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DEPARTMENT OF MECHANICAL ENGINEERING

Gnan Enthira Times

Newsletter

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Intervencia Journal
2020 45(1) ISSN: 0378-1844

Evaluation of Mechanical Properties of Bagasse/Palm Kernel Fibres for Fabrication of Automotive Brake Pads
S.Krishnakumar¹, Dr. M. Elangumaran², Dr. S. Karthikeyan³

¹Assistant Professor, Department of Mechanical Engineering, Anna University, Chennai, India.
²Professor, Department of Mechanical Engineering, K.J.Somaiya College of Technology, Thane, India.
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Abstract: Composites which are having a good strength to less weight ratio can be applied to replace the conventionally used engineering materials. Natural fiber composites good properties nearly equal to that of artificial fibers. In many applications natural fiber can be applied and also it is an inexpensive material. Most of the natural fibers are extracted from the residue of used agro products. This present study gives a brief characterization report of hybrid natural fiber composed of bagasse and palm kernel shell fiber, which is mixed in the ratio of 50:50. The mechanical properties of this natural hybrid fiber are studied by varying the micro structure to three different micron levels, such as 100, 200 and 350 µm. From this it is valid that the sample with a size of 100 µm gives a good result by carrying out material characterization test such as tensile test, compressive test, density test, hardness and wear test.

Keywords: Vinyl ester resin, Bagasse fiber, Palm kernel fiber, Material characterization.

1. Introduction

Recently many research on natural fibers has been carried out to estimate the mechanical properties for the purpose of engineering applications. The predatory decaying impede that brake pads were made using asbestos material and it would be banned, due to health hazards and carcinogenic disease caused by asbestos[1,2]. At present the brake pads are classified into metallic, semi-metallic, Non-asbestos organic and ceramic. In this work, Non-asbestos organic type brake pad is fabricated[3]. The Non-asbestos organic type brake pads were designed in order to replace asbestos type. Non-asbestos organic employ the use of the matrix of organic and inorganic fillers, reinforcement, abrasive and binders [4]. The strength of the fiber also depends upon the matrix medium in which either epoxy or polyester resin can be used. This paper aims to estimate the mechanical properties of varying particle size hybrid natural fiber composed of equal proportions of bagasse and palm kernel shell fiber [5, 6]. These natural fibers are extracted from agro wastes and residues obtained from agro products. It is a cost effective fiber for some specific application.

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ER. D. ASHOK KUMAR, B.E., M.B.A.,
MANAGER-FERROUS CASTING APPLICATIONS,
HIMAYAT NAGAR,
HYDERABAD - 500029


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Gnanamani College of Technology is a leading Institution with state-of-the-art facility. The college is affiliated to Anna University and approved by AICTE. The Institution is rendering noble service to the youths in rural and urban areas. The college is accredited by the NAAC and NBA (CSE, ECE, EEE and Mech). The college has grown in a short span of 15 years with 13 UG courses namely Agricultural, Artificial Intelligence and Data Science, Bio-Medical, Biotechnology, Chemical, Civil, Computer Science, Electrical and Electronics, Electronics and Communication, Food Technology, Mechanical, Robotics & Automation and Pharmaceutical Technology. The Institute also offers 9 PG courses in Computer Science, Construction Engineering and Management Environmental Engineering, Embedded System Technologies, Power Electronics and Drives, Industrial Engineering, VLSI Design, MBA and MCA.

Department of Mechanical Engineering

The Mechanical Engineering Department was started in the year 2009 and accredited by NBA in 2019. It offers B.E. with 120 student intake, M.E. – I.E., and Ph.D.in Full time and Part time modes. The department has 12 Curriculum Laboratories and 3 Industry supported labs providing 8 Value added courses and a Centre of Excellence - CNC Machines Laboratory. Anna University recognized Research & Development Centre with 4 Ph.D. Supervisors and 8 Doctorates is fully functioning in the department since 2015. The faculty of the department have published more than 180 reputed journal publications, 3 Patents and have received a project grant of 15 Lakh. The Department has 4 Professional Societies namely ISTE, SAE, ISME and IEI.

Institute Vision

Emerging as a technical institution of high standard and excellence to produce quality Engineers, Researchers, Administrators and Entrepreneurs with ethical and moral values to contribute the sustainable development of the society.

Institute Mission

We facilitate our students

- * To have in-depth domain knowledge with analytical and practical skills in cutting edge technologies by imparting quality technical education.
- * To be industry ready and multi-skilled personalities to transfer technology to industries and rural areas by creating interests among students in Research and Development and Entrepreneurship.

Department Vision

To produce competent Mechanical Engineer capable of working in an interdisciplinary environment contributing to benefits of society through innovation, leadership and entrepreneurship.

Department Mission

- ⇒ Imparting the highest quality education through state-of-the-art facilities to build students' professional practice and make them globally competitive Mechanical Engineers by enhancing their knowledge.
- ⇒ Fostering professional and ethical values and training the students to build leadership and entrepreneurship qualities for their career development.
- ⇒ Undertaking research and developmental activities to provide service for the sustainable development of the society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of Mechanical Engineering will

PEO 1: Apply their mechanical and allied knowledge to address technical and societal problems with creativity and ethical values.

PEO 2: Design and analyse mechanical systems with strong fundamentals and work in synchronisation with industries and research organisations as team members on multi-disciplinary projects

PEO 3: Seek out positions of leadership actively within their profession and their community through lifelong learning.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Graduates of the program will be able to

PSO-1: Apply principles of basic sciences, machine design, manufacturing, thermal engineering and management to identify, formulate and solve real time problems and societal issues for the sustainable development.

PSO-2: Develop their abilities to qualify for Employment, Higher studies and Research in Mechanical Engineering.

PROGRAM OUTCOMES (POs)

- ☛ **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems
- ☛ **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- ☛ **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.
- ☛ **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.
- ☛ **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- ☛ **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- ☛ **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- ☛ **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- ☛ **Individual and team work:** Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.
- ☛ **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- ☛ **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- ☛ **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME ORGANIZED

Our Department of Mechanical Engineering has organized a guest lecture entitled “Become a Good Entrepreneur” on 23.10.2021 from 11.00 am to 12.00 pm. Our chief guest, Mr.Pandiyar, Managing Director, Kathir Sidhir Automation India Pvt Ltd., Chennai, handled the session and enriched the students’ knowledge.

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WEBINAR ON

“BASICS OF NDT AND OPPORTUNITIES IN INDUSTRIES”

29.10.2021
10.30 AM to 11.30 AM

Google Meet

Registration Link

ER. RAJESH SUBRAMANIAN,
PLANT INSPECTOR,
QATAR GAS, QATAR.

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Our Department of Mechanical Engineering has organized a guest lecture entitled “Basics of NDT and Opportunities in Industries” on 29.10.2021 from 10.30 am to 11.30 am. Our chief guest, Mr.Rajesh Subramanian, Plant Inspector, QATAR GAS Operating Company, Qatar, handled the session and enriched the students’ knowledge.

Our Department of Mechanical Engineering has organized a guest lecture entitled “Autonomous Engineering and Evolution in Metal Casting” on 01.11.2021 from 03.00 pm to 04.00 pm. Our chief guest, Er.D.Ashok Kumar, Manager-Ferrous Casting Applications, Himayat Nagar, Hyderabad., handled the session and enriched the students’ knowledge.

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DEPARTMENT OF MECHANICAL ENGINEERING
GCT EXPERTS CONNECT
WEBINAR ON

“AUTONOMOUS ENGINEERING AND EVOLUTION IN METAL CASTING”

01.11.2021
03.00 PM to 04.00 PM

Google Meet

Registration Link

ER. D.ASHOK KUMAR,
B.E., M.B.A.,
MANAGER-FERROUS CASTING APPLICATIONS,
HIMAYAT NAGAR,
HYDERBAD - 500029

+91 7598293888/+91 9952304356 info@gct.org.in www.gct.org.in

Our Department of Mechanical Engineering has organized a guest lecture entitled “New Product Design and Development” on 11.11.2021 from 02.00 PM to 03.00 PM. Our chief guest, Dr.V.Hariharan, Professor, Department of Mechanical Engineering, Kongu Engineering College, Erode, handled the session and enriched the students’ knowledge.

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DEPARTMENT OF MECHANICAL ENGINEERING

GCT EXPERTS CONNECT WEBINAR ON

NEW PRODUCT DESIGN AND DEVELOPMENT

Dr.V.Hariharan, M.E., Ph.D., Professor
Department of Mechanical Engineering,
Kongu Engineering College, Erode

Date: 11.11.2021
Time: 2:00 Pm to 3:00Pm

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DEPARTMENT OF MECHANICAL ENGINEERING

GCT EXPERTS CONNECT WEBINAR ON

AUTOMOTIVE DESIGN AND OPPORTUNITIES

Mr G. Mukesh,
Technical Lead,
Institute of Industrial Design,
Salem

Date: 17.11.2021
Time: 11:00 Am to 12:00Pm

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Our Department of Mechanical Engineering has organized a guest lecture titled “Automotive Design and Opportunities” on 17.11.2021 from 11.00 am to 12.00 pm. Our chief guest, Mr.G.Mukesh, Technical Head, Institute of Industrial Design, Salem, handled the session and enriched the students’ knowledge.

Our Department of Mechanical Engineering has organized a guest lecture entitled “Opportunities After Engineering Through GATE/ESE/PSU” on 22.11.2021 from 10.30 am to 11.30 am. Our chief guest, Mr.Trinath, Sr Faculty GATE/ESE Domain, ACE Engineering Academy, Hyderabad, handled the session and enriched the students’ knowledge.

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DEPARTMENT OF MECHANICAL ENGINEERING

GCT EXPERTS CONNECT WEBINAR ON

OPPORTUNITIES AFTER ENGINEERING THROUGH GATE/ESE/PSU

Mr. Trinath,
Sr Faculty GATE / ESE Domain,
ACE Engineering Academy,
Hyderabad.

Date: 22.11.2021
Time: 10.30 AM to 11.30 PM
Ph. no: +91 9994307977

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Our Department of Mechanical Engineering has organized a guest lecture entitled “Future of Making things with AUTODESK Digital Manufacturing Solutions” on 24.11.2021 from 10.30 am to 12.30 pm. Our chief guest, Mr. Aadithya SB, Chief Software Operations Manufacturing, USAM CADD Soft India Pvt Ltd., Coimbatore, handled the session and enriched the students’ knowledge.

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DEPARTMENT OF MECHANICAL ENGINEERING
GCT EXPERTS CONNECT WEBINAR ON

Mr. Aadithya S B,
Chief Software Operations
Manufacturing,
USAM CADD Soft India Pvt. Ltd.

FUTURE OF MAKING THINGS WITH AUTODESK DIGITAL MANUFACTURING SOLUTIONS

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Date : 24.11.2021
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STUDENT ACTIVITIES - ONLINE AWARENESS PROGRAMMES

- ▶ Mr.Ajithkumar S attended online webinar entitled 'My Story: Motivational session by successful Innovators' organized by PAAVAI ENGINEERING COLLEGE on 14.11.2021
- ▶ Mr.Sreehari attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Yogaraj P attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Sivakumar M attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Sanjay M attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Suruthi V attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021

- ▶ Mr.Rajnithkumar P attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Ashwani Kumar attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Balasubramani P attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Bharathiraja R attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Chowthri S attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Deepak Gupta attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Deepak Kumar Ram attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Deepan M attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Manish Kumar attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021
- ▶ Mr.Marappan P attended online webinar entitled 'Future of Making things with Autodesk Digital MFG Solutions' organized by USAM CAD Soft Solutions on 24.11.2021

STUDENT ACTIVITIES - ONLINE COURSES

- ▶ Mr.Ashish Kumar attended online course entitled 'Geospatial Technology for Archaeological Studies' organized by INDIAN INSTITUTE OF REMOTE SENSING on 17 - 21.05.2021.
- ▶ Mr.Sreehari attended online course entitled 'Introduction to Self Driving cars' organized by University of TORONTO on 16.10.21.
- ▶ Mr.Ashish Kumar attended online course entitled 'HP LIFE e-LEARNING COURSE ON 3D PRINTING' organized by HP on 20.10.2021.
- ▶ Mr.M D Gulam attended online course entitled 'Self Charged hybrid electric vehicle' organized by TOYATA on 20.10.2021.
- ▶ Mr.Deepak Gupta attended online course entitled 'Self Charged hybrid electric vehicle' organized by TOYATA on 20.10.2021.
- ▶ Mr.Rahul Raj attended online course entitled 'Self Charged hybrid electric vehicle' organized by TOYATA on 20.10.2021.

STUDENT ACTIVITIES - TRAINING

- ▶ Mr.P.Yogaraj has undergone implant training on 'General Services on Heavy Motor Vehicle' at RRK Motors from 04.08.2021 to 09.08.2021.
- ▶ Mr.Sreehari has undergone software training on 'Design & Development using Solidworks' at Conceptia Software Technologies Private Limited from 13.09.2021 to 12.10.2021.
- ▶ Mr.T.Subash has undergone software training on 'Solidworks' at SD Pro Solutions from 10.11.2021 to 12.11.2021.



STAFF PUBLICATIONS - JOURNAL

Dr.Sachin S.Raj, Mr.S.Krishnakumar, Mr.S.Saravanan and Dr. T.K.Kannan, have published an SCI article entitled Philosophy of Selecting ASTM Standards for Mechanical Characterization of Polymers and Polymer Composites, in the journal *Materiale Plactice*, Vol. 58, Issue 3, pp. 247-256.

Mr.S.Krishnakumar, Assistant Professor, have published an SCI article entitled Evaluation of Mechanical Properties of Bagasse/Palm Kernel Fibres for Fabrication of Automotive Brake Pads, in the *Journal of Interciencia Journal*, Vol 2020 45(6), ISSN: 0378-1844.



Dr.Sachin S Raj
Assistant Professor



Mr.S.Krishnakumar
Assistant Professor



Dr.S.Saravanan
Associate Professor

MATERIALE PLASTICE
<https://www.materialeplactice.ro>
<https://doi.org/10.37358/Mat.Plac.1964>

Philosophy of Selecting ASTM Standards for Mechanical Characterization of Polymers and Polymer Composites

SACHIN SUMATHY RAJI^{1*}, KUZMIN ANTON MICHAIOVICH², KRISHNAKUMAR SUBRAMANIAN³, SARAVANAN SATHIAMOORTHY⁴, KANNAN THANNEERPANTHALPALAYAM KANDASAMY⁵

¹Department of Mechanical Engineering, Gnananani College of Technology, Nannakkal, Tamilnadu, India 637018.
²Department of Mechanization of Agricultural Products Processing, Ogorov Meiotstva State University, Saransk, Russia 413005

Abstract: Mechanical characterization of newly developed polymers and composites are the basic measurements that are used to check the potential of the material towards its usage in various applications. Young researchers who are new to the field of materials science often find it difficult in selecting the specific testing standards for their novel materials. This review article provides a detailed explanatory of the various ASTM standards that are used for analyzing the basic mechanical properties of polymer composite materials. The standard dimensions of the test specimens and the mechanical testing parameters that are universally followed in different testing phases are illustrated for the ease of research.

Keywords: ASTM Standards, ISO Standards, DIN Standards, Mechanical Characterization, Polymer composites

Introduction

Development of novel polymer composites is a unique area of study having its recent classifications. Development of novel polymer composites is a unique area of study having its recent classifications towards both hybrid-synthetic and bio-composite materials, for versatile applications. Once a material is developed, the primary focus is to check for its mechanical strength that justifies its quality. Mechanical characterization of the material is checked under specified standards universally. The most widely preferred testing standard used by researchers who work with polymers is the American Standard for Testing and Materials (ASTM) [1]. ASTM is one of the subdivisions under the International Organization of Standardization (ISO). Both the ASTM and ISO although represented by different codes, have the common specifications and parameters for testing plastic oriented materials. Polymers and polymer composites are processed through different methods based on the properties of the base matrix material. Processing techniques like injection moulding, compression moulding, extrusion moulding, in-situ method, hand layup method and even stir casting [2] are few of the most common methods. Similarly, reinforcement in the form of laminates, short fibers, long fiber in various orientations and particulates [3] are widely studied by researchers. Irrespective of the fabrication method or the type of reinforcement, the testing methods always remains common while investigating the mechanical properties of a material [4].

ASTM is commonly followed by western countries while the ISO standards are followed in UK and other Asian countries. DIN is another familiar standard that is used extensively for analyzing the properties of mechanical components in European countries. DIN is abbreviated as "Deutsches Institut für Normung" meaning "German Institute of Standardization" [5]. It is also known as the European ISO. Any international expertise of a specific field can suggest a DIN standard for mechanical characterization, which when found suitable is approved and accepted by the DIN committee. The standards are reviewed every five years and if a standard no longer comprehends to current technology, it is revised or withdrawn. ASTM is the universally recognized standard. It is nowadays accepted globally in scientific articles and for research experimentation. An ASTM code consists of a 'Prefix

*Email: sachinraj1991@gmail.com. ORCID ID : 0000-0003-0533-1647
 Mater. Plast., 58 (3), 2021, 247-256 247
<https://doi.org/10.37358/Mat.Plac.1964>

Interciencia Journal ISSN: 0378-1844
 2020 45(6)

Evaluation of Mechanical Properties of Bagasse/Palm Kernel Fibres for Fabrication of Automotive Brake Pads

S.Krishnakumar^{1*}, Dr. M. Ilangotharan², Dr. S. Karthikeyan³

¹Assistant Professor, Department of Mechanical Engineering, Ananthuranga College of Engineering, Kolar.
²Professor, Department of Mechanical Engineering, R.S.Ranganayagi College of Technology, Tiruchengode.
³Associate Professor, Department of Mechanical Engineering, Christina College of Engineering and Technology, Oddancheran, Tamilnadu, India.

Corresponding Author: krishnakumar779@gmail.com

Abstract: Composites which are having a good strength to less weight ratio can be applied to replace the conventionally used engineering materials. Natural fiber constitutes good properties nearly equal to that of artificial fibers. In many applications natural fiber can be applied and also it is an inexpensive material. Most of the natural fibers are extracted from the residues of used agro products. This present study gives a brief characterization report of hybrid natural fiber composed of bagasse and palm kernel shell fiber, which is mixed in the ratio of 50:50. The mechanical properties of this natural hybrid fiber are studied by varying the micro structure to three different micron levels, such as 100, 200 and 250 µm. From this it is valid that the sample with a size of 100 µm gives a good result by carrying out material characterization test such as tensile test, compressive test density test, hardness and wear test.

Keywords: Vinyl ester resin, Bagasse fiber, Palm kernel fiber, Material characterization.

1. Introduction

Recently many research on natural fibers has been carried out to estimate the mechanical properties for the purpose of engineering application. In the prehistory decemary impede that brake pads were made using asbestos material and it would be banned, due to health hazards and carcinogenic diseases caused by asbestos[1,2]. At present the brake pads are classified into metallic, semi-metallic, Non- asbestos organic and ceramics. In this work, Non-asbestos organic type brake pad is fabricated[3]. The Non-asbestos organic type brake pads were designed in order to replace asbestos type. Non-asbestos organic employs the use of the matrix of organic and inorganic fillers, reinforcement, abrasive and binders [4]. The strength of the fiber also depends upon the matrix medium in which either epoxy or polyester resin can be used. This paper aims to estimate of mechanical properties of varying particle size hybrid natural fibers composed of equal proportions of bagasse and palm kernel shell fibers [3, 4]. These natural fibers are extracted from agro wastes and residues obtained from agro products. It is a cost effective fiber for some specific application.

A recent research on micron level investigation of particulate composites is becoming popular in both artificial and natural fiber [5, 6]. Normally artificial fibers such as carbon and glass fiber are widely used in various engineering application since it has good mechanical strength and thermal properties. These had a great disadvantage which can lead to environmental

STAFF PUBLICATIONS - PATENT

Dr.Sachin S Raj, Dr,T.K.Kannan, Dr.B.Sanjay Gandhi, Dr.N.Balakrishnan and Dr.C.Thiruvassagam have published a patent entitled “REMOTE MONITORING OF SEMI AUTOMATIC PEPPER THRESHING MACHINE USING INDUSTRIAL INTERNET OF THINGS” in the Indian Patent Rights.

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

(<http://ipindia.nic.in/index.htm>)

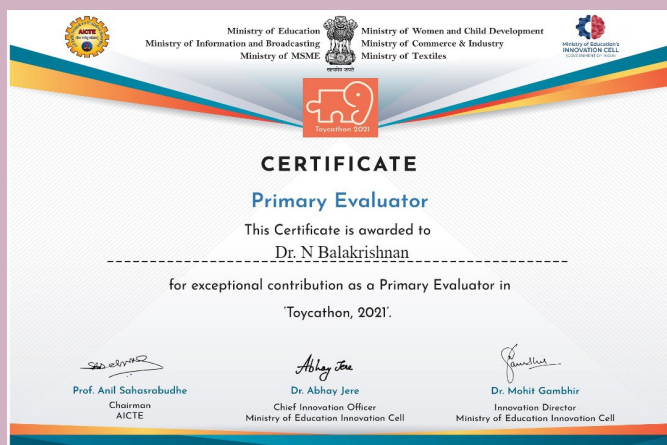
INTELLECTUAL PROPERTY INDIA
PATENT, TRADE MARKS & GEOGRAPHICAL INDICATIONS
(<http://ipindia.nic.in/index.htm>)

Application Details	
APPLICATION NUMBER	202141033840
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	28/07/2021
APPLICANT NAME	1. Dr. M. BABU 2. Dr. SACHIN S RAJ 3. Dr. T.K. KANNAN 4. Dr. B. SANJAY GANDHI 5. Dr. N. BALAKRISHNAN 6. Dr. C. THIRUVASSAGAM
TITLE OF INVENTION	REMOTE MONITORING OF SEMI AUTOMATIC PEPPER THRESHING MACHINE USING INDUSTRIAL INTERNET OF THINGS
FIELD OF INVENTION	ELECTRONICS
E-MAIL (As Per Record)	nskdttris@gmail.com
ADDITIONAL-EMAIL (As Per Record)	bobbyb4u@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	06/08/2021

STAFF AWARDS AND ACHIEVEMENTS

Dr.N.Balakrishnan, Head of the Department was awarded for his exceptional contribution as a Primary Evaluator in Toyathon 2021 organized by AICTE and MSME.

Dr.N.Balakrishnan, HoD/Mech contributed as National Advisory Committee Member in International Conference on Soft Computing and Intelligent Technologies conducted by Cheran College of Engineering, Karur.



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