

APRIL 2023



# IPR CELL NEWSLETTER



Indian Institute of Technology Roorkee



## This issue:

Patents

Copyrights

Design Registrations

Trademarks

PCT Applications

International Patent  
Applications

Technology  
Commercializations

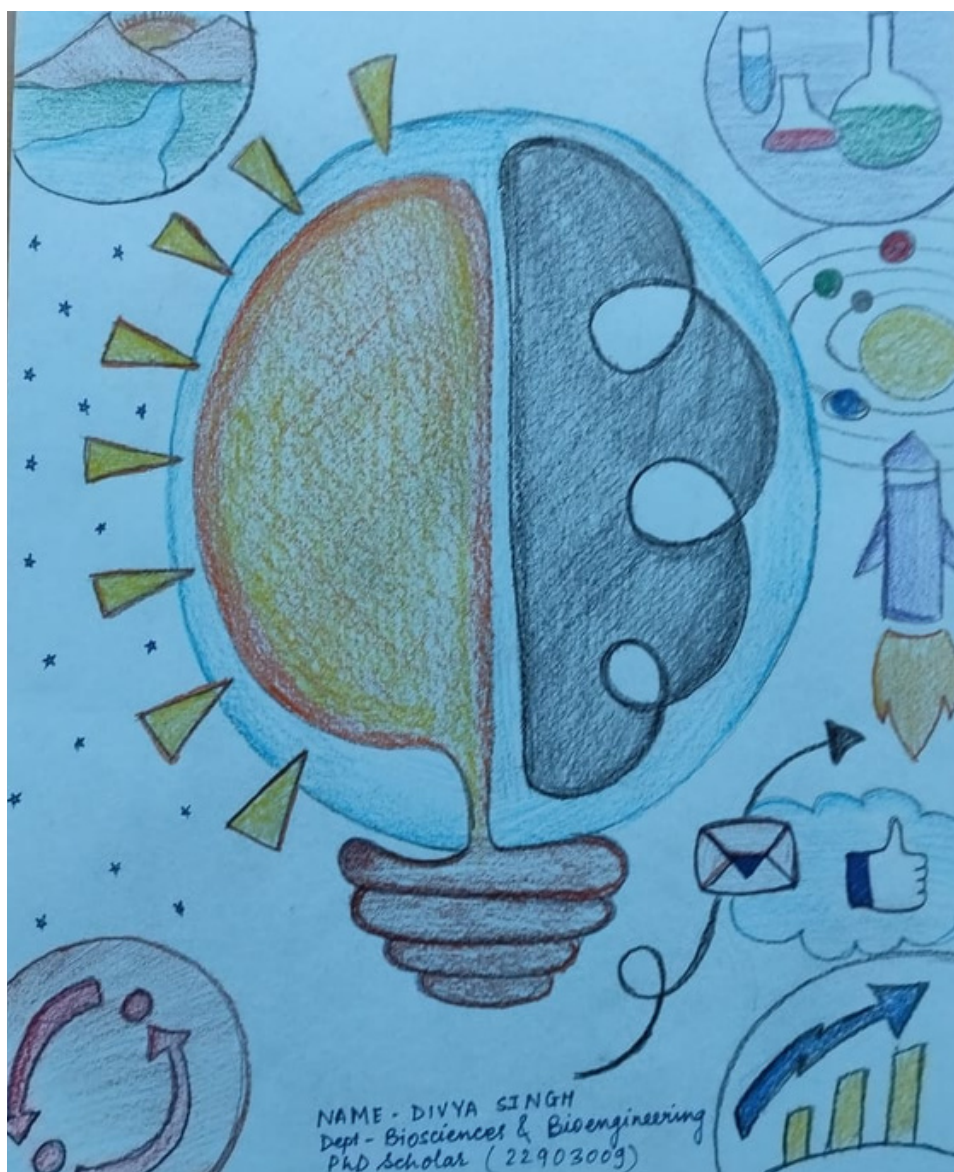
Technology Readiness level  
Booster Scheme (TRLB)

Faculty Entrepreneurship  
Policy (FEP)

Faculty Startup Policy (FEP)

Short term certificate IPR  
Course

IPR Awareness Sessions



## FROM THE DESK OF DIRECTOR, IIT ROORKEE

*In last few years, there has been a significant improvement in IP activities in the campus. We are not only protecting our IP using patents but also using other forms of IP such as copyrights, trademarks and design. This all is possible due to active contribution of all the researchers in the campus. Institute is committed to create conducive environment for innovation and their protection. Now we need to focus on commercialization and application of innovations of our researchers in the industry. Schemes like TRL booster and funding support for faculty led startups will help in achieving these objectives. It is expected that with support of all the stakeholders, IIT Roorkee campus will soon become a vibrant innovation and entrepreneurship (I&E) ecosystem. This newsletter of IPR cell will help in putting all innovations and major achievements of I&E ecosystem at one place which become a ready reference to all of us. I request all the students of the institute to make good use of IPR cell resources to create innovative researches and products.*



(Prof. K.K. PANT)

### Overall IPR Statistics



Number of  
Patents Filed

353

Number of  
Patents Published

319

Number of  
Trademark Filed

6

Number of  
Copyright Filed

17

Number of  
Designs Filed

17

Number of  
PCT Application Filed

5

Number of  
Designs Registered

8

Number of International  
Patents Filed

2

Number of  
Faculty Entrepreneurship

27

Number of TRLB applications

2

Number of INDIAN Patents Granted  
70

Number of Technology  
Commercialized

14

# AWARDS & RECOGNITION



IIT Roorkee bags Questel IP Excellence Award 2022

IIT Roorkee bags Best Poster Award in Institute Innovation Council Regional Meet 2022, in Chandigarh



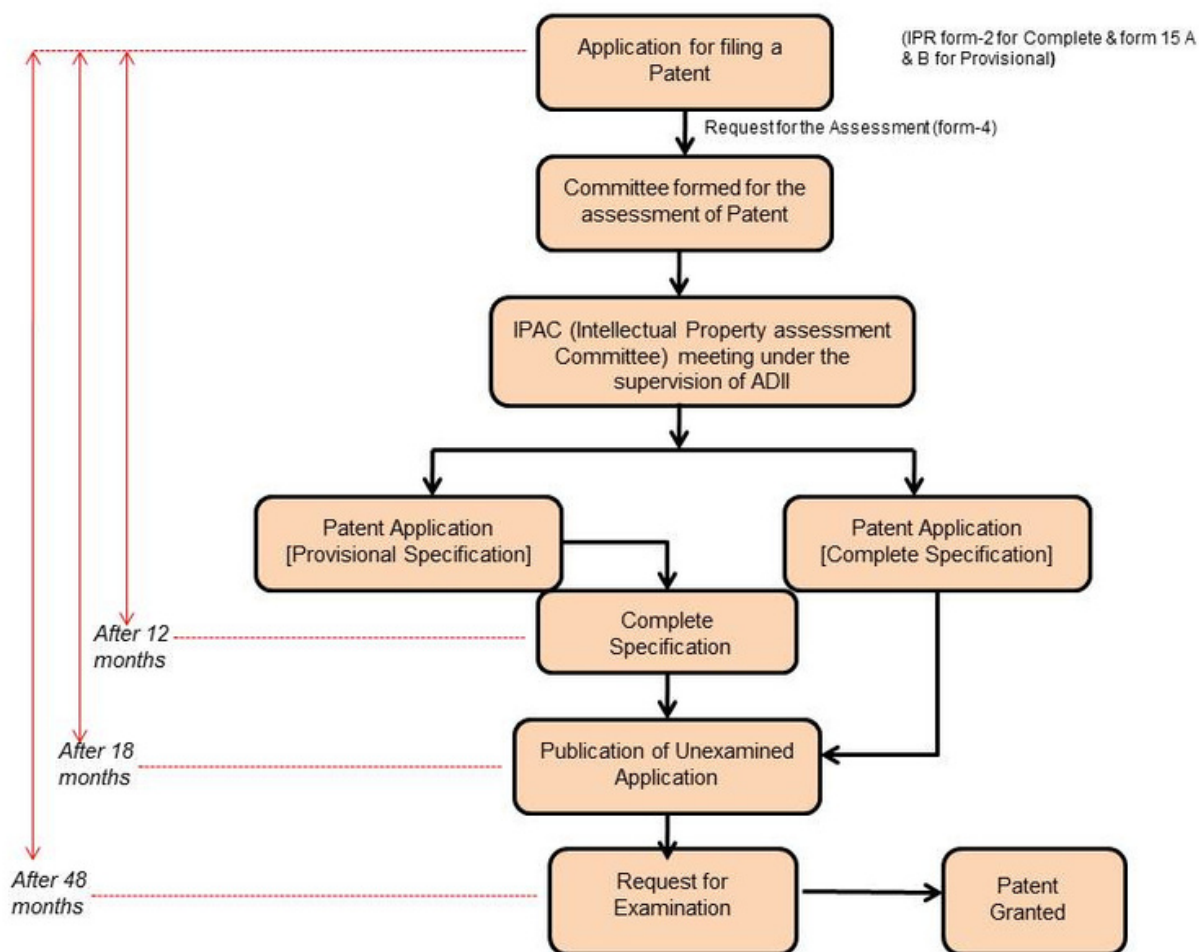
## Mission:

To create awareness and provide guidance to academic and nonacademic staff, students, scholars, and outside agencies on the practices and the rules of institute regarding intellectual property rights and obligations within the frame work of the IPR policy of the institute.

## Objectives:

To promote academic freedom and safeguard the interests of inventor in creation and commercialization of intellectual property with legal support wherever necessary. To create an environment for acquiring new knowledge through innovation, develop an attitude of prudent IP management practices and promote an IPR culture compatible with the educational mission of the institute.

### PATENT PROSECUTION – FLOW CHART



# A LOOK AT SOME OF IIT ROORKEE'S MOST IMPACTFUL TECHNOLOGIES



## A WIDEBAND FERRITE TRANSFORMER BASED POWER DIVIDER



Gowrish B.

Department of Electronics and Communication Engineering  
Patent application number : 202211044718 dated 04.08.2022

### Abstract

In a recent development, the allocation of the frequency spectrum for Internet of Things (IoT) applications has renewed the research interests in VHF (Very High Frequency) frequency band. However, interestingly, there is a research gap in realizing wideband power dividers which are vital for electronic communication systems at that frequency spectrum. The present invention relates to the realization for a wideband power divider using commercially available off-the-shelf ferrite transformers. The measured operating frequency range is from 1 MHz to 400 MHz with a bandwidth of 400:1. The measured insertion loss is better than 0.6 dB and return loss is better than 18 dB over the entire bandwidth. The measured amplitude imbalance and phase imbalance are within 0.05 dB and 1.75 degrees, respectively. The isolation is better than 20 dB over the bandwidth.

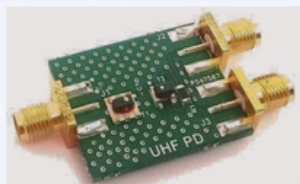


Fig 1. UHF Band Power Divider

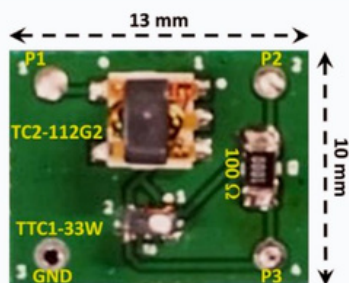


Fig 2. VHF Band Power Divider

### Salient Features of the technology

1. Novel Wideband RF Power Divider at VHF / UHF Band.
2. Utilizes Commercial off-the-shelf Ferrite Transformers.
3. Proof of Concept at VHF Band and UHF Band.
4. Miniaturized Power Divider.
5. Superior Electrical Performance: Excellent Amplitude and Phase Response.

### Potential Technology Customer

Astra Microwave Products Limited, Andhra Electronics Limited, Tejas Networks, Kavveri Telecom, Data Patterns, Alpha Design Technologies, Astrome, VVDN Technologies, Amitec, Innovation Communications Systems Ltd., Aimil, HFCL, Paras Defence & Space Technologies Ltd., Integrative Solutions Pvt. Ltd. & Linear Amplifier Technologies Pvt. Ltd.

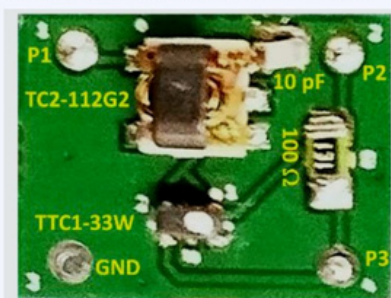


Fig 3. VHF Band Power Divider



## METHODS AND COMPOSITIONS FOR IDENTIFICATION OF NOVEL ANTI-PERSISTENT ACTIVITY OF GRAS COMPOUNDS

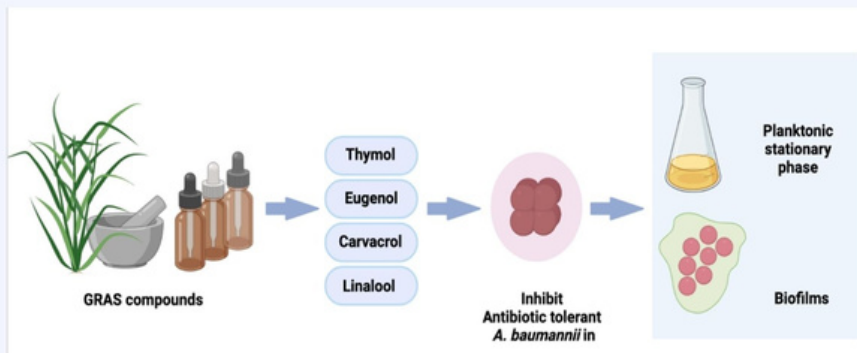


Ranjana Pathania\*, Timsy Bhandu, Ananth Casius

Department of Biosciences and Bioengineering  
Patent application number : 201911023795 dated 15.06.2019

### Abstract

The current invention relates to the field of identification of compounds that can act against antibiotic tolerant bacterial cells. The present invention relates to the methods and compositions for identifying antibacterial compounds that have the ability to decrease persister formation or survival, are capable of killing and/or inhibiting their growth, and methods for treating and/or preventing conditions associated with persister cells using "Generally Regarded As Safe" compounds and their combinations with antibiotics.



### Salient Features of the technology

1. Antimicrobial resistance could be the world's next pandemic.
2. The Infectious Disease Society of America (IDSA) has declared *A. baumannii* as one of the 'red alert' pathogens.
3. This study reports the anti-persistent activity of several plant-derived natural and GRAS status compounds to be used as monotherapy or in combination with antibiotics against *A. baumannii* infections.

### Potential Technology Customer

The present invention holds immense potential for commercialisation in collaboration with pharmaceutical industries in order to overcome the problem of antibiotic tolerance and persistence.



**Monojit Bag\*, Ramesh Kumar**

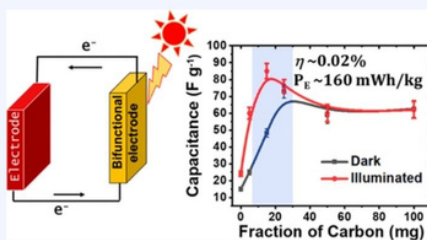
Department of Physics

Patent application number : 202111060124 dated 23.12.2021

## Abstract

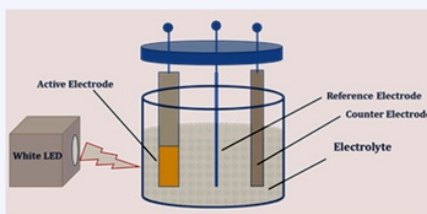
The off-grid energy storage devices are becoming the most important tool to fulfill the increasingly demand for sustainable energy sources. The smart cities, internet of things (IoT), and various autonomous devices require off-grid energy storage devices to supply the continuous power processing and transmission. To meet these requirements, people are using integrating solar cells with rechargeable energy storage devices. However, there are many challenges in integrated devices such as charge transport losses, inefficient device packaging, require additional electronics and expansive technology. Therefore, the scientific community began to move towards smart photo-electrodes, which can directly harvest and store solar energy without the need for additional integrated solar cells

The present invention relates to the hybrid halide perovskite materials for photo-active electrodes for photo rechargeable super capacitors. The invention provides a method for electrode preparation as well as the use of suitable electrolyte solution for the fabrication of efficient halide perovskite-based supercapacitors. The synthesized powder from perovskite single crystals and polycrystalline thin films is suitable for energy storage devices.



## Salient Features of the technology

1. Photo-rechargeable energy storage devices can directly harvest solar energy without the need for integrated solar cells. The integrated energy harvesting and storage devices have several challenges including energy losses and device packaging efficiency.
2. Low cost
3. Compact and portable for smart devices



## Potential Technology Customer

**A.** The off-grid energy storage system market is expected to grow by USD 6.22 billion at a CAGR of 7% during the forecast period of 2021-2026. Potential applications of this technology are in IoT, smart remote sensors, and portable smart electronics.



**B.** Market vendors, including Amperex Technology Ltd., Aquion Energy, Boston Power, CALB Co. Ltd., CEA, EnerSys, Fronius International GmbH, General Electric Co, LG Energy Solution Ltd., Mitsubishi Heavy Industries Ltd., NEC Corp., NRG Energy Inc., Primus Power Solutions, Saft Groupe SAS, Samsung SDI Co. Ltd., Toshiba Corp., Xtreme Power Inc., and ZEN Energy Retail Pty Ltd.

## Highlights in International Magazine

<https://www.perovskite-info.com/halide-perovskites-enable-novel-photo-rechargeable-supercapacitors>

## Research Article

ACS Appl. Mater. Interfaces 2022, 14, 31, 35592–35599



# A SUPERHYDROPHOBIC POLYSTYRENE/PVDF MEMBRANE COATED WITH WO<sub>3</sub> NANOCOMPOSITE FOR MEMBRANE DISTILLATION APPLICATION



**Bhaskar Jyoti Deka\*, Gaurav Vaghela, Akshit Pushkar and Himanshu Joshi**

Department of Hydrology

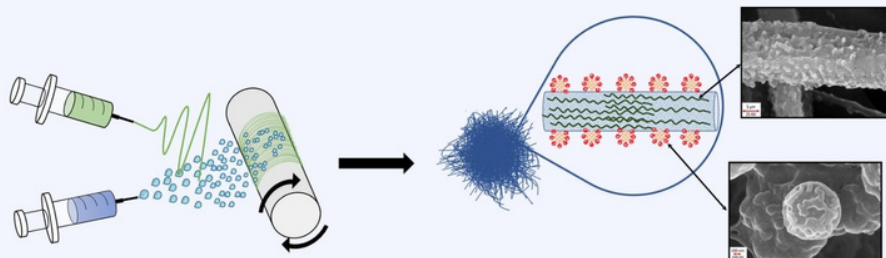
Patent application number : 202211008575 dated 18.02.2022

## Abstract

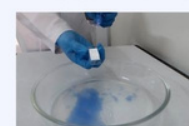
The present invention relates to a superhydrophobic polystyrene/polyvinylidene fluoride (PVDF) membrane coated with tungsten trioxide (WO<sub>3</sub>) nanocomposite for membrane distillation application. Introduction of WO<sub>3</sub> nanoparticles (NPs) on the membrane surface enhanced the roughness of the membrane surface, making it superhydrophobic.

## Salient Features of the technology

1. The fabrication of superhydrophobic membrane using polyvinylidene fluoride (PVDF) and polystyrene (PS).
2. The membrane is coated with silane functionalized tungsten trioxide nanoparticles (f-WO<sub>3</sub>) using electrospraying. The incorporation of polystyrene and f-WO<sub>3</sub> nanoparticles reduces the cost of the membrane.
3. The f-WO<sub>3</sub> nanoparticles give the membrane a rough hierarchical reentrant morphology with low surface energy, resulting in superhydrophobic properties.
4. The fabricated membrane had high contact angles for water ( $170^\circ \pm 2$ ), silane solution ( $165^\circ \pm 1.3$ ), and low surface tension liquid (0.3mM sodium dodecyl sulfate) (brine with surfactants) ( $162^\circ \pm 1$ ).



Polystyrene PVDF Silane functionalised nano particles



**Fig 1. Experiment performing to determine water repelling characteristics of fabricated membrane**

5. The membrane possesses high surface roughness of 2.41  $\mu\text{m}$ .
6. The fabricated membrane presents excellent chemical stability while exposed to highly alkaline and acidic solutions.
7. The membrane outperformed commercial PVDF membrane in terms of anti-wetting/anti-fouling characteristics and salt rejection performance (>99.9%).

## Potential Technology Customer

- A.** Power plants (for cooling and steam generation).  
**B.** Pharmaceutical and biotech companies (for separating and purifying liquids)  
 Oil and gas industry (for water treatment and desalination).

- C.** Food and beverage industry (to concentrate juices at room temperature).  
**D.** Textile industry (for dyeing and finishing)  
 Chemical industry (for separating and purifying liquids).  
**E.** Municipal water treatment facilities (for desalination and water/wastewater purification)  
**F.** Agriculture (for irrigation and water treatment).  
**G.** Mining industry (for water treatment and mineral separation).  
**H.** Any industry that requires separation of liquids and/or purification of water.



# PART I : AN IMPROVED FERROMANGANESE SLAG TO OXIDIZE ARSENITE AND REMOVAL OF ARSENIC FROM WATER

## PART II: A PELLETIZED ARSENIC ADSORBENT AND ITS METHOD OF PREPARATION USING THE LATERITE ROCK AND THE FERROMANGANESE SLAG



**PART I : Abhijit Maiti\*, Nishant Jain**

Patent Grant number : 368154 dated May, 2021

**PART II : Abhijit Maiti\*, Nishant Jain, Anil Kumar**

Patent Application number : 202211001060 dated 07.01.2022

Department of Polymer & Process Engineering

### Abstract

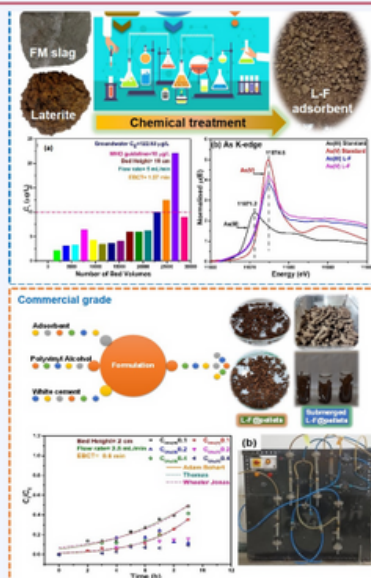
The present inventions relate to the field of contaminated groundwater treatment. It describes an arsenic adsorbent and its method of preparation from the ferromanganese slag (FMS) only and using both laterite rock and FMS under optimized chemical treatment method, which is useful for oxidizing As(III) and removing both arsenic species of As(V) and As(III) even in presence for competitive ions in arsenic contaminated water (both surface and groundwater). Further, it is easily scalable, and economically viable. An arsenic media that could be used as arsenic filter media in real-world applications of both household and domestic filtration systems. This pelletized adsorbent which is highly suitable for the flow-through system in household and existing domestic filtration systems. Such arsenic media/adsorbent is not available in market, and it will find global market in groundwater sector.

### Potential Technology Customer

All peoples live in the of arsenic affected area, peoples from India, Bangladesh, Nepal, Pakistan, USA, Mongolia, Argentina, Mexico, etc. need this technology.

### Salient Features of the technology

1. The developed technology has the potential to solve the arsenic contamination problem in the rural areas of India or the other countries like USA, African countries, Chile, Argentina, Mexico, many Asian countries those are facing problem with arsenic contaminated groundwater/surface water.
2. We have tested technology for arsenic removal for last 8 years using real arsenic contaminated groundwater. Further media can oxidize arsenite without using additional oxidant/oxidation step, which is most poisonous and difficult remove.
3. Adsorbent prepared using low-cost materials, cost would very minimum and less than available commercial arsenic adsorbent (having no oxidizing power).
4. The pelletized media does not provide pressure drop during run, as commercial adsorbents face this problem. Pelletized media showed excellent stability in water media for more than 2 years.
5. Media is also capable to remove other harmful ions like, lead, zinc, copper, etc. at a certain level.



Figs show Development of Technology using ferromanganese slag and laterite and arsenic removal in fixed bed mode. The pelletized adsorbent showed a good stability in water along with a prototype picture.



# A FORMALDEHYDE MODIFIED THERMOPLASTIC STARCH AND ITS BLENDING WITH LOW DENSITY POLYETHYLENE (LDPE) FOR PREPARING BIODEGRADABLE FILM



**Prof. Patit Paban Kundu**

Department of Chemical Engineering

Patent application number : 202211051869 dated 12.09.2022

### Abstract

The biodegradable film obtained is a blend of thermoplastic starch and Low-Density Polyethylene (LDPE). A biodegradable polyethylene film is obtained by blending thermoplastic starch pellets with polyethylene in the presence of an effective compatibilizer. To produce Thermoplastic Starch with minimal retrogradation formaldehyde is used as an effective plasticizer in addition to glycerol.

### Potential Technology Customer

- The biodegradable film can be used for
- A. For all single-use packaging plastic bags and food packaging applications.
  - B. For all kinds of packaging where biodegradability and bio-compatibility is preferred.
  - C. For packing and transferring stuff for transportation.

### Certification

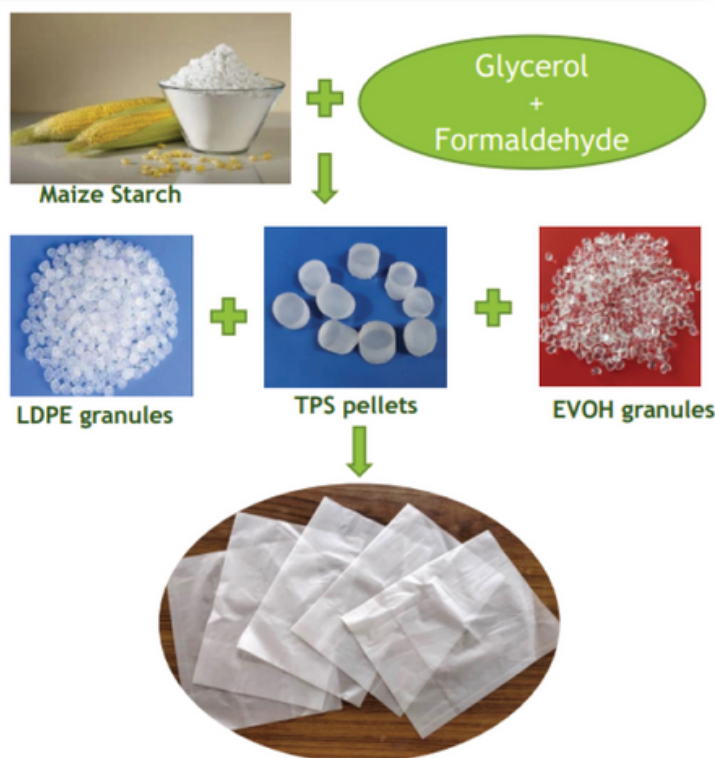
1. Certified the film can withstand dart impact as Polyethylene film used for packaging as per IS-2508 by CIPET:CSTS-Dehradun.
2. Certified, the film undergoes biodegradation in 120 days as per ASTM D-5338.
3. Formaldehyde leaching of the sample was tested using gas chromatography and was found to be under FSSAI limits.

### YouTube Links

Product : <https://youtu.be/P2GEbpElres>  
Process : <https://youtu.be/EYFRf1szCs>

### Research Article

<https://www.indiatoday.in/education-today/news/story/iit-roorkee-transfers-technology-to-make-biodegradable-polybags-2003906-2022-09-23>



# TECHNOLOGIES LICENSED

- *Bactericidal metal nanoparticles and its method of preparation.*

*By- Prof. N. Siva Mohan Reddy and Utsav Dalal (CHED)*

- *A novel bio reactor system for solid state fermentation and process of operation thereof.*

*By-Prof. Sanjoy Ghosh, Richa Rani & Siddharth Arora (BSBE)*

- *In-situ charging system for implantable pacemaker.*

*By-Prof. Indranil Lahiri, Siddharth Sharma, Prof. Debrupa Lahiri & Prof. Partha Roy (BSBE)*

- *Low cost reinforced bipolar membrane fabricated with interface layer.*

*By-Prof. Sujay Chattopadhyay and Bhuvanesh E. (PPE)*

- *Development of formaldehyde modified thermoplastic starch and its blending with low density polyethylene (LDPE) for biodegradable packaging bags.*

*By- Prof. P. Kundu (ChED)*

- *Biosensor for detecting cancer using exhaled breath.*

*By-Prof. Indranil Lahiri, Prof. Debrupa Lahiri, Prof. Partha Roy, Siddharth Sharma & Swati Haldar (MMED/ CON/ BSBE)*

- *A system and method for through wall image*

*By- Prof. Dharmendra Singh, Bambam Kumar and Smitha Puthucheri (ECE)*

- *A water based ink formulation for magenta pigment application for elongated engraved cells on rotogravure printing cylinder*

*&*

- *A water based ink formulation for rotogravure printing ink medium and pigmented ink*

*By-Prof. Yuvraj Singh Negi, Dr. Anurag Kulshreshtha, Mr. Brahma Prakash & Prof Millie Pant (DPT/ASE)*

# GRANTED PATENTS 2022

The Indian Institute of Technology Roorkee is proud to announce that in the last one year, the Institution received a total of 30 patents granted by the Indian Patent Office. This achievement is a testament to the innovative spirit of our faculty members and students, who have worked tirelessly to bring their ideas to life. The IPR Cell at IIT Roorkee would like to extend its sincere congratulations to each inventor who played a role in these patents and looking forward to collaborate with them as we work to commercialize these breakthrough technologies. We are confident that these patents will not only bring recognition to the Institution but also contribute to the advancement of our society and industries.



**Prof. B. V. Manoj Kumar** and his team of the **Department of Metallurgical and Materials Engineering** have been granted a patent for their invention of *"Dissimilar Metallic Coating on Steel by Activated Diffusion."*

**Prof. Anil Kumar** and his team of the **Department of Chemistry** have been granted a patent for their invention of *"A method for synthesis of nitrogen-doped reduced graphene oxide (N-RGO) for high performance supercapacitor."*



**Prof. Prasenjit Mondal** and his team of the **Department of Chemical Engineering** have been granted a patent for their invention of *"Ni-Fe bimodal catalyst for syngas production from carbon dioxide reforming of methane and process for the preparation thereof."*

**Prof. D.K. Dwivedi** and his team of the **Department of Mechanical & Industrial Engineering** have been granted a patent for their invention of *"Activating flux coating for symmetric weld bead profile."*



**Prof. Sudipta Sarkar** and his team of the **Department of Civil Engineering** have been granted a patent for their invention of *"A hybrid iron sulphide impregnated anion exchanger (HISIIX) for selective removal of hexavalent chromium from contaminated water."*

**Prof. Absar Ahmad Kazmi** and his team of the **Department of Civil Engineering** have been granted a patent for their invention of *"Upflow septic tank."*





**Prof. Kaushik Pal** and his team of the **Department of Mechanical and Industrial Engineering** have been granted a patent for their invention of *"A dual-chamber gas analysing system and method for selective gas sensing."*

**Prof. Debasis Banerjee** and his team of the **Department of Chemistry** have been granted 03 patents for their inventions of *"A method for the synthesis of amides from various carboxylic acids and amine derivatives"*, *"A Ni(II)-pincer complex for catalytic amination of alcohols"*, & *"Cobalt-based boron-nitride supported heterogeneous-catalysts involving nitrogen ligand and its method of preparation thereof."*



**Prof. Gaurav Manik** and his team of the **Department of Polymer and Process Engineering** have been granted a patent for their invention of *"Surface functionalized hierarchical carbon fiber reinforced composites hybrid polypropylene composites and the method of preparation."*

**Dr. Sandeep Kumar Garg** and his team of the **Department of Computer Science and Engineering** have been granted a patent for their invention of *"A novel system and method providing advanced web search for multimedia contents."*



**Prof. Basheshwer Prasad** and his team of the **Department of Chemical Engineering** have been granted a patent for their invention of *"Method of ultrasound induced catalytic detoxification of Acrylonitrile from aqueous solution"*.

**Prof. V.C. Srivastava** and his team of the **Department of Chemical Engineering** have been granted a patent for their invention of *"Sono-electrochemical method for the degradation of the recalcitrant pollutants in wastewater."*



**Prof. Chandrajit Balomajumder** and his team of the **Department of Chemical Engineering** have been granted 02 patents for their inventions of *"A method for the dissociation of gas hydrates"* & *"A new dissociation method for the gas hydrates."*

**Prof. K. R. Justin Thomas** and his team of the **Department of Chemistry** have been granted a patent for their invention of *"A method of synthesis of aldehyde and ketones from dicyanovinyl derivatives using photochemical method for C=C bond cleavage of dicyanovinyl derivatives and NBS under light irradiation."*



**Prof. Yogesh Sharma** and his team of the **Department of Physics** have been granted a patent for their invention of *"A method of synthesizing pure phase sodium manganese silicate (Na<sub>2</sub>MnSiO<sub>4</sub>)."*

**Prof. Sonalisa Ray** and her team of the **Department of Civil Engineering** have been granted a patent for their invention of *"A synthesis process for the development of calcium silicate hydrate (C-S-H) based concrete hardening accelerator."*



**Prof. Anjan Sil** and his team of the **Department of Metallurgical and Materials Engineering** have been granted a patent for their invention of *"A novel electrode composite for high power and high energy application in rechargeable lithium-ion battery."*



**Prof. Sujay Chattopadhyay** and his team of the **Department of Polymer and Process Engineering** have been granted a patent for their invention of *"Low cost reinforced bipolar membrane fabricated with interface layer."*

**Prof. Ujjwal Prakash** and his team of the **Department of Metallurgical and Materials Engineering** have been granted a patent for their invention of *"A process for power forging of metals/alloys to obtain full density products."*



**Prof. N. C. Mishra** and his team of the **Department of Polymer and Process Engineering** have been granted a patent for their invention of *"An in-situ polymer-based drug loaded hydrogel system and method thereof."*

**Prof. Sanjeev Manhas** and his team of the **Department of Electronics and Communication Engineering** have been granted a patent for their invention of *"Method of fabrication of dual/asymmetric dielectric constant spacers in multigatefet devices."*





**Prof. Himanshu Joshi** and his team of the **Department of Hydrology** have been granted a patent for their invention of *"A system comprising stable iron oxide nanoparticles (Maghemite) composite with pumice, for contaminant removal in water and its method of preparation thereof."*



**Prof. Debrupa Lahiri** and her team of the **Department of Metallurgical and Materials Engineering** have been granted a patent for their invention of *"A biodegradable skin scaffold for healing deep wounds."*



**Prof. Shishir Sinha** and his team of the **Department of Chemical Engineering** have been granted a patent for their invention of *"A flame retardant natural fibre reinforced composite material and its method of preparation thereof."*



**Prof. Rajib Lochan Dhar** of the **Department of Management Studies** have been granted a patent for their invention of *"Knee Rehabilitation Device."*



**Prof. Dharmendra Singh** and his team of the **Department of Electronics and Communication Engineering** have been granted a patent for their invention of *"Development of nanocomposite microwave absorbing paint in the frequency range of 8- 18 GHz."*



**Prof. Shailly Tomar** and her team of the **Department of Biosciences and Bio Engineering** have been granted a patent for their invention of *"An anti-viral composition of tamarind Chi-like lectin and uses thereof."*

# EVENTS

A workshop of National Intellectual Property Awareness Mission (NIPAM) under the initiative of the Government's "Azadi Ka Amrit Mahotsav" was conducted where the NIPAM officers (Mr. Abhishek Kumar Pandey, Dr. Vinita Suyal, Dr. Lakshmi Meena and Raj Kumar Meena) delivered the talks on various IPRs and its importance



**Workshop on Intellectual Property Rights (IPR) Awareness**

In collaboration with  
Office of the Controller General of Patents, Designs & Trademarks,  
Department of Promotion of Industry and Internal Trade,  
Ministry of Commerce and Industry, Govt. of India

**Speakers**  
Abhishek Kumar Pandey  
Senior Examiner of Trademarks and GI  
Dr. Vinita Suyal  
Dr. Lakshmi Meena  
Raj Kumar Meena  
Examiner of Patents and Designs

Organised by  
Institute Innovation Council  
&  
Supported by  
IPR Cell & IPR Chair  
Indian Institute of Technology Roorkee

**18** | January 2022  
At 4:00 P.M. Onwards  
Tuesday

**e-certificates will be given to all the participants**

For Registration Click here:- <https://forms.gle/ASr1M3u0loZALS1M7>



**Webinar on IP is the Key for Academic Excellence**

**Topics of Discussion**  
• What is academic intellectual property?  
• What is intellectual property for students?  
• Why intellectual property is important to me as a student and future professional?  
• What is the importance of knowing intellectual property as a student?

**Dr. Hanumanthu Purushotham**  
DPIIT-IPR Chair Professor  
Andhra University, Visakhapatnam  
And  
Former Chairman & MD  
National Research Development Corporation

Organised by  
Institute Innovation Council  
&  
Supported by  
IPR Cell & IPR Chair  
Indian Institute of Technology Roorkee

**12** | February 2022  
At 11:00 A.M.  
Saturday

Webinar on “IP is the Key for Academic Excellence” was conducted where Dr. Hanumanthu Purushotham gave very insightful information of IP and IPRs. He explained about academic Intellectual Property, Intellectual Property of students, Importance of IP as a student and professional and the role of Intellectual Property in academics excellence.

On International Women's Day, a workshop on the role of Women in Intellectual Property Rights was conducted. The speakers talked on the massive role women plays not only in the area of Patent but also other IPRs like Trademark, Design and Copyright. They have highlighted that men are still leading in the field of IPRs and their motivational speeches encourages women to become great innovators so that they can be able to break the bias.



**Workshop on "Women's role in IPR" on the Occasion of International Women's Day celebration in collaboration with NIPAM**




**Speakers**  
Dr. Lakshmi Meena  
Examiner of Patents & Designs, IPO  
Dr. Vinita Suyal  
Examiner of Patents & Designs, IPO  
Ms. Vishakha Gupta  
Examiner of Patents & Designs, IPO  
Ms. Shivalika Bhalshi  
Ministry of Industry & Commerce, DPIIT  
Dr. Shaleen Raizada  
CEO & MD  
Sanskhodac  
Consultant Pvt. Ltd.  
Ms. Bindu Sharma  
Founder & CEO  
Origin IP Solutions

Organised by  
Institute Innovation Council  
&  
Supported by  
IPR Cell & IPR Chair  
Indian Institute of Technology Roorkee

**08** | March 2022  
At 11:00 A.M.  
Tuesday

**Topics of Discussion**  
• Role of Women in IPR.  
• Drafting of Claims.  
• Response preparation for FER.  
• Understanding Non-Obviousness.

For Registration Click here :- <https://forms.gle/5o5F7mR-ME5E3Y6>

**Celebrate  
"World IP Day 2022"**

WITH DPIIT IPR CHAIR AND IPR CELL IIT ROORKEE

Submit short Articles on  
**"How can Youth of India contribute in present IP regime"**

- Original and unpublished Articles are invited from Students of Class VIII to XII and School Teachers
- Word Limit for articles is 1000 words.
- Submission Deadline - April 30<sup>th</sup> 2022 till 6:00 Pm
- Prizes worth Three Thousand, Two Thousand and One Thousand to three best entries in both categories.
- E-Certificates to all participants.
- Mail your articles and details with contact number to [ipr-chair@iitr.ac.in](mailto:ipr-chair@iitr.ac.in)
- Selected articles will be published in an IP Magazine.
- For any Queries Please call Mr. Rahul Singh Rathore on 9058809706

World IP Day 2022 was celebrated by organizing a competition where original/unpublished articles were invited from Students of Class VIII to XII and School Teachers. It encouraged the participants to get aware of the important roles the youth plays in creating the innovation culture in the country.

A workshop on "Derwent Innovation Hands on Training" was conducted where Mrs. Subhasree Nag of Derwent – Clarivate explained vividly how to use Derwent database, also she explained how Derwent software helps researchers in getting upto date information in various fields of innovation across the globe under a single platform. She demonstrated how to carry out novelty search and stresses on the importance of Patent citations.



**Institute Innovation Council  
Organizes a Session on  
Derwent Innovation Hands on Training**

**27 May 2022  
11:30 A.M. Friday**

At  
**Bioscience & Bioengineering  
Auditorium**

Supported by  
**IPR Cell & IPR Chair  
Indian Institute of Technology Roorkee**

*Note:- Please bring your laptop for the session.*

For Registration Click here: <https://forms.gle/TXsfW7pZVNr2N8S>





**Impact Lecture Series on  
Innovation, Entrepreneurship and Start-up: Part I**

Organised by  
Institute Innovation Council  
&  
Supported by  
IPR Cell & IPR Chair  
Indian Institute of Technology Roorkee



**Mr. Ruchir Gupta**  
Managing Director  
Axa Parenterals Ltd.



**Prof. Juhi Raghuvanshi**  
Department of Management Studies,  
IIT Delhi

**24 June 2022  
At 11:00 A.M.  
Onwards Friday**

**e-certificates will be given to all the participants**

For Registration Click here:- <https://forms.gle/2BN1xFGFKSeSKvWT7>

An Impact Lecture Series (Part-I)- Innovation, Entrepreneurship & Start-up was conducted where the first impact lecture was delivered by Mr. Ruchir Gupta, Managing Director of AXA Parenterals Ltd. He shared the important milestones of his life and also addressed how to be a successful entrepreneur by facing failures and overcoming the fear factors. The second impact lecture was delivered by Prof. Juhi Raghuvanshi, Department of Management Studies, IIT Delhi on Start-ups. She addressed on the various challenges and difficulties faced by the Start-ups founders and also stressed on the means to avoid/overcome failures and uncertainties through hypothesis driven entrepreneurship. The limitation on Start-up were also well explained.



Impact Lecture Series (Part-II) - Innovation, Entrepreneurship & Start-up (lecture I) was delivered by Mr. Tushar Garg, Scientist, National Innovation Foundation (NIF), India. He shared the different initiatives taken up by National Innovation Foundation (NIF), India to strengthen the grassroots technological innovations and outstanding traditional knowledge which will help India to become a creative and knowledge-based society.

Impact Lecture Series (Part-II)- Innovation, Entrepreneurship & Start-up (lecture II) was delivered by Dr. Annamma Samuel, DPIIT-IPR Chair, Professor Gujarat National Law University. She explained that Innovation and creativity are the core drivers of sustainable economic development, and intellectual property rights are the key tools to generate value from intangible assets.



IPR Cell in association with CIPAM and IPR-Chair, IIT Roorkee conducted Awareness programme on Intellectual Property Rights and Novelty Search on 2nd December, 2022.

IPO examiner Mr. Manish Soyal, vividly explained the different types of IPR and the importance of IPR. He also explained in detail the procedure for filing Patent in IPO, different forms for Patent filing, filing fees etc. The participants were able to get the detail information about patent filing in India from the talk of IPO examiner Mr. Manish Soyal. They were also able to understand the features of XLSCOUT more from the novelty search competition.



A Short-term Certificate Course on Introduction to Intellectual Property Rights was conducted where the course participants were explained about the meaning, nature, significance, needs and management of Intellectual Property Right (IPR). Patent Law, Patentability requirements, Patentability search & strategic use of Patent information, Infringement etc., as well as different case studies were discussed.

**Intellectual Property Rights Cell & Continuing Education Centre**  
**Indian Institute of Technology Roorkee**

Organizes  
 Short term Certificate course  
 On  
**"Introduction to Intellectual Property Rights"**

**Date:- 22<sup>nd</sup> August to 9<sup>th</sup> September**

Mode of Teaching:- Online  
 Course Fees:- Industry participants:- Rs. 4000 + GST  
 Outside Institute faculty:- Rs. 2000 + GST  
 IIT Roorkee Faculty Members:-Rs. 1000(including GST)  
 Students :-Rs. 500 (including GST)

For Payment  
 Name of Bank:- STATE BANK OF INDIA  
 Branch Office:- IIT ROORKEE- 241002  
 Account Number:- 33136732957  
 Branch Number:-1069  
 IFSC Code:- SBIN0001069  
 Swift Code:- SBININBB569

For Registration Click here:- <https://forms.gle/jD850fyn4B8>

**IIT ROORKEE** **Startup Expo 2022**

IIT Roorkee is celebrating 175 years of imparting technical education and its contribution to the development of society.  
 The event will feature startups from the IIT Roorkee community and pitching of ideas for Startup by students and faculty of IITR.

**Activities:**  
 Startup Expo  
 Panel Discussion  
 Pitching of Ideas for startup

**25 November 2022**  
 9:00 A.M. to 05:00 PM  
 Venue: MAC

**Highlights**

- 129+ Startups are supported by IIT Startup Ecosystem
- 46+ Startups will showcase the products/technologies
- 100+ Industries from Uttarakhand will be visiting Expo

**E-Cell** **TIDES**

IIT Roorkee Startup Expo 2022 was conducted where IIT Roorkee incubated Startups showcased their technologies, products and services at the event in the presence of industries. Panel discussions and pitching of ideas for startups were the major event's highlights.

A session on XLSCOUT Database was conducted where the XLSCOUT team demonstrated in detail how to carry out novelty search / prior art search for both patented and non-patented documents using XLSCOUT database. A hands-on session for the participants was also conducted.

**Institute Innovation Council**  
**Organizes a Session on XLSCOUT Patent Software**

**05 November 2022**  
**11:30 A.M. Saturday**

**At**  
**Bioscience & Bioengineering Auditorium**

**Topics to be covered:**

- Novelty search.
- Introduction to New Patented/Non-Patented database.
- Conducting novelty search using XLSCOUT.
- Understanding Technology forecasting.
- To know the status of a Patent.

**Supported by**  
**IPR Cell & IPR Chair**  
**Indian Institute of Technology Roorkee**

*Note:- Please bring your laptop for the session.*

# GALLERY



Prof Sujoy Chattopadhyay & team, IIT Roorkee,  
Technology Transfer agreement with  
Permionics Global Technologies

Prof PP Kundu, IIT Roorkee, Technology  
Transfer agreement with Agrsar  
Innovatives LLP Greater Noida



Prof Lahiri and team, IIT Roorkee has  
signed technology transfer agreement  
with Tata Steel Ltd.

Dr. Anurag Kulshreshtha and team, IIT  
Roorkee has signed technology transfer  
agreement with Uflex



# OUTREACH ACTIVITY



## CORRESPONDENCE >

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