

# RESEARCH

# FORUM

## OFFICIAL NEWSLETTER

### RESEARCH & DEVELOPMENT CELL, ST. MARTIN'S ENGINEERING COLLEGE

Editor in Chief

Dr. P. Santosh Kumar Patra



**St. Martin's Engineering College**

An Autonomous Institute

NBA & NAAC A+ Accredited

Dhulapally, Secunderabad-500 100

[www.smec.ac.in](http://www.smec.ac.in)





# St. Martin's Engineering College

An Autonomous Institute  
NBA & NAAC A+ Accredited

Dhulapally, Secunderabad, Telangana -500 100

# SMECRF

## ST.MARTIN'S CHILDREN'S EDUCATION SOCIETY FOUNDED ON 1982 (FOUNDERS)



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# RESEARCH FORUM

## RESEARCH AND DEVELOPMENT CELL

### The Newsletter



From July 2022 to December 2022

#### Editor-in-chief:

**Dr. P. Santosh Kumar Patra**  
Group Director and Principal

#### Editors

**Dr. Sanjay Kumar Suman**  
Dean R&D

**Dr. Saumyapraava Acharya**  
R&D Coordinator

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#### Pride of Performance



Nothing happens unless it is made to happen. Pride comes from within, that is what gives the winning edge. Pride of performance does not represent ego. It represents pleasure with humility. The quality of the work and the quantity of work are inseparable. Halfhearted effort does not produce half results; it produces no result.

Outcome of any sector speaks itself its effort, dedication and smartly handworks. I am happy to share the remarkable achievement of St. Martin's Engineering College in the form of volume of publications is crossed 10,000, Research and Consultancy project Rs. 630 crores, MSME project Rs. 29 lakhs, no. of Patent 314, Books 148 published and 138 innovative projects tells the story of performance. These performance from inception covers the four important keywords: Velocity, Volume, Variety, and Vibration which are the basic parameters of success. Let's us celebrate our performance and move a step ahead.

**BEST WISHES**

## FROM THE EDITORS

### LET'S FEED OUR MIND WITH GOOD THOUGHTS

Just like our bodies need good food every day, our minds need good thoughts every day. If we feed our body with junk food and our mind with bad thoughts, we will have both a sick body and mind. We need to feed our mind with the pure and the positive to stay on track. What is difference between a person who cannot read and a person who can but does not read? No different at all. Learning is like eating food. It is not how much we eat that matters, what counts is how much we digest.

Knowledge is potential power, wisdom is real power. Our minds, like muscles, stretch or shrink depending on how much or how little we exercise them.

Continuous positive education leads to positive thinking.

Let's have our brain cells occupied with innovative ideas and get motivated with information of R&D achievement.

With best wishes  
Editors

## RESEARCH FORUM

Research Forum was inaugurated by **Dr. P. Santosh Kumar Patra**, Principal and Group Director. He has initiated the forum by delivering inspiring and motivational speech in Doctorates Meeting on **30-04-2022**. The objective behind it to provide a platform to all researcher, students and faculty members to explore & Share their idea through various activities in the form of Seminars, Discussion, FDP and e-learning, Meetings, Conferences, Technology Transfer and publications.

Journal

Conference

Patents

Book Chapter  
- Books

Discussions &  
Meetings

Seminar -  
Webinar

Workshop-  
FDP

Project Expo





## **Introduction to Research and Development Cell**

Research and Development Cell (RDC) is an extension of the vision, mission and commitment of **Dr. P. Santosh Kumar Patra, Principal**, St. Martin's Engineering College, Secunderabad, and **Group Director**, St. Martin's Children's Education Society, Secunderabad, since 2016, to move forward towards excellence in academic, research and sports in all areas which are important in country's development. The RDC of SMEC facilitates and encourages research culture among the faculty and students. Its prime role is to establish a connection with the real world and promote research through a range of publications. It has six dedicated laboratories to solving problems in cutting edge technological issue to future applications of national relevance.

It enables a congenial environment for technological development and monitors the research activities of the college. It takes upon the responsibility of creating a work place to attract the best talent and strives continuously in pooling of skills and internal resources, creating strategy, overcoming limitations, and makes the institute proud to be amongst the best institutions around the country.

Under the visionary leadership of **Chairman of RDC** and Principal of SMEC: **Dr. P. Santosh Kumar Patra**, the college is able to obtain the grant in excess of **Rs. 630 crores** from various agencies like GHMC, HWMSSB, MSME, DST, IIT BOMBAY, AICTE, foreign funding etc. The publication statistics including **journals: 9553+**, **patents: 314+**, **books: 148+**, **conference proceedings: 1055 +**, **copy rights: 36** and citations are credit worthy. The number of publications from inception is reaching towards 10,000. In addition, RDC holds a credit of **138 innovative products** which are developed by students and faculty and 40000 international certification courses. It is worth to mention that the institution is recognized as a **research Centre** for the faculty of **CSE** by **JNTUH**.

**Department of CSE is recognized as a  
research centre by JNTUH**

## **Vision, Mission and Objective: RDC**

### **Vision**

To implement, maintain and continually improve the research ecosystem of the Institute that contribute pragmatically towards the goal of a self-reliant nation.

### **Mission**

- Provision of resource and favourable environment for enhancing the research productivity.
- To promote collaborative research, innovation, technology development, and enterprise activities with industry, government, non-government, state, national and international organisations and agencies.
- To identify and implement resource and funding mobilisation system for facilitating greater access to research to students, research scholars and faculty members.

### **Objectives**

1. To develop an organisation structure for proper functioning of various role of the cell.
2. To formulate and implement the research policy across the institute.
3. Identify major research areas across disciplines institute-wide, and set up a consortium of researchers.
4. To set up human resource, procurement, and financial management system with adequate autonomy to the Principal Investigator(s)
5. To publish the outcomes of research at the global level.
6. To establish a unique vehicle for promotion of researchers, innovators and star-ups.
7. To develop a consultancy services within the cell for to identify
8. To establish domain based centre of excellence

## Editor in Chief



**Dr. P. Santosh Kumar Patra**, Principal of St. Martin's Engineering College and group Director of trust is the only person in Telangana to receive continuously FOUR times "GOVERNOR AWARD from Governor of Telangana, in addition to "Rashtriya Gaurav Award", "Rashtriya Vikas Ratan Award", "Dronacharya Award", Young leader of the year & IBAE International Award, Dubai; The Engineering Educators' Award 2019; NIRDPR Award (Govt. of India); IDF Best Partner Award; Dewang Mehta Award; TCS ION Award; CSI Award (Students Chapter); Best Innovation by Federation of Gujarat Industries, Street Cause-Most Dedicated Division, Best college award from Education Matter, Best College in sports facility and achievement by Stumagz, Telangana, National Leadership Excellence Award- 2019 by ICCI. Best Engineering College by American College of Dubai, Dubai. He has maintained the highest amount of consultancy and industry sponsored projects in Telangana state amount of Rs. 444 crores from GHMC, Hyderabad & Rs.150 crores from HMWSSB, Hyderabad, Govt of Telangana. He has received Rs. 1.8 Crores funds from DST, IIT Bombay and AICTE. He is bestowed with Rs. 31 lakhs from UGC as a PARAMARSH (Advisor). He had facilitated 300 Aakash tablets from IIT, Bombay. Rs.1 crore approval from MSME for Business Incubation. NIRF Ranked and ARIIA ranked under excellent band, Careers 360 Certified as AA+; Competition Success Review Ranked in top 3; and Wikipedia Ranked 2nd in Telangana. Rs. 21.46 Lakhs received from SERB, Government of India, Rs. 30 lakhs from NIELIT, Chennai, Govt of India, Rs. 29 lakhs from MSME, Govt of India. Rs.31 lakhs from UGC. Recently Rs.18 lakhs funding from AICTE was also received. He has also received international award and funding (4000 USD) from George Mason University Virginia, USA.

In his crowning glory he has achievements like publishing 48 patents and his 30 patents are selected by different companies for commercialization. He has published 50 books and more than 108 international & national research papers, 28 magazine articles & 188 newspaper coverage.

He is an active member of ISTE, CSI, IAENG (Canada), MASPRS (USA), Senior Member of IACSIT (Singapore), Senior Member of CSTA(USA), SDIWC(USA), Senior Member of SCIEI(Canada), Senior Member of IEDRC (Hongkong), Member of WASET(USA) & Technical Advisor for Alaxia, Japan.

He has been honoured as an Advisor to NAAC, Bengaluru (Only person in India from private college), UGC-Paramarsh, National Cyber Safety & Security Standards, Govt. of India. He is on the editorial board of TATA MCGRAW HILL International Publication, Charulatha Publication, Hi Tech publication, Spectrum publication etc...

He believes Life is a memorable journey that is meant to be experienced to the fullest every day by making every moment an opportunity to learn and spread love and happiness. Adding feather to his believe recently, on 21st August 2022 he is the only one from Telangana to receive the most prestigious Award named “National Happiness Unicorn Award” from Chairman of AICTE and the Programme was attended by Smt. Kalvakuntla Kavitha garu, honourable M.L.C. of Nizamabad, Kamlesh D Patel, known as Daaji, Heartfulness Guide and other many icons from the globe.

Under his excellency as a Principal, his innovative thinking, able leadership, meticulous planning, dynamism, dedication, diligence and commitment have achieved great laurels for St Martin’s Engineering College and few of them are like awarded with prestigious grade A+ from NAAC (only 27 colleges in India, awarded A+ grade by NAAC), 2(f) & 12(B) Recognized by UGC Act of 1956, all courses are NBA accredited, Received UGC-Paramarsh (only young college in Telangana to receive), ISO certified, DSIR Recognition, J-Hub certified (JNTUH), TASK certified (Govt of Telangana), 5 star from Institute Innovation Council (MHRD-Govt of India), Remote centre of IIT Bombay, Member of CII and MSME certified Institution.

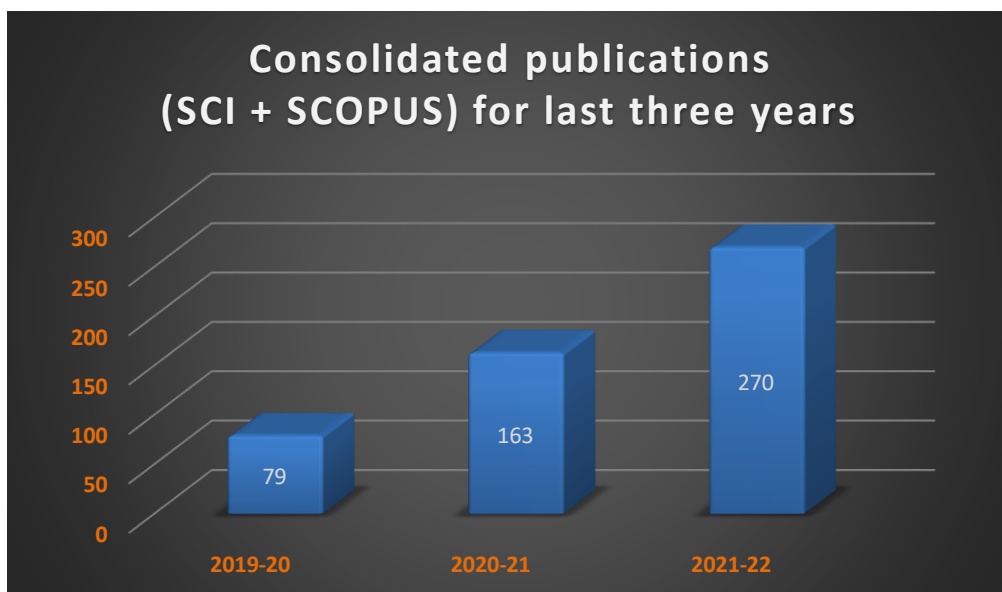
Honours and Minis from JNTUH (Only 10 colleges under JNTUH permitted for this), AICTE KARMA scheme approved. NCC girls and Boys wings approved. Students’ placement reached 100% along with high pay packages like 27 and 50 Lakhs which was witnessed across India and created a remarkable history in the glory of St. Martin’s.

His desire to dream big, to work smart and strive for excellence and to enjoy the journey every step of the way made him scale greater heights.



## Publications: Journals, Book Chapters & Proceedings

July 2022 to December 2022			
Indexing	Published	Accepted	Submitted
SCIE	7	1	30
SCOPUS + ESCI	14	25	118
UGC Care 1	75	-	-
<b>Total</b>	<b>96</b>	<b>26</b>	<b>148</b>
<b>270</b>			



## Patents

July 2022 to December 2022		
Dept.	Published	Filed
CSE	6	23
IT	1	9
ECE	6	17
EEE	3	4
Mech	3	7
Civil	3	9
S&H	4	0
<b>Total</b>	<b>26</b>	<b>69</b>
<b>College as applicant 87 + individual 8 = 95</b>		

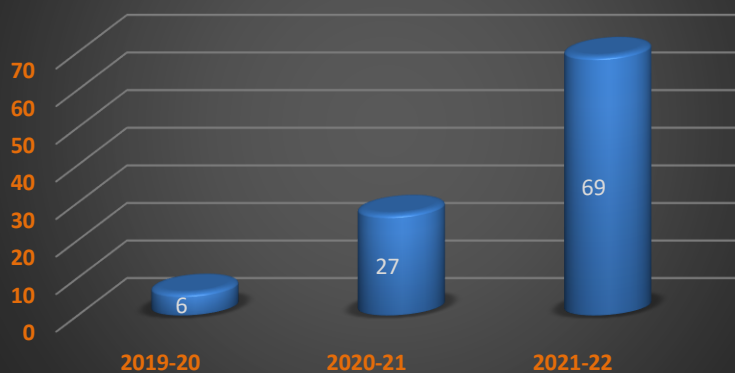
### Consolidated patent for last three years



## Publications: Books

July 2022 to December 2022	
Dept.	Published
CSE	6
IT	8
ECE	3
EEE	6
Mechanical	9
Civil	2
S&H	8
<b>Total</b>	<b>38</b>

Consolidated book published for last three years



## MSME 2.0

The idea Hackathon scheme is launched on March 10, 2022, to promote and support untapped creativity and to promote adoption of latest technologies in MSMEs that seek the validation of their ideas at the proof-of-concept level. The scheme also supports engagement with enablers who will advise such MSMEs in expanding the business by supporting them in design, strategy and execution. The primary objective of the MSME Idea Hackathon is to **provide Support for Entrepreneurial and Managerial Development of MSMEs through Incubators**. The students of SMEC has actively participated in idea Hackathon 2.0 and submitted 31 idea (other than other students idea uploaded).

<b>MSME Idea Hackathon 2.0</b>	
<b>Dept.</b>	<b>No. of Idea Submitted</b>
<b>CSE</b>	<b>5</b>
<b>IT</b>	<b>5</b>
<b>ECE</b>	<b>5</b>
<b>EEE</b>	<b>4</b>
<b>Mechanical</b>	<b>5</b>
<b>Civil</b>	<b>7</b>
<b>Total</b>	<b>31</b>



## MSME 1.0

### Academic Year 2021-2022

A total of 257 Proposals approved during 2nd PMAC Meeting of MSME Innovative Scheme held on 22.06.2022 & Announced by Hon'ble Prime Minister on the occasion of International MSME Day at Vigyan Bhawan on 30th June, 2022. Out of which 36 ideas approved from the state of Telangana. **Among 36 ideas, 3 ideas are approved from St. Martin's Engg College. The list is given below.**

S. No.	Ref. No.	Incubatee Name and Category	Title of proposed idea/ innovation/ Sector	Project Cost	Amount Sectioned	Incubatee Share
				(in Lakhs)		
1.	IDEATS 003562	Konga Bharathi - Student	Development of Horticultural Manned Robot for Ripe Mango Fruit Plucking / <a href="#">Agriculture</a>	11.000	11.000	0.00
2.	IDEATS 003246	Patil Snehalatha - Start-up	Economical Design of the Slab by Using HDPE Balls - Bubble Deck slab is one of these techniques which reduce the volume of concrete in a structure or structural element by introduction of High Density Poly Ethylene (HDPE). / <a href="#">Misc.</a>	8.750	7.438	1.313
3.	IDEATS 003287	Sirasala Naveen - Students	Plastic Pavement Blocks. / <a href="#">Misc</a>	11.000	11.000	0.00

## EVENTS:

<b>FDP</b>	<b>1</b>
<b>IPR</b>	<b>2</b>
<b>Doctorates Meet</b>	

### **Patent Writing: Real-time workshop**

**July 01, 2022 to July 07, 2022: Title Selection**

**September 24 to October 08, 2022: drafting**

**October 15, 2022 to October 21, 2022: Editing and Formatting**

Three Phase real time patents drafting workshop was conducted under the supervision and guidance of Principal Sir. A total of 87 patents were shortlisted and filed in two phases on 22-10-2022 and 01-11-2022 respectively.

**October 05, 2022 to October 14, 2022:**

### **MSME idea Hackathon 2.0.**

Similar to patent writing, a vibration was created to think, innovate, edit and submit the theme based idea in Idea Hackathon 2.0 which was initiated by MSME, Gov. of India.

**December 20, 2022 to February 24, 2022: Conference**

**Monitoring:** All departments are organising international conference. The RDC monitors the progress of conference and report to the Principal.

**November 26, 2022: MOU Signed**

An MoU was signed between SMEC and Eklavya University MP, India to promote research activities in both the campuses.

## Memorandum of Understanding

On Academic Co-operation

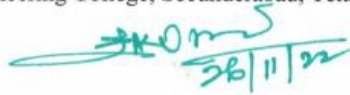
Between

**St. Martin's Engineering College, Secunderabad, Telangana**

and

**Eklavya University, Damoh, MP**

The purpose of this Memorandum of Understanding ("MoU") is 'o promote Academic & Research collaboration in the fields of shared interest and expertise between St Martin's Engineering College, Secunderabad, Telangana and Eklavya University, Damoh, MP.

  
26/11/22



  
**VICE CHANCELLOR**  
**Eklavya University**  
**Damoh(M.P.)**

Signed for & on behalf of  
**St. Martin's Engineering**  
**College, Secunderabad,**  
**Telangana, by:**

  
26/11/22

Name: **Dr. P. Santosh Kumar Patra**

Position: Principal

Date: 26-11-2022

**Dr. P. Santosh Kumar Patra**  
PRINCIPAL  
**St. MARTIN'S ENGINEERING COLLEGE**  
UGC - AUTONOMOUS  
Survey No. 98 & 100, Dhulapally (V)  
Secunderabad-500100, Telangana.



Signed for & on behalf of  
**Eklavya University,**  
**Damoh, MP, by:**



Name: **Prof. (Dr.) Pawan Kumar Jain**

Position: Vice Chancellor

Date: 26-11-2022

**VICE CHANCELLOR**  
**Eklavya University**  
**Damoh(M.P.)**

## EVENTS: Faculty Development Program

### June 23-24, 2022: Faculty Development Program

Research and Development Centre organizes  
A National Level Faculty Development Program on  
*Research Pedagogy and Contemporary Research*

 <p><b>Dr. P. K. Nanda</b> Pro-VC, SOA University. Bhubaneswar, Odisha. <b>Chief Guest</b> Inaugural Function <i>Session 1: Research Notion and Perception</i></p>	 <p><b>Dr. P. Santosh Kumar Patra</b> <b>Patron and Program Chair</b> Principal, SMEC, Secunderabad, Telangana. <b>Presidential Address</b></p>	 <p><b>Dr. Dhananjay Kumar</b> Professor and Head, Dept. of IT, Anna University, MIT Campus, Chennai, TN. <b>Guest of Honor</b> Valedictory Function</p>	
 <p><b>Dr. Sheeja V. Francis</b> Professor, Dept. of ECE, JCE, Chennai, TN. <i>Session 2: Writing Research Proposal</i></p>	 <p><b>Dr. L. Bhagyalakshmi</b> Professor &amp; Academic Head, Dept. of ECE, REC, Chennai, TN. <i>Session 3: Research Pedagogy</i></p>	 <p><b>Dr. C. Raja</b> Professor, Dept. of ECE R&amp;D Coordinator, SSCE, Bangalore, Karnataka. <i>Session 4: Writing Research Article</i></p>	 <p><b>Dr. Gunamani Jena</b> Professor &amp; Head, Dept. of CSE, BVCEC, Amalapuram, AP. <i>Session 5 &amp; 6: Latex Writing</i></p>

The Research and Development Cell of SMEC had organized a FDP on Research Pedagogy and Contemporary Research from **23-06-2022 to 25-06-2022**. More than 100 participants has participated in online FDP including SMEC faculty members. This program was directed into 6 sessions. In each session; eminent resource persons had fervidly apportioned their knowledge and information. All the sessions were equally star studded with eminent resource persons from premier institutions. This FDP was aimed to provide a comprehensive information on research progress such as: research notion and perception, how to write project for funded agency, how to start the



research once a scholar joins in Ph.D, paper writing skill for journal and providing hands-on experience on LATEX Writing , thereby enhancing the skills of faculty. Each session is enriched with the well experienced resource persons who have great skill set in all the parameters of R&D methodology. The following topics are focused in the FDP: Research Notion & Perception, Writing Research Proposal, Research Pedagogy, Writing Research article for journal, Latex writing: hands on training, and Chronological development in IT sector



**Inaugural Session:** Dr. P. Santosh Kumar Patra – Presidential Address and Dr. P. K. Nanda



**Valedictory Function:** Dr. Dhananjay Kumar – Chronological Development in IT Sector.

## EVENTS: IPR Seminar

**July 1, 2022: Intellectual Property Right Seminar**

### **IPR Awarenesss Program** (Under National Intellectual Property Aware Mission) Creative India; Innovative India



**Date: 01-07-2022, Time: 03.00 PM - 04.30 PM**

**Venue: Vivekananda Hall, SMEC, INDIA**

**Patron and Program Chair**



**Dr. P. Santosh Kumar Patra**  
Principal,  
SMEC, Telangana, India

**Guest Speaker**



**Sri Varaprasad Kukatla**  
Assitant Controller of Patents and  
Design, Patents Office Chennai



**SPOC: Dr. Sanjay Kumar Suman**  
Dean R&D

The Seminar on "IPR Awareness Program" was hosted by the Research & Development Center of SMEC. The objective of the programme was to create a general awareness about Intellectual Property Rights (IPR), the advantages, the need of filling the patents, how to file the patent and development on post filing patent. This program was initiated and directed by the Principal Dr. P. Santosh Kumar Patra. Sir, has explained how the Patent publication and grants are important for everyone. This event was then graced by the chief guest and Resource Person Mr. K. Varaprasad,

Assistant Controller of Patent and Design, Patent office Chennai. This event was started with the welcome address by Dr. Sanjay Kumar Suman, Dean R&D and the Convener of the seminar.

Mr. K. Varaprasad explained how the intellectual Property Rights (IPRs) are a set of exclusive rights protected by law which are accorded to creators or persons over their creations for a certain period. An IP right holder can realize value from its intellectual assets through utilizing it internally for its own processes or share it externally through provision of goods and services to customers. The latter can be achieved through legal mechanisms such as licensing or assignment.



Dr. P. Santosh Kumar Patra sir, Principal, SMEC, addressing the gathering



Mr. K. Varaparsad focused on how to filling the patent and getting grants

## EVENTS: IPR Workshop

### September 29, 2022: Online Workshop on IPR Patents and Design Filing

Online Workshop on  
**IPR Patents and Design Filing**  
Creative India; Innovative India  
(Under National Intellectual Property Aware Mission)



**Date: 21-09-2022, Time: 11.00 AM - 12.30 PM**

**Patron and Program Chair**



**Dr. P. Santosh Kumar Patra**  
Principal,  
SMEC, Telangana, India

**Guest Speaker**



**Dr. Bharat N Suryawanshi**  
Asst. Controller of Patents and  
Designs, RGNIPM Nagpur

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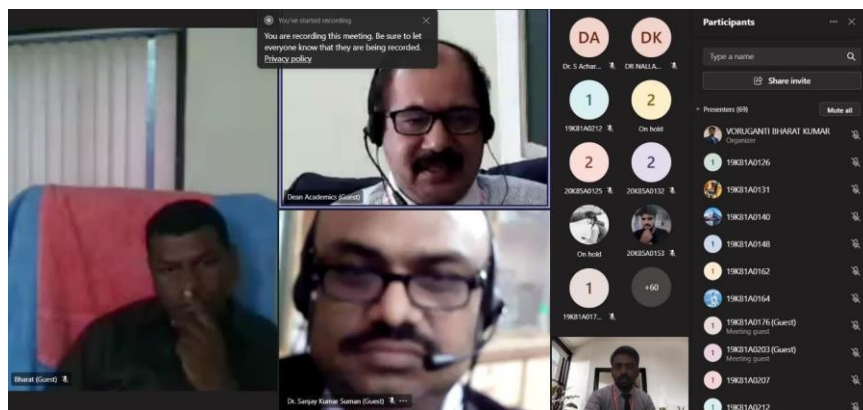
**Coordinators: Dr. Saumya Prabha Acharya,  
Mr. Bharath Kumar and Mrs. Kirtana Dubasi**

**SPOC: Dr. Sanjay Kumar Suman  
Dean R&D**

The online Workshop on “IPR Patents and Design Filing” was organized by the Research & Development Center of SMEC. The objective of the programme was to create a general awareness about Intellectual Property Rights (IPR), the advantages, the need of filling the patents, how to file the patent and development on post filing patent.




This session was enriched with the well experienced resource persons who have great skill set in filling the patents. The following topics were focused: Design of patent, working example, claims, novelty, inventory steps, requirements for filling the patents and protection of invention to all researchers & teachers. Under the guidance of Dr. P. Santosh Kumar Patra, Principal St. Martin's Engineering college, the program was started with the welcome address by Dr. Sanjay Kumar Suman, Dean R&D and the Convener of the workshop. The session was directed by the Dean academics, Dr. SVS Rama Krishnam Raju with his presidential address where he has explained how the Patent publication and grants are important for everyone with the example of OLA and UBER system. This event was then graced by the chief guest and Resource Person Dr. Bharat N Suryawanshi, Assistant Controller of Patents and Design, RGNIIPM Nagpur. He briefed about the need for patent filling for all researchers and students.



Inaugural Session: Dr. N, Bharat, Dr. SVS Rama Krishnam Raju, and Dr. Sanjay Kumar Suman,

### The Telephone



- The first telephone was invented and patented by
- Alexander Graham Bell
- 1876.


AK Anthony Karthik (Guest) 11:36 AM Because we cant an emergency message fr far palaces

### Designs

*Mere functional or technical features of the article are not considered as design.*

**Term - 10 years & can be extended for 5 years – total 15 years**

Grass-Roots Innovation- designed & created by Vikram Dinubhai Panchal of The National Institute of Design (NID), Ahmedabad



Intellectual Property India

### Essential ingredients of Complete Specification

- Title and Preamble
- Object of the Invention
- Prior art
- Drawbacks in prior art
- Efforts or Solution to Drawbacks
- Summary Of the Invention
- Statement of invention
- Detail description of invention
- Detail description with reference to drawings
- Examples
- Claims

Dr. Bharat N Suryawanshi: how to filling the patent and getting grants

## Doctorates Meet:

**Fortnight Meeting and Monthly:** There are two meeting for all doctorates and department coordinators are conducted in a months under the chairmanship of one department head or dean assigned by Principal. Chairperson takes the progress update of all doctorates, invites doctorates to participate and discuss on cutting edge technological development in world and delivers his ideas/thought as a seminar presentation. The content of discussion is recorded in Research Forum News Letter which is published twice in an academic year.



**April 04, 2022: Dr. P. Santosh Kumar Patra, Principal,** chaired the doctorates meeting, greets all doctorates and reviewed the progress of the all doctorates. He appreciated the progress of doctorates and faculty members in terms of research articles publications in journals. Also he has inaugurated Research Forum in the campus.

**July 30, 2022: Dr. P. Santosh Kumar Patra, Principal,** chaired the doctorates meeting and reviewed the progress of the all doctorates. Sir has encouraged all doctorates to involve in R&D for their own benefit. Sir has not only emphasized quantity but quality of publications, speed up the process and creation of momentum in the campus. His key word: velocity, volume, variety and vibration.



**August 26, 2022: Dr. S.V.S Rama Krishnam Raju, Dean Academic** has reviewed the progress of the doctorates. He himself presented his progress in publications and R&D. Sir has concluded with his speech by emphasizing importance of publications in teaching profession in coming days.

**September 15, 2022: Dr. D. V. Srikanth, HoD-Mech and Dean Admin, SMEC,** has critically reviewed the progress of the doctorates. He has delivered a wonderful short talk on **role of optimization in interdisciplinary research**. He has briefly explain the Thaguchi method in optimization technique in addition to other important optimization techniques.



**September 30, 2022: Dr. R. Nagaraju, HoD-IT,** has reviewed the progress of the doctorates and delivered a talk on research and development initiation and consistency. He has also suggested to apply and gain various academic award to improve faculty member's profile.

**October 15, 2022: Dr. B. Hari Krishna, HoD-ECE** has reviewed the progress of the doctorates and he has presented a talk on Research Paper Writing. He has explained step by step process how to write the research paper for beginners and get published timely with real-time example. He basically focus how to abstract and conclusion.



**November 15, 2022: Dr. N. Ramchandra, HoD-EEE,** has reviewed the progress of doctorates. He explained how to get into the research in-depth. He encouraged faculty members to involve in inter disciplinary research. He also explained about the research projects. He has also discussed about the monitoring of power grid.

**December 15, 2022: Dr. N. Krishnaiah, HoD-AIML** has reviewed the progress of doctorates. He explained the importance of indexed paper and plagiarism checking. He has elaborated the process of plagiarism checking, and use of various other online available software tools to improve the quality of publication..



**January 04, 2023: Dr. SVS Rama Krishnam Raju, Dean Academic** has reviewed the progress of the doctorates. He explained about the importance of awards for the faculties. He also discussed about funding project and its importance for the individual as well as the institution. He explained **Women Scientists Scheme (WOS)** and motivated female faculty to apply for scheme.

## **Waste Management**

**Prof. Sandhya Kiran J.K, Head, Dept. of Civil Engg.**



Civil Engineering Department in coordination with R&D has always worked on finding solutions for sustainable environment and also viable for the society. In our collaboration we have witnessed projects that have research projects endorsing problem statements from utilizing market waste to generate electricity to latest construction material that help built sustainable environment and also to take a lead in finding a solution for decomposition of plastic waste to organic matter.

As house waste handling is concern, poor waste disposal practices hamper the progress towards an integrated solid waste management in households. Knowledge of current practices and perception of household solid waste management is necessary for accurate decision making in the move towards a more sustainable approach. The term solid waste management mainly refers to the complete process of collecting, treating and disposing of solid wastes.

In the solid waste management process, the wastes are collected from different sources and are disposed of. This process includes collection, transportation, treatment, analysis and disposal of waste. It needs to be monitored so that strict regulations and guidelines are followed. **Sources of Solid Wastes:** Solid domestic garbage; Solid waste material from various industries; Solid agricultural waste; Plastics, glass, metals, e-waste, etc; Medical waste; Construction waste, sewage sludge.

Here some instances are presented. Dept. of civil engineering is actively involving in any type of waste management project and awareness program, including e-waste. Anyone who is looking for information on the waste management program , feel free to contact the department.

# BLACK HOLES

*B. Devanshu, Student AIML*

**B**lack hole is an area in space where the gravitational force is so strong that even light cannot escape it. There are many number of theories but .The most commonly accepted theory is the one proposed by **ALBERT EINSTEIN** in **1915**. Black hole is formed when a star undergoes a supernova and collapses by itself. Black holes are mysterious. They are extremely difficult to see directly, because no light can escape them. However, their presence can be observed by the gravitational pull they exert on any star, gas around them and the particles of a star which has been pulled into it. This can be seen when star is near a black hole which moves and emit light. Black holes are said to be the most powerful objects in the universe. They are so powerful that they can even warp the space-time fabric, and makes an object to move faster than the speed of light. This means that objects can travel through time as well as space. Black holes can also create a huge amount of energy. As matter falls into the black hole, it is compressed and heated, creating a large amount of energy. This energy can be released in the form of X-rays, gamma rays, and other forms of radiation. Black holes can also have a significant effect on their surroundings. Imagine if a human falls into a black hole. At first he doesn't feel anything until he reaches event horizon, once he enter the event horizon

- 1) He starts to feel an extreme gravitational pull.
- 2) Starts to rotate at light speed.
- 3) Gets stretched like a thread.

And at last he falls into singularity. A person dies at the first step by feeling extreme gravity, and all other are explanations.

**Conclusion:** *They are very dangerous but if we use them in the proper way they can be very helpful for humans. They are very far from us so no fear for humanity.*



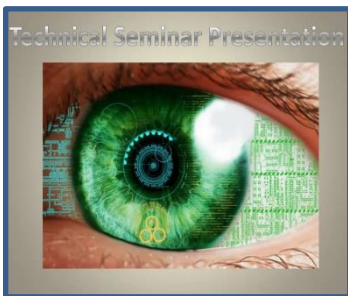
## Science and Technology : Gadgets

### **Smart Glass: Ms. Yamina IIID ECE**



Smart glasses (or smartglasses) are wearable devices that add useful information and functionalities alongside or to what the wearer would normally gather from the real world. The added info can be shown visually before your eyes through the display of the glasses or you can get instructions, notifications and answers to your questions in audio form. Smart glasses can do a variety of things for you. Among others: Send and answer messages and phone calls, Take photos and videos from your point of view; Manage your calendar / appointments and get pop-up reminders; Turn-by-turn GPS navigation Interact with apps (Search, fitness tracking, music, Uber, ...)

### **Bionic Eye: Ms. Saraswati, IIID ECE**



There are several different types of visual prostheses—also known as bionic eyes—being developed around the world. Most current models of bionic eyes encompass both internal implants and external cameras. The technology may restore partial vision to users, but cannot yet restore full vision. Working of BIONIC EYE: The camera mounted on a pair of eyeglasses, captures the scene in front of the wearer and sends to VPU on the patient's belt. The processor translates the image into a series of signals that the brain can understand. Now the RF transmitter sends the signal to the RF receiver which is near the eye implant wirelessly.

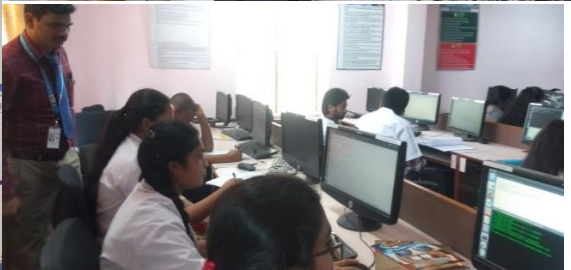
## Gallery



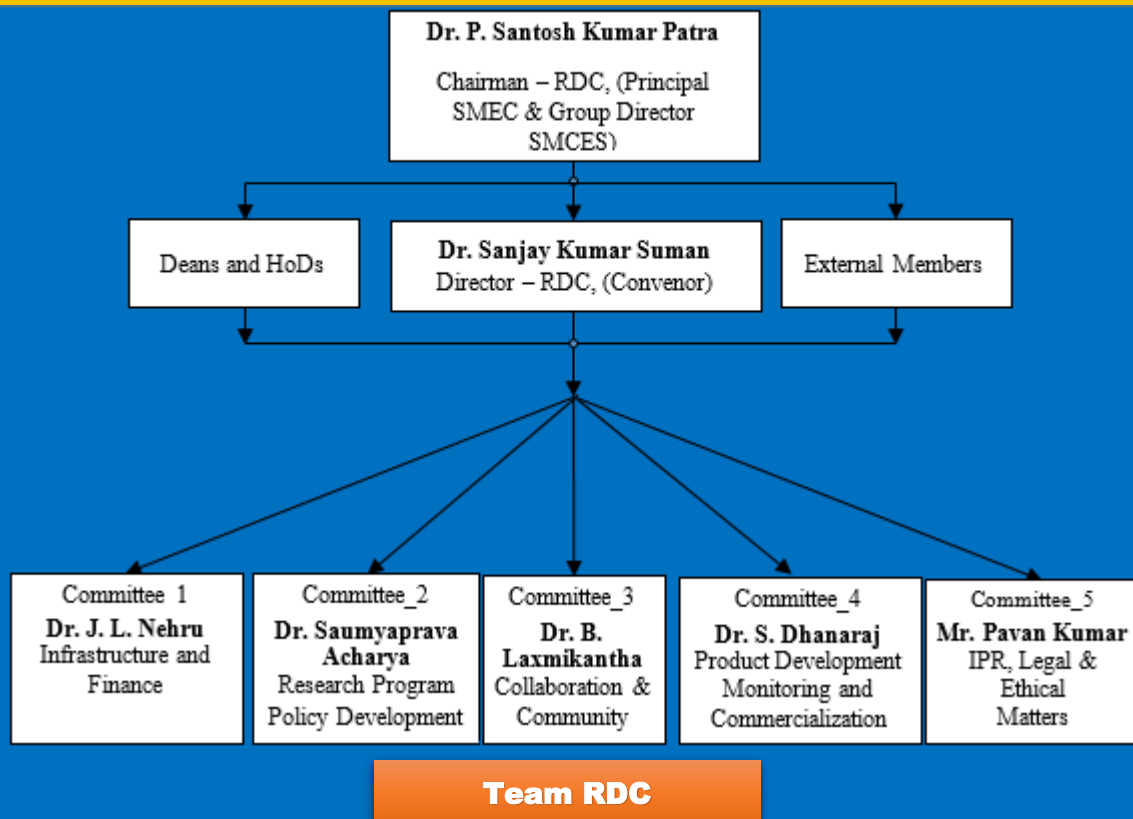








# ORGANISATIONAL STRUCTURE OF RDC



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Coordinator: Dept. of S&H

**“Research is seeing what everybody else has seen  
and thinking what nobody else has thought.”**





**UPCOMING EVENT: International Conference on 24-25 February 2023, Technovasion – March 2023, FDP and Workshop - April 2023.**

<p><b>2<sup>nd</sup> International Conference on "Innovations and Recent Trends in Computer Science"</b> [ICIRTCS-23] 24<sup>th</sup> &amp; 25<sup>th</sup> February, 2023</p> <p>Organized by Department of Computer Science and Engineering</p>	<p><b>2<sup>nd</sup> International Conference on Recent Innovations in Computer Engineering and Information Technology</b> [ICRICET-23] 24<sup>th</sup> &amp; 25<sup>th</sup> February, 2023</p> <p>Organized by Department of Information Technology</p>	<p><b>4<sup>th</sup> International Conference on "Smart Modernistic in Electronics and Communication"</b> [ICSMEC-23] 24<sup>th</sup> &amp; 25<sup>th</sup> February, 2023.</p> <p>Organized by Department of Electronics and Communication Engineering</p>	<p><b>Second International Conference on "Advances in Electrical and Electronics Engineering" (ICAEEE - 2023)</b> 24<sup>th</sup> &amp; 25<sup>th</sup> February, 2023</p> <p>Organized by Department of Electrical and Electronics Engineering</p>	<p><b>2<sup>nd</sup> International Conference on Recent Advances in Mechanical Engineering</b> [ICRAME-23] 24<sup>th</sup> &amp; 25<sup>th</sup> February, 2023</p> <p>Organized by Department of Information Technology</p>	<p><b>2<sup>nd</sup> International Conference on "Revolutionary Technology in Civil Engineering"</b> [ICRTCE-2-23] 24<sup>th</sup> &amp; 25<sup>th</sup> February, 2023</p> <p>Organized by Department of Civil Engineering</p>
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