorophyll content (mg/g fresh leaves) in leaves of annual and perennial trees and shrubs growing at polluted area around cement plant was decreased when exposed to higher concentration of SO<sub>2</sub> as compare to control site.