



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 (29/09/2020)
2.	Prof. T. Basu	A Novel transducer matrice for amperometric cholesterol biosensor	734/DEL/2009	April 9, 2009	Granted (13/08/2021)
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 (11/03/2019)
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 (19/02/2019)
5.	Dr. Arpita Bhattacharya & Dr. R.P. Singh	Prolonged release mosquito repellent formulations	765/DEL/2009	April 15, 2009	Granted (04/06/2020)
6.	Dr. Sandip Chakrabarti & Dr. R.P. Singh	Method for preparation of catalyst its activity and method for	900/DEL/2009	May 1, 2009	Granted (11/03/2019)

		treatment of Textile wastewater			
7.	Dr. Robin Kumar	A highly functional semiconductor integrated circuit device	921/DEL/ 2009	May 5, 2009	Granted (02.12.2019)
8.	Dr. Binay Kumar	Voltage dependent light filter	1149/DEL/2009	June 5, 2009	Granted (13.12.2021)
9.	Deepshikha and Tinku Basu	Process of synthesis a novel a transducer and its application there of in biosensors	704/DEL/2009	2009	Granted (03.02.2023)
10.	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	
11.	Dr. R. P. Singh,	Anti-Bacterial effect on Fenugreek (Trigonella foenum-graecum) leaf extract mediated silver nanoparticles	2708/DEL/2010	November 12, 2010	
12.	Dr. R. P. Singh	Synthesis of Ag nanoparticle from seed extract	3363/DEL/2011	November 14, 2011	
13.	Garima Singhal, RP Singh, Mima Kurian	Biosynthesis of silver nanoparticles using Myristica Fragrans (nutmeg) seed extract	3621/DEL/2011	December 13, 2011	
14.	Prof. T. Basu	Development of reusable transducer matrix based on nanostructured Polyaniline and application to biosensors,	1478/DEL/2011	May 24, 2011	Granted (04.02.2020)
15.	Prof. T. Basu	A process for the development of triglyceride biosensor based on a Platinum nano particle and Polypyrrole nano composite electrode	1318/DEL/2012	April 25, 2012	
16.	Prof. T. Basu	A Novel reusable cholesterol biosensor based on Gold nanoparticles decorated Graphene-Nanostructured	1371/DEL/2012	May 4, 2012	Granted (19.04.2021)

		Polyaniline Nanocomposite			
17.	Dr. Pratima Solanki, Prof. Tinku Basu	Sensitive and specific for the Vibrio cholera detection	3964/DEL/2012	December 21, 2012	Granted (12.12.2023)
18.	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	Granted (25.09.2023)
19.	Dr. Arpita Bhattacharya, Dr. R.P. Singh	A micro encapsulation of citronella oil for slow release insect repellent formulation	3962/DEL/2012	December 21, 2012	Granted (19.05.2023)
20.	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 (27.04.2020)
21.	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 micro-fluidic platform	2374/DEL/2013	August 8, 2013	Granted (15.02.2023)
22.	Dr. Monika Joshi, Pranaav Balaji	Green synthesis of silver nanoparticles using ethanoic extracts of Zanthoxylum Alatum Leaves	3104/DEL/2013	February 2, 2013	Granted (30.01.2023)
23.	Dr. Monika Joshi, Pranav Balaji	Novel synthesis of magnetic Iron oxide nanoparticles using cinnamon leaf extract	3281/DEL/2013	November 11 2013	Granted in (23.03.2022)
24.	Dr. Susmita Mitra & Ms. Gizelle Sethi	Novel biodegradable nanoparticles for controlled release drug delivery	1402/DEL/2013	May 10, 2013	
25.	Dr. A.B.V. Kiran Kumar, Dr. Mohan Raja	Method for synthesis of thin silver nanowires	370/DEL/2014	February 10, 2014	
26.	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	

27.	Mr. Robin Kumar, Dr. Neelam Kushwaha, Dr. Ranjit Kumar	Ammonia Gas Sensing Using a Thin Film of MnO ₂ Nano-fibers	2897/DEL/ 2014	October 10, 2014	
28.	Dr. Ashish Mathur	A miniaturized sensor based on microfluidic platform for caffeine detection from food samples	2961/DEL/ 2014	October 17, 2014	
29.	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 (26.09.2022)
30.	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	
31.	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	Granted (06.02.2024)
32.	Dr. O.P. Sinha,	Hydrogels for transdermal Drug delivery and a method to manufacture the same	1388/DEL/2015	May 18, 2015	
33.	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	
34.	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	
35.	Dr. Monika Joshi	Biosynthesis of Zinc Oxide nanorods using citrullus lanatus extract.	3399/DEL/2015	March 11, 2015	Granted (05.01.2024)
36.	Dr. Monika Joshi	Algae GO nanocomposite for reduction of Textile Dye.	3994/DEL/2015	March 11, 2015	
37.	Dr. Nupur Bahadur	An improved membrane free photocatalytic reactor for treatment of Industrial effluent and	3950/DEL/2015	December 4, 2015	Granted (28.10.2022)

		sludge for ZLD Compliance			
38.	Dr. Nupur Bahadur	A process for bandgap restructuring of titania using combination of surfactants and metal ions	3401/DEL/2015	November 25, 2015	Granted (08.11.2021)
39.	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	
40.	Dr. Jagriti Malhotra	Wheelchair having armrest cum transfer Board with anti-skid mechanism	2955/DEL/2015	October 21, 2015	Granted (28.08.2023)
41.	Dr. Nitish Malhotra, Dr. Jagriti Malhotra, Dr. Neeraj Singh	Flexible planter fasciitis prop	201611003247	January 29, 2016	Granted (21.11.2023)
42.	Dr. Monika Joshi	Green Synthesis of Graphene oxide using Chlorella pyrenoidosa	201611014935	April 24, 2016	
43.	Dr. Jagriti Malhotra	A System and method for Naked eye quantitative assay for date rape drug sensing.	201611025138	May 5, 2016	
44.	Dr. Jagriti Malhotra	A system and method for smearless detection of DNA with various morphologies of zinc nanomaterial in agarose gel electrophoresis	201611012990	March 3, 2016	
45.	Nitish Malhotra, Neeraj Singh, Jagriti Narang , Pragya Kumar	A self shoulder mobilization unit	201611019383	June 6, 2016	Granted (21.08.2023)
46.	Jagriti Narang, Nitish Malhotra, Chaitali Singhal, Anoop Krishna, Dnyandeo Ingle	Methylene blue doped silver core and palladium shell nanohybrids on transparent glass substrate for impedimetric sensing of alprax	201611014938	September 11, 2016	Granted (11.09.2023)
47.	Tinku Basu, Sheetal K. Bhardwaj, AINT, AUUP, Noida	A smart transparent environmentally stable graphene based electrode	201611042945	December 16, 2016	Granted (17.05.2024)

48.	Dr Utkarsh Jain, Shikha Wadhwa, Nidhi Chauhan, Ashish Mathur	Development of Molecularly Imprinted Polymer (MIP) based Microfluidic device for Serotonin detection	201611032517	May 10, 2016	
49.	Dr. Nidhi Chauhan	Impedimetric sensing method utilizing enzyme bound nanohybrid film for highly sensitive monitoring of antibiotics in forensic samples	201611041230	2016	
50.	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	
51.	Dr. Arpita Bhattacharya	A method of controlling root knot nematode	201711003055	January 21, 2017	
52.	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	Granted on 31.07.2023
53.	Dr. Arpita Bhattacharya	Silica nanoparticle as growth promoter of bioagents under in vitro studies	201711008220	March 9, 2017	
54.	Dr. Arpita Bhattacharya	Synthesis of linoleic acid from microalgae using magnetic core-shell nanoparticle	201711011619	January 31, 2017	
55.	Dr. Monika Joshi, Ms. Mahima Sharma	Novel route for biosynthesis of green algae mediated Titanium Oxide (TiO ₂) nanoparticles with high yield	201711021884	April 25, 2017	Granted on 29.03.2023
56.	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 bio-waste cane molasses using hydrothermal synthesis for bioimaging application	201711016713	May 5, 2017	Granted on 25.05.2022

57.	Dr. D. K. Avasthi	TIONX based passive heating water tank	201711032733	2017	
58.	Mahima Sharma, Monika Joshi Kannikka Behl, Subhasha Nigam	One-pot Bio-directed synthesis of stable ZnO Nanospheres using lemon and honey	201711031211	August 18, 2017	Granted (25.09.2023)
59.	Dr. Ranjit Kumar, Dr. Ashish Mathur, Dr. Shikha Wadhwa	MnO ₂ Nanofibers - Based Bisphenol Electrochemical Sensor	201711041779	Oct-17	
60.	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	
61.	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	Granted on 28.03.2024
62.	Utkarsh Jain and Nidhi Chauhan	Home based three parameter measuring device for next generation management of diabetes	201711021883	June 20, 2017	
63.	Utkarsh Jain, Nidhi Chauhan, Dishant Nigam and Abhinav Arora	Vitamin B7 detection through impedimetric sensing device.	201711029678	August 21, 2017	Granted on 21.04.2023
64.	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	
65.	Dr. R. M. Tripathi	A Method for Biosynthesis of Stannic Oxide Microbars	201711034682	September 29, 2017	
66.	Nidhi Chauhan, Utkarsh Jain, AINT, AUUP	A System and Method for Enhancing Performance of Immunosensor by Ion Beam Processing of Zinc Oxide Nanostructure	201811003795	February 1, 2018	Granted (20.03.2023)

67.	Dr. Nidhi Chauhan, Dr. Utkarsh Jain	A noninvasive device for MEA	201811003796	February 1, 2018	Granted (16.09.2022)
68.	Dr. A. B. V.Kiran Kumar	Ecofriendly and facile synthesis of carbon and nitrogen co-doped zinc oxide nano foams (CNZNO Nanofoams)	201811005953	February 16, 2018	Granted (28.12.2023)
69.	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	Granted (04.01.2024)
70.	Dr. Nidhi Chauhan and Dr. Utkarsh Jain	A dual detection platform for snake venom toxin	201811013630	March 6, 2018	
71.	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	
72.	Dr. Utkarsh Jain and Dr. Nidhi Chauhan	Molecularly imprinted polymer based impedimetric detection of neurotransmitter acetylcholine on screen printed electrode.	201811009541	March 14, 2018	
73.	Dr. Nidhi Chauhan and Dr. Utkarsh Jain	A dual impedimetric immune-sensing for helicobacter pylori detection	201811009540	March 14, 2018	
74.	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	N-doped Carbon Nano Sheet based hydrogel composite for wound healing	201811021906	12/06/2018	Granted (02.02.2023)

	ty.edu , M - 9873279964				
75.	Jagriti Narang, Shruti Sharma, Annu Mishra, Akshay Jain	Synthesis of Graphene nanoparticles using gram flour as bio-surfactant and stabilizing agent	20181133112	September, 9 2018	Granted (04.04.2024)
76.	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	
77.	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	
78.	R. Pragadeeshwara Rao, Chansi, Shalini, Indrajit Roy, Tinku Basu	Robust electrochemical assay for antibiotic susceptibility testing of pathogenic bacteria	201811043408	November 19, 2018	
79.	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	
80.	Dr. Nidhi Chauhan, Ms. Shakshi Pareek and Dr. Utkarsh Jain	Electrochemical sensor using hybrid nanomaterials for cervical cancer detection.	201911000276	January 3, 2019	
81.	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 femtomolar detection of Ricin.	201911002753	January 23, 2019	Granted on 01.04.2024
82.	Dr. Nidhi Chauhan, Dr. Utkarsh Jain, Dr. Manika Khanuja	PD Nanoparticles and molybdenum disulfide (MOS ₂) integrated sensing.	201911024092	June 18, 2019	
83.	Dr. Nidhi Chauhan, Asmita Gupta, Dishant Nigam, Abubav Arira, SNC Sai Prasad	A calmodulin based calcium sensing device	201911011663	June 18, 2019	

84.	Dr. Utkarsh Jain, Dr. Nidhi Chauhan	Organophosphorous pesticide detection by molecularly imprinted polymer/ MOS2 based biosensor.	201911011664	June 18, 2019	
85.	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	
86.	Dr. Arpita Bhattacharya	Hydrophobic coating formulation with titania nanoparticles prepared through peptization method	201911010631	March 19, 2019	
87.	Mahima Sharma, Subhasha Nigam, Monika Joshi, Kannikka Behl, D. K Avasthi, Rupal Sarup	Superhydrophobic textile sludge derived biochar-polydimethylsiloxane nanocomposite for produced water remediation	201911041699	October 15, 2019	
88.	Shikha Wadhwa, Ashish Mathur, Alishba T John	A luminescent thin film based on graphene quantum dots (GQDs)	202011000840	January 1, 2020	
89.	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	
90.	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	
91.	Shalini Nagabooshanam, Asish Venkat, Ashish Mathur, Ashwani K Dubey, Shikha Wadhwa	A system for detection of organophosphates pesticides and method thereof	202011032561	July 29, 2020	
92.	Dr. Nidhi Chauhan, Dr. Utkarsh Jain, Sapna Balayan	Electrochemical ultra-sensitive detection of neonatal sepsis.	Under process	April 2020	
93.	Dr.Utkarsh Jain, Dr. Nidhi Chauhan, Shringika, Sapna Balayan	A capillary based direct SARS detection device	Under process	April 2020	

94.	Dr. Utkarsh Jain, Dr. Nidhi Chauhan, Sapna Balayan	Immunosensor based detection for neonatal sepsis.	Under process	April 2020	
95.	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	
96.	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'	202111005799	February 11,2021	
97.	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	
98.	Arpita Bhattacharya	A method of preparing a porous activated carbon from Guar Gum- Alginate composite gel	202111059125	18 th July 2021	
99.	Arpita Bhattacharya	A method for preparation of Carbon Black and Nano-Silica from Rice Husk	202111053510	22 nd November 2021	
100.	Sandip Chakrabarti	A porous coral like M@mox/C hybrids for removing antibiotics from aqueous solution and method thereof	202111062273	31 st December 2021	
101.	Monika Dubey, Jyoti Sharma, Subhasha Nigam, Monika Joshi,	A novel composition and synthesis of CeO ₂ nanoparticles using microalgae for photocatalytic degradation of doxycycline in water thereof	202211008856	February 21, 2022	
102.	Monica Jaiswal, Robin Kumar, Ravi mani Tripathi, Jagjiwan Mittal,	'BISMUTH OXIDE NANORODS FOR H ₂ S SENSING IN AIR AND MEAT	202211020895	April 7, 2022	

	AINT, AUUP, Noida	PACKAGING AND METHOD THEREOF'			
103.	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	
104.	Abhishek Mishra, Richa Krishna, Monika Joshi,	A biocompatible, antimicrobial membrane for water remediation	202211036385	June 24, 2022	
105.	Mahima Sheoran, Rohit Sharma, Om Prakash Sinha, AINT	A method for synthesis of carbon spheres using peas peel	202211044603	August 4, 2022	



Patent granted – 42 Nos.