

PATENTS BY FACULTIES

(LAST FIVE YEARS)

TITLE OF PATENTS	NAME OF FACULTIES	DEPARTMENT	DETAILS OF PATENT	PUBLISHED DATE
1.PATENT: “Synthesis and study of trivalent cerium activated $\text{Ca}_2\text{Pb}_3(\text{PO}_4)_3\text{Cl}$ novel blue emitting phosphor for solid state lighting”.	S. C. GEDAM	PHYSICS	PATENT: Patent number: 2021106831 (Commissioner of Patents, Australian Govt.)	24 th August 2021
2. PATENT: “Gas sensor model for sensitizing a selective element in the mixture of gasses.”	A.R. BIJWE	CHEMISTRY	PATENT: Patent number: 202141059123 A (Govt of India)	4 th Feb 2022
3. PATENT: Solar operable chemical Dispensing device for urine analysis	A.H. RANGARI	PHYSICS	PATENT: Patent number: 369792-001 (Govt of India)	18 th April 2023



Australian Government

IP Australia

CERTIFICATE OF GRANT INNOVATION PATENT

Patent number: 2021106831

The Commissioner of Patents has granted the above patent on 24 November 2021, and certifies that the below particulars have been registered in the Register of Patents.

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Title of invention:

Synthesis and study of trivalent cerium activated $\text{Ca}_2\text{Pb}_3(\text{PO}_4)_3\text{Cl}$ novel blue emitting phosphor for solid state lighting

Name of inventor(s):

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Term of Patent:

Eight years from 24 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 24th day of November 2021

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.

(12) PATENT APPLICATION PUBLICATION	(21) Application No.202141059123 A
(19) INDIA	(43) Publication Date : 04/02/2022
(22) Date of filing of Application :18/12/2021	
(54) Title of the invention : GAS SENSOR MODEL FOR SENSITIZING A SELECTIVE ELEMENT IN THE MIXTURE OF GASES	
(51) International classification	G16C0010000000, B82Y0030000000, B82Y0015000000, B82B0003000000, G16C0020300000
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(57) Abstract :	DFT was used to study the adsorption characteristics of SOx compound on pure or N-modified ZnO nanomaterials. The findings imply that N-doped nanomaterials have the better adsorption capability than undoped nanomaterials. Adsorption equilibrium designs or locations were studied in depth. The SOx component forms bridge geometry with the ZnO nanoparticles at all adsorbate molecules, resulting in many interacting surfaces between nanoparticles or the SOx molecule. The energy of SOx desorption of N modified ZnO nanostructures is reported to be greater than that of untouched nanotechnology, meaning that N-modified nanomaterials provide improved detection sensitivity than pure nanomaterials. Extended S-O interactions to the deposited SOx particle was caused by transfer of charge distribution in the S-O interacting of the freshly established connections among ZnO or SOx particle after desorption. An assault density from adsorbed SOx molecule to the ZnO nanoparticles is significant, showing that SOx molecules have a donor characteristic during the adsorption mechanism, according to the value assessment using the NBO method. Chemical properties were created between connecting elements at the contact surface, according to predicted concentration of state analysis. The findings further show that the HOMO electronic concentrations were mostly spread over SOx molecules, whereas LUMO was prominent to the ZnO nanostructure. The DFT simulations revealed that N-doped nanostructure as new sensing application to SOx monitoring of atmosphere have superior adsorption characteristics.
No. of Pages : 15	No. of Claims : 6

3. Dr. Mrs. A. H. Rangari

	 सत्यमेव जयते	ORIGINAL
	भारत सरकार GOVERNMENT OF INDIA पेटेंट कार्यालय THE PATENT OFFICE	मूल/No : 133231
	डिजाइन के पंजीकरण का प्रमाणपत्र CERTIFICATE OF REGISTRATION OF DESIGN	
डिजाइन सं. / Design No.	:	369792-001
तारीख / Date	:	25/08/2022
पारस्परिकता तारीख / Reciprocity Date*	:	
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<p>प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो SOLAR OPERABLE CHEMICAL DISPENSING DEVICE FOR URINE ANALYSIS से संबंधित है, का पंजीकरण, श्रेणी 24-01 में 1.Dr Mohd Ayub Ansari 2. Dr. M K Loganathan 3.Dr.Bhavana Purushottam Khobragade 4.Dr Aparna H. Rangari के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।</p>		

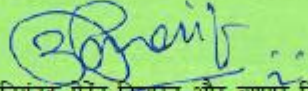
Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class **24-01** in respect of the application of such design to **SOLAR OPERABLE CHEMICAL DISPENSING DEVICE FOR URINE ANALYSIS** in the name of 1.Dr Mohd Ayub Ansari 2. Dr. M K Loganathan 3.Dr.Bhavana Purushottam Khobragade 4.Dr Aparna H. Rangari.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्याधीन प्रावधानों के अनुसरण में।

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

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निर्गमन की तारीख/Date of Issue : 18/04/2023


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