Govt. V.Y.T. PG Autonomous College, Durg,(Chhattisgarh), INDIA

(Erstwhile: Govt. Arts & Science College, Durg)

COLLABORATIVE PROGRAM OF DEPARTMENT OF PHYSICS

Research & Development (R&D) in today's world is the most important citing the catastrophe brought by the Covid19 pandemic previous and thus year. Although, the Department of Physics of Govt VYT PG Autonomous College, Durg has always been vigilant and has already doing quality Research work. Professors and students, either in collaboration or individually have worked tremendously to achieve the scientific environment that we have today. Numerous researches work in collaboration with state governments councils, national-level potent universities, and institutes outside the country have enhanced the research capabilities and helped in expanding our scientific work effectively.

INTERNATIONAL COLLABORATION

Lot of research groups are involved in the studies of phosphors and liquid crystal applications. Department of Physics has collaborated with some of them are Prof H.G. VISSER & Prof S.SOM University of the Free State, Bloemfontein South Africa, Prof. H C STEWART , University of the Free State, Bloemfontein 9300, South Africa , Gu Cheng-Lin Faculty of Science, Jiamusi University, Jiamusi, China, Dr. Marta Michalska Domańska Military University of Technology Warsaw, Poland. Dr. Dirk Poelman Ghent University Belgium. These groups are working on Phosphors and many research papers has published along with these groups. Prof Jagjeet Kaur Saluja has published an international book on PHOSPHORS FOR DISPLAY FORENSIC AND BIOMEDICAL APPLICATIONS Nova publisher New York in collaboration with Dr. Marta Michalska-Domańska Military University of Technology

Warsaw, Poland in 2021. Department of Physics has also collaborated with Bulgaria professor Dr. MARIA ALEKSANDROVA Technical University of Sofia, Sofia, Bulgaria & Dr Dharmendra Pratap Singh , Redouane Douali, Kirill Kondratenko, Benoit Duponchel, Paul Genevray, Unité de Dynamique et Structure des Matériaux Moléculaires (UDSMM), Université du Littoral Côte d′Opale, 59140 Dunkerque, France.

NATIONAL COLLABORATION

At national level major centres for Phosphors and Luminescent Study are Dr. Vikas Dubey BIT, Raipur; Dr. S J Dhoble RTM University, Nagpur, Dr. D HARANATH NPL,New Delhi, Dr. Ravi Shrivastava ICFAI UNIVERSITY, Prof. K V R Murthy MS UNIVERSITY VADODARA, Dr Janita Saji Science and Humanities, Faculty of Engineering, Christ (Deemed to University), Bangalore, Jabalpur Engineering College Jabalpur, Jabalpur, Pt. RS University Raipur. Department of Physics also collaborated with liquid crystal group working in India like Prof Rajiv Manohar University of Lucknow, Lucknow, Prof Shri Singh Banaras Hindu University Varanasi, Lovely Professional University Punjab, IIT Roorkee, JNPG College Lucknow, Indian Institute of Technology Guwahati, Guwahati, Centre for Nano and Soft Matter Sciences, Jalahalli, Bangalore.

Undoubtedly, in a decade, professors have accomplished much more than one might have thought for. Collaborations on Research Paper Publishing, workshops, International Conferences, invited talks, and research works etc. have paved the way to success and a holistic approach to development. These steps have sustained and strengthened the students as well as the research fraternity in a multidimensional and dynamic way. The lifetime membership of Luminescence Society of India, Bangalore is indeed an achievement. However, faculties despite this continue to work tremendously in this arena to build

interest and efficiency of the next set of scientists in the future and try to build a framework for upcoming generations to follow. There is without a doubt a great demand for research and development in every country in almost every field and steps like these should be taken in confidence to assert the flow of research activities across the country.

NATIONAL LEVEL COLLABORATIVE ACTIVITIES

S.NO	TITLE OF COLLOBRATIVE ACTIVITY	NAME OF COLLABORATING GROUP	SESSION	NATURE OF ACTIVITY	NAME OF JOURNAL
1	UV induced thermoluminescence and photoluminescence studies of Sm3+ doped LaAlO3 phosphor	BIT RAIPUR	2016-17	RESEARCH PAPER PUBLISHED	Journal Of Display Technology (IEEE)
2	Investigation of luminescence properties of Dy3+ doped YAlO3 phosphors synthesized through solid state method	NPL,New Delhi	2016-17	RESEARCH PAPER PUBLISHED	OPTIK
3	Synthesis and luminescent behavior of UV induced Dy3+ activated LaAlO3	ICFAI UNIVERSITY & BIT RAIPUR	2016-17	RESEARCH PAPER PUBLISHED	Journal of Materials Science: Materials in Electronics
4	Estimation of spectroscopic parameters and colour purity of thered-light-emittingYBa3B9O18 phosphor: Judd–Ofelt approach	BIT RAIPUR, BIT DURG, ISM DHANBAD	2016-17	RESEARCH PAPER PUBLISHED	Journal Of Luminescence

5	Photoluminescence decay curve analysis of some rare earth doped CeO2 phosphors	ICFAI UNIVERSITY & BIT RAIPUR	2016-17	RESEARCH PAPER PUBLISHED	Journal Of Materials Science: Materials In Electronics
6	Luminescence and structural properties of Gd2SiO5:Eu3+ phosphors synthesized from the modified solid state method	ICFAI UNIVERSITY, RTM UNIVERSITY & BIT RAIPUR	2016-17	RESEARCH PAPER PUBLISHED	Ceramics Internationa l
7	Intense visible light emission from dysprosium (Dy3+) doped barium titanate (BaTiO3) phosphor and its thermoluminescence study	ICFAI UNIVERSITY & BIT RAIPUR	2016-17	RESEARCH PAPER PUBLISHED	Journal Of Materials Science: Materials In Electronics
8.	Photoluminescence decay curve analysis of some rare earth doped CeO2 phosphors	ICFAI UNIVERSITY & BIT RAIPUR	2017-18	RESEARCH PAPER PUBLISHED	Journal Of Materials Science: Materials In Electronics
9	Kinetic and TL glow curve analysis of UV-, β- and γ -irradiated natural limestone collected from Chunkatta mines	MS UNIVERSITY VADODARA & BIT RAIPUR	2017-18	RESEARCH PAPER PUBLISHED	RADIATIO N EFFECTS & DEFECTS IN SOLIDS
10	Effect of UV light irradiation on the dielectric behaviour of liquid crystal/nano	Vivekanand (P.G.) College, Manendragarh, M.J.P.	2017-18	RESEARCH PAPER PUBLISHED	Molecular Crystal And Liquid Crystals

	composite	Rohilkhand University, Bareilly, BHU, University of Lucknow, Lucknow,			
11	Development of Universal Steganalysis Using Co-occurrence Matrix Features for the Corner Image Pixel and Performance Analysis	SSTC, Bhilai	2017-18	RESEARCH PAPER PUBLISHED	International Journal of Luminescence and Applications
12	Improved Gabor Filter Residuals Blind Steganalysis with Reduced Feature Dimension	SSTC, Bhilai & NIT RAIPUR	2017-18	RESEARCH PAPER PUBLISHED	Journal of Advanced Research in Dynamical and Control Systems
13	Development of Blind Steganalysis Using Co-occurrence Features	SSTC, Bhilai & NIT RAIPUR	2007-18	RESEARCH PAPER PUBLISHED	International Journal of Advanced in Management, Technology and Engineering Sciences
14	Synthesis, characterization and luminescence studies of rare earth activated Sr2SiO4 phosphor: a review	Dr. CVRU, Bilaspur, BIT Raipur	2017-18	RESEARCH PAPER PUBLISHED	Journal of Materials Science: Materials in Electronics
15	A review reports on rare earth activated AZrO3 (A= Ba, Ca, Sr) phosphors for display and sensing applications	Dr. CVRU, Bilaspur, BIT Raipur, SRGI, Jhansi	2017-18	RESEARCH PAPER PUBLISHED	Optik

16	Performance Analysis of Universal Steganalysis Based on Higher Order Statistics for Neighbourhood Pixels	SSTC, Bhilai & NIT RAIPUR	2017-18	RESEARCH PAPER PUBLISHED	Coimbatore Institute of Information Technology , CiiT Internationa l Journal of Fuzzy System
17	Feature Extraction and Analysis using Gabor Filter and Higher Order Statistics for the JPEG Steganography	SSTC, Bhilai & NIT RAIPUR	2017-18	RESEARCH PAPER PUBLISHED	Internationa l Journal of Applied Engineering Research
18	Universal Steganalysis using Higher Order Statistics and Performance Analysis using WEKA Data Mining Tool	SSTC, Bhilai & NIT RAIPUR	2017-18	RESEARCH PAPER PUBLISHED	i-manager's Journal of Electronics Engineering
19	UV response on dielectric properties of nano nematic liquid crystal	Vivekanand (P.G.) College, Manendragarh, Banaras Hindu University, Varanasi, University of Lucknow, Lucknow,	2017-18	RESEARCH PAPER PUBLISHED	Results In Physics
20	White Light Emission from Dy (III) activated Sr2SiO4 phosphor	Dr. CVRU, Bilaspur, BIT Raipur, Govt. C.V. College, Dindori , SRGI, Jhansi	2018-19	RESEARCH PAPER PUBLISHED	IEEE
21	Thermoluminescence glow curve analysis and trap parameters calculation of UV induced La2Zr2O7 phosphor doped with	BIT RAIPUR, Science and Humanities, Faculty of Engineering, Christ (Deemed to	2019-20	RESEARCH PAPER PUBLISHED	Materials Science: Materials in Electronics

	gadolinium	University), Bangalore			
22	Faster response and lesser threshold voltage of strontium hardystonite (Sr-HT) nematic liquid crystal: Photoluminescence and optical study	Vivekanand (P.G.) College, Manendragarh, Banaras Hindu University, Varanasi, University of Lucknow, Lucknow	2018-19	RESEARCH PAPER PUBLISHED	Optical Materials
23	Transmuting the blue fluorescence of hekates mesogens derived from tris(N-salicylideneaniline)s core via ZnS/ZnS:Mn2+ semiconductor quantum dots dispersion	Indian Institute of Technology Guwahati, Guwahati Centre for Nano and Soft Matter Sciences, Jalahalli, Bangalore	2018-19	RESEARCH PAPER PUBLISHED	Journal Of Luminescence
24	Dielectric properties and activation energies of Cu: ZnO dispersed nematic mesogen N-(4-methoxybenzylidene)-4-butylaniline liquid crystal	Vivekanand (P.G.) College, Manendragarh, LP University, University of Lucknow, Lucknow	2018-19	RESEARCH PAPER PUBLISHED	Journal Of Dispersion Science And Technology
25	Improvement in response and molecular alignment of liquid crystal with suspension of ferric oxide nanoparticles	LPU, JNPG COLLEGE LUCKNOW, BHU, J. S. S. Academy of Technical Education, Uttarahalli, Kengeri, Bangalore	2019-20	RESEARCH PAPER PUBLISHED	Material Research Express
26	Synthesis and characterization of PEDOT:PSS/ZnO nanowires hetrojunction on ITO coated plastic substrate for light-emitting diodes	Udai Pratap Autonomous PG College Varanasi,UP,	2019-20	RESEARCH PAPER PUBLISHED	Materials Today : Proceedings 15, 3, 2019, 394-399

27	Electrical Conductivity of Cholesteric Esters and Their Homogeneous Mixtures	JNPG COLLEGE LUCKNOW & UNIVERSITY OF LUCKNOW UP	2019-20	RESEARCH PAPER PUBLISHED	Sri Jnpg College Revelation: A Journal Of Popular Science
28	Synthesis of Ag Nanoparticle-Decorated ZnO Nanorods Adopting the Low-Temperature Hydrothermal Method	Dr. Harisingh Gour Central University, Sagar, MP	2019-20	RESEARCH PAPER PUBLISHED	Journal of Electronic Materials
29	An Experimental Analysis of Feature Based Blind Steganalysis Techniques	SSTC, Bhilai & NIT RAIPUR	2018-19	RESEARCH PAPER PUBLISHED	International Journal of Innovative Technology and Exploring Engineering
30	Spectroscopic, dielectric and nonlinear current–voltage characterization of a hydrogen-bonded liquid crystalline compound influenced via graphitic nanoflakes: An equilibrium between the experimental and theoretical studies	Babasaheb Bhimrao Ambedkar University, Rae Bareli Road, Lucknow	2020-21	RESEARCH PAPER PUBLISHED	Journal Of Molecular Liquids
31	Silver nanoparticles dispersed in nematic liquid crystal: an impact on dielectric and electro-optical parameters	JNPG COLLEGE LUCKNOW & UNIVERSITY OF LUCKNOW	2019-20	RESEARCH PAPER PUBLISHED	Journal Of Theoretical And Applied Physics
32	Exploration of Thermoluminescence and Photoluminescence Properties of Eu3+ Doped La2Zr2O7	BIT RAIPUR	2020-21	RESEARCH PAPER PUBLISHED	Analytical Chemistry Letters

	Phosphors				
33	Thermoluminescence glow curve analysis and trap parameters calculation of UV-induced La 2 Zr 2 O 7 phosphor doped with gadolinium	BIT RAIPUR, Science and Humanities, Faculty of Engineering, Christ (Deemed to University), Bangalore	2020-21	RESEARCH PAPER PUBLISHED	Journal Of Materials Science: Materials In Electronics
34	Influence of SiO2 nanoparticles on the dielectric properties and anchoring energy parameters of pure ferroelectric liquid crystal	JNPG COLLEGE LUCKNOW, LPU & UNIVERSITY OF LUCKNOW	2019-20	RESEARCH PAPER PUBLISHED	Journal Of Dispersion Science And Technology
35	Thermoluminescence Studies of β and γ-Irradiated Geological Materials for Environment Monitoring	Jabalpur Engineering College Jabalpur, Jabalpur& BIT RAIPUR	2019-20	RESEARCH PAPER PUBLISHED	Journal of Fluorescence
36	White light emission and thermoluminescence studies of Dy3+ activated Hardystonite (Ca2ZnSi2O7) phosphor	BIT RAIPUR	2020-21	RESEARCH PAPER PUBLISHED	Luminescence (WILEY)
37	Composite nature of thermo luminescence studies in Dy3+ activated Sr2ZnSi2O7 phosphor	BIT RAIPUR	2020-21	RESEARCH PAPER PUBLISHED	Optik
38	Dielectric and electro-optical properties of ferric oxide nanoparticles doped 4-octyloxy-4'cyanobiphenyl liquid crystal-based nanocomposites for advanced display	JNPG COLLEGE LUCKNOW, LPU , UNIVERSITY OF LUCKNOW & IIT ROORKEE	2020-21	RESEARCH PAPER PUBLISHED	Liquid Crystals

	systems				
39	Disturbances in solar wind plasma flow and field disturbances during the period of 2012-2020	Govt. Vivekanand P. G. College, Maihar Satna M. P APS University Rewa M.P	2020-21	RESEARCH PAPER PUBLISHED	EUROPEAN ACDEMIC RESEARCH
40	Higher Order Statistics Based Blind Steg analysis using Deep Learning	PTRSU, Raipur Disha College, Raipur SAP Labs Pvt. Ltd, Bangalore , GEC, Jagdalpur	2020-21	RESEARCH PAPER PUBLISHED	Journal of Ravishankar University (PART-B)
41	FITNESS INTELLIGENT PREDICTIVE ANALYTICS USING DEEP LEARNING	SSTC, Bhilai	18-02-2020	PATENT GRANTED	
42	A DWT FEATURE BASED BLIND STEGANALYSIS IN TRANSFORM DOMAIN	SSTC, Bhilai	30-11-18	COPYRIGHT PUBLISHED	
43	A GABOR FILTER BASED BLIND STEGANALYSIS FOR JPEG IMAGES	SSTC, Bhilai	21-05-19	COPYRIGHT PUBLISHED	

INTERNATIONAL LEVEL COLLABORATION

S.NO	NAME OF ACTIVITY	NAME OF COLLABORATING GROUP	SESSION	NATURE OF ACTIVITY	JOURNAL/BOOK PUBLISHER
1	Estimation of spectroscopic parameters and colour purity of thered-light-	H.G.VISSER & S.SOM University of the Free State,	2016-17	RESEARCH PAPER PUBLISHED	Journal Of Luminescence

	emittingYBa3B9O18 phosphor: Judd–Ofelt approach	Bloemfontein 9300, South Africa			
2	Luminescence and structural properties of Gd2SiO5:Eu3+ phosphors synthesized from the modified solid state method	H C STEWART University of the Free State, Bloemfontein 9300, South Africa	2016-17	RESEARCH PAPER PUBLISHED	Ceramics International
3	Transmuting the blue fluorescence of hekates mesogens derived from tris(N-salicylideneaniline)score via ZnS/ZnS:Mn2+ semiconductor quantum dots dispersion	D P SINGH, M. Depriester (UDSMM), Université du Littoral Côte d′Opale, France	2018-19	RESEARCH PAPER PUBLISHED	Journal Of Luminescence
4	Synthesis of Ag Nanoparticle-Decorated ZnO Nanorods Adopting the Low-Temperature Hydrothermal Method	MARIA ALEKSANDROVA Technical University of Sofia, Sofia, Bulgaria	2019-20	RESEARCH PAPER PUBLISHED	Journal of Electronic Materials
5	Synthesis and characterization of PEDOT:PSS/ZnO nanowires hetrojunction on ITO coated plastic substrate for llight-emitting diodes	MARIA ALEKSANDROVA Technical University of Sofia, Sofia, Bulgaria	2019-20	RESEARCH PAPER PUBLISHED	Materials Today : Proceedings 15, 3, 2019, 394-399
6	Spectroscopic, dielectric, and nonlinear current–voltage characterization of a hydrogen-bonded liquid crystalline compound influenced via graphitic nanoflakes: An equilibrium between the experimental and theoretical studies	D P SINGH, Redouane Douali, Kirill Kondratenko, Benoit Duponchel, Paul Genevray, (UDSMM), Université du Littoral Côte d′Opale, Dunkerque, France	2020-21	RESEARCH PAPER PUBLISHED	Journal Of Molecular Liquids
7	Thermoluminescence Studies of β and γ-Irradiated Geological Materials for Environment Monitoring	Gu Cheng-Lin Faculty of Science, Jiamusi University, Jiamusi, 154007, China	2020-21	RESEARCH PAPER PUBLISHED	Journal of Fluorescence
8	PHOSPHORS FOR DISPLAY FORENSIC AND BIOMEDICAL APPLICATIONS Nova publisher New York	Dr. Marta Michalska-Domańska Military University of Technology Warsaw, Poland	2020-21	INTERNATIONAL BOOK PUBLISHED	NOVA PUBLISHER NEW YORK

9.	INTERNATIONAL WEBINAR on Corona's impact on research and development at the global level	BIT RAIPUR	2019-20	INTERNATIONAL WEBINAR	
10	INTERNATIONAL Workshop	BIT RAIPUR	2019-20	INTERNATIONAL WORKSHOP	
11	Phosphors in Role of Magnetic Resonance, Medical Imaging and Drug Delivery Applications: A Review	Dr. K V R MURTHY MS UNIVERSITY BARODA	2020	INTERNATIONAL BOOK PUBLISHED Luminescent Materials in Display and Biomedical Applications	CRC PRESS
12	Effect of CaZrO3 Doping by Gd3+ on Phototherapy Lamp Phosphor Performance	Dr. Marta Michalska-Domańska Military University of Technology Warsaw, Poland	2020	INTERNATIONAL BOOK PUBLISHED Luminescent Materials in Display and Biomedical Applications	CRC PRESS
13	Spectroscopic Parameters via Judd–Ofelt Analysis of Eu3+ Doped La2Zr2O7 Phosphor,	V Dubey, MK Mishra	2019	BOOK PUBLISHED	International Conference on Intelligent Computing and Smart Communication , 2020, Springer
14	Spectroscopic parameters of red emitting Eu3+ doped La2Ba3B4O12 phosphor for display and forensic applications	Dr. Marta Michalska-Domańska Military University of Technology Warsaw, Poland	2021	BOOK PUBLISHED	Hybrid Perovskite Composite Materials
15	Enhancement of photoluminescence / phosphorescence properties of Eu3+ doped Gd2Zr2O7 phosphor	Dr. Marta Michalska-Domańska Military University of Technology Warsaw, Poland	2021	BOOK PUBLISHED	Hybrid Perovskite Composite Materials
16	PATENTS	A process for preparing calcium zirconate for UV LED devices for treating neonatal and skin diseases	2020-21	PATENT GRANTED	AUSTRALIA
17	PATENTS	A method for evaluating thermally stimulating	2020-21	PATENT GRANTED	AUSTRALIA

		luminescence behaviorEr3+, Yb3+ doped La2Zr2O7 phosphor for TL dosimeter			
18	PATENTS	SOCIO ECONOMICAL SMART IOT BASED TRAFFIC MANAGEMENT SYSTEM	2020-21	PATENT GRANTED	AUSTRALIA

In addition to above work, we have also organized invited lectures, Workshop, International Webinar and National Conference on Luminescence and its applications (NCLA 21) in association with our collaborative groups. With the help of our Collaborative Group Six Patents were granted in 2020-21and two Copyrights were published. In 2020-21 we have organized National Conference on Luminescence and its applications (NCLA 21) in association with Luminescence Society of India and BIT Raipur.

Govt. V.Y.T. PG Autonomous College, Durg,(Chhattisgarh), INDIA

(Erstwhile: Govt. Arts & Science College, Durg)

DEPARTMENT OF PHYSICS

The department was established in 1958, PG course was started in 1965. Very highly distinguished and learned professors were among the faculty. The department is actively engaged in research and having number of sponsored UGC/CCOST/DST projects. The areas of research include Luminescent materials, Nanomaterials, Organic LED's & Photovoltaic Cell. Photonics, Electronics, Biomedical Application of luminescent materials and Radiation physics.

GOVT VYT PG AUTONOMOUS COLLEGE, DURG

Government Vishwanath Yadav Tamaskar Post-Graduate Autonomous College, Durg is a leading higher education institution in Chhattisgarh.

It is affiliated to Hemchand Yadav University Durg. The college has been conferred with the status of autonomy by UGC in 1989. The college was accredited with grade 'A +' by NAAC in the second cycle, and has been recognized by UGC as 'College with Potential for Excellence' (CPE), receiving the grant under I, II & IIIrd Phase of the scheme. Five departments fromfaculty of Science and one from Social Science have been identified by UGC under CPE scheme as highly rated departments

About the College

The institute has been shortlisted and recognized under DBT Star College Scheme by the Department of Biotechnology (DBT) Govt. of India. Under this scheme 6 departments from faculty of Science have been selected for providing financial support. The Department of Chemistry was recognized under Funds for improving Science and Technology Infrastructure (FIST) Scheme by Department of Science and Technology, Govt. of India. The college has the distinction of being one of the 20 prominent institutions across the country to have been selected for providing suggestions on National Higher Education Qualification Framework (NHEQF) of India.

The college offers UG and PG courses in Science, Arts and Commerce streams. Equipped with 21 teaching departments, including 17 PG departments, and 104 faculty members, it has 15 departments as recognized research centres, namely Hindi, English, History, Political Science, Sociology, Geography, Commerce, Physics, Chemistry, Botany, Zoology, Geology, Mathematics, and Biotechnology department.

Department of Physics, Chemistry, Maths, Botany, Microbiology, Biotechnology, Geology have research collaborations with national and international institutes of high repute. Many of the departments render paid as well as free consultancy services for sharing their knowledge resources for the benefit of institutions and society.

The college houses study centres of IGNOU and Pt. Sundarlal Sharma Open University

Contact Person:

Chairman Technical Committee:

Dr. KVR Murthy

President Luminescence

Society of India

Professor, The MS

University Baroda, India, +919327225568

Convener:

Dr. Jagjeet Kaur Saluja

Professor & Head Department of Physics, Govt. V.Y.T.PG. Auto. College Durg, +91-9977717571

Co-Convener:

Dr. Vikas Dubey

Associate Professor& Head Department of Physics Asst. Dean Research & Development, Bhilai Institute of Technology Raipur, +919826937919

Organizing Secretary:

Dr. Abhishek Kumar Misra

Assistant Professor,

Department of Physics,

Govt. V.Y.T.PG. Auto.

College Durg,

+917985629641

The college has a strong, committed and dedicated teaching faculty of 68 PhD holders and 5 M.Phil. holders. There are 46 non-teaching members and 38 daily wage employees. The teaching faculty is actively engaged in research work. A number of co-curricular and extracurricular activities are regularly organized throughout the year. This has also been acknowledged by NAAC peer team in their report. The college had a humble start with just two rooms that housed Arts and Science faculty, at the local Hindi Bhawan. The foundation stone of the present building was laid by the then Chief Minister of Madhya Pradesh Dr. Kailash Nath Katju in November, 1958. It was shifted to its present site, campus of 21.75 acres, in 1962. Since then the college is continuously growing in terms of infrastructure and learning resources in its journey towards excellence. The college served as a major resource to provide man-power to Bhilai Steel Plant.

This led to a breakthrough in socio-economic transformation of this region. Presently the college is one of the biggest Govt. Colleges in Chhattisgarh, a Lead College* of Durg district that provides administrative and academic support and guidance to 56 colleges of the district. The college has student strength of about 6000 in thecurrent session. It holds the unique opportunity of being a mixed bowl of urban, tribal and rural students, majority of them being first generation learners.

The college, since its inception, is serving the society in a significant way by providing higher education to first generation learners. This is a distinctive feature of this institution. Durg is well connected in the main route of Hawrah-Mumbai rail and is 40 km away from Raipur airport.

Luminescence Society of India

Luminescence Society of India (LSI), formed in 1990, provides a forum for interaction for Indian scientists and technologists having affiliation to different universities and research institutions in the field of luminescence and their applications by organizing annual conferences regularly.

Four international conferences were successfully organized wherein Indian researchers were joined by a large number of foreign scientists. During the past twenty-five years, in addition to scientific sessions, there has been an increase in the participation of delegates from industry as exhibitors of their products and for technical presentations. Moreover, rapporteur and oral sessions are being held regularly for the past 20 years in order to accommodate the papers of all participants in the technical sessions.

The Conference

National Conference on Luminescence and its Applications (NCLA-2021) is a prestigious event of the Luminescence Society of India (LSI). NCLA-2021 is going to be held during 9th-11th December, 2021 at Durg being organized by Government V.Y.T.PG. Autonomous College Durg, C.G., India in association with Luminescence Society of India (LSI).

Luminescence Society of India had organized an International Symposium cum Workshop on Luminescence Materials (ISWLM-2015) during 18th-19th December, 2015 at Baroda, India as a celebration in the YEAR OF LIGHT-2015. Since the inception of LSI, this conference is the 27thin a series of annual conferences organized by LSI. The conference is the follow-up of previous ones NCLA-2020 (NIT Warangal) ICLA-2019 (Raipur), NCLA-2018, [CSIR, Trivandrum], R.T.M. Nagpur University, Nagpur (NCLA-2017), rd University, NCLA-2016, earlier International & National conferences held at PESIT, Bengaluru (ICLA 2015), Jabalpur (NCLA 2014), Bengaluru (NCLA 2013), IICT, Hyderabad (ICLA 2012), Pt RSS University, Raipur (NCLA 2011), GRU, Gandhigram (NCLA 2010), CGCRI, Kolkata (NCLA 2009), NPL, New Delhi (ICLA 2008), BU, Coimbatore (NCLA 2007), SGB University, Amravati (NCLA 2006), BU, Bengaluru (NCLA 2005), BARC, Mumbai (ICLA 2004), NPL, New Delhi(NCLA-2003), RDU, Jabalpur (NCLA-2002, OU, Hyderabad (NCLA-2001), MSU, Baroda(ISLA- 2000), MU, Imphal (NCLA-1998), Bilaspur(NCLA-1997), RU, Raipur (NCLA-1995), MS University of Baroda (NCLA-1992).

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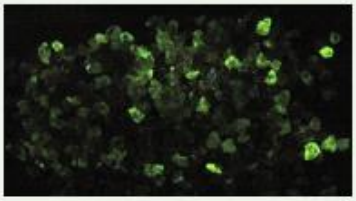
Themes of NCLA-2021

NCLA 2021 envisages diversified and multi-disciplinary technical sessions; amongst few are plenary lectures and an exhibition of equipment and other materials. Latest developments in the field of luminescence research and its applications will be reviewed and the conference is expected to provide an interactive platform to the academia, researchers, and the industry. Participations from different industries, universities, and academic institutions from all over the country are anticipated.

The organizing committee hereby invites scientists/technologists engaged in basic as well as applied research in Universities, Research Institutions, and Industries to participate. The scientific sessions will comprise plenary talks, invited talks and contributed papers (both oral and poster) on the following topics:



Luminescence

1. Photoluminescence
2. Electroluminescence
3. Thermoluminescence
4. Phosphors and nanophosphors (preparation andcharacterization)
5. Photonic materials and lasers
6. Luminescence from glasses and glass ceramics
7. Luminescence from organic compounds
8. Luminescence in gemstones and diamonds
9. Luminescence for improving agriculture productivity
10. Optical materials (nanomaterials, quantum dots, biomaterials, ceramics etc.)
11. Optically Stimulated Luminescence (OSL)
12. Mechano, sono and chemiluminescence
13. Optoelectronic devices (LEDs, OLEDs, Fiber optic sensors, etc.)
14. Radiations effects on luminescence and dosimetry
15. Luminescence dating
16. Space dosimetry
17. Luminescence instrumentation
18. Phosphors for LED applications
19. Phosphors for improving efficiency of solar cells
20. Phosphors for bio-medical and security applications
21. Biodegradable phosphor composites
22. Novel applications of luminescence
23. Industrial applications of phosphors
24. Theoretical aspects of luminescence

Conference Language

The conference presentations and deliberations will be in English.

Call for Abstracts

Authors should submit an abstract of an original, unpublished paper not exceeding 500 words without figures or tables. The abstract format can be downloaded from the conference/LSI web sites. The abstract must be submitted online through conference web site 'www.lumsocindia.org'. Each registered participant can submit two abstracts only. If there is any difficulty during the abstract submission please contact via e-mail: ncla2021durg@gmail.com

Proceedings

All the abstracts accepted from registered participants will be published in the conference proceeding with ISBN number. Papers presented at NCLA-2021 are planned to be published in the International Journal of Luminescence and its Applications after regular refereeing process. The journal format for manuscripts can be downloaded from the conference/LSI/journal web sites i.e. 'www.lumsocindia.org', 'ijlaindia.org'.

Conference registration and submission of abstract can be made online through the official website 'www.lumsocindia.org'.

Registration fee to: Luminescence Society of India

By Bank Transfer: Bank of Baroda, AC No.05780100004045

Swift Code : BARB0DANDIA (0= ZERO)

With an intimation e-mail to Organizing Secretary, NCLA-2021: e- mail: ncla2021durg@gmail.com

Indian Delegates should register on or before 30th November, 2021

Registration Fees

LSI Life Members

Till 30th November, 2021: Rs. 3,000/- (Off line)

After 30th November, 2021: Rs. 3,500/- (Online)

Students

Till 30th November, 2021: Rs. 1,500/- (Online)

After 30th November, 2021: Rs. 2,000/- (offline)

Delegate registration fee will cover Conference Literature (kit), Working Lunch, Dinner, Tea& Snacks.

#Students should send their registration form through their guide.

*Accompanying person's registration fee (Rs.2000) will cover working lunch, dinner, tea & snacks.

About Durg

Situated on the east bank of river Shivnath, District Durg is herald of Chhattisgarh's Industrial Development, Cultural competence, Social harmony and Meaningful use of resources. It is a symbol of status , prestige andglory of Chhattisgarh. History of Durg is like conducive inspiration which is unique mixture of oldness and modernity, culture-rite and entrepreneurship. Bhilai known as 'Mini India' for Industrial development, social harmony and cultural diversity is a twin city of Durg. Durg is well connected in the main route of Hawrah-Mumbai rail and is 40 km away from Raipur airport.

Accommodation

Accommodation will be arranged for student out-station participants on first come first serve basis in nearby guest houses/hostels and hotels. Participants are required to inform the Organizing Secretaries well in advance.

• Accommodation charges should be paid at registration counter in cash.

For accommodation contact:

Dr. Abhishek Misra
Mobile No. 7985629641

Mr. Neeraj Verma
Mobile No. 8109797483

Note: All requests for accommodation should be submitted via e-mail: ncla2021durg@gmail.com

Prizes for Posters

Nucleonix Systems Pvt. Ltd, Hyderabad is sponsoring the prizes for the best posters.

Souvenir

A souvenir is planned to be released during the inaugural function of the conference. It includes program schedule, keynote address, plenary lectures and advertisement from companies/ organizations on high quality A4 size maplitho paper. Advertisements are solicited from companies/ organizations as per the tariff given below.

Outside back cover (multicolor) : Rs. 25,000/-

Inside front/inside back cover (multi color) : Rs. 20,000/-

Inside full page (Black & white) : Rs. 10,000/-

Exhibition

It is planned to have a commercial exhibition of different types of luminescent materials and equipment's including PC based analytical and nuclear equipment's from both industries and laboratories for display of products. The stall (dimension: 3m x 2m) charges are Rs. 25,000. For the details please contact the Convener, NCLA 2021.

Govt. V.Y.T. PG Autonomous College, Durg,(Chhattisgarh), INDIA

(Erstwhile: Govt. Arts & Science College, Durg)

Indian Invited Speakers/ Technical Speakers

Prof. Dorendrajit Singh
Prof. Namita Brahme
Dr. M.D. Sastry, GII, Mumbai
Dr. K.V.R. Murthy
Dr. S.J. Dhoble, RTMNU, Nagpur
Dr. K.V.K. Gupta, Hyderabad
Dr. B.N. Jagtap, BARC, Mumbai
Dr. A.R. Lakshmanan, IGCAR, Mumbai
Dr. B.S. Panigrahi, IGCAR
Dr. A.K. Tyagi, BARC, Mumbai
Dr. L. Giribabu, IICT, Hyderabad
Dr. K.R. Nagabhushana, India
Dr. Y.H. Gandhi
Dr. D.P. Bisen
Prof. S.K. Omanwar
Prof. P. D. Sahare
Dr. M.S. Kulkarni
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Shri R.B. Rakesh
Dr. M. Mahapatra
Dr. A.K. Bakshi
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Dr. K.V.K. Gupta
Dr. M. Kulkarni
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Prof. A.S. Sai Prasad
Dr. Munish Kumar
Dr. K. Surati
Dr. Neha Dubey
Dr. Subhrata Das

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Dr. K.V.R. Murthy
President, LSI, MSUniversity, Baroda
Chairman, Organizing Committee
NCLA-2021

Secretary

Prof. Jagjeet Kaur Saluja
Dr.Vikas Dubey

Members

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Prof. Dr.Namita Brahme, Pt. RSU, Raipur
Prof. Dorendrajit Singh, Manipur University,
Dr. B.S. Panigrahi, IGCAR, Kalpakkam

Note: All the abstracts and accommodation requests should be submitted via e-mail only to: ncla2021durg@gmail.com

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Tentative Funding Agencies

MHRD, DST, AERB, BRNS-DAE, CSIR, DRDO, INSA, ICMR, MNRE, DIT, DBT, CCOST, M/s Nucleonix Systems Pvt. Ltd, Hyderabad

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Professor & Head, Department of Physics Govt. V.Y.T.PG. Auto. College Durg

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Local Organizing Secretaries:
Mr. Neeraj Verma
Mr. Teerath

Govt. V.Y.T. PG Autonomous College, Durg,(Chhattisgarh), INDIA

(Erstwhile: Govt. Arts & Science College, Durg)

Under the joint aegis of Government Vishwanath Yadav Tamaskar Postgraduate Autonomous College, Durg and Luminescence Society of India, the inauguration of the 3-day national conference started on 9 December 2021 with Saraswati Vandana, state song and island lighting. All the honorable guests were welcomed by a bouquet of flowers. The special guest at the national conference, Dr. HK Pathak, Vice Chancellor, Bharati University, Durg, while talking about the inventions related to physics, transistor and LED, he said that we are still far behind in the field of quality research, and we try to make our research quality. So that we can make our mark at the international level, he said that research should be done to raise the level of common man. Positive development of the country can be possible only with the cooperation of both science and technology. Earlier the coordinator Dr. Jagjeet Kaur Saluja told the outline of the three-day conference, how this research will prove to be useful for the students and the professors involved in the research. He told all the professors, scientists and students involved in the conference to get more and more latest information about it. Secretary of LSI Dr. D P Bisen, Pandit Ravi Shankar Shukla University, Raipur while giving the welcome address said that we have to include physics in our life, so that new ideas can be adopted in daily use. LSI President Dr. KVR Murthy said in his remarks that this conference is organized every year for all young scientists to present their research work, so that they can meet scientists of international repute and get the latest information from them and complete the research.t

Principal Dr. RN Singh Welcoming all the honorable guests, Dr. Singh informed that our college is the only A+ grade college in the state of Chhattisgarh and high-level research work is done in this college, he outlined all the achievements of the college in front of the guests. The students involved were told that they all should take maximum advantage of this conference, so that their objective would be successful. The booklet of the conference was released by all the esteemed guests. On this occasion Dr. Jagjeet Kaur Saluja, Dr. Namita Bramhe and Dr. D P Bisen was honored with the Fellow Award of Luminescence Society of India. Successful conduct of the program Neha Tiwari, Dr. Khayja Mohddin and Naman Thakkar and vote of thanks was given by Dr. Vikas Dubey

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साईंस कालेज में त्रिदिवसीय राष्ट्रीय सम्मेलन का आयोजन

दुर्ग, 8 दिसंबर (देशबंधु)। शासकीय विश्वनाथ यादव तामस्कर स्नातकोत्तर स्वशासी महाविद्यालय, दुर्ग एवं ल्यूमिनिसेंस सोसायटी ऑफइंडिया के संयुक्त तत्वावधान में 3 दिवसीय राष्ट्रीय सम्मेलन का उद्घाटन 9 दिसंबर को प्रात: 9.30 बजे से होगा। राष्ट्रीय सम्मेलन में मुख्य अतिथि के रूप में डॉ. एस.के. सिंह कुलपति, बस्तर विष्वविद्यालय, जगदलपुर विशिष्ट अतिथि डॉ. एच.के. पाठक, कुलपति भारती विश्वविद्यालय, दुर्ग, तथा कार्यक्रम की अध्यक्षता डॉ. आर.एन. सिंह, प्राचार्य एवं डॉ. के.वी.आर. मूर्ति अध्यक्ष, ल्यूमिनिसेंस सोसायटी ऑफइंडिया तथा कार्यक्रम की संयोजक डॉ. जगजीत कौर सलूजा, डॉ. विकास दुबे एवं भौतिकी विभाग के समस्त प्राध्यापक देश-विदेश से ख्याति प्राप्त वैज्ञानिक एवं प्राध्यापक शोध छात्र-छात्राऐं सम्मिलित होंगे। संयोजक डॉ. जगजीत कौर सलूजा के अनुसार इस सम्मेलन में प्रमुख वक्ताओं के रूप में घेंट विश्वविद्यालय बेलजियम से डॉ. डर्क पॉलमैन, बार्क मुबंई से, डॉ. मुनीष कुमार, दरभंगा से डॉ. पूजा कुमारी एवं पंडित रविषंकर शुक्ल विश्वविद्यालय, रायपुर से डॉ. नमिता ब्रम्हे के व्याख्यान होंगे। इसके साथ शोध छात्रों के लिए ओरल एवं पोस्टर प्रेजेटेंशन भी होंगे, जिसमें से सर्वश्रेष्ठ पोस्टर को पुरस्कृत किया जायेगा। प्राचार्य डॉ. आर.एन. सिंह के अनुसार इस सम्मेलन से सभी प्रतिभागियों को नवीनतम जानकारी प्राप्त होगी। यह सम्मेलन हायब्रिड मोड में आयोजित किया जायेगा।

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नवभारत Bhilai City - 14 Dec 2021 - 14bh2

नवभारत रायपुर, मंगलवार 14 दिसम्बर 2021

दुर्ग शहर

साइंस कॉलेज में आयोजित राष्ट्रीय सम्मेलन का हुआ समापन, देश भर के वैज्ञानिक जुटे

बदलते परिवेश में इनोवेटिव थिंकिंग के साथ स्किल जरूरी

नवभारत ब्यूरो । दुर्ग
www.navbharat.news

साइंस कॉलेज के टैगोर हॉल में आयोजित तीन दिवसीय राष्ट्रीय सम्मेलन के समापन सत्र को संबोधित करते हुए मुख्य अतिथि प्रोफेसर शैलेंद्र कुमार सिंह कुलपति अटल बिहारी विश्वविद्यालय जगदलपुर ने कहा कि आज के परिवेश में अधिकतम समस्याओं का समाधान टेक्नोलॉजी से ही संभव है. नवीनतम टेक्नोलॉजी से विद्यार्थियों को अवगत कराने हेतु समय-समय पर इस तरह के आयोजन अति आवश्यक है, शोधार्थियों को नई तकनीक से मानव जीवन को सरल एवं सुगम बनाने की दिशा में प्रयासरत रहना चाहिए, उन्होंने कहा कि शोध संबंधित समस्या के समाधान में किसी प्रकार का समझौता नहीं करना चाहिए, इस दौरान शोधार्थियों के इंटरएक्टिव सेशन में डॉ. वीएस चंगिलाही ने कहा कि बदलते परिवेश में स्किल के साथ इनोवेटिव थिंकिंग जरूरी है.

इसके पूर्व आमंत्रित व्याख्यानों में मदुरई से डॉ. एस एम कैनेडी ने अपना व्याख्यान प्रस्तुत किया और इसके पश्चात डॉक्टर विकास दुबे ने अपने प्रस्तुतिकरण में फास्फर मटेरियल का बायोमेडिकल एवं ड्रग डिलीवरी एप्लीकेशन में उपयोग बताए, फॉस्फर की सहायता से सूर्य किरणों को दूरस्थ प्रकाश में बदला जा सकता है, बार्क मुंबई से डॉ. ए के स्वामी ने अपने व्याख्यान में नवीनतम जानकारियों एवं अपने अनुभवों को साझा किया, उन्होंने ल्यूमिनिसेंस से संबंधित विभिन्न प्रकार की जानकारी एवं उपयोगिता को उदाहरण के द्वारा विस्तार पूर्वक समझाया. टेक्निकल सेशन डॉ. अनिता शुक्ला, सोनेश्वरी चंद्राकर, डॉ. अभिषेक मिश्रा और डॉ. रत्नेश तिवारी द्वारा संचालित किया गया. विभागाध्यक्ष डॉ. जगजीत कौर सलूजा ने ऑर्गनाईजिंग कमेटी को धन्यवाद दिया. इस सम्मेलन में 200 से अधिक शोधार्थियों ने भाग लिया. उन्हें प्रमाण पत्र प्रदान किया गया.

अभिजीत व अमृता ने मारी बाजी

पोस्टर प्रस्तुतिकरण में प्रथम स्थान पर आरटीएम यूनिवर्सिटी नागपुर से अभिजीत कदम, द्वितीय पवन चदेव तथा तृतीय स्थान पर रामनाथ व प्रशांत शिंदे रहे. मौखिक प्रस्तुतीकरण में प्रथम स्थान अमृता कुलपत, द्वितीय कंचन तिवारी व सौजू मिश्रा तथा तृतीय स्थान तृप्ति व चंद्र शेखर वर्मा ने प्राप्त किया.

निर्णायक थे कलपक्कम के वैज्ञानिक

सम्मेलन की संयोजक डॉ. जगजीत कौर सलूजा ने मौखिक एवं पोस्टर प्रस्तुतीकरण में उत्कृष्ट प्रदर्शन करने वाले विद्यार्थियों के नामों की घोषणा की. पोस्टर एवं मौखिक प्रस्तुतीकरण के निर्णायक के रूप में कलपक्कम से आए हुए उपस्थित वैज्ञानिकों डॉ बीएस चंगिलाही और डॉ. आर के पांडे ने प्रमुख भूमिका निभाई.

नई तकनीक से समस्याओं का निराकरण

सम्मेलन के सह संयोजक डॉ. विशाल दुबे ने सम्मेलन की सारगर्भित जानकारी प्रदान की. इस सम्मेलन में विभिन्न प्रांतों से विद्यार्थियों ने अपना शोध मौखिक एवं पोस्टर प्रस्तुतीकरण किया. इस सम्मेलन का उद्देश्य अनुसंधानकर्ताओं को नई प्रणालियों से अवगत कराना था ताकि वे अपने समाज एवं उनके निवारण हेतु नई तकनीक और जानकारियों का मंथन किया जा सके.

शोध में शामिल करें नई टेक्नालॉजी

प्राचार्य डॉ. आर एन सिंह ने विद्यार्थियों को उत्तम परिणाम करते हुए आगे बढ़ने की प्रेरणा दी. उन्होंने कहा कि यदि इस सम्मेलन में सम्मिलित शोधकर्ता नई टेक्नोलॉजी जानकार उसको अपने शोध में सम्मिलित करें तो इस सम्मेलन की सार्थकता सिद्ध हो जाएगी तथा राष्ट्र को विकास पर पहुंचाने के लिए शोधार्थियों का प्रयास सफल होगा.

विज्ञान व तकनीक के सहयोग से सकारात्मक विकास संभव

आयोजन● विज्ञान महाविद्यालय के भौतिकशास्त्र विभाग में त्रिदिवसीय राष्ट्रीय सम्मेलन का शुभारंभ

दुर्ग (नईदुनिया प्रतिनिधि)। शासकीय विज्ञान महाविद्यालय दुर्ग एवं ल्यूमिनिसेंस सोसायटी आफ इंडिया द्वारा त्रिदिवसीय राष्ट्रीय सम्मेलन में भारती विश्वविद्यालय दुर्ग के कुलपति डा. एचके पाठकने भौतिकी से संबंधित आविष्कारों, ट्रांजिस्टर एवं एलईडी के बारे में बताते हुए कहा कि हम गुणवत्तापरक शोध के क्षेत्र में अभी भी बहुत पीछे है। हमें अपने शोध को गुणवत्तापरक बनाने के लिए प्रयास करते रहना चाहिए। डा पाठक ने सम्मेलन का शुभारंभ के दौरान यह बातें कहीं।

इससे पूर्व संयोजक डा जगजीत कौर सलूजा ने सम्मेलन की रूपरेखा को बताया। साथ ही किस प्रकार से यह शोध विद्यार्थियों एवं अनुसंधानों से जुड़े प्राध्यापकों के लिए उपयोगी सिद्ध होगा। एलएसआइ के सचिव डा डीपी.विसेन, पंडित रविशंकर शुक्ल विवि रायपुर ने कहा कि भौतिकी को हमें अपने जीवन का हिस्सा बनाना होगा, जिससे नवीन विचारों को दैनिक उपयोग में अपनाया जा सकता है।

एलएसआइ अध्यक्ष डा.केवीआर.

गुरुवार को विज्ञान महाविद्यालय दुर्ग में त्रिदिवसीय राष्ट्रीय सम्मेलन में भारती विवि दुर्ग के कुलपति डाएचके पाठक व अन्य। ● नईदुनिया

मूर्ति ने इस सोसायटी के माध्यम से ल्यूमिनिसेंस में शोध कार्य करने के लिए विद्यार्थियों को प्रोत्साहित किया। प्राचार्य डा.अरएन सिंह ने महाविद्यालय की उपलब्धियों से विद्यार्थियों से इसका लाभ लेने कहा। अतिथियों द्वारा सम्मेलन की बुकलेट का विमोचन किया गया। एलएसआइ द्वारा डा.जगजीत कौर सलूजा, डा नमिता ब्रम्हे एवं डा.डीपी.विसेन को फेलो ल्यूमिनिसेंस सोसायटी आफ इंडिया पुरस्कार से सम्मानित किया गया। कार्यक्रम का संचालन डा नेहा तिवारी, डा.ख्वाजा मोहद्दीन एवं नमन ठक्कर एवं धन्यवाद ज्ञापन डा.विकास दुबे द्वारा किया गया।

तृतीय सत्र में घेंट विश्वविद्यालय बेल्जियम से डा डर्क पालमैन ने बताया कि एमआरइ के स्थान पर अप कंवर्जन ल्यूमिनिसेंस (यूसीएल) उपयोग में लाकर इससे प्राकृतिक इमेज प्राप्त होती है, जिसका उपयोग कैंसर के बारे में होता है। आइजीसीएआर कलपक्कम से डा.आरके. पाधी ने यूरोपियम एवं यूरेनियम के व्यवहार पर विस्तृत चर्चा करते हुए उपयोगिता पर प्रकाश डाला। बार्क मुंबई से डा.मुनीष कुमार ने रेडिएशन डोजीमैट्री पर व्याख्यान प्रस्तुत किया। वरभंगा से डा.पूजा कुमारी ने वैडेट फास्फर का डिस्पले में उपयोगिता के बारे में बताया। इस सम्मेलन में आरटीएम विवि नागपुर, वीआइटी दुर्ग, रविवि रायपुर, बार्क मुंबई, चेन्नई एवं केरला से सम्मिलित शोधार्थियों द्वारा हायब्रिड मोड में अपना प्रस्तुतिकरण दिया। शोधार्थी नीरज वर्मा एवं तीरथ सिन्हा का विषेष योगदान रहा। सम्मेलन की सचिव डा अनिता शुक्ला एवं डा अभिषेक मिश्रा ने संयुक्त रूप से जानकारी दी।

विभिन्न विषयों पर वक्ताओं ने व्यक्त किए विचार

मुख्य वक्ता आरटीएम यूनिवर्सिटी नागपुर के डा एसजे धोबले ने एलईडी फार प्लांट कल्टीवेशन विषय पर व्याख्यान प्रस्तुत किया। इससे पूर्व सम्मेलन में विश्व में दो फीसद विज्ञानिकों की लिस्ट में शामिल डा.एसजे धोबले को सम्मानित किया गया। डा धोबले ने पौधे के वृद्धि के लिए ग्रीन हाऊस की उपयोगिता के बारे में बताया। आनलाइन पर डा हरनाथ ने फास्फर मटेरियल को बारकोड एवं क्यूआर कोड में उपयोग कर धोखाधड़ी से बचने जानकारी दी। रविवि रायपुर से डा.नमिता ब्रम्हे ने ल्यूमिनिसेंस से संबंधित जानकारी दी।

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तीन दिवसीय राष्ट्रीय सम्मेलन का समापन

शोध का लक्ष्य समस्याओं का समाधान करना

हरिभूमि न्यूज ▶▶ दुर्ग

साइंस कॉलेजके टैगोर हॉल में आयोजित तीन दिवसीय राष्ट्रीय सम्मेलन के समापन सत्र को संबोधित करते हुए मुख्य अतिथि प्रोफेसर शैलेंद्र कुमार सिंह कुलपति बस्तर

- स्किल की आवश्यकता व इन्नोवेटिव थिंकिंग पर जोर

विश्वविद्यालय जगदलपुर ने कहा कि आज के परिवेश में अधिकतम समस्याओं का समाधान टेक्नोलॉजी से ही संभव है। नवीनतम टेक्नोलॉजी से विद्यार्थियों को अवगत कराने समय-समय पर इस तरह के आयोजन अति आवश्यक है, शोधार्थियों को नई तकनीक से मानव जीवन को सरल एवं सुगम बनाने की दिशा में प्रयासरत रहना

चाहिए। उन्होंने कहा कि शोध संबंधित समस्या के समाधान में किसी प्रकार का समझौता नहीं करना चाहिए। प्राचार्य डॉ आर एन सिंह ने विद्यार्थियों को सतत परिश्रम करते हुए आगे बढ़ने की प्रेरणा दी। सम्मेलन के सहसंयोजक डॉक्टर विकास दुबे ने सम्मेलन की सारगर्भित जानकारी प्रदान की।

एलएसआई अध्यक्ष डॉ. के.वी.आर. मूर्ति ने इस सोसायटी के माध्यम से ल्यूमिनिसेंस में शोध कार्य करने हेतु विद्यार्थियों को प्रोत्साहित किया। मदुरई के डॉ एस एम कैनेडी, बार्क मुंबई केडॉ ए के त्यागी ने व्याख्यान दिए। टेक्निकल सेशन डॉ अनीता शुक्ला, सीतेश्वरी चंद्राकर, डॉ अभिषेक मिश्रा और डॉ रत्नेश तिवारी द्वारा संचालित किया गया। इस दौरान सभी विद्यार्थियों का इंटरएक्टिव सेशन भी हुआ जिसमें डॉक्टर बीएस पाणिग्रही ने शोध में अपना कैरियर चुनने के लिए विद्यार्थियों को प्रोत्साहित किया।

पोस्टर प्रस्तुतिकरण के परिणाम

मौखिक एवं पोस्टर प्रस्तुतिकरण में सर्वश्रेष्ठ प्रदर्शन करने वाले विद्यार्थियों के नामों की घोषणा की। पोस्टर एवं मौखिक प्रस्तुतीकरण के निर्णायक के रूप में कलपक्कम के वैज्ञानिकों डॉ बीएस पाणिग्राही और डॉक्टर आर के पाधी ने प्रमुख भूमिका निभाई। पोस्टर प्रस्तुतिकरण में तृतीय स्थान पर रामनाथ एवं प्रशांत शिंदे, द्वितीय पवन यादव और प्रथम स्थान पर आरटीएम यूनिवर्सिटी नागपुर के अभिजीत कदम रहे। मौखिक प्रस्तुतीकरण में तृतीय स्थान पर तृप्ति एवं चंद्र शेखर वर्मा, द्वितीय कंचन तिवारी एवं सीजू मिश्रा और प्रथम स्थान अमृताकृष्णन ने प्राप्त किया।

सम्मेलन में 40 मौखिक एवं 28 पोस्टर का प्रस्तुतिकरण

राष्ट्रीय सम्मेलन शोध विद्यार्थियों के लिए जानकारी का माध्यम

हरिभूमि न्यूज ▶▶ दुर्ग

राष्ट्रीय सम्मेलन के द्वितीय दिवस में सीएसआईआर एनआईआई, एसटी तिरूअंतपुरम से वरिष्ठ वैज्ञानिक डॉ. सुब्रता दास ने आमंत्रित व्याख्यान में

- देश-विदेश के वैज्ञानिक हुए शामिल

आक्सीफ्लोराइड के विभिन्न प्रकार एवं प्रकाशीय स्रोत में उपयोगिता और संभावना पर चर्चा की, जिनमें मेडिकल इमेजिंग, सेंसर प्रमुख रूप है। उन्होंने बताया कि जब फॉस्फर मटेरियल में नीला, एलईडी मिलाते है, तो पीला, लाल एवं हरा प्रकाश प्राप्त होता है, यदि फॉस्फर मटेरियल में यूबीएलईडी मिलाए तो लाल, हरा, नीला प्रकाश प्राप्त होता है। इसके पश्चात आईआईसीटी हैदराबाद से वरिष्ठ वैज्ञानिक डॉ. गिरी बाबू ने सोलर सेल की संरचना, प्रकार, कार्यविधि एवं उपयोगिता को विस्तार पूर्वक समझाया।

ऑनलाईन माध्यम से सम्मिलित मिलिट्री विश्वविद्यालय, पोलैण्ड से डॉ. मार्ता मिचालसका ने आमंत्रित व्याख्यान के रूप में एनीडिक ऑक्साइड से बने हुए ऐलावाय के बारे में रोचक जानकारी दी। साथ ही साथ इस प्रकार के ऐलाय का फारेंसिक साईस में उपयोगिता के बारे में बहुत ही सरल भाषा में समझाया। वेलग्रेड विष्वविद्यालय सरबिया से डॉ. जेलेना मिट्रिक ने चालकोजिनाइड बेसड नैनोमटेरियल को आप्टिकल गुणों तथा ऐसे पदार्थों का उपयोग इन्फ्रारेड एवं रमन स्पेक्ट्रोस्कोपि में किस प्रकार से किया जाता है इसकी जानकारी दी। यूपीईएस देहरादून से अंकुश विज ने एक्सआरडी टीईएम सेम टीएल और पीएल को समझाया, जिसका उपयोग फॉस्फर मटेरियल के कैरेक्टराईजेशन में किया जाता है।

मौखिक व पोस्टर प्रस्तुतिकरण के नामों की होगी घोषणा

सम्मेलन की सहसचिव श्रीमती सीतेश्वरी चन्द्राकर एवं डॉ. नेहा दुबे ने संयुक्त रूप से जानकारी दी कि आमंत्रित व्याख्यानों के पश्चात सर्वश्रेष्ठ मौखिक एवं पोस्टर प्रस्तुतिकरण के नामों की घोषणा की जायेगी तथा त्रिदिवसीय सम्मेलन का समापन समारोह मुख्य अतिथि डॉ. शैलेन्द्र कुमार सिंह, कुलपति बस्तर विश्वविद्यालय, जगदलपुर की उपस्थिति में होगा। कार्यक्रम को सफल बनाने में भौतिकी विभाग के समस्त प्राध्यापक, अतिथि प्राध्यापक, शोध एवं स्नातकोत्तर विद्यार्थियों को योगदान रहा।

टेक्नीकल सेक्शन में इनका रहा योगदान

विभिन्न प्रदेशों से सम्मिलित हुए शोध विद्यार्थियों के 28 पोस्टर एवं 40 मौखिक प्रस्तुतिकरण प्रस्तुत हुये। टेक्नीकल सेशन को सफल बनाने में डॉ. एल.एस. सूर्यनारायण, डॉ. व्ही.एस. पाणिग्राही, डॉ. आर.के. पाधी, डॉ. पूजा कुमारी, डॉ. विकास दुबे एवं डॉ. नेहा दुबे का योगदान रहा। डॉ. एल.एस. सूर्यनारायण ने साईस कालेज के स्नातकोत्तर विद्यार्थियों को प्रोत्साहित करते हुए शोध से जुड़ने के लिए कहा उन्होंने विद्यार्थियों को अपना कैरियर चुनने में शोध करने को कहा जिससे वे समाज एवं देश के लिए महत्वपूर्ण योगदान दे सके।

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UV induced thermoluminescence and photoluminescence studies of Sm^{3+} doped $LaAlO_3$ phosphor

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Abstract:
Behaviour displayed by samarium doped $LaAlO_3$ phosphor which was synthesized by solid state reaction method. For synthesis of $LaAlO_3$ with variable concentration of Sm (0.2 – 2.5 mol%) phosphor was calcinated at 1000^0C and sintered at 1250^0C following intermediate grinding.

Investigation of luminescence properties of Dy3+ doped YAlO3 phosphors synthesized through solid state method

Huma Nazli Baig , Jagjeet Kaur Saluja , D. Haranath

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Optik - International Journal for Light and Electron Optics > 2016 > 127 > 20 > 9178-9195

Abstract

$YAlO_3:Dy^{3+}$ phosphor has been synthesized by the solid state reaction method with boric acid used as a flux. The resulting $YAlO_3:Dy^{3+}$ phosphor was characterized by XRD & FTIR and Scanning Electron microscope (HR-SEM/EDAX). The results of XRD patterns indicate that the prepared sample contain crystalline phases and has a orthorhombic structure with size in range of 52–65nm. The crystallites show dumbbell shape, agglomerated particles with different size. Thermoluminescence (TL) studies of $YAlO_3:Dy^{3+}$ have been carried out by irradiating with UV-radiation, at a heating rate of $6.7°Cs^{-1}$ showing three prominent peak at 83.7°C along with shoulder peak at around 148°C and 236°C. There are three prominent peaks at 90°C, 163 and 239°C have been observed to increase with UV exposures of $YAlO_3$ doped with Dy^{3+}. The prepared phosphor is less stable with UV exposure time but it shows opposite behaviour with gamma irradiation in case of gamma irradiation the high temperature peak at 193°C, 258°C and 361°C for 0.9Kgy and it shows continuous increase with gamma dose. Kinetic parameters also suggest that TL glow curve in $YAlO_3:Dy^{3+}$ phosphors is obeying first and general order kinetics. These methods indicated that the glow curve of this material is the superposition of a number of first- and general-order glow peaks, or at least due to the

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J Mater Sci: Mater Electron
DOI 10.1007/s10854-016-5819-0

Synthesis and luminescent behavior of UV induced Dy^{3+} activated $LaAlO_3$

D. Singh[1] · J. Kaur[1] · N. S. Suryanarayana[1] · R. Shrivastava[2] · V. Dubey[3]

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Full Length Article

Estimation of spectroscopic parameters and colour purity of the red-light-emitting $YBa_3B_9O_{18}$ phosphor: Judd–Ofelt approach

Vikas Dubey[a,*], Ratnesh Tiwari[a], Raunak Kumar Tamrakar[b], Jagjeet Kaur[c], S. Dutta[d,e], Subrata Das[d,1], H.G. Visser[e], S. Som[d,1,*]

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ABSTRACT

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Photoluminescence decay curve analysis of some rare earth doped CeO_2 phosphors

Deepika Chandrakar[1] · Jagjeet Kaur Saluja[1] · N. S. Suryanarayana[1] · Vikas Dubey[2] · Ravi Shrivastava[3] · Yogita Parganiha[1] · Deepti Singh[1]

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Abstract CeO_2:M (Eu^{3+}, Er^{3+} and Dy^{3+}) phosphors were synthesized by modified solid-state reaction tech-

1 Introduction

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Luminescence and structural properties of $Gd_2SiO_5:Eu^{3+}$ phosphors synthesized from the modified solid state method

Yogita Parganiha[a,*], Jagjeet Kaur[a], Neha Dubey[a], Vikas Dubey[b,*], Ravi Shrivastava[c], S.J. Dhoble[d], Hendrik C. Swart[e,*]

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Intense visible light emission from dysprosium (Dy^{3+}) doped barium titanate ($BaTiO_3$) phosphor and its thermoluminescence study

Rajni Singh[1] · Jagjeet Kaur[1] · Purna Bose[1] · Ravi Shrivastava[2] · Vikas Dubey[3] · Yogita Parganiha[1]

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Abstract Luminescence behaviour was displayed by dysprosium (Dy^{3+}) doped $BaTiO_3$ phosphor which was

1 Introduction

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Photoluminescence decay curve analysis of some rare earth doped CeO_2 phosphors

Deepika Chandrakar[1] · Jagjeet Kaur Saluja[1] · N. S. Suryanarayana[1] · Vikas Dubey[2] · Ravi Shrivastava[3] · Yogita Parganiha[1] · Deepti Singh[1]

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Kinetic and TL glow curve analysis of UV-, β- and γ-irradiated natural limestone collected from Chunkatta mines

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ABSTRACT

Herein the manuscript reports kinetics and Thermoluminescence (TL) glow curve analysis of UV-, β- and γ-irradiated natural limestone samples collected from Chunkatta mines of Chhattisgarh basin. The collected samples were annealed at 100°C for 1 h for preheat treatment before irradiation after that the samples were irradiated by

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UV-; β- and γ-irradiated limestone sample; trap

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Effect of UV light irradiation on the dielectric behaviour of liquid crystal/nano composite

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ABSTRACT

In this work, we investigate the effect of UV light irradiation on the dielectric parameters of the nematic liquid crystal (5CB) containing dispersed ZnO nanoparticles. With addition of nanoparticles, nematic LC's

KEYWORDS
Dielectric permittivity; nematic liquid crystal; relaxation frequency; UV irradiation

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Development of Universal Steganalysis using Co-Occurrence Matrix Features for the Corner Image Pixel and Performance Analysis

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[2]Professor, Electronics & Telecommunication Engineering, SSTC, SSGI Bhilai, India.

Abstract**—** *A very versatile kind of hidden data detection technique which can detect any hiding technique is known as universal steganalysis. Universal hiding technique development is preferred in the transform domain because after transformation the image coefficients gives the information about the frequency distribution of the different pixel values which appears in the image in the spatial domain. The designing and testing of the developed technique is implemented for the JPEG steganographic techniques i.e. F5, Jsteg, Outguess and DWT based. The corner matrices is evaluated from the the original image matrix and then discrete wavelet transformation is implemented as transformation function. The co-occurrence statistical features are calculated from these transformed corner matrices. These features are the second order statistical features which captures the variations in the image pixels due to hiding. The Support Vector Machine is then implemented for the evaluation of detection scheme. The proposed technique is compared with the related existing technique and quite appreciable result is obtained.*

Keywords**—** *Steganography, Steganalysis, DWT, SVM, Stego Image, Cover Image*

1. INTRODUCTION

The reverse technique of the data hiding is known as steganalysis i.e. the detection of the hidden data. The blind detection technique is the general class of steganalysistechniques that can be implemented for any hiding algorithm. The hidden data whether it is a text or image and in any format can be detected.If the data hiding is done after applying any mathematical transformation such as discrete cosine transform(DCT), discrete wavelet transform(DWT) and then quantization to the image pixel coefficients, comes under the category of transform domain steganography. The DCT is the most common one. As per the history of this technique, it is found that the terrorist very much use the hiding technique for communicating the secret information since last 15 years. Since passed years, various techniques were implemented to stop the secret data transmission by detecting the secret data using data hacking technique. Though there is vast development in the designing of the hiding technique, in the same space the improvement in the detection technique is also going on.For the favour of society and country and for the whole world, the work in the hidden data detection technique will be helpful. Day by day from small village to a metropolitan city, the use of internet is becoming popular.

The work discussed here is based on the designing of a blind detection scheme for the gray scale JPEG image in transform domain.If we analyze any image in detail, it is the finding that the corner pixel values of the objects within an image also carry the statistical information about the image.The statistics of the image get changed due to hiding the secret data. The DWT is the domain transformation mathematical tool which represents the image in both spatial and frequency domain.The wavelets obtained after DWT transformation carries the image information. The coefficient dimension depends on the various levels of orientations and scales that can be selected according to the requirement.For the blind steganalysis, the statistical detection is powerful. These aspects of the image are mathematically explained by statistical parameters known as image features since the features of natural images get violated when embedding process is applied. So, for designing an efficient detection technique, the statistical features of the images are calculated before and after implementing the hiding technique.

Support vector machine is a powerful multiclassification data mining tool. The performance computation of the detection scheme is done by using by commonly used classifier support vector machine (SVM).

The organization of the paper is as follows. The literature review of the related to various JPEG steganographic scheme and blind steganalysis techniques for JPEG images work is discussed in section - II. Then in the methodology, an overview of the proposed technique is discussed section - III. The image feature extraction technique is discussed in detail with mathematical formulae and classification technique in section - IV i.e. Image statistics section. In the experiments and results section-V, the classifier result for the proposed technique is shown along with the comparison performance result

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IMPROVED GABOR FILTER RESIDUALS BLIND STEGANALYSIS WITH REDUCED FEATURE DIMENSION

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ABSTRACT

In the proposed work, the efficiency of the Gabor Filter Residuals (GFR) steganalysis is tried to be increased with the implementation of PCA feature reduction technique. The final

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Development of BlindSteganalysis using Co-occurrence Features

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Abstract

Steganalysisis the technique for the detection of hidden information in an image. Blind Steganalysisis a

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Synthesis, characterization and luminescence studies of rare earth activated Sr_2SiO_4 phosphor: a review

Vikram Awate, Ratnesh Tiwari ✉, A. K. Shrivastava, Neha Dubey & Vikas Dubey ✉

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Abstract

This review includes research papers on different method of preparation of rare earth activated Sr_2SiO_4 phosphors and its luminescence studies. Here in Sr_2SiO_4 has attracted great interest due to its special structure features, excellent physical and chemical stability. Besides, it absorbs ultraviolet radiation and emits white light when activated by different rare earth ions. Different synthesis techniques were compared and it is found that sol–gel synthesis technique is best for preparation of rare earth activated Sr_2SiO_4 phosphors. Literature related to characterization techniques such as X-ray diffraction techniques, scanning electron microscopy, transmission electron microscopy and other studies are also compared. Photoluminescence studies for white light emitting diode of various rare earth phosphors are compared with Sr_2SiO_4 phosphor reported in this review. Also some luminescence techniques such as thermoluminescence glow curve analysis and some spectroscopic parameters are also compared. The review end with some important conclusion related to rare earth activated Sr_2SiO_4 phosphors with proper justifications.

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Review

A review reports on rare earth activated $AZrO_3$ (A = Ba, Ca, Sr) phosphors for display and sensing applications

Shubha Tripathi [a], Ratnesh Tiwari [b], A.K. Shrivastava [a], Vinod Kumar Singh [c], Neha Dubey [d], Vikas Dubey [b]

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Check for updates

Performance Analysis of Universal Steganalysis Based on Higher Order Statistics for Neighbourhood Pixels

Swagota Bera, Dr. Monisha Sharma and Dr. Bikesh Singh

***Abstract*---**Universal steganalysis of grey level JPEG images is addressed by modelling the neighbourhood relationship of the image coefficients using the higher order statistical method developed by two-step Markov Transition Probability Matrix (TPM). The implementation of TPM together with the neighbouring pixel relationship provides a better detection results as justified with the help of experimental results. The detection accuracy and execution

Jsteg[6] is JPEG hiding technique in which the zero and one coefficient is not used for hiding. In Outguess[7], hidden information is embedded into the redundant bits of the image. It preserves the global histogram of BDCT by adjusting untouched coefficient such that histogram does not change after data hiding. F5[8] modifies the block-DCT coefficients to

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Feature Extraction and Analysis using Gabor Filter and Higher Order Statistics for the JPEG Steganography

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RESEARCH PAPERS

UNIVERSAL STEGANALYSIS USING HIGHER ORDER STATISTICS AND PERFORMANCE ANALYSIS USING WEKA DATA MINING TOOL

By

S. BERA * M. SHARMA ** B. K. SINGH ***

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UV response on dielectric properties of nano nematic liquid crystal

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ABSTRACT

In this work, we investigate the effect of UV light irradiation on the dielectric parameters of nematic liquid crystal (5CB) and ZnO nanoparticles dispersed liquid crystal. With addition of nanoparticles in nematic LC are promising new materials for a variety of application in energy harvesting, displays and photonics including the liquid crystal laser. To realize many applications, however we optimize the prop-

White Light Emission from Dy (III) activated Sr_2SiO_4 phosphor

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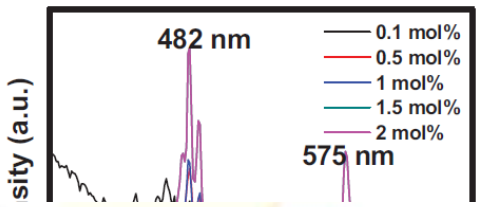
***Abstract*—In this manuscript we report synthesis of phosphor which is activated by Dysprosium ion and its luminescence properties are studied. Herein synthesized phosphor are characterized by photoluminescence studies and its CCT and CRI values are calculated and it is found near to white light so the synthesized phosphor will be useful for white light emission in several display device.**



Keywords—white light; color rendering index; dysprosium

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Thermoluminescence glow curve analysis and trap parameters calculation of UV-induced $La_2Zr_2O_7$ phosphor doped with gadolinium

Neha Dubey[1] · Vikas Dubey[2] · Janita Saji[3] · Jagjeet Kaur[1]

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Abstract

Thermoluminescence (TL) glow curve analysis and calculation of trap parameters are reported for gadolinium (Gd^{3+})-doped $La_2Zr_2O_7$ (LZO) phosphor. Phosphors were prepared by modified solid-state reaction method with varying concentration of Gd^{3+} (0.1–2.5 mol%) including proper calcination and sintering temperature. Structural analysis of prepared phosphor for optimized TL concentration was recorded by X-ray diffraction analysis technique. Morphology was analyzed by scanning electron microscopic technique. The UV ray induced to the phosphor and effect of dose response recorded for variable dose

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Faster response and lesser threshold voltage of strontium hardystonite (Sr-HT) nematic liquid crystal: Photoluminescence and optical study

Abhishek Kumar Misra[a,*], Bhupendra Pratap Singh[b], Siteshwari Chandraker[a], Kamal Kumar Pandey[c], Pankaj Kumar Tripathi[d], Jagjeet Kaur Saluja[a], Rajiv Manohar[b]

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Transmuting the blue fluorescence of hekates mesogens derived from tris(N-salicylideneaniline)s core via ZnS/ZnS:Mn^{2+} semiconductor quantum dots dispersion

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Dielectric properties and activation energies of Cu: ZnO dispersed nematic mesogen N-(4-methoxybenzylidene)-4-butylaniline liquid crystal

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ABSTRACT

In present work, Cu:ZnO nanoparticles (NPs) used to disperse in pure nematic liquid crystal N-(4-methoxybenzylidene)-4-butylaniline (MBBA). Due to their larger dipole moment of NPs have stronger interactions with the liquid crystal molecules which lead to enhance the ordering of the nematic molecules as demonstrated by the increase in the value of mean dielectric permittivity. The

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Electro-optic switching and memory effect in suspension of ferroelectric liquid crystal and iron oxide nanoparticles

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Synthesis and characterization of PEDOT:PSS/ZnO nanowires heterojunction on ITO coated plastic substrate for light-emitting diodes

Kanchana Shahi[a], R S Singh[a], Narendra P. Singh[b], Mariya Aleksandrova[c], Ajaya Kumar Singh*[d]

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Electrical Conductivity of Cholesteric Esters and Their Homogeneous Mixtures

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ABSTRACT

There is a possibility to evaluate properties on required frequency and temperature for a given sample with the help of some equations obtained on empirical basis. The present work was undertaken with the objective to fit the experimental results of dielectric permittivity and dielectric loss measurement with cholesteric esters series in mesophase. The liquid crystals (mesophase) are one of the materials,

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Synthesis of Ag Nanoparticle-Decorated ZnO Nanorods Adopting the Low-Temperature Hydrothermal Method

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Vertically aligned and highly dense Zinc oxide (ZnO) nanorods (NRs) have been successfully synthesized by a two-step hydrothermal method and deco-

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An Experimental Analysis of Feature Based Blind Steganalysis Techniques

Swagota Bera, Monisha Sharma, Bikesh Singh

Abstract: Steganalysis is the finding of the hidden information in an image. Steganalysis is named as blind steganalysis if hidden data is searched without any restriction to any specific algorithm. Many research works has been done in this area for more than one decade. The

JUNIWARD	*JPEG UNIversalWAvelet Relative Distortion*
MATLAB	*Matrix Laboratory*
MB	*Model Based*
PCA	*Principal Component Analysis*

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Journal of Molecular Liquids

journal homepage: www.elsevier.com/locate/molliq

Spectroscopic, dielectric and nonlinear current–voltage characterization of a hydrogen-bonded liquid crystalline compound influenced via graphitic nanoflakes: An equilibrium between the experimental and theoretical studies

Dharmendra Pratap Singh[a,*], Abhishek Kumar Misra[b], Kamal Kumar Pandey[c], Bhavna Pal[d], Narinder Kumar[d], Devendra Singh[d], Kirill Kondratenko[e], Benoit Duponchel[e], Paul Genevray[f], Redouane Douali[a]

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Journal of Theoretical and Applied Physics
https://doi.org/10.1007/s40094-020-00374-5

ORIGINAL RESEARCH

Silver nanoparticles dispersed in nematic liquid crystal: an impact on dielectric and electro-optical parameters

Rohit Katiyar[1] · Kaushlendra Agrahari[1] · Govind Pathak[2] · Tripti Vimal[1] · Geeta Yadav[1] · Kamal Kumar Pandey[3] · Abhishek Kumar Misra[4] · Atul Srivastava[1] · Rajiv Manohar[1]

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Abstract

In the present study, nematic liquid crystal (NLC) 4′-(Octyloxy)-4-biphenylcarbonitrile dispersed with three different concentrations of silver nanoparticles (Ag NPs) is characterized by electro-optical and dielectric spectroscopy method. The dispersion of Ag NPs into NLC material leads to the change in physical parameters such as dielectric permittivity, photoluminescence, threshold voltage, response time and splay elastic constant. The AC conductivity and threshold voltage of

J Fluoresc. 2020 Jul;30(4):819-825. doi: 10.1007/s10895-020-02536-9. Epub 2020 May 20.

Thermoluminescence Studies of β and γ-Irradiated Geological Materials for Environment Monitoring

Gu Cheng-Lin [1], Vikas Dubey [2], Kamal Kumar Kushwah [3], Manish Kumar Mishra [4], Ekta Pandey [5], Ratnesh Tiwari [6], Angesh Chandra [7], Neha Dubey [8]

Affiliations + expand

PMID: 32430863 DOI: 10.1007/s10895-020-02536-9

Abstract

In the present report, thermally stimulated luminescence (TSL) of quartz and limestone samples irradiated with β and γ-rays has been investigated. Herein the formation of trap depths and calculation of kinetic parameters of β and γ - irradiated quartz and limestone samples were studied through thermoluminescence (TL) glow curve analyses. The quartz and limestone samples were collected from various sites of Chhattisgarh (Patharia and Dalli-Rajhara mines). The collected raw samples were annealed at 400 °C. The phase formation of collected samples is confirmed by X-ray diffraction studies. The grain sizes of the samples are determined by using Debye-Scherrer formula. TL glow curves of the collected samples were recorded for various doses of β and γ-rays. Kinetic parameters such as order of kinetics frequency factor and trap depth were calculated by employing CGCD methods. A comparative study on the TL properties of the geological materials under β and γ-irradiation was done. The trap model analysis was executed to determine the nature of traps responsible for dominant TL peaks of β and γ-irradiated limestone and quartz samples.

Keywords: Limestone; Quartz; TL glow curve; β and γ - rays.

Published: 23 December 2019

Thermoluminescence glow curve analysis and trap parameters calculation of UV-induced $La_2Zr_2O_7$ phosphor doped with gadolinium

Neha Dubey, Vikas Dubey, Janita Saji & Jagjeet Kaur

Journal of Materials Science: Materials in Electronics **31**, 1936–1944 (2020) | Cite this article

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Abstract

Thermoluminescence (TL) glow curve analysis and calculation of trap parameters are reported for gadolinium (Gd^{3+})-doped $La_2Zr_2O_7$ (LZO) phosphor. Phosphors were prepared by modified solid-state reaction method with varying concentration of Gd^{3+} (0.1–2.5 mol%) including proper calcination and sintering temperature. Structural analysis of prepared phosphor for optimized TL concentration was recorded by X-ray diffraction analysis technique. Morphology was analyzed by scanning electron microscopic technique. The UV ray induced to the phosphor and effect of dose response recorded for variable dose rates of UV and TL glow curve were observed. The experimental and theoretical comparison was done by computerized glow curve deconvolution technique which determines the trap parameters such as trap depth, order of kinetics, and frequency factor for optimized concentration of dopant. The trap parameters and trap model are discussed in detail.

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Articles

Exploration of Thermoluminescence and Photoluminescence Properties of Eu^{3+} Doped $La_2Zr_2O_7$ Phosphors

Mamta Parganiha, Vikas Dubey, Ravi Shrivastava & Jagjeet Kaur

Pages 862-875 | Received 29 Oct 2020, Accepted 03 Jan 2021, Published online: 28 Jan 2021

Download citation | https://doi.org/10.1080/22297928.2021.1873179 | Check for updates

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Abstract

In this article, thermoluminescence (TL) and photoluminescence (PL) of Eu^{3+} doped $La_2Zr_2O_7$ (LZO) phosphor with various concentrations were reported. A conventional solid-state reaction method was used for the preparation of phosphor. Boric acid is used as a flow and the materials are required for the formulation of phosphor with varying concentrations of Eu^{3+} (0.2 - 2 mol %) in Eu_2O_3, ZrO_2, and La_2O_3. For the investigation of morphology, structural and luminescence properties of the sample, techniques used were X-ray diffraction (XRD), scanning electron microscopy (SEM), photoluminescence spectra (PL), thermoluminescence (TL), and

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DOI: 10.1002/bio.4095

RESEARCH ARTICLE

LUMINESCENCE The Journal of Biological and Chemical Luminescence WILEY

White light emission and thermoluminescence studies of Dy^{3+}-activated hardystonite ($Ca_2ZnSi_2O_7$) phosphor

Siteshwari Chandraker[1] | Jagjeet Kaur[1] | Ruby Priya[3] | Vikas Dubey[2] | Neha Dubey[1]

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[2]Department of Physics, Bhilai Institute of

Abstract

Here, we report the photoluminescence and thermoluminescent properties of

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journal homepage: www.elsevier.com/locate/ijleo

Original research article

Composite nature of thermo luminescence studies in Dy^{3+} activated $Sr_2ZnSi_2O_7$ phosphor

Siteshwari Chandraker [a], Jagjeet Kaur [a], Vikas Dubey [b,*], Neha Dubey [a]

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Dielectric and electro-optical properties of ferric oxide nanoparticles doped 4-octyloxy-4′ cyanobiphenyl liquid crystal-based nanocomposites for advanced display systems

Pankaj Kumar Tripathi[a], Aradhana Roy[b], Abhishek Kumar Misra[c], Kamal Kumar Pandey[d], Rajiv Manohar[b] and Y. S. Negi[e]

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ABSTRACT

Doping of ferric oxide (Fe_2O_3) nanoparticles in 4-octyloxy-4′ cyanobiphenyl (8OCB) liquid crystal compound embedded in sample cells formed by photolithographic technique. The dielectric spectroscopy is investigated over a wide frequency from 500 Hz to 10 MHz. Various parameters such as switching time (τ_{on} and τ_{off}), dielectric permittivity (ε′), dielectric loss (ε″), relaxation frequency and optical texture of pristine 8OCB and 8OCB-Fe_2O_3 nanocomposite were investigated as functions of frequency and temperature. Moreover, splay elastic constant (k_{11}), rotational viscosity (γ) as a function of weight % of Fe_2O_3 NPs have also been investigated. These values are strongly affected by the presence of Fe_2O_3 NPs due to the enhancement of molecular ordering. The doped Fe_2O_3 NPs within the 8OCB LC may align along the director $\hat{n}$ strongly favours a splay distortion of $\hat{n}$ as the orientational

ARTICLE HISTORY
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KEYWORDS
Dielectric permittivity; dielectric relaxation spectra; nanoparticles; response time; threshold voltage; doping; splay elastic constant; rotational viscosity

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Disturbances in solar wind plasma flow and geomagnetic field disturbances during the period of 2012-2020

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Research scholars, APS University Rewa M.P.
ANITA SHUKLA
Department of Physics V.Y.T.P.G, Autonomous College Durg C.G., India

Abstract

We have analyzed intense geomagnetic storms (≤-100nT) observed between 2012 and 2020 with disturbances in solar wind plasma parameters southward component of interplanetary magnetic

Govt. V.Y.T. PG Autonomous College, Durg,(Chhattisgarh), INDIA

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Higher Order Statistics Based Blind Steg analysis using Deep Learning

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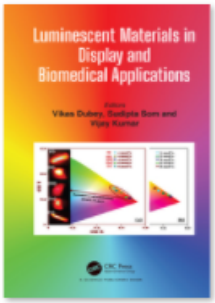

Chapter

Effect of CaZrO3 Doping by Gd3+ on Phototherapy Lamp Phosphor Performance

By Neha Dubey, Marta Michalska-Domańska, Jagjeet Kaur Saluja, Janita Saji, Vikas Dubey

Book Luminescent Materials in Display and Biomedical Applications

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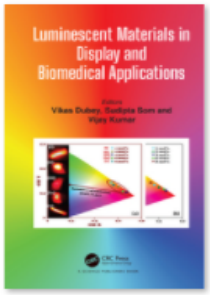

Chapter

Phosphors in Role of Magnetic Resonance, Medical Imaging and Drug Delivery Applications: A Review

By Neha Dubey, Vikas Dubey, Jagjeet Kaur, Dhananjay Kumar Deshmukh, K.V.R. Murthy

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Hybrid Perovskite Composite Materials

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Woodhead Publishing Series in Composites Science and Engineering

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7 - Spectroscopic parameters of red emitting Eu^{3+}-doped $La_2Ba_3B_4O_{12}$ phosphor for display and forensic applications

Neha Dubey [a], Marta Michalska-Domańska [b], Janita Saji [c], Vikas Dubey [d], Jagjeet Kaur Saluja [a]

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Chapter

Enhancement of photoluminescence/phosphorescence properties of Eu3 +-doped Gd2Zr2O7 phosphor

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DOI:10.1016/B978-0-12-819977-0.00012-3
In book: Hybrid Perovskite Composite Materials (pp.259-266)

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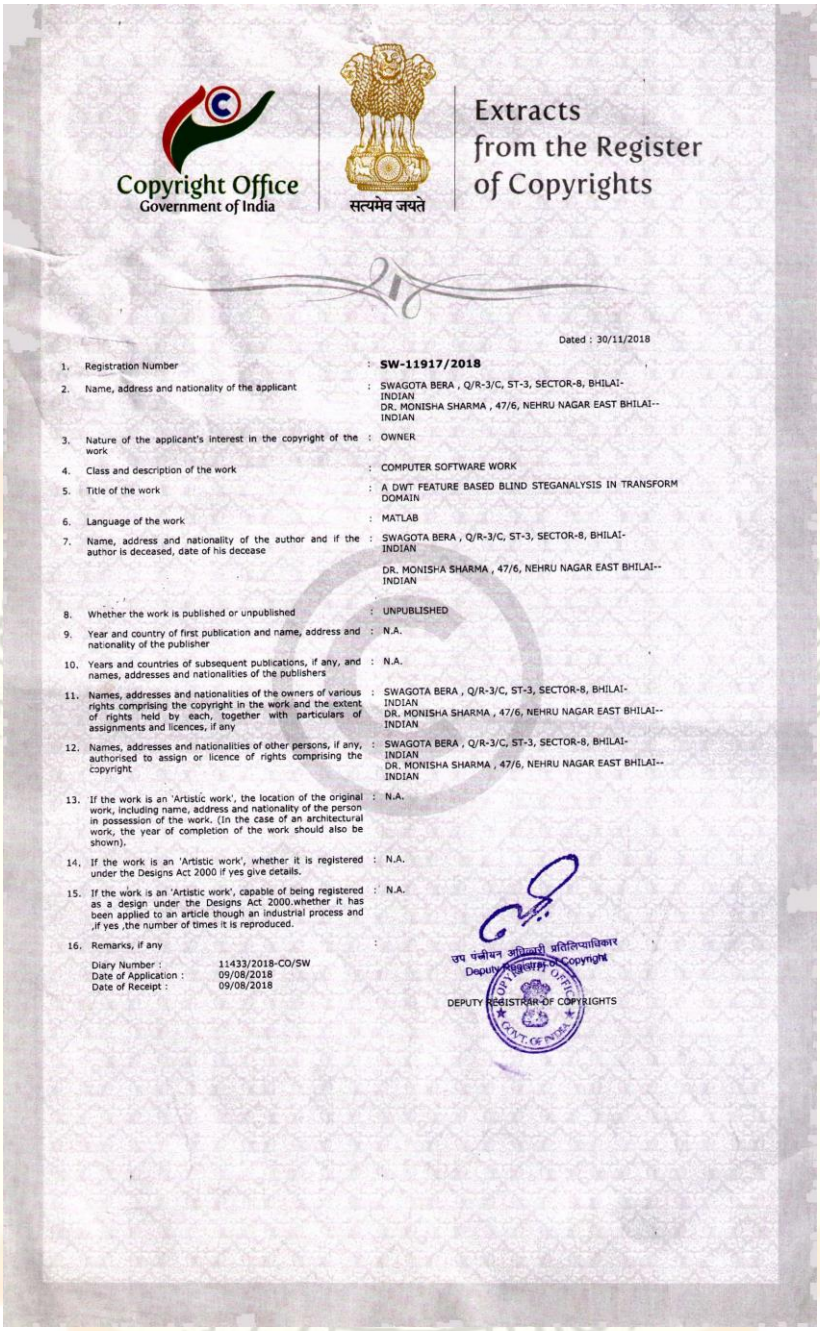

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INNOVATION PATENT

Patent number: 2021101673

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Praveen Kumar Yadaw of Material Science Research Lab, School of Science, ISBM University, Kosmi (Nawapara) Block: Chhura Distt: Gariyaband Chhattisgarh 493996 India

Title of invention:

A method for evaluating thermally stimulating luminescence behaviorEr3+, Yb3+ doped La2Zr2O7 phosphor for TL dosimeter

Name of inventor(s):

Dubey, Neha; Saluja, Jagjeet Kaur; Swamy, N. Kumar; Deshmukh, Ram Krishna; Mishra, Manish Kumar; Dubey, Vikas; Verma, Om Prakash and Yadaw, Praveen Kumar

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Date of Application : 08/04/2019
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Patent number: 2021101844

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Ramesh Chandra Panda of Research & Development Cell, Synergy Institute of Engineering & Tech. Dhenkanal Odisha 759001 India

Title of Invention:

SOCIO ECONOMICAL SMART IOT BASED TRAFFIC MANAGEMENT SYSTEM

Name of Inventor(s):

Dipen Derashri, Purvi; Saurabh, Praneet; Setia, Sonia; Sood, Kiran; Vyas, Sonali; Sakhlecha, Manish; Dubey, Neha; Sinha, Hemlata; Kumar Tiwari, Manoj; Seth, Navneet; Maurya, Nitu and Chandra Panda, Ramesh

Term of Patent:

Eight years from 10 April 2021

Dated this 19th day of May 2021

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PHOSPHORS FOR DISPLAY, FORENSIC AND BIOMEDICAL APPLICATIONS

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