

International Conference on
Composite Materials for Environment Protection & Remediation
(ICCMEPR-2024)
 02-03 July, 2024

Jointly Organized by

Department of Chemistry, G. B. College, Ramgarh
VKS University, Ara, Bihar, India
&
Research Plateau Publishers
 (An Academic Publisher of Scientific & Technical Journals, Jhajjar, Haryana, India)

Program Schedule (Final)

Date	Time	Event
02.07.2024	09:30 AM to 10:00 AM	Inaugural Function
02.07.2024	10:00 AM	Keynote Address – I: Dr. Khalid Mujasam Batoo (King Saud University)
02.07.2024	10:40 AM	Keynote Address – II: Prof. Raman Singh (Monash Univ, Australia)
02.07.2024	11:20 AM	Keynote Address – III: Dr. Ahmad Ilyas Rushdan (Universiti Teknologi Malaysia)
02.07.2024	12:00 PM	Keynote Address – IV: Dr. Sanjeev Kumar (Chandigarh University)
02.07.2024	12:40 PM to 01:00 PM	Break.....
02.07.2024	01:00 PM to 03:00 PM	Technical Session: 01 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 02 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 03 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 04 [Faculty/ Scientist (Invited) Speakers]
02.07.2024	03:00 PM to 05:00 PM	Technical Session: 05 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 06 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 07 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 08 [Students]
02.07.2024	05:00 PM to 07:00 PM	Technical Session: 09 [Students]
		Technical Session: 10 [Students]
		Technical Session: 11 [Students]
		Technical Session: 12 [Students]

Date	Time	Event
03.07.2024	10:00 AM	Keynote Address – V: Dr. Nasimuddin (Institute for Infocomm Research (I2R), A*STAR, Singapore)
03.07.2024	10:40 AM	Keynote Address – VI: Dr. Swarup Roy (Lovely Professional University, India)
03.07.2024	11:20 AM	Keynote Address – VII: Dr. Voon Chun Hong (Universiti Malaysia Perlis (UniMAP))
03.07.2024	12:00 PM	Keynote Address – VIII: Dr. Lim Bee Ying (Universiti Malaysia Perlis (UniMAP))
03.07.2024	12:40 PM to 01:00 PM	Break.....
03.07.2024	01:00 PM to 03:00 PM	Technical Session: 13 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 14 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 15 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 16 [Faculty/ Scientist (Invited) Speakers]
03.07.2024	03:00 PM to 05:00 PM	Technical Session: 17 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 18 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 19 [Faculty/ Scientist (Invited) Speakers]
		Technical Session: 20 [Students]
03.07.2024	05:00 PM to 07:00 PM	Technical Session: 21 [Students]
		Technical Session: 22 [Students]
		Technical Session: 23 [Students]
		Technical Session: 24 [Faculty/ Scientist (Invited) Speakers]
03.07.2024	07:30 PM	Valedictory Function

Important Information:

1. Start time given above indicates Indian Standard Time (IST).
2. Presentation will be conducted using Google Meet. Links will be shared on the email and WhatsApp.
3. Participants can join their respective sessions by clicking the meet link.
4. Participants are requested to join Conference WhatsApp Group via link shared on their email.
5. The mode of presentation should be power point presentation (ppt or pptx).
6. Duration of presentation: For Faculties/Scientists: 1 minute introduction by Session Chair, 12 minutes (presentation) + 2 minutes (Queries). **(Total number of Slides in PPT must not be more than 15 including everything).**
7. Duration of presentation: For Students: 8 minutes (presentation) + 2 minutes (Queries). **(Total number of Slides in PPT must not be more than 10 including everything).**
8. Participants are requested to follow the scheduled time, especially regarding the time for your talk.
9. If there is any problem connecting to the session, please text on Conference WhatsApp Group.
10. Participants and Attendees can join any session as per their interest. But their talk will happen as per the scheduled session only.
11. **Conditions for Best Paper Award in Faculty and Student Categories:**
Attendance is mandatory at all keynotes talks as well as in the scheduled session (where Faculty/Student will present their paper).
For Faculties/Scientists: Total number of Slides must not be more than 15.
For Students: Total number of Slides must not be more than 10.
12. All posters will be displayed on the website during the Conference. Poster evaluation criteria will be shared soon.

ICCMEPR-2024

DAY 1

02/07/2024

Technical Session: 01 [Faculty/ Scientist (Invited) Speakers]**Theme of Session: Composite Materials for Environment Protection & Remediation**

Date: 02.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Ajay Kumar Choudhary & Dr. T. Mahalakshmi

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Tanmay Chattopadhyay	8	Magnetically separable Nanocatalysts: Sustainable Catalysts for Nitroaromatics Reduction
01:15 pm	Dr. Anita Padasalagi	145	Highly Efficient Sericin Derived Carbon Quantum Dots as Metal Free Green Photocatalyst for Degradation of Dyes
01:30 pm	Sourav Mohanto	242	“EcoNano”: Harnessing Bio-Waste for Sustainable Nanoparticle Solutions in Pharmaceutical and Biomedical Industries
01:45 pm	Dr Ashwani Kumar Sood	61	Influence of environment friendly solvents and polymers upon the chemical and surface properties surface active agents for their industrial applications
02:00 pm	Rojalin Sahu	65	MOF Based Triboelectric Nanogenerator for Powering Electronics
02:15 pm	Dr. Sandip S. Pathade	37	Synthesis, Characterization and Computational Insights on Molecular Structure, Electronic Properties, and Chemical Reactivity of Pyrazoline Derivative: A Combined Experimental and Computational Approach
02:30 pm	Indranil Maity	56	Computation of Key Analog Circuit Parameters Employing Different Topological Configuration of Current Mirror Circuits: A Comprehensive Analysis of Gain, Noise, and Power Consumption
02:45 pm to 03:00 pm	Digambar Yevale	198	PI3K δ and mTOR dual inhibitors: design, synthesis and anticancer evaluation of 3-substituted aminomethylquinoline analogues

Technical Session: 02 [Faculty/ Scientist (Invited) Speakers]*Theme of Session: Emerging Smart and Responsive Materials / Energy Applications of Materials*

Date: 02.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Manoj Malik

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Svetlana von Gratowski	303	Record sensitive nanowire based bio-nanosensor for environmental monitoring created using using 3 D mechanical bottom up nano-assembling
01:15 pm	Dr. Shilpi Agarwal	36	Performance of g-CN as novel synergist for halogen free flame-retardant compositions
01:30 pm	Manorama Singh	27	Detection of A Skin Lightening Agent 'Quinol' In Whitening Cream Using Electrochemically Reduced Graphene Nanosheets-Co Doped g-C3N4 Modified Electrode
01:45 pm	Sayantana Guha	40	Love wave propagation in layered piezoelectric structures for sensor based applications
02:00 pm	Indranil Maity	57	A Comparative Study on Formaldehyde Detection Capabilities in Pristine Graphene and Ag-Doped Graphene Sheet
02:15 pm	Aisha Siddekha	125	Nanomaterials in optoelectronics - An overview
02:30 pm	Kumar Gaurav	19	Utilizing Microbial Fuel Cells to Produce Bioelectricity represents a Sustainable Energy Solution
02:45 pm to 03:00 pm	Angesh Chandra	28	Preparation and conductivity measurements of a new sodium ion conducting blended solid polymer electrolytes

Technical Session: 03 [Faculty/ Scientist (Invited) Speakers]*Theme of Session: Energy Applications of Materials / Green Synthesis*

Date: 02.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Muralasetti Nookaraju

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Prof Manas Ranjan Panigrahi	97	Fabrication, structure and optical properties of 1wt% Dy doped BZBS double perovskite material for application in solar cells
01:15 pm	Mahatta Oza	252	Photocatalytic and Cyclic voltammetry of Nickle Pyrophosphate Nano-Particles
01:30 pm	K.M.Mishra	211	High Ionic Conductivity in Sodium Titanate: Na₄TiO₄
01:45 pm	Dr. Twinkle Keshari	256	Synthesis of Dihydropyrrolidine via Visible-Light-Promoted Click [3+2] Cycloaddition of Aziridine with Alkyne
02:00 pm	Prakash Gadipelli	222	Sustainable Synthesis of Imine Derivative from Furan 2-carbaldehyde: A Single-Step, Environmentally Benign Method with Antioxidant Assessment
02:15 pm	Dr.Chetan Chauhan	29	Voltammetric estimation of thiophanate-methyl via electrochemical investigation of copper–thiophanate methyl reaction in its fungicide formulation (topsin M) and agricultural products
02:30 pm	Prof. Pramoda Kumar Satapathy	187	Synthesis, Characterizations, and Application of rGO-CeO ₂ -TiO ₂ Composite for the removal of heavy metal ions from Contaminated water
02:45 pm to 03:00 pm	K Mahesh Babu	106	An Extensive Examination of Multi-Level Feature Extraction Approaches for High-Dimensional Data

Technical Session: 04 [Faculty/ Scientist (Invited) Speakers]**Theme of Session: Environmental Sustainability**

Date: 02.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Lakshmi Ranganatha V & Dr. Pankaj Arora

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Amelia Tan Suet May	23	Recent Advancements in Polyhydroxyalkanoates and their Composites: Towards Sustainable Bioplastics and Beyond
01:15 pm	Shubhra Barwa	146	Sustainable Environmental Remediation using Green Routes
01:30 pm	Dr Pratibha Kumari	2	Extraction of cellulose from agro-waste and its utilization in developing active food packaging films
01:45 pm	Dr Dan Bahadur Pal	10	Sustainable Removal of Arsenic from Simulated Wastewater using Waste Biomass Seed Pods Bioadsorbent
02:00 pm	Dr. S. Saravanan	12	Surface Morphology Influenced In Barium Sulphate Nanostructures by Solvents with Azadirachta Indica Leaf Extract
02:15 pm	Dr. AMIT KUMAR	17	Thermodynamic modelling and experimental validation for long-term carbon capture and storage (CCS) in Deccan basalt
02:30 pm	Vinisha Valsaraj P, Anagha Rajan, Ashna. P, SRESHMA RAJAN	206	Green Solvent Mediated Solution Combustion Synthesis of Photocatalytic Active Copper Doped Zinc Oxide Nanoparticles and Its Antimicrobial Activity Study
02:45 pm to 03:00 pm	Rashmi Ramesh Shanbhag	33	Coconut Shell Pyrolytic Oil Distillate (CSPOD) as wood preservative for industrial application

Technical Session: 05 [Faculty/ Scientist (Invited) Speakers]*Theme of Session: Environmental Sustainability*

Date: 02.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Prof. Manas Ranjan Panigrahi & Dr. Tejas D. Doshi

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Umesh Kumar	44	An effective way to generate cost-effective electrocatalysts for environmental remediation
03:15 pm	Neeraj Kumari	46	A novel approach to synthesize multifunctional nanopigments
03:30 pm	Sanchayita Rajkhowa	95	Beneficiation of iron ore by selective flocculation using surface-active agent, settling study and characterization of the beneficiation waste for value addition
03:45 pm	Nirmala B	50	Composite Materials for Environment Protection & Remediation
04:00 pm	Shagufta Jabin	51	A comprehensive review on properties and applications of cationic polymers
04:15 pm	Pritee Raotole	55	Effect of variation in synthesis temperature on corrosion resistant characteristics of poly(aniline-co-o-toluidine) coatings
04:30 pm	Rakhi Khandelwal	91	"Green Synthesis of Silver Nanoparticles: Eco-Friendly Methods and Versatile Applications"
04:45 pm to 05:00 pm	Amol Pundalik Manake, Sandip Ramrao Patil	102	Synthesis and Characterization of Cadmium Sulfide Nanoparticles

Technical Session: 06 [Faculty/ Scientist (Invited) Speakers]**Theme of Session: Environmental Sustainability**

Date: 02.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Dr. Prakash Gadipelli & Dr. Sheerin Masroor

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Dr. Shalini K S	119	Microwave Assisted Green Synthesis of NiO - AlPO Composites for Enhanced Photocatalytic Degradation of Methylene Blue
03:15 pm	Sreekala.G	134	Removal of Lead (II) ions from Water by using green nano Trimanganese Tetroxide
03:30 pm	Praveen Dahiya	142	Green synthesis of iron alginate nanogels by microemulsion method and Taguchi-assisted encapsulation of Candida rugosa lipase for butyl butyrate ester synthesis
03:45 pm	Manjeet Singh Barwa	144	GIS based Multi-variate Analysis of Groundwater Uranium in the Central Ganga-Yamuna basin of India
04:00 pm	Arun Krishna Kodoth	177	Harnessing the Power of Agricultural Waste Peels: A Renewable Biomass for Sustainable Water Purification
04:15 pm	Dr. Monika Joshi	180	Nature inspired versatile superhydrophobic nanocomposites for oily wastewater remediation
04:30 pm	Supriya Kumari	224	A highly efficient Photocatalytic system for rapid Degradation of organic Pollutants
04:45 pm to 05:00 pm	Dr M Nookaraju	228	Green synthesis and anti microbial investigation of pyridine-2-carbaldehyde based chalcones under aqueous condition using functionalized MCM-41 materials

Technical Session: 07 [Faculty/ Scientist (Invited) Speakers]**Theme of Session: Environmental Sustainability**

Date: 02.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Dr. Zeenat Arif & Dr. Suraj.B Vishwakarma

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Priyank Upadhyaya	248	Experimental Study On Chemical Resilience Of Glass Reinforced Polymer Pipes For Sewage Applications
03:15 pm	Alok K Sahu	299	Green Development of ABS Nanocomposites through Reduced Graphene Oxide (rGO) extraction from Plastic Waste
03:30 pm	Aisha Siddekha	78	Biogenic Leucas aspera fuelled CdS NPs: Characterization, investigation of catalytic and biological activity
03:45 pm	Madhumati S. Dhaduti	150	Treatment of college canteen sullage using microcosm phytoid system
04:00 pm	Mahesh Bhat	165	Photocatalytic degradation of aqueous dyes by TiO ₂ /Fe ₂ O ₃ /Starch nanocomposites
04:15 pm	Madhumati S. Dhaduti	202	Fluoride removal from aqueous solution using granular natural soil and activated charcoal.
04:30 pm	Anand Kishore	298	Development and Characterization of Citric acid and Heat moisture Modified jicama (Pachyrhizus, spp.) Starch-Based Biodegradable Films
04:45 pm to 05:00 pm	Priyanka Singh	249	Sustainable approach for synthesis of Natural Dye from Dried Flower Waste of Azadirachta Indica

Technical Session: 08 [Students]

Theme of Session: *Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation*

Date: 02.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Dr. Gurmail Singh Malhi & Dr. Soma Banerjee

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	K C Sowmiya	3	An environmental protection through organic dissipation into admirable activated carbon employed in day-to-day utilization
03:10 pm	Karthikeyan.N	4	Eco-friendly plasma technology utilized to develop a highly activated carbon from porous agriculture residues applied in energy storage devices
03:20 pm	Akanksha Bhatt	7	Iota carrageenan a Sustainable polymer transformed into nanogel formulation by using environment friendly method for antitumor action
03:30 pm	R.Deepa	11	Enhance the Capacitance of Activated Carbon Derived from Sugarcane Waste through
03:40 pm	N. Sai Kesava Krishna	15	Effect of partial substitution of White rice husk ash, groundnut shell ash, bagasse Ash in 3DPC
03:50 pm	Dr.Lakshmi Keshav, N. Sai Kesava Krishna.	16	Fixing of Chloride in Alccofine Blended M-Sand Concrete With Aluminium Oxide And Lead Oxide Corrosion Inhibitors. - An Experimental Study
04:00 pm	Madhulata Shukla / Ravi Ranjan	20	Curcumin-Mediated Synthesis of Copper Oxide Nanoparticles and its Photocatalytic Application
04:10 pm	Sanjna Rajput	41	Investigation of Local Structure by XAFS and Magnetic Properties of CoMn ₂ O ₄ Nanoparticles
04:20 pm	kirandeep Kaur, Meenakshi Patyal, Arushi, Dr. Nidhi Gupta	58	Optimizing Dye Sensitized Solar Cells with Reduced Graphene Oxide and Macrocyclic Cerium Complex Counter Electrode
04:30 pm	KANARD KUMAR	62	Photonic Crystal Fiber Based Refractive Index Sensor: An Approach of Bio-molecule Testing application
04:40 pm	Monika Antil	63	Pt-Citrate/Au Nanostructured Electrodes: A Highly Sensitive Voltammetric Platform for Cadmium Detection
04:50 pm to 05:00 pm	Yogesh Chaudhary	66	Hybrid diamond/graphite film as electrochemical sensor for voltammetric detection of toxic paraquat

Technical Session: 09 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 02.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Prof. Praveen Dahiya & Dr. Hari Shankar Biswas

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Arshdeep Kaur	69	Innovative hydrothermal synthesis of clove extract-mediated cobalt oxide nanoparticles for enhanced photocatalytic dye degradation and environmental remediation
05:10 pm	Diksha Rani	71	Green synthesis of piper nigrum-mediated CuO nanoparticles for enhanced photocatalytic degradation of contaminants
05:20 pm	Dr. Tulika Sharma	72	Sustainable and environmental-benign coatings for wood and wood-based substrates
05:30 pm	Ashwini Jaggal	80	A Click-Chemistry Based Strategy for Synthesizing Coumarin Piperazine Analogues: Assessment of Anti-tubercular, Anti-cancer, Anti-inflammatory and Antioxidant Potentials
05:40 pm	Vardhaman Babagond	81	Colorimetric and Fluorimetric Detection of Fe(III) Using a Rhodamine-Imidazole Hydrazone Based Chemosensor: Photophysical Properties, DFT, TGA, and DSC Studies.
05:50 pm	Madhura Walujkar	83	Degradation of Methylene blue Dye using biosynthesized Silver-Graphene oxide (Ag-GO) nanocomposite
06:00 pm	BHAVYA PRAMOD	90	A study on solvent interaction and thermal transport of beta-carotene
06:10 pm	Jyoti Gaur	67	Bioinspired ZnO nano-catalysts: A sustainable approach for dye wastewater treatment
06:20 pm	P P Gedam	94	Amino Acid (L-alanine) Capped CuS Nanoparticles : Synthesis and Characterization
06:30 pm	Deeksha Sharma	96	Transformation at the atomic level: redefining materials science
06:40 pm to 6:50 pm	Harshita shrivastav	98	Opening the future - A glimpse into advanced materials science and technology

Technical Session: 10 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 02.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Rishi Pal & Dan Bahadur Pal

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Sahiban Singh	99	Nanomaterials: the impact of High surface to volume ratios on nanomaterial properties and applications
05:10 pm	Jyoti Prakash	101	Electrocatalytic and photocatalytic green hydrogen generation via economical Zn substituted Cobalt ferrite
05:20 pm	Konica Roy	109	Development of a rechargeable proton energy storage device utilizing a gel electrolyte
05:30 pm	V. Lakshmy	111	Synthesis and Characterisation of Carbon Quantum Dots using Multiple Fruit Extract
05:40 pm	D. Manikandan	112	Catalytic Synthesis of Carbon Nanotubes Using CeFeMgO: Efficiency and Structural Insights
05:50 pm	Bhakti Gurudatta Thali	113	Exploring the Electrochemical Potential of CuCo ₂ O ₄ @Co ₃ O ₄ Nanocomposite on Different Substrates for Supercapacitor Application
06:00 pm	shivam kumar	114	Green synthesis of nickel oxide nanoparticles using dracaena reflexa extract for efficient malachite green dye degradation
06:10 pm	Munisha Mahajan	118	Nanomaterials in renewable energy : Innovations and future prospects
06:20 pm	Sandhiya Sundaresan	120	Synthesis of MoO ₃ -Fe ₂ O ₃ as a Potential Electrode for High Performance Supercapacitor Applications
06:30 pm	Neetu Kaur	121	Transformative pathways in material synthesis: from theory to real-world impact
06:40 pm	Nikhil Sharma	122	Enhancing Corrosion Resistance of Epoxy Coatings Using Different Nano-Fillers
06:50 pm to 07:00 pm	Suhriday Barman	123	Evolution of H ₂ and O ₂ through overall Efficient Electrochemical Water splitting using ZnTiO ₃ Perovskite deposited Electrode

Technical Session: 11 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 02.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Soumya Mukherjee & Dr. Tanmay Chattopadhyay

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Gobinda Prasad Chutia	124	Mesua assamica (king & prain) seed shell derived recyclable Bronsted acid nanocatalyst for biodiesel production from different oil feedstocks
05:10 pm	Apurba Sarkar	130	Synthesis and Characterization of Cu-Al-O based Delafossite by Ball Milling process
05:20 pm	Bhavya N S	132	Assessment of Ground Water of different taluks of Tumkur District, Karnataka
05:30 pm	Keval Bambharoliya	133	Novel dischiff's base esters with 2-Aminobenzothiazole containing liquid crystalline derivatives: Studying for new Antimicrobial agents
05:40 pm	Praween Kumar Srivastava	137	Optimizing Gallium Nitride (GaN) Based SOI-TF-FinFETs for Enhanced Linearity and Low Distortion in High-Frequency Applications
05:50 pm	Priyanka Agrwal	141	Reliability Investigation of Interfacial Defects in In _{0.53} Ga _{0.47} As SOI-FinFET for High-Performance Applications
06:00 pm	V. K. Linima	147	Metal nanoparticles via green approaches and their applications
06:10 pm	Shisak Sharma	152	Efficient photocatalytic degradation of 4-nitrophenol in wastewater using novel activated carbon-based nanocomposites
06:20 pm	Nikhil Gupta	155	An overview of magnesium matrix composites reinforced with waste materials
06:30 pm	Tejashwini D M	157	Green BZF Nanocomposite for Electrochemical Sensor Applications
06:40 pm to 06:50 pm	Mukesh Kumar Bind	163	Sensitivity Analysis of a GaAs/GaSb Heterojunction Polarity Control TFET-Based Biosensor

Technical Session: 12 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 02.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Svetlana von Gratowski & Dr. Ashwani Kumar Sood

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Bhavya N S	164	Nanoparticles for defluoridation of ground water - A review
05:10 pm	Aman Kumar Jha	166	Modeling of ZnO based Nano Sensor Device for Evaluating Electronic Interaction with NO ₂ Pollutant: Combining Multiphysics Approach and DFT Study
05:20 pm	ARIJIT MONDAL, Arighna Bhattacharjee	167	Development of In _{0.51} Ga _{0.49} P/GaAs Dual Junction based Solar Cell Devices to Calculate and Analyse Key Solar Cell Parameters utilising Silvaco TCAD Simulation
05:30 pm	Saurabhi Biswas	168	A Comparative Analysis of Structural and Electronic Properties in 2D Transition Metal Dichalcogenides (MoS ₂ and MoSe ₂) based on DFT Calculations
05:40 pm	Harishchandra Patel	171	Machine Learning Application in Vapor Compressor Refrigeration Cycle in Real-Time Applications and Renewable Energy -A Review
05:50 pm	Himanshi	173	Cobalt and Dysprosium doped Barium hexaferrite for waste water treatment
06:00 pm	Dr. GANESHA H	174	Polymer doped NiO blend composite for electrochemical performance
06:10 pm	Surekha Kademani	175	Analysis of green metrics for liquid fuel production from Feronia elephantum seed oil using waste egg shell derived heterogeneous catalyst
06:20 pm	Sreedevi Paramparambath	182	Advances in colorimetric detection; A short review of techniques for interdisciplinary applications.
06:30 pm	Nishin C	183	Synthesis, Structural, Optical and Magnetic properties of Fe ₃ O ₄ @ ZnO nanocomposites for biomedical applications
06:40 pm	Teeyasha Das	189	A short review on adsorptive removal of fluoroquinolone antibiotics by plant-based biochar and their composites
06:50 pm to 07:00 pm	Komal Poonia	190	Advanced adsorption-assisted photocatalytic degradation of tetracycline hydrochloride using Bi ₄ O ₅ Br ₂ and Co ₃ (PO ₄) ₂ immobilized on activated carbon-based photocatalyst

ICCMEPR-2024

DAY 2

03/07/2024

Technical Session: 13 [Faculty/ Scientist (Invited) Speakers]*Theme of Session: Green Synthesis / Material Characterization and Properties*

Date: 03.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Manorama Singh & Mr. Sourav Mohanto

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Natalia Shushunova	250	Digital Modules of the Green Buildings to Study Protection of Air Quality
01:15 pm	MAHALAKSHMI T	24	Convection of unitary nanofluids and hybrid nanofluids in enclosures on heat transfer-an overview
01:30 pm	Ashish Kapoor	45	Portable and affordable paper-based analytical device for on-site detection of perchlorate in contaminated water
01:45 pm	Nagendra prasad, H. S	148	Exploiting Citral-Tryptamine Conjugated Silver Nanoparticles for Antibacterial, Anticancer and Sensor application
02:00 pm	Dr. Jai Singh	246	Composite Thermoelectric for Future Energy
02:15 pm	Surender kumar	267	Exploring the potential of biomass-based composites for wastewater remediation: A sustainable approach towards contemporary problems
02:30 pm	Subhendu Bhandari	26	Simultaneous dual doping with succinic and citric acid leading toward synergistic improvement of electrical and thermal characteristics
02:45 pm to 03:00 pm	Johnson Santhosh	34	Enhancing Mechanical Properties of Aluminum Alloy 7050 with Glass Particle Reinforced Composites: A Stir Casting Approach

Technical Session: 14 [Faculty/ Scientist (Invited) Speakers]***Theme of Session: Material Characterization and Properties***

Date: 03.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Manjeet Singh Barwa & Dr. Rakhi Khandelwal

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Tripti Richhariya	38	Structural and luminescence behavior of Tb ³⁺ doped Alumino silicate phosphor
01:15 pm	Dr. Bharat Kumar Allam	47	Advancing UN Sustainable Development Goals through Bimetallic Oxide Catalysis
01:30 pm	Dr. Abhijit Anil Joshi	161	High Frequency Dielectric properties of ZSM zeolite at room temperature.
01:45 pm	M.K.Satya Sai	53	Synthesis and Property Analysis of Graphene Oxide in Metal Matrix Composites
02:00 pm	Manoj Malik	227	Host polymer matrix dependent significant improvements in electro-optical switching of polymer dispersed liquid crystal films
02:15 pm	Manoj K Singh	258	Optical band gap study of Bi(1-x)CaxFeO ₃ nanoparticles for photovoltaic applications
02:30 pm	RANJIT KUMAR	295	Electric Polarisation Studies of Oxide-Polymer Composite
02:45 pm to 03:00 pm	Kapil Dev Mahato	64	Investigate the light-harvesting properties of organic dyes as an alternative to inorganic materials for reaching net zero by 2050

Technical Session: 15 [Faculty/ Scientist (Invited) Speakers]***Theme of Session: Materials Synthesis and Processing***

Date: 03.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Dr. Shubhra Barwa & Dr. Subhashish Dey

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	A. N. Yerpude	138	Optical properties of Ba ₂ Ca(PO ₄) ₂ :RE (RE = Dy ³⁺ , Eu ³⁺) phosphor for ecofriendly lighting technology
01:15 pm	Soumya Mukherjee	129	Evolution of Magnesium Aluminate by chemical route, modified solid state process and its characterization
01:30 pm	Shivananda C S	9	Silver Nanoparticles Reinforced on Silk Fibroin/Carboxymethylcellulose Composite Films for Electrical Applications
01:45 pm	Vikas Lahariya	76	Sustainable Synthesis and Optoelectronic Applications of Carbon Dots for Environmental and Water Remediation.
02:00 pm	Hari Shankar Biswas	1	Advancements in Hydrogenated Diamond-Like Carbon Thin Film Deposition & Surface Modification
02:15 pm	Dr. Bappaditya Naskar	30	A Study of Langmuir Blodgett Technique in the Synthesis of Catalytically Active Gold Nanoparticles Nanocomposite Film by Star Block Co-polymer Mediated Synthesis
02:30 pm	C. K. Arvinda Pandian	31	Characterization of natural fabrics incorporated hybrid composite laminates using industrial waste fumed silica
02:45 pm to 03:00 pm	Dr Sharda Gadale, Vaishali Raut, Dr.Mrs.Supriya Shrikant Shukla	84	Synthesis and Characterization of MoO ₃ supported Nanocomposites for catalytic applications

Technical Session: 16 [Faculty/ Scientist (Invited) Speakers]***Theme of Session: Materials Synthesis and Processing / Nano materials and nanotechnology***

Date: 03.07.2024

Time: 01:00 PM to 03:00 PM

Session Chairs: Prof. Madhumati S. Dhaduti & Dr. Mrs. P.M. Raotole

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
01:00 pm	Dr. Anita Verma	191	Material Synthesis by Sol-gel Method and Investigation of Luminescence Properties of the Trivalent Rare Earth Doped Garnet Phosphors
01:15 pm	Dr. Piyali Das	200	Utilization of Discarded Animal Cartilage for Cartilage Tissue Engineering Applications
01:30 pm	Rajasekaran Saminathan	25	Artificial Intelligence Analysis of Corrosion Behaviour of H59 Brass Alloy in Red Sea Conditions with and without Ceramic Coating
01:45 pm	S. Girish Kumar	103	Gold-Zinc oxide composite structures: Insights into preparation method and photocatalytic activity
02:00 pm	Dr. Navneet Singh	85	Sol-Gel synthesis of silica nanoparticles and their applications: A review
02:15 pm	Dr. Lakshmi Ranganatha V	6	Green and simplistic synthesis of zinc oxide nanoparticles for improved photocatalytic organic pollutant degradation
02:30 pm	Pounraj Thanasekaran	43	Structural, morphological, dielectric and conducting properties of ZnO nanoparticles
02:45 pm to 03:00 pm	Prof. Vinay Kumar	52	Promising lignin nanofibers-based materials for environmental applications

Technical Session: 17 [Faculty/ Scientist (Invited) Speakers]***Theme of Session: Nano materials and nanotechnology***

Date: 03.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Dr. Anita Verma & Dr Twinkle Keshari

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Getachew Gebreamlak	131	The influence of process parameters and Al ₂ O ₃ Nano-particles on the Mechanical and Microstructural properties of Dissimilar aluminum alloys - A Comparative study
03:15 pm	Yohanes Abebe	128	Glass-Natural Wool Fiber and Nano Alumina Reinforced Polymer Biocomposites for Improving their Mechanical and Water-Absorption Properties
03:30 pm	Madhusmita Panigrahy	79	Carbon Nanoparticle: a boon to rice plant growth and yield in a non-transgenic manner
03:45 pm	Parimaladevi R	136	Bismuth Ferrite Oxide decorated Titanium Dioxide and Silver Sulfide nanocomposites as a Turn-Off Fluorescent Sensing Probe to Organochlorine Pesticides
04:00 pm	Dr. T. Somanathan	226	How to Control the Diameter and Wall Thickness of Carbon Nanotubes
04:15 pm	Dr.Suraj B Vishwakarma	237	Annealing Effects on 100 keV Silicon Negative Ions Implanted SiO ₂ Thin Films
04:30 pm	Bharat Kumar	247	Ultrasmall Metal Nanoclusters as Multifunctional Applications
04:45 pm to 05:00 pm	Bijaya Saha	68	Investigation of ultra-sensitive wave theory based analytical approach using BG beam

Technical Session: 18 [Faculty/ Scientist (Invited) Speakers]*Theme of Session: Nano materials and nanotechnology*

Date: 03.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Prof. Natalia Shushunova & Subhendu Bhandari

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Dr. Tanmoy Lahiri	75	Polymer Brushes: Role in Stabilizing Colloidal Suspension
03:15 pm	Dr. Malatesh S. Pujar	149	CuO/Polyaniline/Multiwalled Carbon Nanotube Composites for Hydrogen Gas Sensing Using Macaranga Indica Leaf Extract
03:30 pm	Y S Tamgadge	93	Synthesis and Characterization of L-alanine passivated ZnS Nanoparticles
03:45 pm	Pankaj Arora	35	2D nanomaterials in plasmonic sensors for medical diagnosis
04:00 pm	Nabamita Goswami	59	Surface Plasmon Assisted Wave Theory Based Delineation in Multilayered Structure Using Gold Nanolayer with Graphene: An Approach towards Bio-sensing Applications
04:15 pm	Niwesh Ojha	60	Photocatalytic CO ₂ reduction and N ₂ fixation for Solar Fuel Production
04:30 pm	Jyoti Sharma	286	Local thermal non-equilibrium effects on instability of hybrid nanofluids
04:45 pm to 05:00 pm	Sushil Kumar	188	Magnetic and dielectric behaviour of PVP capped Cu _{1-x} FexO (x = 0.2-0.10) nano-composites

Technical Session: 19 [Faculty/ Scientist (Invited) Speakers]***Theme of Session: Structural Materials***

Date: 03.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Dr. Priyanka Singh & Dr. Sanchayita Rajkhowa

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Dr. Ravi Shankar Rai	5	Metal-Oxide based Modification of carbon fiber fabric for mechanical strengthening of CFRP composites
03:15 pm	Dr. M Kamatchi Hariharan	14	An assessment of the mechanical properties of a composite material composed of natural fibres and reinforced with polymer
03:30 pm	Dr Sheerin Masroor	18	Anti-Corrosion Properties of Metallic Substrates via Nanocomposite Coatings
03:45 pm	Mijanur Rahaman Molla	42	Polymer based smart nanoassemblies for cancer cell selective drug delivery applications
04:00 pm	Dr. Rishi Pal	77	Embedment of Various types of Materials in Polyaniline Matrix for Reduction in Electromagnetic Pollutions
04:15 pm	Dr. Soma Banerjee	126	Recent Developments in Multiscale Polymer Composites: Fabrication and Associated Challenges
04:30 pm	Dr.Reena Yogiraj Bakale	100	Relaxation Behavior of Polymer Thin Film
04:45 pm to 05:00 pm	Tejas D. Doshi	197	Enhancement of mechanical strength and durability properties of LC3 concrete incorporating TiO ₂ and Lathe Fibers

Technical Session: 20 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 03.07.2024

Time: 03:00 PM to 05:00 PM

Session Chairs: Dr. Pounraj Thanasekaran

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
03:00 pm	Deepti A. Khedekar	192	Characteristic Study of NiCoP Thin Films Successively Deposited by Spray pyrolysis Technique Predicted for Water Splitting Activity.
03:10 pm	JASPREET KAUR	194	Intra-particle diffusion model to explain adsorption activity of ammonium metavanadates nanostructures
03:20 pm	Imotila T Longchar	195	Evaluation of a new activated carbon/graphene oxide as an efficient composite adsorbent for the removal of herbicide 2,4-Dichlorophenoxyacetic acid: Composite synthesis, characterization, and adsorption
03:30 pm	Raplang Steven Umdor	196	Adsorption of Ciprofloxacin antibiotic by highly efficient MgAl- activated carbon composite: Kinetics, Isotherm and Thermodynamic study
03:40 pm	Dhruv Kumar	203	Recent Advances in fabrication, characterization, and wear behavior of aluminum matrix composites
03:50 pm	RASHI BHARDWAJ	205	Unlocking Janus Particles: The Power of Post-Synthesis MOF Modification
04:00 pm	P.K.Pandey	209	Superionic Phase in Na₂MoO₄
04:10 pm	Neha	212	Growth of single phase CZTS by Hydrothermal Method
04:20 pm	Vaishali.N Birge	215	Investigatuion of Arrhenius Plot and Activation Energy In LPG Sensing Properties of Nickel Oxide Doped Polyaniline Composite (PnNiO)
04:30 pm	Swati D Wakade	217	Synthesis and Characterization of Magnesium Doped Mixed Metal Oxide
04:40 pm	Nida Khan	218	Selective esterification of glycerol over ionic liquid functionalized cellulose (IMD-Si/HSO ₄ @Cellulose) under energy-efficient microwave irradiation
04:50 pm to 05:00 pm	Sapna Sharanappa	219	A facile single-pot hydrothermal synthesis and characterization of MnO ₂ nanostructures for supercapacitor applications

Technical Session: 21 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 03.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Arun Krishna Kodoth & Dr. Ravi Shankar Rai

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Sarvani Jowhar Khanam	220	Designing Perovskite Single Crystals for Enhanced Photodetection
05:10 pm	Manojna R. Nayak	229	Dexterous green synthesis of Cu ₂ O Nanoparticles: An amenable catalyst for aqueous Click reaction, Antiproliferative and Wound healing applications
05:20 pm	SIVASANKAR T	231	Biosynthesis and Photocatalytic application of C – doped selective coinage metal oxides
05:30 pm	Amandeep Kaur	232	Comprehensive synthesis and characterization of ZnO-Fe ₂ O ₃ composites with the purpose of developing an effective U(VI) scavenger.
05:40 pm	Smitorshi Probho Roy	233	Au nanocubes as Plasmonic refractive index sensor
05:50 pm	Ayushi	234	Variation in LSPR and field enhancement of TiN nanosphere, nanoellipsoidal and nanoring structure
06:00 pm	Vaishnavi P U	235	Synthesis of ZnO/Fe ₂ O ₃ nanocomposites for photocatalytic degradation of dyes
06:10 pm	Geeta.D.Pai	236	Sustainable and Green Corrosion Inhibition of Mild Steel: Insights from Chemical and Electrochemical Approaches
06:20 pm	Hina Desai	239	Adsorption of Congo red from aqueous solution by Mango bark Ash: Investigated by spectrophotometric and physicochemical analysis
06:30 pm	Anugop B	240	Dye-doped polymer optical fiber luminescent solar concentrators- A comparison of the performance of step- index and graded-index fibers
06:40 pm	ESHIKA MAHANTY	241	Remediation of Pb ²⁺ from wastewater and eradication of cancer cell line using 3D Rod-like Fe-Ce BDC MOF synthesized via Solvothermal Route
06:50 pm to 07:00 pm	Prashant	244	Harnessing Mn-Doped V ₂ O ₅ for Environmental Cleanup and Energy Crisis Solutions

Technical Session: 22 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 03.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Kapil Dev Mahato

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	FARHA NAAZ	245	Spectrophotometric studies of synthesized charge transfer complex of 2-ethylimidazole with 3,5-dinitrobenzoic acid: Exploring its interaction with Bovine Serum Albumin (BSA), antimicrobial activity, molecular docking and DFT/TD-DFT study
05:10 pm	Puspanjali Mahapatra	251	Three dimensional rotational flow of nanofluid over a stretching sheet with Newtonian heating/cooling
05:20 pm	DR.K.T.MAHESWARI	255	A smart optimization of fault diagnosis in electrical grid using distributed software-defined IOT system
05:30 pm	Abhijit Sakharam Landge	260	Performance of Combustion Synthesized ZnO & ZnO-ZrO ₂ Nanocomposites for dye contaminated wastewater treatment
05:40 pm	Abhinav Mishra	262	DFT and Molecular Docking Studies of a Naturally Occurring Anticancer Drug: Ellipticine
05:50 pm	Roomul Mushtaq	263	Structural, optical and morphological properties of Solvothermally synthesized CZTS nanomaterials
06:00 pm	Nishita Sharma	265	Insights into Adsorptive and efficient removal of Rose Bengal dye from wastewater by biomass-based adsorbent
06:10 pm	Sweta Kumari	268	Impact of climate change on some river water quality: A study in selected blocks of Bihar and U.P.
06:20 pm	Anjali Nisha	269	Bio-inspired Carbon Dots as Potential Nanozymes for Combating Glioblastomal Hypoxia
06:30 pm	Sarita	271	Adsorption behavior of dyes onto Pennisetum glaucum in wastewater effluent
06:40 pm	Rubina Dhiman	273	Investigating Essential Oil-Based Nanoemulsions as a Potential Approach to Address the Growing Threat of Antibiotic Resistance
06:50 pm to 07:00 pm	RAHUL BHARDWAJ	275	Bio-conjugated functional fluorescent metal nanoparticles targeting glioblastoma

Technical Session: 23 [Students]

Theme of Session: Nano materials and nanotechnology / Structural Materials / Materials Synthesis and Processing / Green Synthesis / Material Characterization and Properties / Environmental Sustainability / Energy Applications of Materials / Composite Materials for Environment Protection & Remediation

Date: 03.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Ashish Kapoor

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Shivanshi Tyagi	178	Microbial Immobilization Techniques for Enhanced Dye Degradation and Textile Wastewater Remediation
05:10 pm	S. Sarala	207	High-Efficiency Photocatalytic Degradation of Organic Contaminants Using MnO ₂ /NiO@g-C ₃ N ₄ Under UV Light
05:20 pm	Namrata Nagesh Mundargi	230	Green route synthesis, characterization techniques of silver and vanadium nanoparticles using psidium guajava leaf extract
05:30 pm	Isha Sihmar	276	Chalcogenide based Thermoelectrics: A window from history to future
05:40 pm	Sahil Jangra	277	MXenes: Synthesis, Properties, and Applications in Advanced Energy Storage Technologies
05:50 pm	Bhushan Kumar	279	State-of-the-Art Developments in MXenes: A Comprehensive Review
06:00 pm	Mini Yadav	281	Optical Analysis of Single- and Double-Layer Thin Film Using Nickel and Chromium Transition Metal as a Neutral Density Filter
06:10 pm	Mamta Rani	288	Polarization Phase Shifting Interferometry as an application of 2-D Refractive Index Distribution of liquids
06:20 pm	Archy Dey	290	A Novel Approach to Design Combinational Digital System Blocks (Demultiplexer and Encoder) based on Reversible Logic Gates
06:30 pm	OVIYA .K	293	Spectral characterization of nanorod structured polypyrrole-nickel oxide polymer nanocomposites
06:40 pm	Nurettin ÇEK	92	Understanding the Corrosion Behavior of Graphite in Peat Environment for Environmental and Sustainability Applications
06:50 pm to 07:00 pm	S. N. Rahane	151	Experimental and Theoretical Insights into the Bi-based Halide Double Perovskites for Optoelectronic Applications

Technical Session: 24 [Faculty/ Scientist (Invited) Speakers]**Theme of Session: *Nano materials and nanotechnology***

Date: 03.07.2024

Time: 05:00 PM to 07:00 PM

Session Chairs: Dr. Bindya S

Google Meet ID/Link:

Time	Authors	Paper ID	Paper Title
05:00 pm	Dr. Subhashish Dey	117	The parthenium biosorbents for removal of chlorides and hardness from water
05:15 pm	Dr. Konica Sharma	181	Development of superhydrophobic surfaces on Copper and Brass for corrosion resistance applications: A comparative study
05:30 pm	Vandana Saxena	243	Mechanistic Insight into Zr-O Imprinted Pyrolytic Agricultural Biomass Char for Adsorptive Defluoridation from Aqueous Environment
05:45 pm	Mohammad mujahid Ali khan	294	New approach for electrochemical studies of polymer based composite membrane
06:00 pm	Dr. Manjeet Singh	280	Quantum corrections on optical phase conjugation via stimulated Brillouin scattering in ion-implanted semiconductor plasmas
06:15 pm	Dr. Zeenat Arif	21	Low cost nanoo bio-adsorbent for Cr(VI) contaminated effluent discharge from leather Industry
06:30 pm to 06:45 pm	Dr. Poonam Kumari Gautam	306	Natural Convection of Rigid-Free Nanofluid Layer in High Porosity: Jeffrey Model