

## List of Patents by Faculty of AIAS

#	Signed Date	Patent	Inventor's name	Institution	Publication no or Application No.	Current Status
1.	2021	'Dual responsive superabsorbent with novel 2-(4-((acrylamido)methyl)-1h-1,2,3-triazol-1-yl)-4-vinylbenzoic acid monomer grafting on soy Protein isolate SPI and method thereof'	Dr. Sunita Rattan	AIAS	Application No.TEMP/E-1/4598/2020-DEL	Patent Filed
2.	2021	Novel herbal formulation containing polymeric nanoparticles loaded with Terminalia Arjuna for enhanced broad spectrum antimicrobial activity to treat skin disorders	<b>Sangal, A.,</b> Rattan, S. and Vinod Kumari	AIAS	Appl. No. 202111036022	Patent Filed
3.	2021	CURCUMA LONGA SENSITIZED BiVO <sub>4</sub> NANOSTRUCTURES FOR REMOVAL OF RECALCITRANT POLLUTANTS AND METHOD THEREOF	Dr. Seema Garg	AIAS	Appl No. 202111018136	Patent Filed
4.	2020	Ag doped-BiOXs (BiOBr/BiOI/BiOCl) nanocomposite impregnated 2-D cylindrical activated carbon block for photocatalytic applications	Dr. Seema Garg	AIAS	Appl No. 202011008530	Patent Filed
5.	2019	SYNTHESIS AND BIOLOGICAL ACTIVITY OF {5-[(3AR,4R,6AS)-2-OXO-HEXAHYDRO-1H-THIENO[3,4-D]IMIDAZOL-4-Y1]PENTANOY1}OXYDIBUTYLSTANNY1 5-[(3AS,4S,6AR)-2-OXO-HEXAHYDRO-1H-THIENO[3,4-D]IMIDAZOL-4-Y1]PENTANOATE	Dr. Anita Gupta	AIAS	Appl No. 201911011661	Patent Filed
6.	2020	A novel herbal formulation loaded with polymeric nanoparticles of Anacyclus pyrethrum for mouth ulcers	Dr. Sunita Rattan, Dr. Aditi sangal, Ms. Safiya Nisar	AIAS	Application No.: 201911014032	Patent Filed

7.	2019	Dual Stimuli-responsive Hydrogels with a Novel cross-linker for Drug Delivery	Safiya Nisar, Sunita Rattan, Li-Fang Wang	AIAS	CRN3269	Patent Filed
8.	2019	A herbal formulation containing polymeric nanoparticles loaded with Bryophyllum pinnatum for treatment of boils and pustules on the skin	Rattan, S. and Sangal, A	AIAS	Appl. No. 201911029866	Patent Filed
9.	2018	A method for synthesis of green Bismuth molybdate and its composites	Dr. Seema Garg	AIAS	Appl No. 201811026610	Patent Filed
10.	2018	Synthesis of quercetin mediated BiOX	Dr. Seema Garg	AIAS	Appl. No. 201811014713	Patent Filed
11.	2018	Method for synthesis of nanoparticles using biodiesel	Dr. Anita Gupta	AIAS	201811035292	Patent Filed
12.	2017	A novel herbal formulation containing polymer coated nanoparticles having wound healing activity	Dr. Aditi Sangal and Prof. Sunita Rattan	AIAS	201711023447	Patent Filed
13.	2017	ANTICANCER, ANTIMICROBIAL AND ANTITUBERCULOSIS ACTIVITY OF DIBUTYL (HEXADECANOYLOXY) STANNYL HEXADECANPATE	Dr. Anita Gupta	AIAS	201711037950	Patent Filed
14.	2017	Method for Preparation of Highly fluorescent QDs	Vinod Kumar; Monalisha Mukherjee +4	AIAS	Application No. 201711016713	Patent Filed
15.	2017	A System And Method For Bank Vault Threshold Authentication	Dr. Sonam D. Kaul	AIAS	201711016936	Provisional Patent Filed
16.	2016	Sustainable, low-cost and efficient adsorbent for water purification and a process thereof	Dr Bijayalaxmi Panda	AIAS	201611019382	Patent Filed
17.	2016	Soy protein grafted N-Vinyl Caprolactam thermoresponsive hydrogels for drug delivery applications	Prof. Sunita Rattan	AIAS	DEL/2016	Patent Filed

18.	2016	Ultrasensitive, Robust, Flexible, Ammonia Gas Sensor for Refrigeration Plants from Polymer Nanocomposites with Extended Temperature Range	Prof. Sunita Rattan	AIAS	DEL/2016-201611024241	Patent Filed
19.	2016	A Novel Method to Exfoliate Expanded Graphite to Graphene within the Polymer Matrix Using Swift Heavy Ions	Prof. Sunita Rattan	AIAS	DEL/2016	Patent Filed
20.	2016	Enhanced photocatalytic applications of novel green composites of semiconductor Bismuth Oxyhalides (BiOXs)	Dr. Seema Garg	AIAS	Appl. No. 201611025631	<b>Awarded-2021</b>
21.	2016	SYNTHESIS OF 5'', 5'' -DIBUTYL-3'', 3'' -DIMETHYLPYRO [BENZO[C][1,2] OXATHIOLE-3,2'-4,6-DIOXA-5-STANNA-1,3(1,4)-DIBENZENACYCLOHEXAPHANE]1,1-DIOXIDE FOR THERAPEUTIC APPLICATIONS	ANITA GUPTA ROHIT BABU ANYERY	AIAS	Appl. No. 201611026470	Patent Filed
22.	2016	SYNTHESIS OF NOVEL COMPLEX STANNANE DERIVED FROM BENZENE-1,3-DIOL	ANITA GUPTA ROHIT BABU ANYERY	AIAS	Appl. No. 201611026471	Patent Filed
23.	2015	A novel system to reduce exhaust emission of diesel engine using carbon black, 3-way convertor and an alkali solution	Dr Christine Jeyaseelan	AIAS	4030/DEL/2015	Patent Filed
24.	2015	A novel system to reduce emission gases and particulate matter from diesel engine exhaust	Dr Christine Jeyaseelan	AIAS	3779/DEL/2015	Patent Filed
25.	2015	A novel exhaust system for reducing the gases and particulate matter emitted from vehicles.	Dr Christine Jeyaseelan	AIAS	3010/DEL/2015	Patent Filed
26.	2015	Novel low cost Zinc oxide nanocomposite for enhancing shelf life of cut flowers	Dr Deepshikha Gupta and Dr. A.L. Verma	AIAS	2209/DEL/2015	Patent Filed

27.	2015	Novel Composites Prepared Using derivatized Diterpene from Clerodendrum kaichianum and PVC Polymer	Prof. Sunita Rattan	AIAS	1102/DEL/2015	Patent Filed
28.	2015	Novel composites Compositions Prepared from Coagulum Extracted from plant Source Platycladus Orientalis	Prof. Sunita Rattan	AIAS	1218/DEL/2015	Patent Filed
29.	2014	Amorphous Alumino Silicates derived from Fly ash as Functional Pigment for Cool Coatings	Dr Sangeeta Tiwari and Richa Sharma	AIAS	Appl. No. --- 136/DEL/2014	Patent Filed
30.	2014	Novel process for synthesis of composite core shell structures for simultaneous removal of inorganic and organic pollutants	Dr Sangeeta Tiwari and Ruchi Shaw	AIAS	Appl. No 3972/DEL/2014	Patent Filed
31.	2014	Reduced Grapheme oxide (RGO)-Metal oxide based visible light active photocatalyst for pollutant abatement and a process thereof	Dr Bijayalaxmi Panda	AIAS	2894/DEL/2014	Patent Filed
32.	2014	Method of fabricating superhydrophobic surfaces using environmentally safe materials	Dr Sangeeta Tiwari and Tanu Mittal	AIAS	Appl. No. 3972/DEL/2014	Patent Filed
33.	2014	Synthesis and photocatalytic applications of novel BIOBr nanoparticles for waste water treatment	Dr. Seema Garg	AIAS	2546/DEL/2014	Patent Filed
34.	2013	Synthesis of iron based low cost binary mixed metal oxide semiconductor	Dr Bijayalaxmi Panda	AIAS	3748/DEL/2013	Patent Filed
35.	2013	Microwave assisted green synthesis of silver nanoparticles using Nyctanthes arbor-trisitis plant extract	Dr Seema Garg	AIAS	2771/DEL/2013	Patent Filed
36.	2013	'A Novel Fly ash based Zeolitic Extender Pigment for use as Anticorrosive Additive in Paints'	Prof Sangeeta Tiwari	AIAS	Appl. No. 2475/Del/2013	<b>Awarded- 22 Nov 2019</b>

37.	2013	Development of cinnamon-cumin dual drug loaded poly (D,L-lactide-co-glycolide) coated polymeric nanoparticles for sustained release of anti-diabetic drugs	Dr Aditi Sangal, Dr Sunita Rattan	AIAS	2474/DEL/2013	<b>Awarded- 30 Dec 2019</b>
38.	2013	Microwave mediated synthesis of an oxidizing agent for dye degradation	Dr Bijayalaxmi Panda	AIAS	2310/DEL/2013	Patent Filed
39.	2013	A method for preparation of Nanosized Zeolite particles	Dr Sangeeta Tiwari and Rashmi Rani Padhy	AIAS	Appl. No. 1628/Del/2013	Patent Filed
40.	2013	Metalloporphyrins-functionalized CNT Composite as Chemiresistive Sensor for Nitrobenzene and Chlorobenzene Vapors	Prof. Sunita Rattan, Prof. A.L. Verma and Ms. Swasti Saxena	AIAS	1316/DEL/2013	<b>Awarded</b>
41.	2013	Low cost and eco-friendly production of an electro-active hybrid composite of polyaniline and binary metal dichalcogenide	Dr Bijayalaxmi Panda	AIAS	778/DEL/2013	Patent Filed
42.	2013	Detection of BTX vapors based on Metal-Tetraphenylporphyrin Functionalized Carbon Nanotube Composite Sensors	Prof. A.L. Verma and Ms. Swasti Saxena	AIAS	493/DEL/2013	Patent Filed
43.	2013	A Novel System to reduce Ignition Delay in Diesel Engine by Introducing Electromagnetic Waves Generated in Plasma	Dr R.S. Pandey	AIAS	1792/DEL/2013	Patent Filed
44.	2013	Homogenization of nanoparticles in Poly (3, 4-ethylenedioxythiophene) / poly (4-styrene sulphonate) (PEDOT:PSS) / nanographite nanocomposites using swift heavy ions and thereby enhancing the Sensing Properties	Prof. Sunita Rattan	AIAS	2016/DEL/2013	<b>Awarded- 23 Dec 2020</b>
45.	2012	Development of Novel Nanocomposites using Functionalised graphite and grafted Polymers Through chemical Ligation	Prof. Sunita Rattan	AIAS	806/DEL/2012	<b>Awarded- 15 Oct 2019</b>

46.	2012	Modification of nanocomposite of poly (3, 4-ethylenedioxythiophene) /poly (4-styrene sulphonate) (PEDOT: PSS) / nano graphite through ion implantation technique	Prof. Sunita Rattan & Prachi Singhal	AIAS	2239/DEL/2012	<b>Awarded- 17 Mar 2021</b>
47.	2012	A novel composition of cinnamon-loaded polymeric nanoparticles in gum base for oral controlled release of cinnamon	Prof. Sunita Rattan, Dr Aditi Sangal	AIAS	2860/DEL/2012	Patent Filed
48.	2012	Synthesis of PEDOT: PSS/NGPs Nanocomposites as Chemiresistive Sensors for detection of Nitroaromatics	Ms Prachi Singhal, Prof. S. Rattan and Dr. A.L. Verma,	AIAS	2799/DEL/2012	Patent Filed
49.	2012	E-glass-epoxy material yoke harness	Dr R.S. Pandey and R.K Tyagi	AIAS	1844/del/2012	<b>Awarded- 23 July 2021</b>
50.	2012	Herbal silver nano particles	Dr Seema Garg	AIAS	1556/DEL/2012	Patent Filed
51.	2012	Development of low cost, convenient and electroactive polyaniline-ceramic chalcogenide composites	Dr Bijayalaxmi Panda	AIAS	1373/DEL/2012	Patent Filed
52.	2012	Herbal nano silver using ratanjot for wound and burn treatment	Dr Seema Garg	AIAS	1320/DEL/2012	Patent Filed
53.	2012	Synthesis of silver nano particles from the bark of Ashoka Tree	Dr Seema Garg	AIAS	1238/DEL/2012	Patent Filed
54.	2012	Targeted Drug Delivery	Dr Seema Garg	AIAS	1193/DEL/2012	Patent Filed
55.	2012	Herbal nano silver using black pepper for acne treatment	Dr Seema Garg	AIAS	943/DEL/2012	Patent Filed
56.	2012	Development of novel nanocomposites as chemical sensors using functionalized graphite nanoparticles and grafted polymers through chemical ligation	Prof. Sunita Rattan	AIAS	806/DEL/2012	<b>Awarded- 15 Oct 2019</b>

57.	2009	A process for surface modification of fly ash for use as reflective agent	Prof. Sangeeta Tiwari	AIAS	1425/DEL/2009	<b><i>Awarded- 14 Nov 2019</i></b>
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