

**Patent Filing records**

<b>Name</b>	<b>Dept</b>	<b>Patent filing no.</b>	<b>Date of application</b>	<b>Title of the patent</b>	<b>Status</b>
DR. (PROF) SRIKANTA PAL MRINMOY CHAKRABORTY and BIRLA INSTITUTE OF TECHNOLOGY	ECE	814/KOL/2013	09/07/2013	AN ULTRA-WIDEBAND ANTENNA AND PROCESS OF FABRICATION OF THE ANTENNA	Grant on 26/10/22
Dr. D. Sinha, Chaity Sarkar, Kingsuk Majumdar	EE	202031036378	24/08/2020	A SOLAR POWERED AUTOMATED SEED SOWING BOT	Published and FER submitted
Dr. R. Banerjee Manash K Paul, Pulakesh Roy,	ECE	202031024063	09/06/2020	METHODS AND DISINFECTION EQUIPMENT FOR RESPIRATORS AND PERSONAL PROTECTIVE EQUIPMENT	Published
Dr. R. Banerjee Suman Halder, Arindam Mondal	ECE	202131022335	29/10/2021	A REAL TIME DATA LOGGER TO MONITOR BATTERY STATE OF HEALTH	Published
Arindom Mondal, Suman Halder, Dr. R. Banerjee	ECE	202231059097	17/10/2022	AN IoT BASED MULTI CHANNEL DATA LOGGER TO MONITOR BATTERY STATE OF HEALTH OF BATTERY OPERATED VEHICLES	Published
Dr. Dola Sinha, Mr. Kingsuk Majumdar, Ms. Suchismita Dutta, Mr. Dipnarayan Das, Mr. Sovan Bhattacharya	EE & CSE	202231070943	08-12-2022	A FUZZY LOGIC OPERATED AUTOMATIC EGG INCUBATING SYSTEM	Filled (applied for publication)



**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 : 033121806  
SL No :



पेटेंट सं. / Patent No. : 409866  
आवेदन सं. / Application No. : 814/KOL/2013  
फाइल करने की तारीख / Date of Filing : 09/07/2013  
पेटेंटी / Patentee : 1.DR. (PROF) SRIKANTA PAL 2.MRINMOY  
CHAKRABORTY 3.BIRLA INSTITUTE OF TECHNOLOGY

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित AN ULTRA-WIDEBAND ANTENNA AND PROCESS OF FABRICATION OF THE ANTENNA नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख जुलाई 2013 के नौवें 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 AN ULTRA-WIDEBAND ANTENNA AND PROCESS OF FABRICATION OF THE ANTENNA as disclosed in the above mentioned application for the term of 20 years from the 9<sup>th</sup> day of July 2013 in accordance with the provisions of the Patents Act, 1970.



अनुदान की तारीख : 26/10/2022  
Date of Grant :

पेटेंट नियंत्रक  
Controller of Patent

**टिप्पणी** - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, जुलाई 2015 के नौवें 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 9<sup>th</sup> day of July 2015 and on the same day in every year thereafter.



**ANJAN SEN & ASSOCIATES**  
PATENT & TRADE MARK ATTORNEYS

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————— Consultation Centre: —————  
207, Canal Street, Kolkata – 700 048, India  
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Specializing in Intellectual Property Laws:  
Patents, Trade Marks, Designs, Copyright  
Registrations & Enforcement: Indian & Foreign

Dr. Dola Sinha  
Department of Electrical Engineering,  
Dr. B. C. Roy Engineering College, Durgapur,  
India, PIN-713206.

16<sup>th</sup> August, 2021

Dear Sir,

Re: Patent Application no. 202031036378 Dated 24-08-2020 in India  
entitled "A SOLAR POWERED AUTOMATED SEED SOWING BOT" in the  
names of Dr. Dola Sinha, Dr. Chaity Sarkar, Mr. Kingsuk  
Majumdar & Ms. Suchismita Dutta.  
Our Ref.: 4163/ASA/PP-3169/DS

We are pleased to confirm that pursuant to your instruction vide e-mail dated 13<sup>th</sup>  
August, 2021 approving the draft Complete Specification, we have prepared and  
filed the subject Patent Application at the Patent Office by online filing on 16<sup>th</sup>  
August, 2021 and the as filed copies along with Official e-receipt are attached  
herewith for your kind perusal and records.

The next action of the subject application is the filing of Request for Examination  
which should be filed any time within 48 months from the date of priority of the  
application (provisional filing having date of filling of 24.08.2020), i.e. within the due  
date of 24.08.2024 and on which we shall await your further instructions. Please  
note that failure to file the Request for Examination by the said due date will allow  
the said application to lapse and be treated as ABANDONED.

In case you wish to incorporate the names of inventors in the patent certificate, a  
request should be filed in prescribed manner with applicable fees at any stage before  
the grant. You may advise us accordingly.

We shall keep you informed of the developments related to the subject application in  
due course. Our related invoice on attending to the above Completion after  
Provisional shall follow through our Accounts Dept. in due course

With Regards,

Yours Sincerely,

D.P. Sengupta

Enco: As stated above.

**FORM 5**  
THE PATENTS ACT, 1970  
(39 of 1970)  
&  
THE PATENTS RULES, 2003  
**DECLARATION AS TO INVENTORSHIP**  
[See Section 10(6) and rule 13(6)]

1. We, **Dr. Dola Sinha**; An Indian National; Department of Electrical Engineering, Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206; **Dr. Chaity Sarkar**; An Indian National; Department of Electrical Engineering, Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206; **Mr. Kingsuk Majumdar**; An Indian National; Department of Electrical Engineering, Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206; **Ms. Suchismita Dutta**; An Indian National; Department of Electrical Engineering, Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206; hereby declare that the true and first inventor of the invention disclosed in the complete specification filed in pursuance of our application numbered **202031036378** dated **24.08.2020** are:

**2. INVENTOR(S):**

(a)Name : **Dr. Dola Sinha**;  
Nationality : An Indian National.  
Address : Department of Electrical Engineering,  
Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206.

(b)Name: **Dr. Chaity Sarkar**;  
Nationality: An Indian National.  
Address: Department of Electrical Engineering,  
Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206.

(c)Name: **Mr. Kingsuk Majumdar**;  
Nationality: An Indian National.  
Address: Department of Electrical Engineering,  
Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206.

(d)Name: **Ms. Suchismita Dutta**;  
Nationality: An Indian National.  
Address : Department of Electrical Engineering,  
Dr. B. C. Roy Engineering College, Durgapur, India, PIN-713206.

Dated this the 16<sup>th</sup> Day of August, 2021

Signature

Name of the signatory:



Anjan Sen  
Of Anjan Sen and Associates  
(Applicants Agent)  
IN/PA-199

**3. ~~DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT(S) IN THE CONVENTION COUNTRY:-~~**

~~We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way or assignment from the true and first inventor(s).~~

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20

Signature

Name of the signatory

**4. STATEMENT** (to be signed by the additional inventor(s) not mentioned in the application form)  
~~I/ We assent to the invention referred to in the above declaration, being included in the complete specification filed in pursuance of the stated application.~~

~~Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20~~

**To,  
The Controller of Patents  
The Patent Office  
Kolkata.**

Welcome ANJAN SEN [Sign out](#)

Controller General of Patents, Designs & Trade  
Marks  
CP-2, Sector V, Salt Lake City, Kolkata-700091  
Tel No. (091)(033) 23671945-46 Fax No. 033 23671988  
E-mail: kolkata-patent@nic.in  
Web Site: www.ipindia.gov.in



Docket No 27021

Date/Time 2021/08/16  
15:23:23

ANJAN SEN ANJAN SEN &  
ASSOCIATES, 17,  
CHAKRABERIA ROAD, SOUTH

Sr. No.	Ref. No./Application No.	App. Number	Amount Paid	C.B.R. No.	Form Name	Fee Payment	Remarks
1	E-2/240/2021/KOL	202031036378	0	—	FORM 2	Full	ONLINE
2	E-5/635/2021/KOL	202031036378	0	—	FORM 5	Full	ONLINE

Total Amount : ₹ 0

Amount in Words: Rupees Only

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(12) PATENT APPLICATION PUBLICATION

(21) Application No.202031036378 A

(19) INDIA

(22) Date of filing of Application :24/08/2020

(43) Publication Date : 10/09/2021

(54) Title of the invention : A SOLAR POWERED AUTOMATED SEED SOWING BOT.

(51) International classification	:B25J0009160000, F21S0009030000, A01G0022000000, H01L0023498000, H02J0007350000	(71) <b>Name of Applicant :</b> <b>1)Dr. Dola Sinha</b> Address of Applicant :Department of Electrical Engineering, Dr. B. C. Roy Engineering College, Durgapur West Bengal India PIN-713206
(31) Priority Document No	:NA	<b>2)Dr. Chaity Sarkar</b>
(32) Priority Date	:NA	<b>3)Mr. Kingsuk Majumdar</b>
(33) Name of priority country	:NA	<b>4)Ms. Suchismita Dutta</b>
(86) International Application No	:NA	(72) <b>Name of Inventor :</b>
Filing Date	:NA	<b>1)Dr. Dola Sinha</b>
(87) International Publication No	: NA	<b>2)Dr. Chaity Sarkar</b>
(61) Patent of Addition to Application Number	:NA	<b>3)Mr. Kingsuk Majumdar</b>
Filing Date	:NA	<b>4)Ms. Suchismita Dutta</b>
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

The present invention relates to a solar powered automated seed sowing Bot/vehicle. More particularly, the present invention is directed to a solar powered vehicle comprising various units like sensor based obstacle avoidance, dead end detection and self-turning of the motor operated agricultural robotic device having controlled seed dispensing involving a ladle-sliding plate and rod mechanism that is controlled by the stepper motor, and fertilizer dispensing mechanisms, and sensor based detection of moisture present in the soil and with the suitable predefined set value of the moisture sensor can initiate the seeding process, furrow opener and furrow closer facilitating sowing of seeds at required depth of soil, thus ensuring proper implementation of automated seed sowing in field at required rate and spacing with minimized seed wastage, needing minimum human intervention.

No. of Pages : 28 No. of Claims : 9



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 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	202031024063
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	09/06/2020
APPLICANT NAME	1 . Rajib Banerjee 2 . Manash K. Paul
TITLE OF INVENTION	METHODS AND DISINFECTION EQUIPMENT FOR RESPIRATORS AND PERSONAL PROTECTIVE EQUIPMENT
FIELD OF INVENTION	BIO-MEDICAL ENGINEERING
E-MAIL (As Per Record)	rajib123banerjee@gmail.com
ADDITIONAL-EMAIL (As Per Record)	paul_cancerbiotech@yahoo.co.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	02/07/2021

#### Application Status

APPLICATION STATUS	<b>Awaiting Request for Examination</b>
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 Department of Industrial Policy & Promotion,  
 Ministry of Commerce & Industry,  
 Government of India

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#### Application Details

APPLICATION NUMBER	202131022335
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	19/05/2021
APPLICANT NAME	1 . Rajib Banerjee 2 . Arindam Mondal 3 . Suman Halder
TITLE OF INVENTION	A REAL TIME DATALOGGER TO MONITOR BATTERY STATE OF HEALTH
FIELD OF INVENTION	ELECTRICAL
E-MAIL (As Per Record)	rajib123banerjee@gmail.com
ADDITIONAL-EMAIL (As Per Record)	rajib123banerjee@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	03/03/2023
PUBLICATION DATE (U/S 11A)	29/10/2021

#### Application Status

APPLICATION STATUS	<b>Application referred u/s 12 for examination.</b>
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 Department of Industrial Policy & Promotion,  
 Ministry of Commerce & Industry,  
 Government of India

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#### Application Details

APPLICATION NUMBER	202231059097
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	17/10/2022
APPLICANT NAME	1 . Arindam Mondal 2 . Mr. Suman Haldar 3 . Dr. Rajib Banerjee
TITLE OF INVENTION	AN IoT BASED MULTI CHANNEL DATA LOGGER TO MONITOR BATTERY STATE OF HEALTH OF BATTERY OPERATED VEHICLES
FIELD OF INVENTION	ELECTRICAL
E-MAIL (As Per Record)	arininstru@gmail.com
ADDITIONAL-EMAIL (As Per Record)	drarindammondal@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	09/03/2023
PUBLICATION DATE (U/S 11A)	21/10/2022

#### Application Status

APPLICATION STATUS	<b>Application referred u/s 12 for examination.</b>
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[View Documents](#)

**FORM 5**  
THE PATENTS ACT, 1970  
(39 of 1970)  
&  
THE PATENTS RULES, 2003  
**DECLARATION AS TO INVENTORSHIP**  
[See Section 10(6) and rule 13(6)]

1. We, Dr. Dola Sinha of Dr. B. C. Roy Engineering College, Durgapur, West Bengal, India, Mr. Kingsuk Majumdar of Dr. B. C. Roy Engineering College, Durgapur, West Bengal, India, Ms. Suchismita Dutta of COGNIZANT TECHNOLOGY SOLUTIONS, Bangalore, Karnataka, India, Mr. Dipnarayan Das of NIT Durgapur, Durgapur, West Bengal, India and Mr. Sovan Bhattacharya of Dr. B. C. Roy Engineering College, Durgapur, West Bengal, India, hereby declare that the true and first inventor of the invention disclosed in the complete specification filed in pursuance of our application numbered **202231070943** dated 08-12-2022 are:

**2. INVENTOR(S):**

i. Name: Dr. Dola Sinha

Nationality: Indian

Address: Dr. B. C. Roy Engineering College, Durgapur, West Bengal, India.

ii. Name: Mr. Kingsuk Majumdar

Nationality: Indian

Address: Dr. B. C. Roy Engineering College, Durgapur, West Bengal, India.

iii. Name: Ms. Suchismita Dutta

Nationality: Indian

Address: COGNIZANT TECHNOLOGY SOLUTIONS, Bangalore, Karnataka, India.

iv. Name: Mr. Dipnarayan Das

Nationality: Indian

Address: NIT Durgapur, Durgapur, West Bengal, India.

v. Name: Mr. Sovan Bhattacharya

Nationality: Indian

Address: Dr. B. C. Roy Engineering College, Durgapur, West Bengal, India.

Dated this 14th Day of July, 2023



Signature

Name of the signatory: Anjan Sen Of Anjan Sen and Associates  
(Applicants Agent)  
IN/PA-199

**3. ~~DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT(S) IN THE CONVENTION COUNTRY:-~~**

~~We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).~~

~~Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20~~

~~Signature~~

~~Name of the signatory~~

**4. ~~STATEMENT~~ (to be signed by the additional inventor(s) not mentioned in the application form)**

~~I/ We assent to the invention referred to in the above declaration, being included in the complete specification filed in pursuance of the stated application.~~

~~Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20~~

**To,  
The Controller of Patents  
The Patent Office  
Kolkata.**