



GAUHATI UNIVERSITY

A NAAC 'A' GRADE INSTITUTION

GOPINATH BARDOLOI NAGAR, JALUKBARI
GUWAHATI-781014 (ASSAM)
WWW. GAUHATI.AC.IN



SUPPORTING DATA

NAAC 4TH CYCLE OF ACCREDITATION
PROVIDED BY-
IQAC, GAUHATI UNIVERSITY

CRITERION 3

Assessment term: 2018-2023

Sub criterion 3.4

Research Publications and Awards



Urkunde

über die Eintragung des
Gebrauchsmusters Nr. 20 2022 103 064

Bezeichnung:

Maschinelles Lernen implementiertes Gerät zur Erkennung der Krankheit durch sprachbasierte Sprachverarbeitung

IPC:

G16H 50/20

Inhaber/Inhaberin:

Deb, Nabamita, Guwahati, Assam, IN
Raina, Vikas, Jammu, IN
Thakkar, Dhruv, Schaumburg, IL, US
Chauhan, Akhilesh Kumar, Sultanpur, Uttar Pradesh, IN
Buttar, Ahmed Mateen, Faisalabad, PK
Reegu, Faheem, Pampore, IN

Tag der Anmeldung:

31.05.2022

Tag der Eintragung:

23.06.2022

Die Präsidentin des Deutschen Patent- und Markenamts



Cornelia Rudloff-Schäffer

München, 23.06.2022



CBR Number : 5098

CBR date: 30-03-2023

Application Type: ORDINARY APPLICATION

Priority Number:

Priority Date:

Priority Country: Not Selected

To,

DR.MANAS DAS

C/O DR.MANAS DAS DEPARTMENT OF ZOOLOGY, GAUHATI UNIVERSITY, P.O.-GAUAHATI UNIVERSITY, DIST-KAMRUP (M), ASSAM, PIN-781014

Received documents purporting to be an application for patent numbered 202331023776 dated 30-03-2023 by DR.MANAS DAS of DEPARTMENT OF ZOOLOGY, GAUHATI UNIVERSITY, P.O.-GAUAHATI UNIVERSITY, DIST-KAMRUP (M), ASSAM, PIN-781014 relating to A POLYHERBAL FORMULATION FOR THE TREATMENT OF OBESITY INDUCED COMPLICATIONS AND THE METHOD OF ITS PREPARATION together with the Complete and fee(s) of ₹1750 (One Thousand Seven Hundred & Fifty only).

Note:

1. In case of Patent Application accompanied by a Provisional Specification, a complete Specification should be filed within 12 months from the date of filing of the Provisional Specification, failing which the application will be deemed to be abandoned under Section 9(1) of the Patent Act, 1970.
2. You may withdraw the application at any time before the grant of patent, if you wish so. If, in addition to withdrawal, you also wish to prevent the publication of application in the Patent Office Journal, the application should be withdrawn within fifteen months from the date of priority of date of filing, whichever is earlier.
3. If not withdrawn, your application will be published in the Patent Office Journal after eighteen months from the date of priority of date of filing, whichever is earlier.
4. If you wish to get your application examined, you should file a request for examination in Form-18 within 48 months from the date of priority or date of filing, whichever is earlier, failing which the application will be treated as withdrawn by the applicant under Section 11(B)(4) of the Patent Act, 1970.

(For Controller of Patents)

(54) Title of the invention : SMART INTEGRATED IOT AND ML BASED SAFETY SYSTEM FOR MONITORING ELDERLY WANDERING PEOPLE

(51) International classification :G08B0021040000, A61B0005020500, G08B0021220000, G08B0021020000, A61B0005000000

(86) International Application No :PCT//
Filing Date :01/01/1900

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)Mr Harisha K S
 Address of Applicant :Assistant professor, Department of electronics and communication, government engineering college haveri, haveri, Karnataka pin:581110 -----
2)Mr. Sandeep Prabhu M
3)Dr.Sheetal Nandanwar
4)Dr. Parismita Sarma
5)Ms. Susmita Das
6)Mr.Anil S Naik
7)Mr. S.Premkumar
8)Dr.Vaishali N. Agme
 Name of Applicant : NA
 Address of Applicant : NA
 (72)Name of Inventor :
1)Mr Harisha K S
 Address of Applicant :Assistant professor, Department of electronics and communication, government engineering college haveri, haveri, Karnataka pin:581110 -----
2)Mr. Sandeep Prabhu M
 Address of Applicant :Assistant Professor, Electronics and Communication Engineering, Canara Engineering College, Mangalore, Karnataka 574219 -----
3)Dr.Sheetal Nandanwar
 Address of Applicant :Assistant professor, Department of Conservative and Endodontics, Bharati Vidyapeeth deemed University Dental College and Hospital, Sangli, Maharashtra 416416 -----
4)Dr. Parismita Sarma
 Address of Applicant :Assistant Professor, Department of Information Technology, Gauhati University, Assam, Guwahati, Assam PIN:781014 -----
5)Ms. Susmita Das
 Address of Applicant :Assistant Professor, Electronics and Instrumentation Engg Narula Institute of Technology Kolkata, West Bengal, 700051 -----
6)Mr.Anil S Naik
 Address of Applicant :Research Scholar, National Institute of Technology Karnataka, Surathakal, Mangalore, Karnataka PIN CODE: 575025 -----
7)Mr. S.Premkumar
 Address of Applicant :Assistant Professor, Department of Computer Science and Engineering, Galgotias University, Greater Noida, Uttar pradesh PIN CODE: 201310 -----
8)Dr.Vaishali N. Agme
 Address of Applicant :Asst Professor, DEPARTMENT of Applied Science, Bharati Vidyapeeth College of Engg, Navi Mumbai, Navi Mumbai, Maharashtra PIN CODE:410210 -----

(57) Abstract :
 Smart Integrated IoT and ML based Safety System for Monitoring Elderly Wandering People ABSTRACT Due to its critical relevance and the heightened competitiveness on the market for human safety devices, human safety has emerged as one of the most researched areas. The fast development of the Internet of things (IoT), which includes sensing technologies, embedded systems, wireless communication technologies, a range of sensors, etc., has led to the creation of hundreds of thousands of human safety devices (HSD). The ability of these technologies to recognise human movement is a crucial feature (HAR). The current generation of human safety devices uses sensors to continually monitor human behaviour and detect any anomalous behaviour by conducting sensor data analysis (SDA) using machine learning (ML) techniques. One of the many behavioural issues that affect older individuals with dementia—and the one that worries caregivers the most—is wandering. As a result, new apps using a variety of technologies, such as the Internet of Things (IOT), provide protection and security to those affected by dementia. A statistics analysis states that dementia affects 3.5 million Indians over the age of 60. According to the report, the population may rise by 6 million people by 2030. Many dementia sufferers may go missing and even have life-threatening situations as a result of society's lack of understanding. This created project offers a GPS module intended specifically for dementia sufferers to monitor their whereabouts in real-time. Because it gives precise measurements of the pulse and temperature, a well-developed health monitoring technology was taken into account while considering health issues. Through an Android app, the caregiver may keep track of a person's whereabouts and health status. Even alert messages are sent to the caregiver through SMS using the GSM module.

No. of Pages : 20 No. of Claims : 5



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



Application Details

APPLICATION NUMBER	202131061109
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	28/12/2021
APPLICANT NAME	1 . RAJESH GHOSH 2 . ANURAG KASHYAP 3 . HEMEN KALITA
TITLE OF INVENTION	A FACILE HEATING METHOD OF PREPARATION OF VERTICALLY ORIENTED GRAPHENE OXIDE NANOSHEETS
FIELD OF INVENTION	CHEMICAL
E-MAIL (As Per Record)	
ADDITIONAL-EMAIL (As Per Record)	hemenkali@gauhati.ac.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	29/03/2022
PUBLICATION DATE (U/S 11A)	29/04/2022
REPLY TO FER DATE	25/04/2023

Application Status

APPLICATION STATUS	Reply Filed. Application in amended examination
--------------------	--

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

REPUBLIC OF SOUTH AFRICA		REGISTER OF PATENTS		PATENTS ACT, 1978	
Official application No.		Lodging date: Provisional		Acceptance date	
21	01	2023/03291		22	
				47	2023/05/29
International classification		Lodging date: Complete		Granted date	
51	G06Q	23	2023/02/28		
71	Full name(s) of applicant(s)/Patentee(s):				
PETWAL, Hemant ASSISTANT PROFESSOR, SCHOOL OF COMPUTER SCIENCE ENGINEERING AND TECHNOLOGY, BENNETT UNIVERSITY , PLOT # 8-11, TECHZONE 2, GREATER NOIDA, UTTAR PRADESH, INDIA - 201310, India DEB, Nabamita DEPARTMENT OF INFORMATION TECHNOLOGY, GAUHATI UNIVERSITY, GUWAHATI, ASSAM - 781014, India KHAN, Ihtiram Raza COMPUTER SCIENCE DEPARTMENT, JAMIA HAMDARD, DELHI, INDIA, India MENON, Satish PROFESSOR, DEPARTMENT OF OPERATIONS MANAGEMENT, ALLIANCE UNIVERSITY, BENGALURU, KARNATAKA, INDIA - 562106, India SHELKE, Chetan ASSOCIATE PROFESSOR, DEPARTMENT OF IT, ALLIANCE UNIVERSITY, BENGALURU, KARNATAKA, INDIA – 560076, India ACHARY, Rathnakar ASSOCIATE PROFESSOR, DEPARTMENT OF IT, ALLIANCE UNIVERSITY, BENGALURU, KARNATAKA, INDIA – 560076, India					
71	Applicant substituted:			Date registered	
71	Assignee(s):			Date registered	
72	Full name(s) of inventor(s):				
PETWAL, Hemant DEB, Nabamita KHAN, Ihtiram Raza MENON, Satish SHELKE, Chetan ACHARY, Rathnakar					
Priority claimed:		Country	Number	Date	
54	Title of invention				
MACHINE LEARNING ENABLED SYSTEM FOR INTELLIGENT BID PRICE SELECTION FOR PROFIT ACCUMULATION					
Address of applicant(s)/patentee(s):					
ASSISTANT PROFESSOR, SCHOOL OF COMPUTER SCIENCE ENGINEERING AND TECHNOLOGY, BENNETT UNIVERSITY , PLOT # 8-11, TECHZONE 2, GREATER NOIDA, UTTAR PRADESH, INDIA - 201310 INDIA DEPARTMENT OF INFORMATION TECHNOLOGY, GAUHATI UNIVERSITY, GUWAHATI, ASSAM - 781014 INDIA COMPUTER SCIENCE DEPARTMENT, JAMIA HAMDARD, DELHI, INDIA INDIA PROFESSOR, DEPARTMENT OF OPERATIONS MANAGEMENT, ALLIANCE UNIVERSITY, BENGALURU, KARNATAKA, INDIA - 562106 INDIA ASSOCIATE PROFESSOR, DEPARTMENT OF IT, ALLIANCE UNIVERSITY, BENGALURU, KARNATAKA, INDIA – 560076 INDIA ASSOCIATE PROFESSOR, DEPARTMENT OF IT, ALLIANCE UNIVERSITY, BENGALURU, KARNATAKA, INDIA – 560076 INDIA					
74	Address for service				
Wolmarans and Susan Inc. 337 Surrey Avenue, Randburg, Gauteng, 2194 SOUTH AFRICA					
Reference No.					
61	Patent of addition No.		Page 1	Date of any change	

Fresh application based on.	Date of any change



RENEWAL SHEET

Year	Payment Date	Receipt Number	Amount
------	--------------	----------------	--------



HISTORY SHEET

Date entry made	Description
2023-03-06	Request for the acceptance of a Patent electronically filed on 28/2/2023, numbered 2023/03291
2023-03-06	Proof reading performed automatically
2023-05-29	Application accepted on 29/05/2023.
2023-05-29	Patent Notice of Acceptance sent by email to info@wsip.co.za




3.4.3: List of Patents published/awarded during the year

Name of the Patent published/awarded	Patent Number	Year of Award
<i>Ocimum gratissimum</i> Essential oil based Biopesticide Formulation for the control of uzi fly <i>Exorista sorbillans</i> Wiedemann (Diptera:Tachinidae)	406107	08.09.2022

क्रमांक : 033121370
SL No :



INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No. : 406107


आवेदन सं. / Application No. : 1202/KOL/2013

फाइल करने की तारीख / Date of Filing : 23/10/2013

पेटेंटी / Patentee : 1.Dr. (Miss) BULBULI KHANIKOR 2.Prof.(Mrs.) DIPSIKHA BORA

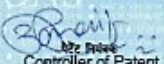
प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में ब्यक्तित्वित *Ocimum gratissimum* Essential oil based Biopesticide Formulation for the control of uzi fly *Exorista sorbillans* Wiedemann (Diptera:Tachinidae) नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख अक्टूबर 2013 के तैइसवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled *Ocimum gratissimum* Essential oil based Biopesticide Formulation for the control of uzi fly *Exorista sorbillans* Wiedemann (Diptera:Tachinidae) as disclosed in the above mentioned application for the term of 20 years from the 23rd day of October 2013 in accordance with the provisions of the Patents Act,1970.



INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

अनुदान की तारीख : 08/09/2022


 Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, वरि इसे बनकर रखा जाना है, अक्टूबर 2015 के तैइसवें दिन को और उसके फलतः प्रत्येक वर्ष में उन्ही दिन देव लेणी।
Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 23rd day of October 2015 and on the same day in every year thereafter.



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



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

Patent Search

Invention Title	METHOD FOR FABRICATION OF METAL COATED SEMICONDUCTOR NANO-MATERIAL BASED PATCH ANTENNA
Publication Number	04/2023
Publication Date	27/01/2023
Publication Type	INA
Application Number	202331004083
Application Filing Date	20/01/2023
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRONICS
Classification (IPC)	H01Q0009040000, B82Y0030000000, C01G0009020000, B82Y0040000000, C30B0029060000

Inventor

Name	Address	Country	Nationality
PARISMITA A KASHYAP	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ASSAM DON BOSCO UNIVERSITY, GUWAHATI 781017	India	India
SMRITI REKHA DAS	DIRECTORATE OF CENSUS OPERATIONS, ASSAM, AMINGAON, GUWAHATI 781031	India	India
KUMARESH SARMAH	DEPARTMENT OF ELECTRONICS AND COMMUNICATION TECHNOLOGY, GAUHATI UNIVERSITY, GUWAHATI 781014	India	India
SUNANDAN BARUAH	RESEARCH & INNOVATION, ASSAM DOWN TOWN UNIVERSITY, GUWAHATI 781026	India	India

Applicant

Name	Address	Country	Nationality
Assam down town University	Sankar Madhab Path, Panikhaiti, Guwahati, Assam, India-781026	India	India
Assam Don Bosco University	Tapesia Gardens, Kamarkuchi, Sonapur, Tapesia, Assam 782402	India	India

Abstract:

"METHOD FOR FABRICATION OF METAL COATED SEMICONDUCTOR NANO-MATERIAL BASED PATCH ANTENNA" Accordingly, embodiments herein disclose method for fabrication of nano-material based patch antenna, comprising the steps of: synthesising ZnO nanoparticles using zinc acetate dehydrate ($Zn(CH_3COO)_2 \cdot 2H_2O$) as a precursor and any alcohol as solvent, sodium hydroxide (NaOH), potassium hydroxide (KOH) or ammonium hydroxide (NH_4OH) as source of hydroxyl; seeding on FR-4 epoxy substrate performed after etching out a copper layer on the substrate using iron chloride; and synthesising of ZnO nanorods. The nanorods are grown in a sealed chemical bath containing equimolar solution of zinc nitrate hexahydrate ($Zn(NO_3)_2 \cdot 6H_2O$) and hexamethylenetetramine ($C_6H_{12}N_4$). The seeded substrate is arranged in such a way that the seeded side is kept upside down inside the petridish 30ml each of solution of ($Zn(NO_3)_2 \cdot 6H_2O$) and ($C_6H_{12}N_4$) is taken in the petridish. The growth is continued up to 15 to 20 hours, and the substrate is heated at 1000 C temperatures for annealing to remove organic deposits. Figures to be published with Abstract: Figures 1 and 2 Dated this 20th day of December, 2022 Pooja IN/PA/1838 Agent for the Applicant

Complete Specification

Description:FIELD OF INVENTION

[0001] The present disclosure relates to a method for fabrication of patch antenna using metal coated semiconductor nano-material as radiating structure. Further, the fabricated antenna with metal and semiconductor nano-material shows significant improvement in the return loss as well as the operating bandwidth compared to a conventional copper based patch antenna.

BACKGROUND OF INVENTION

[0002] During the past few decades it has been observed that the microstrip patch antenna have found interest among antenna engineers in various applications. This is due to that fact that patch antenna offers numerous advantages owing to its compact structure, ease of fabrication and low cost. However, the microstrip patch antenna also suffers from a number of drawbacks such as low gain, bandwidth and radiation efficiency. As such various techniques are adopted by researchers to improve these characteristics in a patch antenna which include using thicker substrates with low dielectric constant, cutting slots in the radiating patch or in the ground plane, adding reactive elements into the patch structure, etc.

[0003] Nanotechnology with its advancements in the field of electronics and electromagnetics can provide promising alternatives in enhancing patch antenna characteristics. Generally, designing of patch antenna using nano-material is a new trend. Nano-materials are the chemical substances or materials which are manufactured

[View Application Status](#)



Terms & conditions (<http://ipindia.gov.in/terms-conditions.htm>) Privacy Policy (<http://ipindia.gov.in/privacy-policy.htm>) Copyright (<http://ipindia.gov.in/copyright.htm>)
Hyperlinking Policy (<http://ipindia.gov.in/hyperlinking-policy.htm>) Accessibility (<http://ipindia.gov.in/accessibility.htm>) Archive (<http://ipindia.gov.in/archive.htm>)
Contact Us (<http://ipindia.gov.in/contact-us.htm>) Help (<http://ipindia.gov.in/help.htm>)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019

Urkunde

über die Eintragung des Gebrauchsmusters Nr. 20 2022 101 525

Bezeichnung:

Ein System zur Herstellung von Verbundstoffen auf Paraffinbasis PCM für die
Speicherung latenter Wärmeenergie

IPC:

C09K 5/06

Inhaber/Inhaberin:

Barman, Pranjan, Guwahati, Assam, IN
Bhagwat, Virendra Vishnu, Pune, Maharashtra, IN
Chowdhury, Avijit, Bongaon, West Bengal, IN
Das, Biplab, Silchar, Assam, IN
Das, Nipom Sekhar, Cachar, Assam, IN
Debbarma, Sumita, Silchar, Assam, IN

Tag der Anmeldung:

23.03.2022

Tag der Eintragung:

13.04.2022

Die Präsidentin des Deutschen Patent- und Markenamts

Cornelia Rudloff-Schäffer

Cornelia Rudloff-Schäffer

München, 13.04.2022





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>)



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

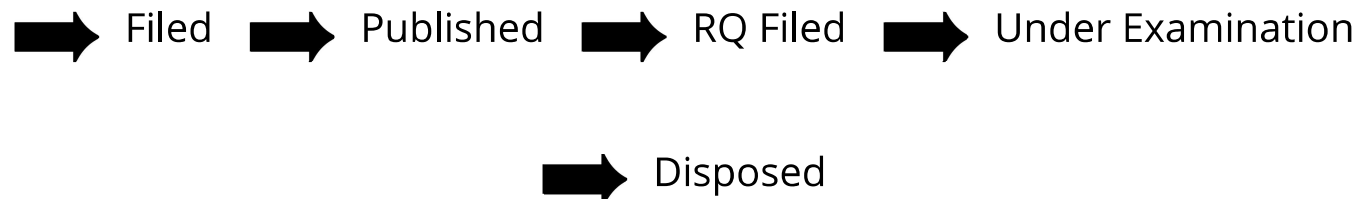
Application Details

APPLICATION NUMBER	202231033376
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	10/06/2022
APPLICANT NAME	1 . Dr. Biplab Das 2 . Dr. Dibyendu Pal 3 . Dr. Pranjan Barman
TITLE OF INVENTION	Compressed Air Production and energy generation using Vehicle Suspension.
FIELD OF INVENTION	MECHANICAL ENGINEERING
E-MAIL (As Per Record)	dr.bksarkar2003@yahoo.in
ADDITIONAL-EMAIL (As Per Record)	biplab.2kmech@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	08/07/2022

Application Status

APPLICATION STATUS

Awaiting Request for Examination

[View Documents](#)

In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



(51) International Patent Classification:

C09K 11/54 (2006.01) H01Q 1/22 (2006.01)
H01Q 1/00 (2006.01)

(21) International Application Number:

PCT/IN2020/000020

(22) International Filing Date:

29 September 2020 (29.09.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

201931039488 30 September 2019 (30.09.2019) IN

(72) Inventors; and

(71) Applicants: SARMAH, Kumaresh [IN/IN]; Department of Electronics and Communication Technology, Gauhati University, Guwahati, Pin-781014, Assam (IN).
GOSWAMI, Sivarajan [IN/IN]; Department of Elec-

tronics and Communication Technology, Gauhati University, Guwahati, Pin-781014, Assam (IN). SARMA, Angana [IN/IN]; Department of Electronics and Communication Technology, Gauhati University, Guwahati, Pin-781014, Assam (IN). SARMA, Kumar Kandarpa [IN/IN]; Department of Electronics and Communication Engineering, Gauhati University, Guwahati, Pin-781014, Assam (IN). BARUAH, Sunandan [IN/IN]; Center of Excellence in Nanotechnology, Assam Don Bosco University, Guwahati, Pin-781017, Assam (IN).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW,

(54) Title: ZNS NANO PARTICLE THIN FILM DEPOSITED METAMATERIAL ANTENNA FOR NOTCH FREQUENCY APPLICATION

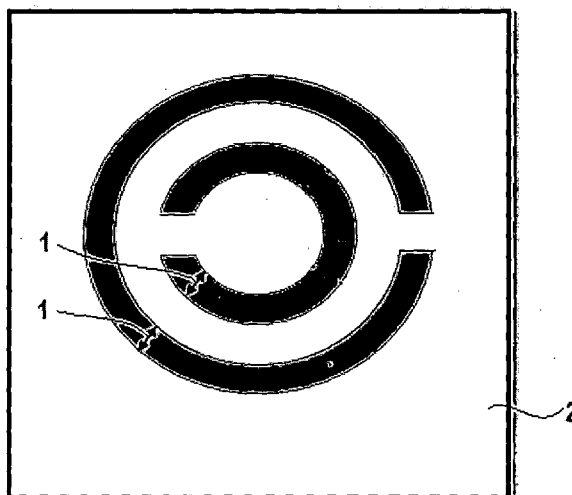


Fig.1

(57) Abstract: A ZnS Nanoparticle Thin Film Deposited Metamaterial Antenna For Notch Frequency Application comprising of a 20-25 nm ZnS nanomaterial thin film grown in the gap(1) of a complementary split ring resonator (CSRR) unit cell(2). The method comprises of the steps- (a)boiling Zn salt solution at 100°C and then adding 1/5th the volume of 1.1%, chitosan in mild acetic acid (1-2%) and then adding aqueous Na₂S in stoichiometric amounts; (b) allowing the solution to cool and then centrifuging the solution at 4000-5000 rpm to obtain a ZnS colloid which is then electrosterically stabilized by chitosan capping; (c)covering the conducting portion of the CSRR unit cell with a tape and then dropping ZnS colloid obtained from step (b) on it and then drying the unit cell at 80°-90°C; (d) repeating the step(c) for 3 to 5 times. This antenna results in the return loss parameter (S₁₁) getting significantly improved at its resonant frequency.



SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

DESCRIPTION

Title of the Invention:

ZnS Nano Particle Thin Film Deposited Metamaterial Antenna For Notch Frequency Application.

5 Technical Field:

This invention relates to a Complementary Split Ring Resonator (CSRR) microstrip antenna having ZnS nanomaterial-based thin film deposited between the rings of the CSRR. Such an antenna can greatly enhance the return loss(S_{11}) at both the resonant and notched frequency.

Background Art:

10 Antennas are basically classified into either resonating type or non-resonating type. To achieve more than one band of operations, typically a single band microstrip antenna can be converted to the multiband antenna by modifying the dimensions, of the antenna or by applying different cut slots along with introducing resonating structures such as CSRR in the ground plane of the antenna. To achieve multiple resonating frequencies over a single
15 band antenna, designers need to compromise with either the bandwidth of operation or the directivity of the antenna at a resonating frequency.

Metamaterial etched antennas can give dual-band frequency application, by compromising the return loss (S_{11}) of the antenna. Complementary split ring resonator(CSRR) is a pair of narrow opening loops with splits in them at opposite ends.
20 CSRR is etched at the ground plane of a microstrip antenna to introduce metamaterial effect in the overall structure. CSRR is planar metamaterial structures that can yield effectively negative permittivity of material in narrow bands near its resonant frequencies. Due to this negative value of permittivity the radiation property such as bandwidth, gain and return loss of an antenna is found to be enhanced with the application of CSRR based structures.

25 US Patent No. 9019160B2 (Mohammad S. Sharawi, Muhammad Umar Khan, Ahmad Bilal Numan, 2015) provides CSRR loaded MIMO antenna for wireless communication. Here CSRR is loaded at the ground plane of the antenna to achieve desired frequency isolation between closely placed 2x2 MIMO patch antenna. The MIMO antenna has four elements of radiating patch with overall dimensions of $100 \times 50 \times 0.8 \text{ mm}^2$. Four CSRR
30 structures are fabricated at the bottom side of the antenna substrate to obtain desired isolation of -10 dB between the closely spaced patch elements. However, in the case, there is a requirement of rejection of unwanted frequency received by the individual antenna

elements apart from its resonating frequency. As the four elements of CSRR are used for the purpose to provide isolations from all other frequency except the resonating frequency of the antenna at 2.45 GHz ISM band. Such isolation demands more space in the antenna system. However, in our present invention is a single antenna system where two possible
5 unwanted signals can be prevented from causing interference at the receiver system.

US patent no. US7233296B2 (Hyok J. Song, Tsung Yuan Hsu, Daniel F. Sievenpiper, Timothy J. Talty, Hui-pin Hsu, 2005) discues the invention about an optically transparent thin film of conductive surfaces over which antenna structure is grown. Here in this invention antenna is fabricated over a surfaces made up of transparent thin-film
10 conducting material using indium tin oxide (ITO). AgHT™-4 type film substrate material is used to fabricate the transparent antenna. Such transparent antenna can be easily mounted over transparent galss windows. In this case thin film deposited conducting material is acting as an electromagnetic radiator mounted over the glass window. However, in our case semiconductor thin film of ZnS nano particle is used to improve the metamaterial behaviour
15 of the CSRR based antenna. In our case thin film of ZnS nano particle is deposited between the gaps of CSRR structure to improve the impedance of the antenna at notched frequency. Such improvent in the impedance can significantly enhance the attenuation of the antenna at notched bands.

US patent no. US7261916B1 (Kun-Ta Lu, Hsin-Chun Lu, Han-Lun Lin, 2006)
20 presents a method of manufacturing a thin-film antenna system. In this invention, the antenna substrate is coated with a layer of organic material. The typically used substrate materials are polyethylene terephthalate (PET), polycarbonate (PC), polymethyl methacrylate (PMMA), glass, acrylic resin or other materials with similar properties. Here the radiating antenna fabricated over such substrate is made from conducting organic
25 polymer materials. This invention describes only the deposition method of an organic polymer as an antenna system which can be applicable for communication system. However, in our present invention semiconducting nano praticel such as ZnS thin film is deposited to improve the radiation performance of a microstrip patch antenna fabricated over a FR4 substrate.

30 As this CSRR structure at ground plane produces notching behavior in the microstrip antenna along with the resonating frequency, therefore there is a need to enhance the return loss(S_{11}) parameter of the antenna at its operating frequency as well as at notched frequency. By modifying the geometry and varying the dimension of the CSRR and the microstrip

antenna, improvement in return loss parameter of the antenna is not significant. Therefore, there is a need for introducing alternate technology to enhance the return loss of an antenna at its resonating frequency. Due to the presence of gaps between the circular conducting loops in the CSRR geometry, the impedance at desired notched frequencies and the resonant frequency is not matched. If the gap between the conducting circular loops of CSRR can be filled with some nanomaterial-based artificial material the impedance at resonating as well as notched frequency can be enhanced. In our invention, we introduce ZnS nanomaterial-based thin film between the narrow opening gaps of the CSRR metallic structures

Disclosure of Invention:

- 10 The present invention provides a metamaterial based microstrip patch antenna loaded with a Complementary Split Ring Resonator (CSRR) unit cell(2) at the ground plane of the antenna with a 20nm to 25 nm ZnS nanomaterial thin film deposited in the gap(1) of the said CSRR. It enables the return loss (S_{11}) at the resonant frequency as well as at a notched frequency of the antenna to be enhanced without changing the shape or size of the same.
- 15 Further, this invention also relates to a method of depositing the said ZnO thin film in the said gap of the said antenna. The said method comprises of the following steps of- (a)boiling the salt solution at 100°C and then adding 1/5th the volume of 1.1%, chitosan in mild acetic acid (1-2%) and then adding aqueous Na_2S in stoichiometric amounts; (b)Removing heat and allowing the solution to cool and then centrifuging the solution at 4000-5000 rpm to
- 20 obtain a ZnS colloid which in turn is then electrosterically stabilized by chitosan capping; (c)covering the conducting portion of the CSRR unit cell with a tape and then dropping ZnS colloid obtained from step (b) on it and then the unit cell is dried at about 80-90°C; (d) repeating the step(c) for 3 to 5 times.

Brief Description of Drawings:

- 25 Figure 1. Shows the thin film of ZnS nanoparticle deposited Complementary Split Ring Resonator unit cell(2).
- Figure 2. Shows a comparison of return loss (S_{11}) parameter of the antenna with and without ZnS nano-thin film.
- Figure 3. TEM image of the ZnS nanoparticles for deposition of the thin film at CSRR.
- 30 Figure 4. XRD image of the nano ZnS particles.
- Figure 5: Practical antenna top view.
- Figure 6: Practical Antenna bottom view.

Figure 7. The radiation pattern of the antenna at 2.4 GHz, the operating frequency of the antenna.

Figure 8. The radiation pattern of the antenna at 3.6 GHz, the notched frequency of the antenna.

5 **Best Mode for Carrying Out the Invention:**

In the present invention, a planar microstrip antenna comprising of a microstrip patch with an inset feed line on one side and a ground plane having a Complementary Split Ring Resonator[CSRR] on the other side is used. Here, a thin film of ZnS nanomaterial is grown or deposited in the gap(1) typically being 0.5 mm wide, of the CSRR unit cell(2) at the
10 ground plane of the antenna. The deposited film has a thickness of 20-25 nanometers and the ZnS nanoparticles used for making the said thin film are in the size range of 5 to 7 nanometres. The said antenna is typically fabricated over a glass epoxy laminated dielectric substrate and has an operating frequency of 2.4 GHz and create a notch at 3.6GHz.

The method employed in the invention for preparing and depositing the ZnS
15 nanoparticles is to be carefully followed. It comprises of the following steps-

Step (a): ZnS nanoparticles are synthesized through a chemical precipitation method where Zn^{2+} ions are dissociated in water from a corresponding salt under stirring at room temperature. Here, salt such as $Zn(CH_3COO)_2$ or $Zn(NO_3)_2$ or $ZnCl_2$ is used. The salt solution is first boiled at $100^{\circ}C$ and then added 1/5th the volume of 1.1%, chitosan in mild
20 acetic acid (1-2%) and then added aqueous Na_2S in stoichiometric amounts (~5 times the concentration of the salt solution). ZnS forms immediately and the macroparticles settle down while the nanoparticles remain suspended.

Step (b): Next, the heat is removed from the solution and it is allowed to cool to room temperature. Then the solution is centrifuged at 4000-5000 rpm for 20 minutes to obtain a
25 ZnS colloid which in turn is then electrosterically stabilized by chitosan capping.

Step (c): In this step, the conducting portion of the CSRR unit cell is covered with a scotch tape of thickness 0.5 mm and then the ZnS colloid obtained from step(b) is dropped to cover and fill the gap(1). Next, the unit cell is dried at $80-90^{\circ}C$ resulting in a thin film of ZnS nanoparticles.

30 **Step (d):** The step(c) is repeated for 3 to 5 times until the deposited ZnS film thickness of 20-25nm is achieved.

With the thin film of ZnS nanoparticle, the return loss of the CSRR antenna at 2.4 GHz is found to be -24 dB. The presence of nano thin film at the gaps of CSRR improves

the impedance matching of the antenna at its operating frequency of 2.4 GHz. At the same time antenna impedance at the notched frequency of 3.6 GHz is improved to -34 dB. It is because, ZnS thin film at the gaps of CSRR causes better absorption of electromagnetic signal at notched band. This results in enhanced attenuation of signal by -3dB at 3.6 GHz.

5 At the same time at operating frequency of 2.4 GHz the gain of the antenna is enhanced by 2 dB.

To evaluate the invention performance, the following examples have been successfully performed and supporting results enclosed as diagrams-

Example 1: It is to study the return loss and notching behavior of the CSRR microstrip antenna without deposition of the ZnS nanomaterial thin film. Here, the said antenna with metamaterial unit cell at the ground plane is simulated using High-Frequency Structural Simulator (HFSS) software and all the parameters such as return loss, gain and radiation pattern was studied. Further, the antenna was fabricated practically using LPKF ProtoMat S62 PCB fabrication unit procured from Germany. Vector Network Analyser (Rohde & Schwarz, ZNB20) is used to measure the return loss of the practical antenna. The radiation pattern of the practical antenna measured using an automated system from DAMS 6000 Antenna Measurement system. The reference antenna is a broadband HF-907 (Rohde & Schwarz) Double-ridged waveguide horn operating from 800MHz to 18 GHz. The practical antenna is placed on an automated turntable and a signal is fed from the vector network analyzer. The measurement results from VNA shows that the return loss of the practical antenna at 1.4 GHz, 2.4 GHz is well below -10 dB mark. At 3.6 GHz the return loss shows a dip below -20dB. Figure 2, gives the comparison of measured return loss(S_{11}) of the fabricated antenna with and without depositing the nano thin film at the gap of the CSRR. Radiation pattern at 2.4 GHz shows a gain enhancement of the antenna by around 2 dB. In the other hand at 3.6 GHz, the radiation pattern shows significant attenuation by -3 dB. Figure 7 and Figure 8 shows the measured radiation pattern of the proposed antenna at 2.4 GHz and 3.6 GHz respectively. The frequency at 3.6 GHz can be considered as the image rejection frequency or notched frequency of the designed antenna operating at 2.4 GHz.

Example 2: To study the return loss and radiation pattern of the CSRR microstrip antenna with deposition of the nanomaterial thin film at the gap of the CSRR unit cell. Here, a thin film of ZnS nanomaterial is grown between the gaps of the CSRR at the ground plane of the practical antenna. The thin film of ZnS is deposited by covering the conducting part of the

metallic CSRR. The thin film was deposited at a hot plate at a temperature of 70⁰-80⁰ Celsius. The gap between the CSRR is now covered with a thin film of ZnS nanomaterial. The return loss of the thin film deposited antenna is measured with a vector network analyzer (Rohde & Schwarz, ZNB20). The measured results show significant improvement in the
5 return loss well below -10 dB at 2.4 GHz and 3.6 GHz. The radiation pattern of the thin film deposited antenna is carried out using the DAMS 6000 Antenna Measurement system considering the HF-907 (Rohde & Schwarz) Double-ridged waveguide horn antenna as the reference antenna. The radiation pattern shows significant improvement in the operating frequency of the antenna at 2.4 GHz. The measured gain of the antenna is improved by 3
10 dB. Figure 7 shows the improvement in gain at 2.4 GHz and Figure 8 shows attenuation at notched frequency at 3.6 GHz. At notched frequency of 3.6 GHz, the antenna shows significant attenuation around – 3 dB.

Industrial Applicability:

The invention can find its application in wireless communication where the current
15 technology has to deal with the elimination of unwanted frequency from the receiving signal at the antenna terminal.

CLAIMS

We claim:

1. A ZnS Nanoparticle Thin Film Deposited Metamaterial Antenna For Notch Frequency Application-
5 comprising of a 20-25nm thick ZnS nanoparticle thin film deposited at the gap(1) of a Complementary Split Ring Resonator unit cell(2) at the ground plane of the said antenna,
and
a method of depositing the said thin film in the said gap of the said antenna
10 comprising of the following steps-
 - (a) boiling a $\text{Zn}(\text{CH}_3\text{COO})_2$ or $\text{Zn}(\text{NO}_3)_2$ or ZnCl_2 salt solution at 100°C and then adding $1/5^{\text{th}}$ the volume of 1.1%, chitosan in mild acetic acid (1-2%) and then adding aqueous Na_2S in stoichiometric amounts to 5 times the concentration of the salt solution obtaining ZnS nanoparticles;
 - 15 (b) removing the heat from the solution obtained in step(a) and then allowing it to cool to room temperature and then centrifuging it at 4000-5000 rpm for 20 minutes to obtain a ZnS colloid which in turn is then electrosterically stabilized by chitosan capping;
 - (c) covering the conducting portion of the CSRR unit cell(2) with a scotch tape
20 of thickness 0.5 mm and then depositing the ZnS colloid obtained from step(b), in the gap(1) to fill it and then drying the unit cell at $80\text{-}90^\circ\text{C}$ obtaining a thin film deposit in the said gap;
 - (d) repeating the step(c) for 3 to 5 times until the deposited ZnS film thickness of 20-25nm is achieved.
- 25 2. A ZnS Nanoparticle Thin Film Deposited Metamaterial Antenna For Notch Frequency Application as claimed in Claim 1 wherein the size of the ZnS nanoparticle used is in the range of 5-7 nm.
3. A ZnS Nanoparticle Thin Film Deposited Metamaterial Antenna For Notch Frequency Application as claimed in Claim 1 wherein the return loss at its
30 resonant frequency 2.4 GHz and at the notched frequency of 3.6 GHz is below -10 dB.

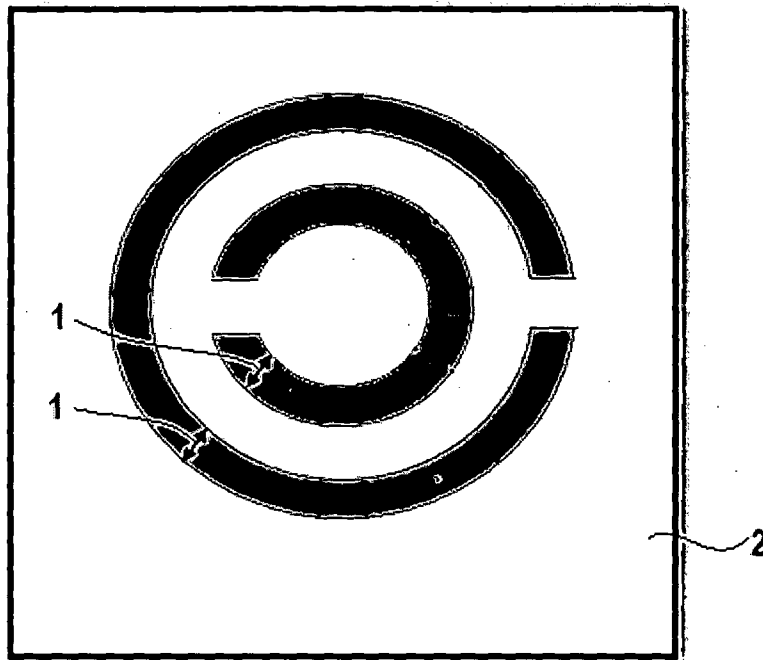


Fig.1

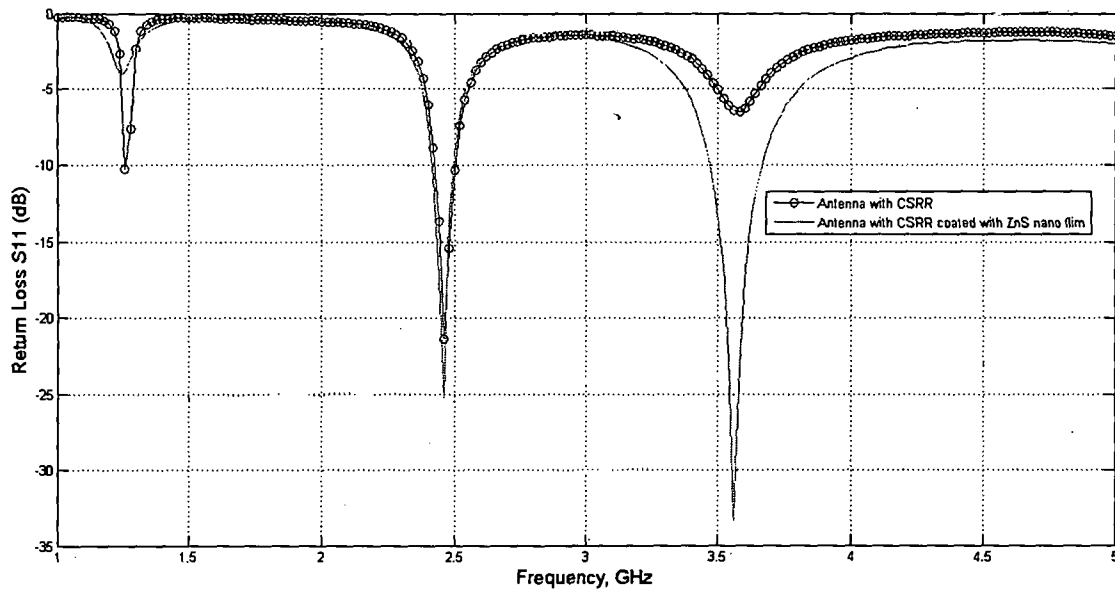


Fig.2

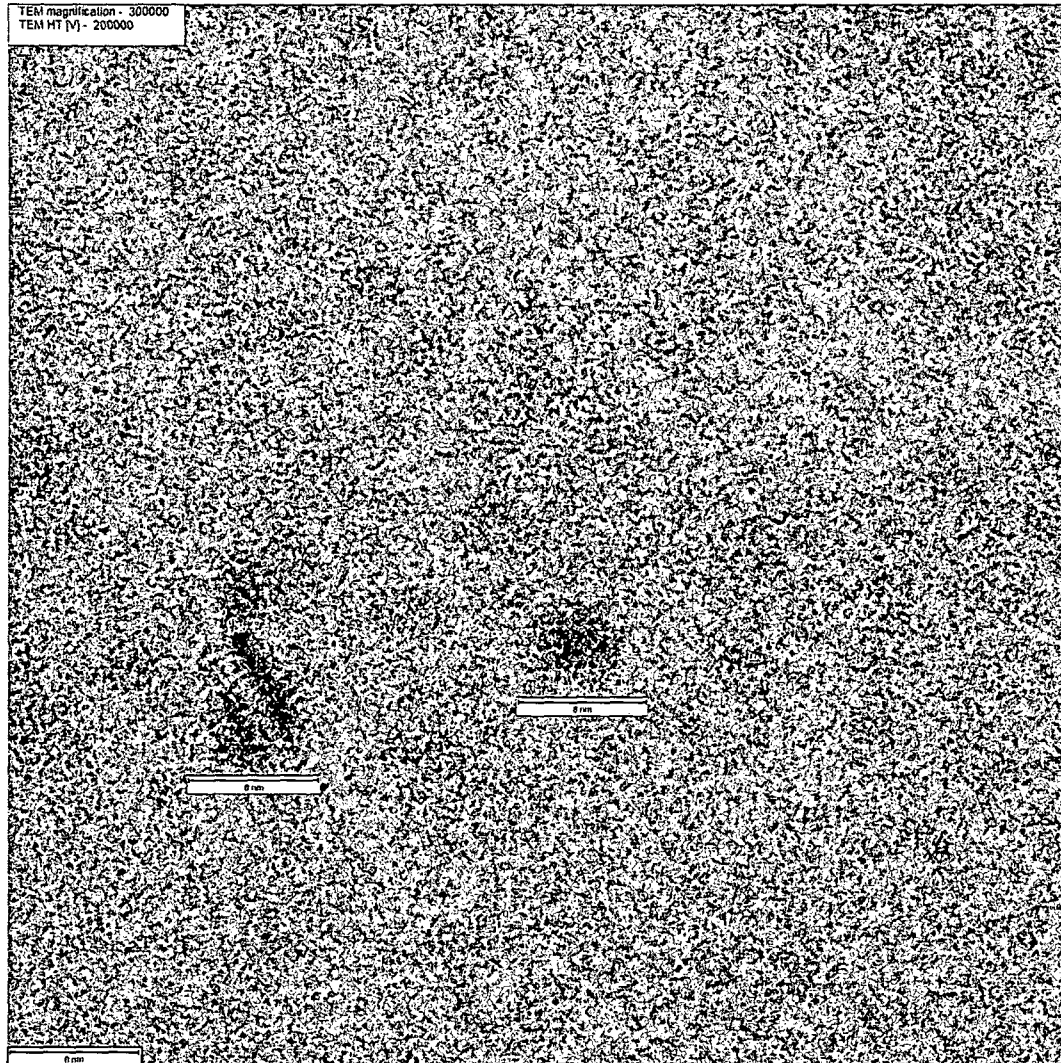


Fig.3

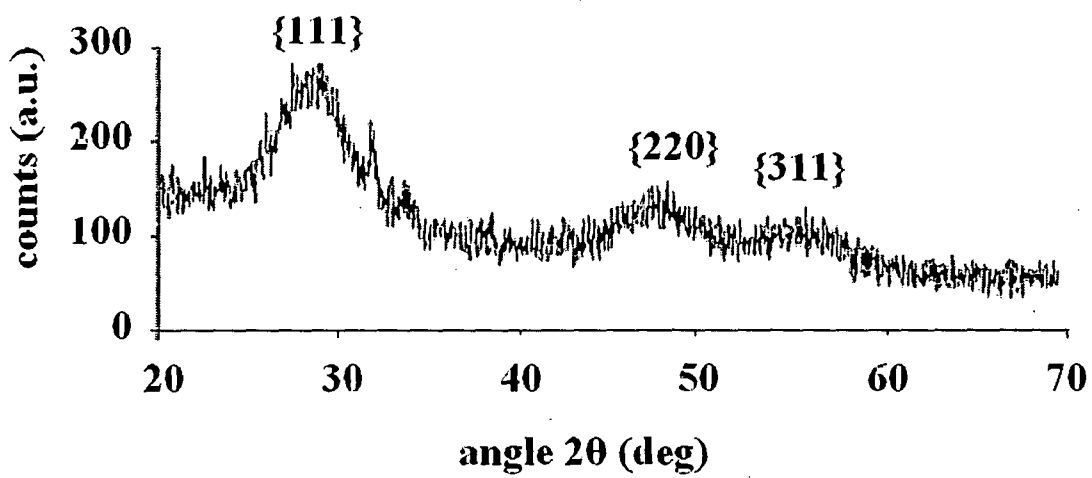


Fig.4

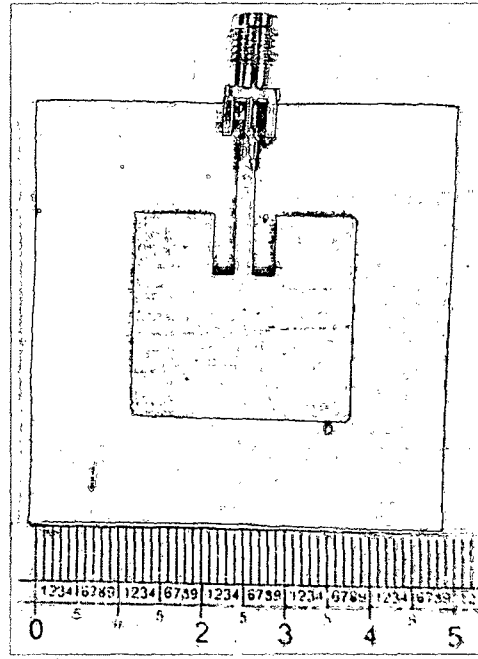


Fig.5

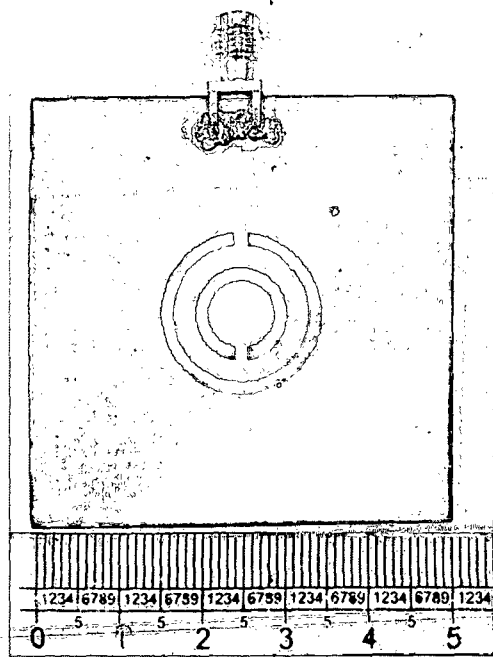


Fig.6

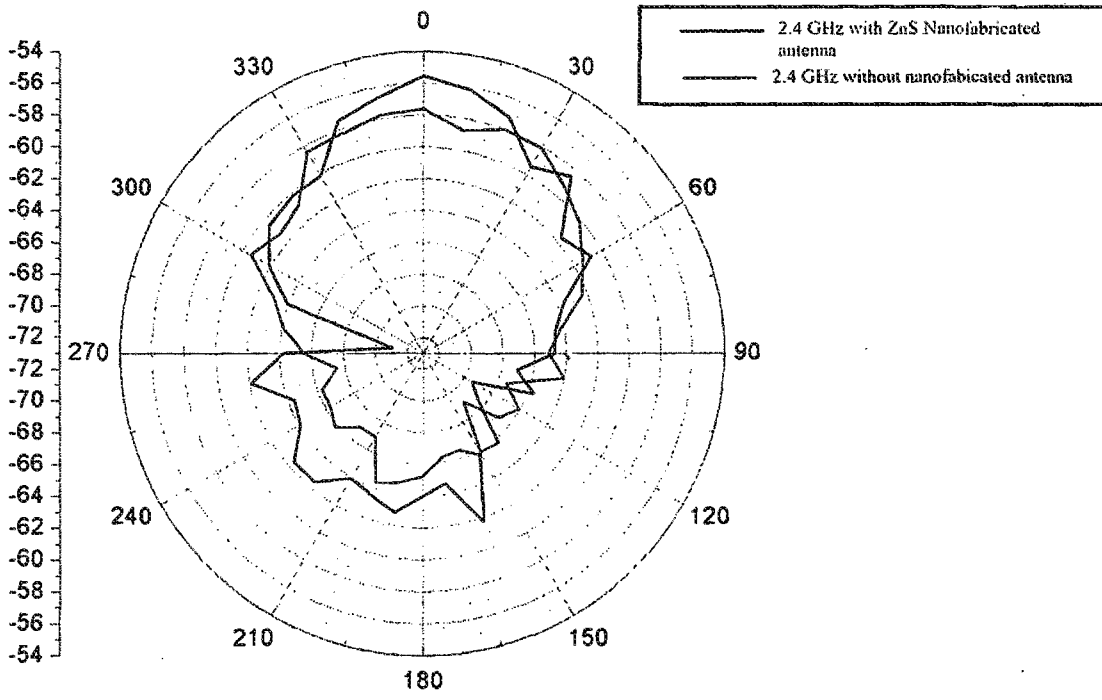


Fig.7

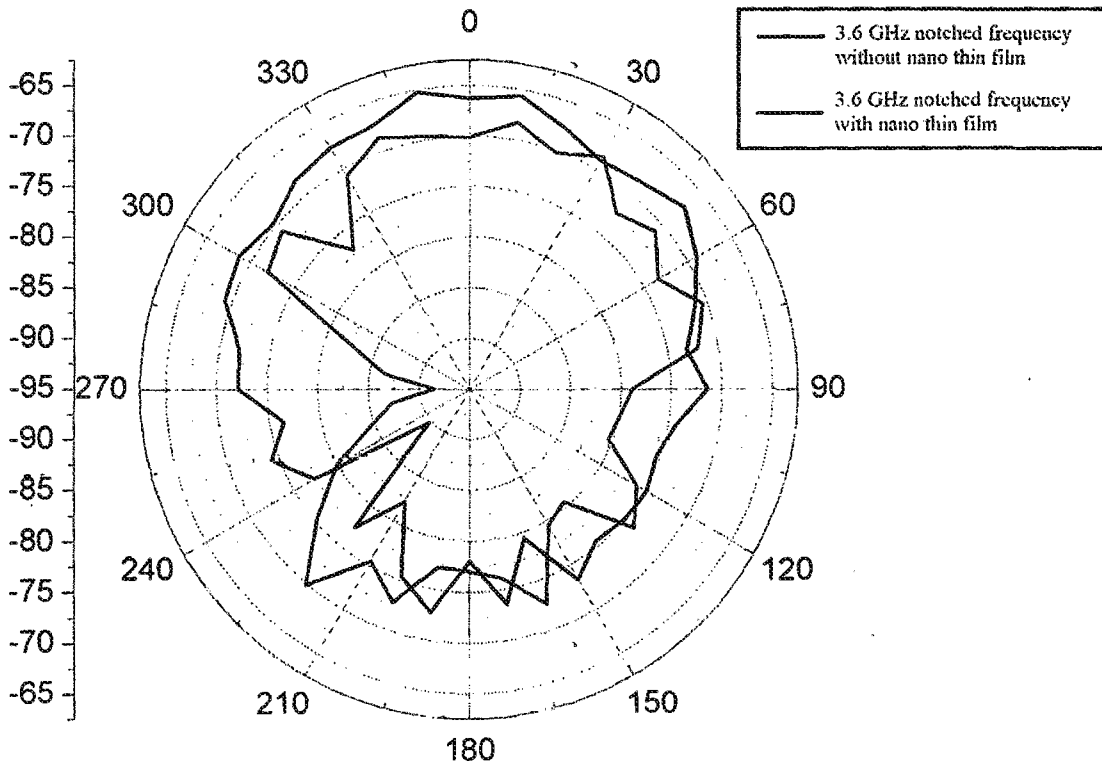


Fig.8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IN2020/000020

A. CLASSIFICATION OF SUBJECT MATTER C09K11/54, H01Q1/00, H01Q1/22 Version=2021.01		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) C09K, H01Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) TotalPatent One, IPO Internal Database		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 7233296 B2 (GM GLOBAL TECHNOLOGY OPERATIONS, INC) 19-06-2007 (19 June 2007) abstract, column-1, para-65, column-2, paras-5, 65 claim-1	1-3
Y	US 2017331172 A1 (PUCHADES IVAN et al.) 16-11-2017 (16 November 2017) paras-0008-0011, claim-1	1-3
Y	ZnS nanoparticles-based tunable dielectric metamaterials, Hongya Wu et al. DOI: 10.1142/S0217984919501422, 02-04-2019 (2 April 2019) page-1	1-3
Y	Synthesis and Characterization of Zinc Sulphide (ZnS) Thin Film Nanoparticle for Optical Properties, Salim Oudah Mezan et al. September 2018, Journal of Global Pharma Technology 10 (07):369-373 page-369, Figure. 1, page-370	1-3
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "D" document cited by the applicant in the international application "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 02-02-2021	Date of mailing of the international search report 02-02-2021	
Name and mailing address of the ISA/ Indian Patent Office Plot No.32, Sector 14, Dwarka, New Delhi-110075 Facsimile No.	Authorized officer Debasish Ghosh Telephone No. +91-1125300200	

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/IN2020/000020

Citation	Pub.Date	Family	Pub.Date
US 7233296 B2	19-06-2007	US 2007040756 A1	22-02-2007
US 2017331172 A1		US 10581176 B2	03-03-2020



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>)



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

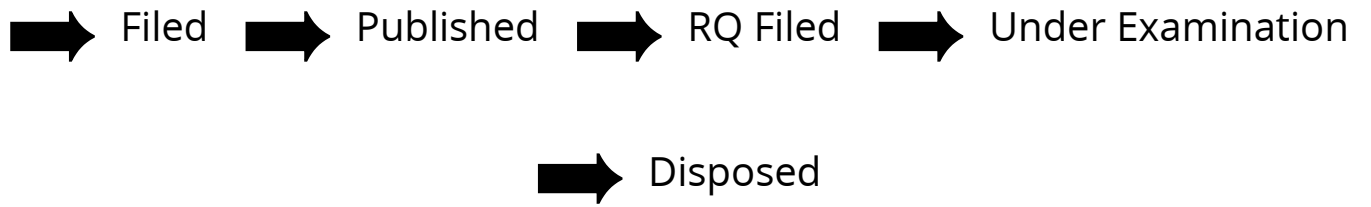
Application Details

APPLICATION NUMBER	202121055799
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	02/12/2021
APPLICANT NAME	1 . Dr. Shibili Nuhmani 2 . Dr. Vivek Harsukhbhai Ramanandi 3 . Dr. Kamal Nain Sharma 4 . V. Rama Krishna 5 . Nabamita Deb 6 . Kavita Rani
TITLE OF INVENTION	AN IOT AND ARTIFICIAL INTELLIGENCE BASED PHYSIOTHERAPY APPARATUS FOR TREATMENT OF ARTHRITIS
FIELD OF INVENTION	BIO-MEDICAL ENGINEERING
E-MAIL (As Per Record)	soni.mukesh15@gmail.com
ADDITIONAL-EMAIL (As Per Record)	soni.mukesh15@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	10/12/2021

Application Status

APPLICATION STATUS	Awaiting Request for Examination
--------------------	---

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



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>)



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

Application Details

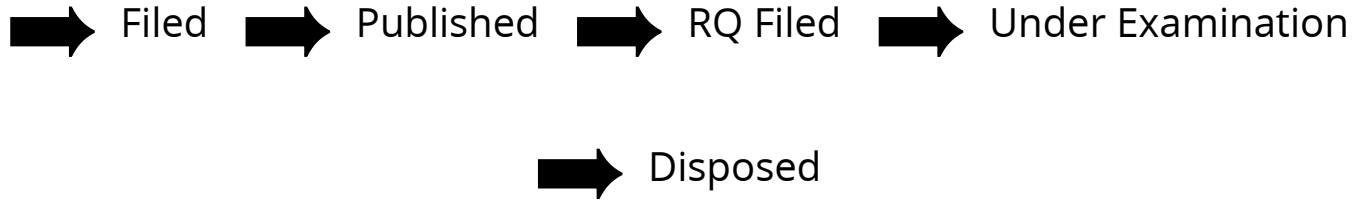
APPLICATION NUMBER	202121055042
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	29/11/2021
APPLICANT NAME	1 . Boussaadi Smail 2 . Samah Ali Alazani 3 . Jogeswar Tripathy 4 . Harish S S 5 . Nabamita Deb 6 . Dr. Sheshang Degadwala
TITLE OF INVENTION	A MACHINE LEARNING BASED FUZZY FINITE STATE IMPLEMENTATION FOR LEARNER-TUTOR MODELING IN WEB-BASED TUTORING SYSTEM
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	soni.mukesh15@gmail.com
ADDITIONAL-EMAIL (As Per Record)	soni.mukesh15@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	10/12/2021

Application Status

APPLICATION STATUS

Awaiting Request for Examination

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



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>)



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

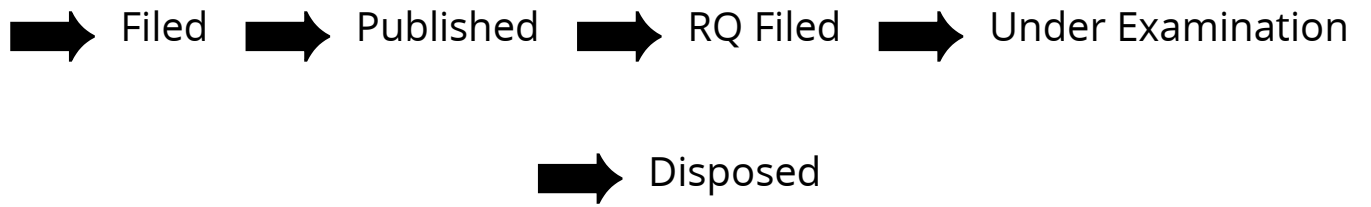
Application Details

APPLICATION NUMBER	202111056643
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	06/12/2021
APPLICANT NAME	1 . Dr. Krishnendu Rarhi 2 . Nabamita Deb 3 . Gourav Bansal 4 . Ummer Iqbal 5 . Mohammed Al Shehri 6 . Mohd Anul Haq
TITLE OF INVENTION	BLOCKCHAIN BASED METHODOLOGY FOR TRANSMISSION OF SCANNED IMAGE OVER DATA NETWORK TO A FILE SERVER
FIELD OF INVENTION	ELECTRONICS
E-MAIL (As Per Record)	mukesh.research24@gmail.com
ADDITIONAL-EMAIL (As Per Record)	mukesh.research24@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	17/12/2021

Application Status

APPLICATION STATUS	Awaiting Request for Examination
--------------------	---

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



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>)



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

Application Details

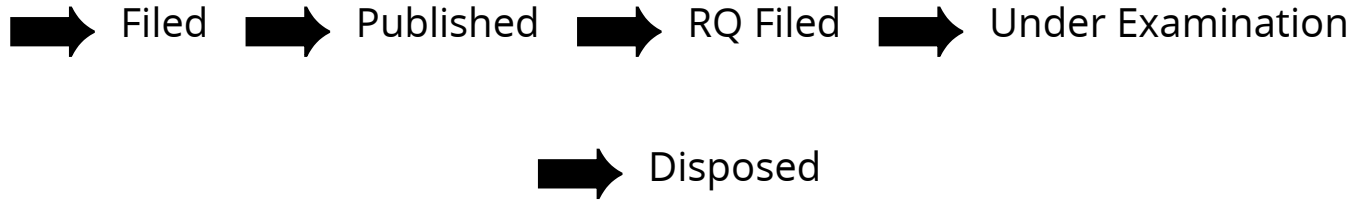
APPLICATION NUMBER	202111057428
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	09/12/2021
APPLICANT NAME	1 . Dr. Sheela Devi 2 . Dr. Smita Sharma 3 . Dr. Sheshang Degadwala 4 . Dipak Bhusari 5 . Balaji Ramkumar Rajagopal 6 . Nabamita Deb
TITLE OF INVENTION	DEEP LEARNING ENABLED CLOUD BASED IOT AND MACHINE LEARNING IMPLEMENTED SYSTEM FOR DETECTING AND PREVENTING HEART ABNORMALITIES
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	soni.mukesh15@gmail.com
ADDITIONAL-EMAIL (As Per Record)	soni.mukesh15@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	17/12/2021

Application Status

APPLICATION STATUS

Awaiting Request for Examination

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



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>)



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

Application Details

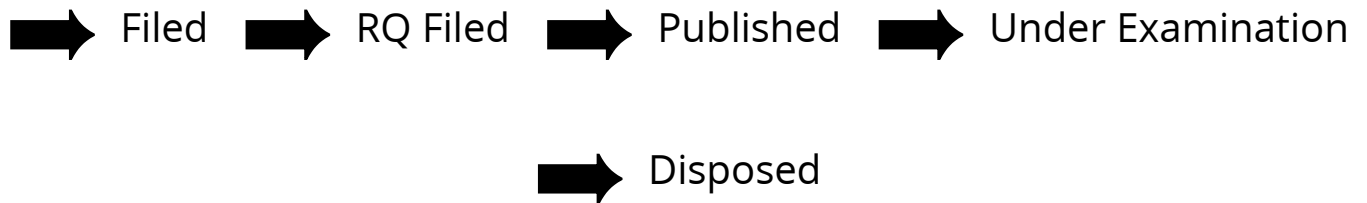
APPLICATION NUMBER	202031027554
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	29/06/2020
APPLICANT NAME	1 . INSTITUTE OF ADVANCED STUDY IN SCIENCE AND TECHNOLOGY An Autonomous Institute of Department of Science & Technology, Govt. of India 2 . GAUHATI UNIVERSITY An Indian Institute
TITLE OF INVENTION	HERBAL FORMULATION FOR PREVENTION OF TYPE 2 DIABETES MELLITUS AND CONDITIONS ASSOCIATED THEREWITH
FIELD OF INVENTION	CHEMICAL
E-MAIL (As Per Record)	mail@seenergi.com
ADDITIONAL-EMAIL (As Per Record)	mail@seenergi.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	29/06/2020
PUBLICATION DATE (U/S 11A)	31/12/2021
REPLY TO FER DATE	13/10/2022

Application Status

APPLICATION STATUS

Reply Filed. Application in amended examination

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



**INTELLECTUAL
PROPERTY INDIA**

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

पेटेंट कार्यालय
THE PATENT OFFICE

पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

क्रमांक : 033114487
SL No :



पेटेंट सं. / Patent No. : 357852
आवेदन सं. / Application No. : 502/KOL/2011
फाइल करने की तारीख / Date of Filing : 05/04/2011
पेटेंटी / Patentee : 1.RITUPARNA BORAH 2.PROF. M.C. KALITA 3.PROF. A.K. TALUKDAR

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित HERBAL PRODUCT FOR MOSQUITO CONTROL AND ITS PROCESS FOR PREPARATION THEREOF नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 5th day of April 2011 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled HERBAL PRODUCT FOR MOSQUITO CONTROL AND ITS PROCESS FOR PREPARATION THEREOF as disclosed in the above mentioned application for the term of 20 years from the 5th day of April 2011 in accordance with the provisions of the Patents Act,1970.



अनुदान की तारीख : 05/02/2021
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 5th day of April 2013 को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 5th day of April 2013 and on the same day in every year thereafter.



Australian Government

IP Australia

CERTIFICATE OF GRANT INNOVATION PATENT

Patent number: 2021105095

The Commissioner of Patents has granted the above patent on 20 April 2022, and certifies that the below particulars have been registered in the Register of Patents.

Name and address of patentee(s):

Dr. Hemen Deka of Department of Botany, Gauhati University, Guwahati Kamrup(Metro) Assam 781014 India

Ms. Paramita Chakravarty of Department of Botany, Gauhati University, Guwahati Kamrup(Metro) Assam 781014 India

Title of invention:

A METHOD FOR SCREENING HERB FOR PHYTOREMEDIATION BY EXPLORING ENZYMATIC DEFENSE PROCESS

Name of inventor(s):

Deka, Hemen and Chakravarty, Paramita

Term of Patent:

Eight years from 7 August 2021

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



Dated this 20th day of April 2022

Commissioner of Patents

PATENTS ACT 1990

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.

Extracts from the Patents Act, 1990

Sect 120(1A) Infringement proceedings in respect of an innovation patent cannot be started unless the patent has been certified.

Sec 128 **Application for relief from unjustified threats**

- (1) Where a person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings a person aggrieved may apply to a prescribed court, or to another court having jurisdiction to hear and determine the application, for:
- (a) a declaration that the threats are unjustifiable; and
 - (b) an injunction against the continuance of the threats; and
 - (c) the recovery of any damages sustained by the applicant as a result of the threats.
- (2) Subsection (1) applies whether or not the person who made the threats is entitled to, or interested in, the patent or a patent application.

Sec 129A **Threats related to an innovation patent application or innovation patent and courts power to grant relief.**

Certain threats of infringement proceedings are always unjustifiable.

- (1) If:
- (a) a person:
 - (i) has applied for an innovation patent, but the application has not been determined; or
 - (ii) has an innovation patent that has not been certified; and
 - (b) the person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings in respect of the patent applied for, or the patent, as the case may be; then, for the purposes of an application for relief under section 128 by the person threatened, the threats are unjustifiable.

Courts power to grant relief in respect of threats made by the applicant for an innovation patent or the patentee of an uncertified innovation patent

- (2) If an application under section 128 for relief relates to threats made in respect of an innovation patent that has not been certified or an application for an innovation patent, the court may grant the application the relief applied for.

Courts power to grant relief in respect of threats made by the patentee of certified innovation patent

- (3) If an application under section 128 for relief relates to threats made in respect of a certified innovation patent, the court may grant the applicant the relief applied for unless the respondent satisfies the court that the acts about which the threats were made infringed, or would infringe, a claim that is not shown by the applicant to be invalid.

Schedule 1 **Dictionary**

certified, in respect of an innovation patent other than in section 19, means a certificate of examination issued by the Commissioner under paragraph 101E(e) in respect of the patent



ORIGINAL

No. 114435

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE

CERTIFICATE OF REGISTRATION OF DESIGN

Design No. 361769-001
Date 01/04/2022 22:00:02
Reciprocity Date*
Country

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 24-01 in respect of the application of such design to IOT ENABLED RESPIRATORY SENSING DEVICE in the name of 1.DR. KRISHNA KUMAR TIWARI, PROFESSOR, PHYSICS DEPARTMENT, SIDDHI VINAYAK GROUP OF INSTITUTIONS, BAREILLY, U.P. 2. SUMIT KUMAR, RESEARCH SCHOLAR, INDIAN INSTITUTE OF MANAGEMENT, KOZHIKODE, KAMAL NIWAS, PUNAICHAK, MOHANPUR, PATNA - 800023, INDIA 3. ANURAG SHRIVASTAVA, PRINCIPAL AND PROFESSOR (ECE), LAKSHMI NARAIN COLLEGE OF TECHNOLOGY AND SCIENCE, INDORE - 453111, MADHYA PRADESH, INDIA 4. NABAMITA DEB, ASSISTANT PROFESSOR, DEPARTMENT OF INFORMATION TECHNOLOGY, GAUHATI UNIVERSITY, GUWAHATI, ASSAM - 781014

in pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

Controller General of Patents, Designs and Trade Marks

*The reciprocity date (if any) which has been allowed and the name of the country.
Copyright in the design will subsist for ten years from the date of Registration, and may under the terms of the Act and Rules, be extended for a further period of five years.
This Certificate is not for use in legal proceedings or for obtaining registration abroad

ASHUTOSH SWARNKAR,
BLI CONSULTANCY PVT. LTD., 627-A, SANJAY
COLONY, BHILWARA, RAJASTHAN - 311001

Date of Issue 30/05/2022 13:05:49

Urkunde

über die Eintragung des Gebrauchsmusters Nr. 20 2022 101 641

Bezeichnung:

Eine auf künstlicher Intelligenz basierende Vorrichtung zur Bereitstellung einer transparenten Zugriffskontrolle von IOT-Zielen

IPC:

H04L 47/70

Inhaber/Inhaberin:

Verma, Om Prakash, Prayagraj, Uttar Pradesh, IN
Akula, Sai Parichit, Secunderabad, Telangana, IN
Shekher, Vineet, Dhanbad, Jharkhand, IN
Deb, Nabamita, Guwahati, Assam, IN
Singh, Gurpreet, Phagwara, Punjab, IN
Yadav, Sudeept Singh, Greater Noida, Uttar Pradesh, IN

Tag der Anmeldung:

29.03.2022

Tag der Eintragung:

18.05.2022

Die Präsidentin des Deutschen Patent- und Markenamts



Cornelia Rudloff-Schäffer

München, 18.05.2022



Urkunde

über die Eintragung des
Gebrauchsmusters Nr. 20 2022 100 695

Bezeichnung:

IoT-Framework für 6G-Mobilfunknetze mit KI und Blockchain

IPC:

H04W 28/00

Inhaber/Inhaberin:

Bourouis, Sami, Dr., Taif, SA
Deb, Nabamita, Dr., Guwahati, Assam, IN
Gururaja, Bharathi, Dr., Bangalore, Karnataka, IN
Manoharan, Poongodi, Dr., Thiruninravur, Tamil Nadu, IN
Patel, Hrishitva Manish, Dr., Binghamton, NY, US

Tag der Anmeldung:

07.02.2022

Tag der Eintragung:

17.02.2022

Die Präsidentin des Deutschen Patent- und Markenamts



Cornelia Rudloff-Schäffer

München, 17.02.2022





INTELLECTUAL
PROPERTY INDIA

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

पेटेंट कार्यालय
THE PATENT OFFICE

पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 of The Patents Rules)

क्रमांक : 022118711
SL No :



पेटेंट सं. / Patent No. : 399982
आवेदन सं. / Application No. : 201821042455
फाइल करने की तारीख / Date of Filing : 12/11/2018
पेटेंटी / Patentee : Indian Institute of Technology Bombay
आविष्कारक (जहां लागू हो) / Inventor(s) : 1.Hemen Kumar Kalita 2.Vinay Shrinivas Palaparthi
3.Maryam Shojaei Baghini 4.Mohammed Aslam

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित METHOD FOR SYNTHESIS OF GRAPHENE QUANTUM DOTS नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख नवम्बर 2018 के बारहवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled METHOD FOR SYNTHESIS OF GRAPHENE QUANTUM DOTS as disclosed in the above mentioned application for the term of 20 years from the 12th day of November 2018 in accordance with the provisions of the Patents Act,1970.



अनुदान की तारीख : 24/06/2022
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, नवम्बर 2020 के बारहवें दिन को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 12th day of November 2020 and on the same day in every year thereafter.

Urkunde

über die Eintragung des
Gebrauchsmusters Nr. 20 2022 103 064

Bezeichnung:

Maschinelles Lernen implementiertes Gerät zur Erkennung der Krankheit durch sprachbasierte Sprachverarbeitung

IPC:

G16H 50/20

Inhaber/Inhaberin:

Deb, Nabamita, Guwahati, Assam, IN
Raina, Vikas, Jammu, IN
Thakkar, Dhruv, Schaumburg, IL, US
Chauhan, Akhilesh Kumar, Sultanpur, Uttar Pradesh, IN
Buttar, Ahmed Mateen, Faisalabad, PK
Reegu, Faheem, Pampore, IN

Tag der Anmeldung:

31.05.2022

Tag der Eintragung:

23.06.2022

Die Präsidentin des Deutschen Patent- und Markenamts



Cornelia Rudloff-Schäffer

München, 23.06.2022





Benachrichtigung über den Erhalt einer Gebrauchsmusteranmeldung:

Dokumenten Referenz-Nr. (DRN): 2021111908355900DE
Anmeldung eingegangen am: 19.11.2021

Digitale Signatur

Signaturniveau: fortgeschritten
gültig von: 11.12.2017 01:00:00
gültig bis: 12.12.2022 00:59:59
Eigentümer: CN= 58196
Seriennummer: 58379864325142831560671657915865862965
Herausgeber: O=European Patent Office,
CN=European Patent Office CA G2

Daten zum vorliegenden Vorgang:

amtliches Aktenzeichen: 20 2021 106 307.6

Barcode:



20 2021 106 307.6

Vorgangstyp: Gebrauchsmusteranmeldung

Bezeichnung der Erfindung: EIN SYSTEM ZUR EXTRAKTION UND CHARAKTERISIERUNG VON β -
CRYPTOXANTHIN-KAROTENOID AUS EINER PIGMENTIERTEN HEFE
RHODOTORULA TAIWANENSIS

Ihr Zeichen: G11212DE

Anmelder: Dr. Deep Prakash Parasar
J-Block
781026 Panikhaiti, Guwahati
IN



Deutsches
Patent- und Markenamt

DPMAdirekt - elektronische Dokumentenannahme

Folgende Dateien sind beim Deutschen Patent- und Markenamt eingegangen und wurden auf korrekte Syntax, Vollständigkeit der Anmeldeinformationen und zulässige Graphikformate erfolgreich validiert:

Hashwert des Antrags

Specification.pdf (G11212DE Anmeldeunterlagen 17112021.pdf)
DIRECTDEBIT.XML
DE-UM-REQUEST.XML

9BD1D245D01EAD1C73723D77E94633A6978084EF



Deutsches
Patent- und Markenamt

DPMAdirekt - elektronische Dokumentenannahme

Diese Mitteilung wird signiert und verschlüsselt übertragen und bestätigt den Eingang der oben aufgelisteten Dateien im Deutschen Patent- und Markenamt. **Darüber hinaus sind zu diesem Zeitpunkt keine rechtlich verbindlichen Aussagen bezüglich des Inhaltes dieser Dateien möglich.** Fragen zu diesem Vorgang richten Sie bitte unter Angabe der DRN, des amtlichen Aktenzeichens und des Eingangsdatums an:

Deutsches Patent- und Markenamt

Zweibrückenstr. 12
80297 München
Telefon: 089 / 2195-1000
Fax: 089 / 2195-2221
E-Mail: info@dpma.de

Für **technische** Fragen rund um DPMAdirekt wenden Sie sich an unsere technische Kundenbetreuung:

Telefon: 089 / 2195-2500
Fax: 089 / 2195-2221
E-Mail: DPMAdirekt@dpma.de

Die Information in dieser Mitteilung ist vertraulich und rechtlich geschützt. Sie ist ausschließlich für den Gebrauch durch die juristische Person gedacht, an die sie adressiert ist bzw. für diejenigen Personen, die autorisiert sind, diese Information zu erhalten. Sollten Sie nicht der rechtmäßige Empfänger sein, werden Sie hiermit informiert, dass jedwede Bekanntmachung, Vervielfältigung oder Verteilung der Inhalte dieser Mitteilung verboten und ungesetzlich ist. Das Deutsche Patent- und Markenamt übernimmt keinerlei Haftung für jedwede schädliche Software die in oder mit dieser Mitteilung oder als Anhang daran übertragen wird. Weitergehende Informationen erhalten Sie unter: <http://www.dpma.de>



An das
Deutsche Patent- und Markenamt
80297 München

(1) Sendungen des Deutschen Patent- und Markenamts sind zu richten an: Name, Vorname / Firma Ideas2ipr Straße, Hausnummer / ggf. Postfach 79-83 Postleitzahl Ort 50672 Köln, DE <input checked="" type="checkbox"/> Elektronisches Postfach	Antrag auf Eintragung eines Gebrauchsmusters	2	Datum		
			TT 18	MM 11	JJJJ 2021
(2) Zeichen des Anmelders/Vertreters (max. 20 Stellen) G11212DE	Telefon des Anmelders/Vertreters				
(3) Der Empfänger in Feld (1) ist der <input type="checkbox"/> Anmelder <input type="checkbox"/> Zustellungsbevollmächtigte <input type="checkbox"/> Vertreter	ggf. Nr. der Allgemeinen Vollmacht				
(4) Anmelder (1) <small>nur auszufüllen, wenn abweichend von Feld (1) Handelsregisternummer nur bei Firmen anzugeben</small>	Name, Vorname / Firma lt. Handelsregister Dr. Parasar, Deep Prakash				
	Assam down town University, Department of Biotechnology				
Straße, Hausnummer (kein Postfach!) J-Block					
Postleitzahl Ort Land	781026 Panikhaiti, Guwahati	IN			
Telefon Fax E-Mail					
<input type="checkbox"/> Der Anmelder ist eingetragen im Handelsregister Nr. beim Amtsgericht					
(4) Anmelder (2)	Name, Vorname / Firma lt. Handelsregister Dr. Ramakrishnan, Elancheran				
	Department of Chemistry, Annamalai University				
Straße, Hausnummer (kein Postfach!) Annamalai nagar					
Postleitzahl Ort Land	608002 Chidambaram	IN			
Telefon Fax E-Mail					
<input type="checkbox"/> Der Anmelder ist eingetragen im Handelsregister Nr. beim Amtsgericht					
(4) Anmelder (3)	Name, Vorname / Firma lt. Handelsregister Dr. Sarma, Hridip Kumar				
	Department of Biotechnology, Gauhati University				

Straße, Hausnummer (kein Postfach!)
Gopinath Bordoloi Nagar

Postleitzahl
781014

Ort
Guwahati

Land
IN

Telefon

Fax

E-Mail

- Der Anmelder ist eingetragen im Handelsregister Nr. _____
beim Amtsgericht _____

Anmelder (4)

Name, Vorname / Firma lt. Handelsregister
Dr. Sarma, Manash Pratim

Assam down town University, Department of Biotechnology

Straße, Hausnummer (kein Postfach!)
J-Block

Postleitzahl
781026

Ort
Panikhaiti, Guwahati

Land
IN

Telefon

Fax

E-Mail

- Der Anmelder ist eingetragen im Handelsregister Nr. _____
beim Amtsgericht _____

Vertreter (1)

Name, Vorname / Firma

Ideas2IPR

Straße, Hausnummer / ggf. Postfach
79-83 (Capitol)

Postleitzahl
50672

Ort
Köln

Land
DE

Telefon

Fax

E-Mail

(5)
soweit
bekannt

Anmelder-Nr. _____

Vertreter-Nr. _____

Zustelladressen-Nr.
108972623

(6)
IPC
Vorschlag
ist
unbedingt
anzugeben,
sofern
bekannt

Bezeichnung der Erfindung

IPC-Vorschlag des Anmelders

EIN SYSTEM ZUR EXTRAKTION UND CHARAKTERISIERUNG VON β -CRYPTOXANTHIN-KAROTENOID
AUS EINER PIGMENTIERTEN HEFE RHODOTORULA TAIWANENSIS

(7) Sonstige Anträge

- Aussetzung** der Eintragung und Bekanntmachung auf __ Monate
(Max. 15 Mon. ab Anmelde- oder Prioritätstag)
- Rechercheantrag** - Ermittlung der öffentlichen Druckschriften (§ 7 Gebrauchsmustergesetz)

(8) Erklärungen

Aktenzeichen

Anmeldetag

- Teilung/Ausscheidung** aus der Gebrauchsmusteranmeldung
- Abzweigung** aus der Patentanmeldung/dem Patent
- Der Anmelder ist an **Lizenzvergabe** interessiert (unverbindlich)

(9)

- Inländische Priorität
(Datum, Aktenzeichen der Voranmeldung)
- Ausländische Priorität
(Datum, Land, Aktenz. der Voranmeldung)

Ausstellungspriorität
(Datum der erstmaligen Zurschaustellung, Ausstellung)

Der Antrag kann nicht über Fax oder Post eingereicht werden.

(10) **Gebühre**nzahlung in Höhe von 30,00 EUR

SEPA-Mandatsverwendung
elektr. Formular ist beigefügt.

Überweisung (nach Erhalt der Empfangsbescheinigung)

Wird die Anmeldegebühr nicht innerhalb 3 Monaten nach dem Tag des Eingangs der Anmeldung gezahlt, so gilt die Anmeldung als zurückgenommen!

(11) **Anlagen**

1. 30 Seite(n) Beschreibung
2. 5 Seite(n) Schutzansprüche
- 10 Anzahl Schutzansprüche
3. 6 Anzahl Figuren
4. _____ Abschrift(en) der Voranmeldung(en) bei Priorität
5. _____ Abschrift der Voranmeldung bei Abzweigung
6. _____ Vertretervollmacht
7. _____ Übersetzung(en)
8. _____ Sonstiges

G6003e
1.08

Bearbeiter (1)

(12) Unterschrift

(13) Funktion des Bearbeiters

Urkunde

über die Eintragung des Gebrauchsmusters Nr. 20 2022 101 525

Bezeichnung:

Ein System zur Herstellung von Verbundstoffen auf Paraffinbasis PCM für die
Speicherung latenter Wärmeenergie

IPC:

C09K 5/06

Inhaber/Inhaberin:

Barman, Pranjan, Guwahati, Assam, IN
Bhagwat, Virendra Vishnu, Pune, Maharashtra, IN
Chowdhury, Avijit, Bongaon, West Bengal, IN
Das, Biplab, Silchar, Assam, IN
Das, Nipom Sekhar, Cachar, Assam, IN
Debbarma, Sumita, Silchar, Assam, IN

Tag der Anmeldung:

23.03.2022

Tag der Eintragung:

13.04.2022

Die Präsidentin des Deutschen Patent- und Markenamts

Cornelia Rudloff-Schäffer

Cornelia Rudloff-Schäffer

München, 13.04.2022





INTELLECTUAL
PROPERTY INDIA

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

पेटेंट कार्यालय
THE PATENT OFFICE

पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

क्रमांक : 022109049
SL No :



पेटेंट सं. / Patent No. : 340669
आवेदन सं. / Application No. : 2476/MUM/2015
फाइल करने की तारीख / Date of Filing : 29/06/2015
पेटेंटी / Patentee : Indian Institute of Technology, Bombay
आविष्कारक (जहां लागू हो) / Inventor(s) : 1.Prof. Mohammed Aslam 2.Arijit Mitra 3.Hemen Kumar Kalita 4.Prof. Dhirendra Bahadur 5.Jeotikanta Mohapatra

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित "METHOD OF SYNTHESIS OF MONODISPERSED GRAPHENE QUANTUM DOTS" नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 29th day of June 2015 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled "METHOD OF SYNTHESIS OF MONODISPERSED GRAPHENE QUANTUM DOTS" as disclosed in the above mentioned application for the term of 20 years from the 29th day of June 2015 in accordance with the provisions of the Patents Act,1970.



अनुदान की तारीख : 07/07/2020
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

OKSupta

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 29th day of June 2017 को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 29th day of June 2017 and on the same day in every year thereafter.



**INTELLECTUAL
PROPERTY INDIA**

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



सत्यमेव जयते

क्रमांक : 022113290
SL No :



भारत सरकार
GOVERNMENT OF INDIA

पेटेंट कार्यालय
THE PATENT OFFICE

पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

पेटेंट सं. / Patent No. : 367378
आवेदन सं. / Application No. : 1626/MUM/2015
फाइल करने की तारीख / Date of Filing : 21/04/2015
पेटेंटी / Patentee : Indian Institute of Technology, Bombay
आविष्कारक (जहां लागू हो) / Inventor(s) : 1.Prof. Mohammed Aslam 2.Hemen Kumar Kalita

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित FILTER ADSORBENT नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 21st day of April 2015 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled FILTER ADSORBENT as disclosed in the above mentioned application for the term of 20 years from the 21st day of April 2015 in accordance with the provisions of the Patents Act,1970.



अनुदान की तारीख : 24/05/2021
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 21st day of April 2017 को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 21st day of April 2017 and on the same day in every year thereafter.



**INTELLECTUAL
PROPERTY INDIA**

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

पेटेंट कार्यालय
THE PATENT OFFICE

पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

क्रमांक : 011122418
SL No :



पेटेंट सं. / Patent No. : 336085
आवेदन सं. / Application No. : 3613/DEL/2014
फाइल करने की तारीख / Date of Filing : 09/12/2014
पेटेंटी / Patentee :
1. THE SECRETARY, DEPARTMENT OF ELECTRONICS
AND INFORMATION TECHNOLOGY (DEITY)
2. INSTITUTE OF ADVANCED STUDY IN SCIENCE &
TECHNOLOGY (IASST)

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित POLYMER BASED SENSOR DEVICE FOR SENSING NITROAROMATIC COMPOUNDS नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 9th day of December 2014 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled POLYMER BASED SENSOR DEVICE FOR SENSING NITROAROMATIC COMPOUNDS as disclosed in the above mentioned application for the term of 20 years from the 9th day of December 2014 in accordance with the provisions of the Patents Act, 1970.



अनुदान की तारीख : 27/04/2020
Date of Grant :

OKSupta
पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 9th day of December 2016 को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 9th day of December 2016 and on the same day in every year thereafter.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2021/064742 A1

(43) International Publication Date
08 April 2021 (08.04.2021)

- (51) International Patent Classification:
C09K 11/54 (2006.01) H01Q 1/22 (2006.01)
H01Q 1/00 (2006.01)
- (21) International Application Number:
PCT/IN2020/000020
- (22) International Filing Date:
29 September 2020 (29.09.2020)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
201931039488 30 September 2019 (30.09.2019) IN
- (72) Inventors; and
(71) Applicants: SARMAH, Kumaresh [IN/IN]; Department of Electronics and Communication Technology, Gauhati University, Guwahati, Pin-781014, Assam (IN).
GOSWAMI, Sivarjanjan [IN/IN]; Department of Elec-

tronics and Communication Technology, Gauhati University, Guwahati, Pin-781014, Assam (IN). SARMA, Angana [IN/IN]; Department of Electronics and Communication Technology, Gauhati University, Guwahati, Pin-781014, Assam (IN). SARMA, Kumar Kandarpa [IN/IN]; Department of Electronics and Communication Engineering, Gauhati University, Guwahati, Pin-781014, Assam (IN).
BARUAH, Sunandan [IN/IN]; Center of Excellence in Nanotechnology, Assam Don Bosco University, Guwahati, Pin-781017, Assam (IN).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW,

(54) Title: ZNS NANO PARTICLE THIN FILM DEPOSITED METAMATERIAL ANTENNA FOR NOTCH FREQUENCY APPLICATION

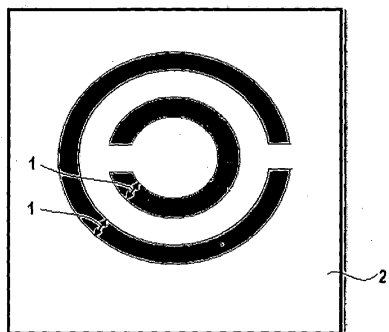


Fig.1

(57) Abstract: A ZnS Nanoparticle Thin Film Deposited Metamaterial Antenna For Notch Frequency Application comprising of a 20-25 nm ZnS nanomaterial thin film grown in the gap(1) of a complementary split ring resonator (CSRR) unit cell(2). The method comprises of the steps- (a)boiling Zn salt solution at 100°C and then adding 1/5th the volume of 1.1% chitosan in mild acetic acid (1-2%) and then adding aqueous Na₂S in stoichiometric amounts; (b) allowing the solution to cool and then centrifuging the solution at 4000-5000 rpm to obtain a ZnS colloid which is then electrosterically stabilized by chitosan capping; (c)covering the conducting portion of the CSRR unit cell with a tape and then dropping ZnS colloid obtained from step (b) on it and then drying the unit cell at 80°-90°C; (d) repeating the step(c) for 3 to 5 times. This antenna results in the return loss parameter (S₁₁) getting significantly improved at its resonant frequency.

[Continued on next page]



WO 2021/064742 A1

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :19/02/2015

(21) Application No.1202/KOL/2014 A

(43) Publication Date : 01/12/2017

(54) Title of the invention : CRINUM ASIATICUM (FAMILY AMARYLLIDACEAE) -THE POTENTIAL PLANT BASED SOURCE FOR A POTENT ANTIMALARIAL AGENT AGAINST PLASMODIUM FALCIPARUM

(51) International classification :A61K36/53
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :

1)NILAKSHI GOHAIN

Address of Applicant :C/O PROF.M.C.KALITA
DEPARTMENT OF BIOTECHNOLOGY, GAUHATI
UNIVERSITY, GUWAHATI -781014, ASSAM, INDIA

2)PROF. MOHAN CHANDRA KALITA

3)HRIDIP KUMAR SARMA

4)ANIL PRAKASH

5)D.R .BHATTACHARYYA

6)P.K. Mohapatra

7)KABITA GOGOI

8)J. MAHANTA

9). NILANJU PRAN SARMA

10)CHANDRAJIT DOHUTIA

(72)Name of Inventor :

1)NILAKSHI GOHAIN

2)PROF. MOHAN CHANDRA KALITA

3)HRIDIP KUMAR SARMA

4)ANIL PRAKASH

5)D.R .BHATTACHARYYA

6)P.K. Mohapatra

7)KABITA GOGOI

8)J. MAHANTA

9). NILANJU PRAN SARMA

10)CHANDRAJIT DOHUTIA

(57) Abstract :

The present invention is related to the collection of an indigenous ethnomedicinal plant species *Crinum asiaticum* from Assam, India, preparation of crude extract from its bulbs using chloroform as a solvent and evaluating its antiplasmodial activity against *Plasmodium falciparum*, the major causative agent of human malaria. The in-vitro antiplasmodial activity screening was done against two references of *P.falciparum* strains, RKL-2(chloroquine resistant strain) and 3D-7(chloroquine sensitive strain), using schizont inhibition assays. The crude chloroform (moderately polar solvent) extract of the bulb of the plant species *Crinum asiaticum* was found to have a highly active antiplasmodial activity against both the strains of *P.falciparum* mentioned above. The herbal formulation of *Crinum asiaticum* and another plant *Curanga amara* juss had showed very promising antiplasmodial activity. The formulation did not show any toxicity on animal model and mammalian RBCs.

No. of Pages : 17 No. of Claims : 10



**INTELLECTUAL
PROPERTY INDIA**

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA

पेटेंट कार्यालय
THE PATENT OFFICE

पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

क्रमांक : 033111430
SL No :



पेटेंट सं. / Patent No. : 339332
आवेदन सं. / Application No. : 201831022820
फाइल करने की तारीख / Date of Filing : 19/06/2018
पेटेंटी / Patentee : 1.BIMAL KUMAR SARMA 2.PRADHYUT RAJKUMAR
3.BIKASH SARMA

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित AN IMPROVED AZO SPUTTERING TARGET FOR MANUFACTURING TRANSPARENT CONDUCTING FILM AND THE METHOD THEREOF नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 19th day of June 2018 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled AN IMPROVED AZO SPUTTERING TARGET FOR MANUFACTURING TRANSPARENT CONDUCTING FILM AND THE METHOD THEREOF as disclosed in the above mentioned application for the term of 20 years from the 19th day of June 2018 in accordance with the provisions of the Patents Act,1970.



अनुदान की तारीख : 25/06/2020
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

OkSupte

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 19th day of June 2020 को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 19th day of June 2020 and on the same day in every year thereafter.



Office of the Controller General of Patents, Designs & Trade Marks
 Department for Promotion of Industry and Internal Trade
 Ministry of Commerce & Industry,
 Government of India

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



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

Application Details

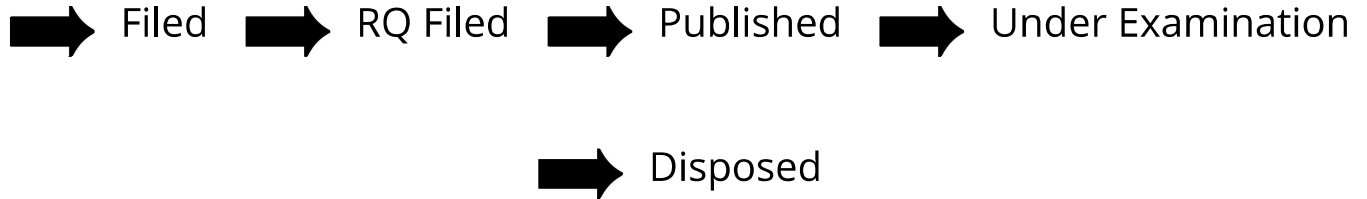
APPLICATION NUMBER	202331023776
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	30/03/2023
APPLICANT NAME	1 . DR.MANAS DAS 2 . MRS.PRITIMONI DAS 3 . DR.PRANJAN BARMAN 4 . DR.NABA KUMAR HAZARIKA
TITLE OF INVENTION	A POLYHERBAL FORMULATION FOR THE TREATMENT OF OBESITY INDUCED COMPLICATIONS AND THE METHOD OF ITS PREPARATION
FIELD OF INVENTION	CHEMICAL
E-MAIL (As Per Record)	
ADDITIONAL-EMAIL (As Per Record)	manasdasne@gauhati.ac.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	06/09/2023
PUBLICATION DATE (U/S 11A)	15/09/2023

Application Status

APPLICATION STATUS

Application Awaiting Examination

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

Urkunde

über die Eintragung des Gebrauchsmusters Nr. 20 2022 101 525

Bezeichnung:

Ein System zur Herstellung von Verbundstoffen auf Paraffinbasis PCM für die
Speicherung latenter Wärmeenergie

IPC:

C09K 5/06

Inhaber/Inhaberin:

Barman, Pranjan, Guwahati, Assam, IN
Bhagwat, Virendra Vishnu, Pune, Maharashtra, IN
Chowdhury, Avijit, Bongaon, West Bengal, IN
Das, Biplab, Silchar, Assam, IN
Das, Nipom Sekhar, Cachar, Assam, IN
Debbarma, Sumita, Silchar, Assam, IN

Tag der Anmeldung:

23.03.2022

Tag der Eintragung:

13.04.2022

Die Präsidentin des Deutschen Patent- und Markenamts

Cornelia Rudloff-Schäffer

Cornelia Rudloff-Schäffer

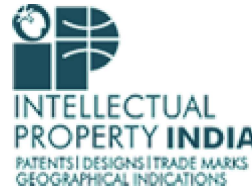
München, 13.04.2022





Office of the Controller General of Patents, Designs & Trade Marks
 Department for Promotion of Industry and Internal Trade
 Ministry of Commerce & Industry,
 Government of India

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



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

Application Details

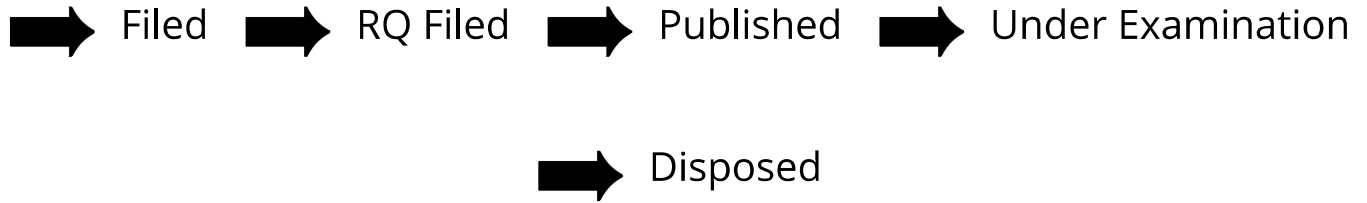
APPLICATION NUMBER	202031027554
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	29/06/2020
APPLICANT NAME	1 . INSTITUTE OF ADVANCED STUDY IN SCIENCE AND TECHNOLOGY An Autonomous Institute of Department of Science & Technology, Govt. of India 2 . GAUHATI UNIVERSITY An Indian Institute
TITLE OF INVENTION	HERBAL FORMULATION FOR PREVENTION OF TYPE 2 DIABETES MELLITUS AND CONDITIONS ASSOCIATED THEREWITH
FIELD OF INVENTION	CHEMICAL
E-MAIL (As Per Record)	mail@seenergi.com
ADDITIONAL-EMAIL (As Per Record)	mail@seenergi.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	29/06/2020
PUBLICATION DATE (U/S 11A)	31/12/2021
REPLY TO FER DATE	13/10/2022

Application Status

APPLICATION STATUS

IN ORDER FOR GRANT UNDER SECTION 43,AWAITING NBA APPROVAL

[View Documents](#)

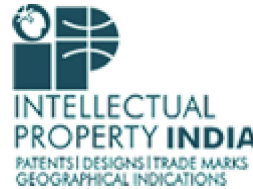


In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in



Office of the Controller General of Patents, Designs & Trade Marks
 Department for Promotion of Industry and Internal Trade
 Ministry of Commerce & Industry,
 Government of India

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



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

Application Details

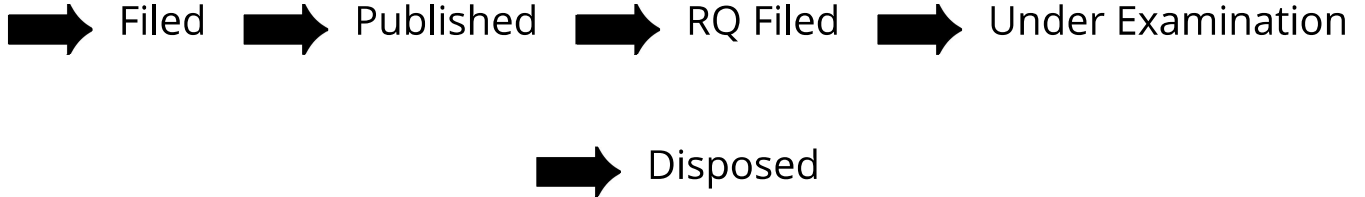
APPLICATION NUMBER	202231033376
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	10/06/2022
APPLICANT NAME	1 . Dr. Biplab Das 2 . Dr. Dibyendu Pal 3 . Dr. Pranjan Barman
TITLE OF INVENTION	Compressed Air Production and energy generation using Vehicle Suspension.
FIELD OF INVENTION	MECHANICAL ENGINEERING
E-MAIL (As Per Record)	dr.bksarkar2003@yahoo.in
ADDITIONAL-EMAIL (As Per Record)	biplab.2kmech@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	08/07/2022

Application Status

APPLICATION STATUS

Awaiting Request for Examination

[View Documents](#)



In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in