



# AMITY INSTITUTE OF NANOTECHNOLOGY

# **PATENT LIST**

S.No.	Name of Inventors	Title	Application No.	Date of Submission	Status
1.	Dr. R. P. Singh Dr. Monika Joshi	Development of Humidity Sensor using cross linking polymer with electrolyte.	498/DEL/2009	March 16, 2009	Granted (29.09.202 0)
2.	Prof. T. Basu	A Novel transducer matrice for amperometric cholesterol biosensor	734/DEL/2009	April 9, 2009	Granted (13.08.202 1
3.	Dr. O.P Sinha, Charu Vashishth, Dr. R. P. Singh	Process for imparting or enhancing electrical conductivity of polymer matrix with semiconductor nanoparticles	898/DEL/ 2009	May 1, 2009	Granted (11.03.201 9)
4.	Prof. T. Basu, Harsh Kapoor	A process for the synthesis of semiconducting metal oxide nanoparticles of controlled size distribution	1053/DEL/2009	May 22, 2009	Granted (19.02.201 9)
5.	Dr. Arpita Bhattacharya & Dr. R.P. Singh	Prolonged release mosquito repellent formulations	765/DEL/2009	April 15, 2009	Granted (04.06.202 0)

6.	Dr. Sandip Chakrabarti & Dr. R.P. Singh	Method for preparation of catalyst its activity and method for treatment of Textile wastewater	900/DEL/2009	May 1, 2009	Granted (11.03.201 9)
7.	Mr. Robin Kumar	A highly functional semiconductor integrated circuit device	921/DEL/ 2009	May 5, 2009	Granted (02.12.201 9)
8.	Deepshikha and Tinku Basu	Process of synthesis a novel a transducer and its application there of in biosensors	704/DEL/2009	2009	
9.	Dr. R. P. Singh	Synthesis of Fenugreek (Trigonella foenum- graecum) leaf extract mediated Ag nanoparticles and their mechanism of formation	2571/DEL/2010	October 27, 2010	
10.	Dr. R. P. Singh,	Anti-Bacterial effect on Fenugreek (Trigonella foenum- graecum) leaf extract mediated silver nanoparticles	2708/DEL/2010	November 12, 2010	
11.	Dr. R. P. Singh	Synthesis of Ag nanoparticle from seed extract	3363/DEL/2011	November 14, 2011	
12.	Garima Singhal, RP Singh, Mima Kurian	Biosynthesis of silver nanoparticles using Myristica Fragrans (nutmeg) seed extract	3621/DEL/2011	December 13, 2011	
13.	Prof. T. Basu	Development of reusable transducer matrix based on nanostructured Polyaniline and application to biosensors,	1478/DEL/2011	May 24, 2011	Granted (04.02.202 0)
14.	Prof. T. Basu	A process for the development of triglyceride biosensor based on a Platinum nano particle and	1318/DEL/2012	April 25, 2012	

		Polypyrrole nano composite electrode			
15.	Prof. T. Basu	A Novel reusable cholesterol biosensor based on Gold nanoparticles decorated Graphene-Nanostructured Polyaniline Nanocomposite	1371/DEL/2012	May 4, 2012	Granted (19.03.202 1)
16.	Dr. Pratima Solanki, Prof. Tinku Basu	Sensitive and specific for the Vibrio cholera detection	3964/DEL/2012	December 21, 2012	Granted
17. ran ted	Dr. O.P. Sinha & Dr. Sandip Chakrabarti	Efficient organic photovoltaic devices using photoactive graphene oxide, organic linkers and semiconductor nanoparticles	1029/DEL/2012	April 3, 2012	
18.	Dr.Arpita Bhattacharya, Dr. R.P. Singh	A micro incapsulation of citronella oil for slow release insect repellant formulation	3962/DEL/2012	December 21, 2012	
19.	Dr.Sandip Chakrabarti & Dr. O.P.Sinha	Graphene based chemical sensor for the detection of toxic heavy metal complexes in drinking water	1030/DEL/2012	April 3, 2012	Granted (27.04.202 0)
20.	Dr. Ashish Mathur, Harsh Jain, Dr. O. P. Sinha, Dr. R.P. Singh	A novel hand held micro-electrode sensor for detecting fuel adulteration based on microfluidic platform	2374/DEL/2013	August 8, 2013	Granted (15.02.202 3)
21.	Dr. Monika Joshi, Pranauv Balaji	Green synthesis of silver nanoparticles using ethanoic extracts of Zanthoxylum Alatum Leaves	3104/DEL/2013	February 2, 2013	Granted (30.01.202 3)
22.	Dr. Monika Joshi, Pranav Balaji	Novel synthesis of magnetic Iron oxide nanoparticles using cinnamon leaf extract	3281/DEL/2013	November 11 2013	Granted in (23.03.202 2)

23.	Dr. Susmita Mitra & Ms.Gizelle Sethi	Novel biodegradable nanoparticles for controlled release drug delivery	1402/DEL/2013	May 10, 2013	
24.	Dr. A.B.V. Kiran Kumar, Dr. Mohan Raja	Method for synthesis of thin silver nanowires	370/DEL/2014	February 10, 2014	
25.	Dr. Mohan Raja, Dr. A.B.V. Kiran Kumar	A novel method of forming flexible multi-walled carbon nanotubes foil	367/DEL/ 2014	February 10, 2014	
26.	Mr. Robin Kumar, Dr. Neelam Kushwaha, Dr. Ranjit Kumar	Ammonia Gas Sensing Using a Thin Film of MnO2 Nano- fibers	2897/DEL/ 2014	October 10, 2014	
27.	Dr. Ashish Mathur	A miniaturized sensor based on microfluidic platform for caffeine detection from food samples	2961/DEL/ 2014	October 17, 2014	
28.	Dr Shikha Wadhwa, Dr. Ashish Mathur	A Rapid Detection and Photocatalytic Degradation of Amoxicillin Using Titania Thin Film	192/DEL/2015	February 2, 2015	Granted on (26.09.202 2)
29.	Dr. Ashish Mathur, Dr. Shikha Wadhwa, Mr. Rathin Gupta	A novel hand-held Chemical free, Milk Adulteration test kit based on Micro fluidic sensor platform	2431/DEL/2015	October 19, 2015	
30.	Dr. O.P. Sinha, Dr. Richa Krishna, Dr. Sandip Chakraborty	Non magnetic elements doped semiconducting metal oxide materials and its utilization in organic electronics	2043/DEL/2015	July 4, 2015	
31.	Dr. O.P. Sinha,	Hydrogels for transdermal Drug delivery and a method to manufacture the same	1388/DEL/2015	May 18, 2015	
32.	Dr. Nupur Bahadur	An efficient and economical process for primary treatment of effluents as well as sludge of textile and dyeing industry	1825/DEL/2015	June 20, 2015	

33.	Dr. Jagriti Narang, Dr. Nidhi Chauhan, Dr.Nitish Malhotra, Chaitali Singhal, Dr. C. S. Pundir	Nanoheterostructure composite for sensing metformin.	2430/DEL/2015	August 7, 2015
34.	Dr. Monika Joshi	Biosynthesis of Zinc Oxide nanorods using citrullus lanatus extract.	3399/DEL/2015	March 11, 2015
35.	Dr. Monika Joshi	Algae GO nanocomposite for reduction of Textile Dye.	3994/DEL/2015	March 11, 2015
36.	Dr. Nupur Bahadur	An improved membrane free photocatalytic reactor for treatment of Industrial effluent and sludge	3950/DEL/2015	December 4, 2015
37.	Dr. Nupur Bahadur	A process for bandgap restructuring of titania using combination of surfactants and metal ions	3401/DEL/2015	November 25, 2015
38.	Dr. Jagriti Malhotra, Nidhi Chauhan, Nitesh Malhotra, Chetali Singhal, Vanita Chandel	Method for enhancing the PCR amplification by using MgO nanoparticles	3972/DEL/2015	December 7, 2015
39.	Dr. Jagriti Malhotra	Wheelchair having armrest cum transfer Board with anti-skid mechanism	2955/DEL/2015	October 21, 2015
40.	Dr. Monika Joshi	Green Synthesis of Graphene oxide using Chlorella pyrenoidosa	201611014935	April 24, 2016
41.	Dr. Jagriti Malhotra	A System and method for Naked eye quantitative assay for date rape drug sensing.	201611025138	May 5, 2016
42.	Dr. Jagriti Malhotra	A system and method for smearless detection of DNA with various morphologies of zinc	201611012990	March 3, 2016

		nanomaterial in agarose gel electrophoresis			
43.	Dr. Jagriti Malhotra	Flexible planter fasciitis prop	201611003247	January 7, 2016	
44.	Dr Utkarsh Jain, Shikha Wadhwa, Nidhi Chauhan, Ashish Mathur	Development of Molecularly Imprinted Polymer (MIP) based Microfludic device for Serotonin detection	201611032517	May 10, 2016	
45.	Dr. Nidhi Chauhan	Impedimetric sensing method utilizing enzyme bound nanohybrid film for highly sensitive monitoring of antibiotics in forensic samples	201611041230	2016	
46.	Dr.Ranu Nayak and Harsimran Singh Bindra	A simple cost- effective transfer process of highly uniform thin nanoporous alumina membrane onto rough and flat substrates	201711016285	May 9, 2017	
47.	Dr. Arpita Bhattacharya	A method of controlling root knot nematode	201711003055	January 21, 2017	
48.	Dr. Ranu Nayak, Kritika Pandey, Dr. Swati Jain and Dr. Jagjiwan Mittal	Cost effective smart Sponges for efficient removal of oil, organic pollutant and pathogens for industrial wastewater	201711016712	May 12, 2017	
49.	Dr. Arpita Bhattacharya	Silica nanoparticle as growth promoter of bioagents under in vitro studies	201711008220	March 9, 2017	
50.	Dr. Arpita Bhattacharya	Synthesis of linoleic acid from microalgae using magnetic coreshell nanoparticle	201711011619	January 31, 2017	
51.	Dr. Monika Joshi, Ms. Mahima Sharma	Novel route for biosynthesis of green algae mediated	201711021884	April 25, 2017	

		Titanium Oxide (TiO2) nanoparticles with high yield			
52.	Apoorv Gupta, Adeeba Shakeel, Sujata Sangam, Deepa Suhag, Vinod Kumar, Rohan Bhattacharya, O. P Sinha, Sandip Chakrabarti and Monalisa Mukherjee	Method for preparation of highly fluorescent. Biocompatible sulphur doped graphene quantum dots from affordable agro-industrial biowaste cane molasses using hydrothermal synthesis for bioimaging application	201711016713	May 5, 2017	Granted on (19.05.202 2)
53.	Dr. D. K. Avasthi	TIONX based passive heating water tank	201711032733	2017	
54.	Aarti Singh, Adeeba Shakeel, Monalisa Mukherjee (AICCRS), Sandip Chakrabarti (AINT), Satyendra Kumar Rajput (AIP), Himadri Bihari Bohidar (JNU), Kamla Rawat (JNU), AUUP, Noida. Email: mmukherjee@ami ty.edu, M- 9873279964	N-doped Carbon Nano Sheet based hydrogel composite for wound healing	201811021906	12/06/2018	Granted (02.02.202 3)
55.	Dr. Monika Joshi, Ms. Mahima Sharma	A novel one-pot Bio- directed synthesis of stable ZnO Nanospheres using lemon and honey	201711031211	August 18, 2017	
56.	Dr. Ranjit Kumar, Dr. Ashish Mathur, Dr. Shikha Wadhwa	MnO2 Nanofibers - Based Bisphenol Electrochemical Sensor	201711041779	Oct-17	
57.	Isha Fuletra, Sumaya Nisar, Aakshi Jairath,Punya, Tinku Basu	A modified sensor for ultra low detection of Arsenic in contaminated water	201711033463	September 21, 2017	

58.	Dr. Nidhi Chauhan , Utkarsh Jain and Shaivya Gupta	An electrochemical Label Free immunosensor for rapid detection of H.Pylori and its method	201711032732	September 12, 2017
59.	Utkarsh Jain and Nidhi Chauhan	Home based three parameter measuring device for next generation management of diabetes	201711021883	June 20, 2017
60.	Utkarsh Jain, Nidhi Chauhan, Dishant Nigam and Abhinav Arora	Vitamin B7 detection through impedimetric sensing device.	201711029678	August 21, 2017
61.	Utkarsh Jain and Nidhi Chauhan	A molecularly imprinted (MIP) based GABA detection platform for behavior, cognition and body's response to stress	201711042953	September 28, 2017
62.	Dr. R. M. Tripathi	A Method for Biosynthesis of Stannic Oxide Microbars	201711034682	September 29, 2017
63.	Chansi, Punya, Irani Mukherjee, Tinku Basu, Pawan K Agrawal , Lalit M Bharadwaj	Ultrasensitive novel electrode for rapid detection of pesticides in vegetable extract collected from field	201811006552	February 21, 2018
64.	Dr. Nidhi Chauhan and Dr. Utkarsh Jain	A dual detection platform for snake venom toxin	201811013630	March 6, 2018
65.	Dr. Utkarsh Jain, Dr. Nidhi Chauhan, Sukirti Tiwari and Mayukh Tikadar	A dual mode technique for estimation of concentration change of analyte in dopaminergic effect	20181109539	March 14, 2018
66.	Dr. Utkarsh Jain and Dr. Nidhi Chauhan	Molecularly imprinted polymer based impedimetric detection of neurotransmitter acetycholine on	201811009541	March 14, 2018

		screen printed electrode.		
67.	Dr. Nidhi Chauhan and Dr. Utkarsh Jain	A dual impedimetric immune-sensing for helicobacter pylori detection	201811009540	March 14, 2018
68.	Dr. Ashish Mathur, Mr. Souradeep Roy, Dr. Shikha Wadhwa, Dr. Ranjit Kumar	Smart bandage for impedimetric detection of L-tyrosine in diabetic foot ulcer (DFU) patients.	201811039747	October 18, 2018
69.	Dr. Ranjit Kumar, Mr. Deepak K. Sharma, Dr. D. K. Avasthi, Dr. Basant. S. Sikarwar	Novel method for growth of super-hydrophobic silica nanostructures on metallic surfaces	CRN3211/DEL/2018	November 16, 2018
70.	R. Pragadeeshwara Rao, Chansi, Shalini, Indrajit Roy, Tinku Basu	Robust electrochemical assay for antibiotic susceptibility testing of pathogenic bacteria	201811043408	November 19, 2018
71.	Chansi, Punya, Rashi Bharadwaj, Karan Hadwani, Tinku Basu, Pawan K Agrawal, Lalit M Bharadwaj	An immunosensor for ultra low detection of total pesticide concentration in vegetable extract	201811034534	September 13, 2018
72.	Dr. Nidhi Chauhan, Ms. Shakshi Pareek and Dr. Utkarsh Jain	Electrochemical sensor using hybrid nanomaterials for cervical cancer detection.	201911000276	January 3, 2019
73.	Nada Rahman, B.P. Nayak, J. N. Malhotra, M. Khanuja and O.P. Sinha	Nanoparticles integrated with lactose on FTO act as sensing interface for femto-molar detection of Ricin.	201911002753	January 23, 2019
74.	Dr. Nidhi Chauhan, Dr. Utkarsh Jain, Dr. Manika Khanuja	PD Nanoparticles and molybdenum disulfide (MOS2) integrated sensing.	201911024092	June 18, 2019

75.	Dr. Nidhi Chauhan, Asmita Gupta, Dishant Nigam, Abubav Arira, SNC Sai Prasad	A calmodulin based calcium sensing device	201911011663	June 18, 2019
76.	Dr. Utkarsh Jain, Dr. Nidhi Chauhan	Organophosphorous pesticide detection by molecularly imprinted polymer/ MOS2 based biosensor.	201911011664	June 18, 2019
77.	Shikha Wadhwa, Alishba T John, Ashish Mathur	Microfluidic based low cost point-of- care apta-sensor for detection of Vitamin D3	CRN3627	November 21, 2019
78.	Shikha Wadhwa, Ashish Mathur, Alishba T John	Development of luminescent thin film based on graphene quantum dots (GQDs) for various applications	CRN3635	December 6, 2019
79.	Mahima Sharma, Subhasha Nigam, Monika Joshi, Kannikka Behl, D. K Avasthi, Rupal Sarup	Superhydrophobic textile sludge derived biochar- polydimethylsiloxane nanocomposite for produced water remediatio	CRN3658	September 27, 2019
80.	Dr. Arpita Bhattacharya	Development of polyurethane based hydrophobic coating formulation with titania nanoparticles prepared through peptization method	CRN2714	March 30, 2020
81.	Dr. Arpita Bhattacharya	Waste water treatment with sugarcane bagasse based carbon material and titania nanoparticle mixture.	201911014266 (Published on 20.08.2021)	April 9, 2020
82.	Ranu Nayak, Sudeep Bose and Sangeeta Choudhury	An ultrasensitive and accurate single/multiplexed detection of both DNA and protein biomarker in the same platform	202011007723	April 2020

83.	Shalini Nagabooshanam, Asish Venkat, Ashish Mathur, Ashwani K Dubey, Shikha Wadhwa	Development of low- cost, portable electronic device using bio-conjugated metal organic framework for detection of organophosphate pesticides	Under process	January 28, 2020
84.	Dr. Nidhi Chauhan, Dr. Utkarsh Jain, Sapna Balayan	Electrochemical ultra-sensitive detection of neonatal sepsis.	Under process	April 2020
85.	Dr.Utkarsh Jain, Dr. Nidhi Chauhan, Shringika, Sapna Balayan	A capillary based direct SARS detection device	Under process	April 2020
86.	Dr. Utkarsh Jain, Dr. Nidhi Chauhan, Sapna Balayan	Immunosensor based detection for neonatal sepsis.	Under process	April 2020
87.	Utkarsh Jain, Nidhi Chauhan, Shringika Soni, Kirti Saxena, Sapna Balayan	Aptasensor based detection of SARS- CoV-2 on Screen Printed Electrode.	Under process	April 2020
88.	Nidhi Chauhan, Utkarsh Jain and Sakshi Pareek,	'An ultra sensitive and selective nano-molecular Imprinting polymer based electrochemical Sensor for Follicle-stimulating hormone (FSH) detection'	2021110057	February 11,2021
89.	Dr. Monika Joshi, Dr. Sandip Chakrabarti	A method for rapid removal of diclofenac sodium from aqueous solution by nitrogen doped graphene Nanosheet.	202111030431	07 July 2021
90.	Arpita Bhattacharya	A method of preparing a porous activated carbon from Guar Gum-Alginate composite gel	202111059125	18 <sup>th</sup> July 2021

91.	Arpita Bhattacharya	A method for preparation of Carbon Black and Nano-Silica from Rice Husk	202111053510	22 <sup>nd</sup> November 2021
92.	Sandip Chakrabarti	A porous coral like M@mox/C hybrids for removing antibiotics from aqueous solution and method thereof	202111062273	31st December 2021
93.	Monika Dubey, Jyoti Sharma, Subhasha Nigam, Monika Joshi,	A novel composition and synthesis of CEO2 nanoparticles using microalgae for photocatalytic degradation of doxycycline in water thereof	202211008856	February 21, 2022
94.	Monica Jaiswal, Robin Kumar, Ravi mani Tripathi, Jagjiwan Mittal, AINT, AUUP, Noida	'BISMUTH OXIDE NANORODS FOR H2S SENSING IN AIR AND MEAT PACKAGING AND METHOD THEREOF'	202211020895	April 7, 2022
95.	Sandip Chakrabarti, Abhyavartin Selvam, Geetika Jain, AINT, Rajib Ghosh Chaudhuri, Mrinal Kanti Mandal, Abhiram Hens	An assembly having metal-organic framework based solar absorber for effective photothermal desalination	202111025489	June 08, 2022
96.	Abhishek Mishra, Richa Krishna, Monika Joshi,	A biocompatible, antimicrobial membrane for water remediation	202211036385	June 24, 2022
97.	Mahima Sheoran, Rohit Sharma, Om Prakash Sinha, AINT	A method for synthesis of carbon spheres using peas peel	202211044603	August 4, 2022

Patent granted – 23.















