Dr. Devender Singh

Associate Professor

Department of Chemistry

M.D. University, Rohtak-124001

Email:devjakhar@gmail.com

Phone : + 91-9896001262 (*Mob*)

+ *91-1262-393131 (Off.)*

+ *91-1262-393134 (Room)*

- **Presently working in the research fields of energy materials:**
  - Advanced phosphors (Up and Down convertor) and OLEDs materials (Metal-Complexes)
  - Fabrications of EL Devices with Inorganic and organic Light Emitting materials
  - Solar cells (Thin solar films and DSSC)
  - Trace metal determination in biological, food, soil samples etc.
- **Academic Societies/Associations affiliated**
  - Life Member of Indian Science Congress Association (***ISCA***-L-12745)
  - Life Member of Chemical Research Society of India (**CRSI**-LM-924/2007)
  - Life Member of Material Research Society of India (**MRSI-**LM B**-**942/2007)
  - Life member of Chemical council of Chemist (**ICC**-LF-1232/2007)
  - Life Member of Indian Society of the Analytical Scientist-Delhi Chapter **(ISAS-DC-**LM-41/2013)
  - Life member of Society for Materials Chemistry (**SMC**-LM-863)
  - Fellow Member of International Congress of Chemistry and Environment (**FICCE**)
  - Member of Korean Institute of Chemical Engineers (**KIChE**)
  - Member of Material Research Society of Singapore **(MRS)**
- **Abroad Visits**
  - Visited **Freie Universität Berlin, Germany** for Collaborative research programme [**2018**].
  - Visited the **Nanyang Technological University** and **National Singapore University, Singapore** for a week [**2016**].
  - Visited the Centre of Physics, Universidade do Minho, Braga, Portugal on FP7/IRSES **European Union -Marie Curie International Research Staff Exchange Scheme** for doing research work on the International Research Project based on the "**DEVELOPMENT OF A NEW GENERATION OF CIGS-BASED SOLAR CELLS" [**NANOCIS- 269279]. [**2014**]
  - Visited the Centre of Physics, Universidade do Minho, Braga, Portugal on FP7/IRSES European Union -Marie Curie International Research Staff Exchange Scheme for doing research work on the International Research Project based on the "**DEVELOPMENT OF A NEW GENERATION OF CIGS-BASED SOLAR CELLS" [**NANOCIS- 269279]. [**2013**]
  - Visited the Centre of applied Physics, Universidade do Politechnica, Valencia, Spain on FP7/IRSES for doing research work on the International Research Project based on the "**DEVELOPMENT OF A NEW GENERATION OF CIGS-BASED SOLAR CELLS" [**NANOCIS- 269279]. [**2013**]
  - Visited the Sensors and Material Research Centre of the **Korea Institute of the Energy Research, S. Korea**, for doing research work under the collaboration of the KIER and M.D. University. [**2004**]
- **Research papers**

Published in Journals	:	**71 + 7** (communicated)
Presented in Conferences	:	**27** (International -08)

- **Research Guidance** –Scholars have been awarded their Ph.D thesis on the following topics:-
  - "SYNTHESIS AND OPTOELECTRONIC CHARACTERIZATION OF MIXED METAL OXIDE PHOSPHORS" **(Vijeta Tanwar) (Reg. No. 06-GG-1128)** (Ph. D Awarded in April, 2016)
  - *"SYNTHESIS AND OPTOELECTRONIC CHARACTERIZATION OF HETEROCYCLIC LIGAND BASED METAL COMPLEXES"* **(Shri Bhagwan) (Reg. No. 06-VB-1128) (**Ph. D awarded in December, 2016)
  - *"SYNTHESIS AND CHARACTERIZATION OF LUMINESCENT MATERIALS"* **(Suman) (**Ph. D awarded in Aug, 2017)
  - "STRUCTURAL STUDIES OF ALUMINATE PHOSPHOR MATERIALS" **(Sonika (**Ph. D submitted in May, 2018 **)**

Scholars presently registered /working – (03/01) 04

- Kuldeep, Deepak and Sitender are working on the optoelectronic Light Emitting Materials.

❖ Educational qualifications

Degree	Year of passing	University/ Institute
Ph.D	**2005**	Collaboration of Maharshi Dayanand University, Rohtak, India & Korea Institute of Energy Research , Daejon, South Korea
M.Sc	**2001**	Maharshi Dayanand University, Rohtak, Haryana
B.Sc	**1999**	Maharshi Dayanand University, Rohtak, Haryana

❖ Career profile

Designation	Institution served	Duration	
		From To	
Associate Professor of Chemistry	Department of Chemistry, M.D. University, Rohtak	12 July, 2018	Till now
Assistant Professor [Stage III]	-do-	12 July, 2015	12 July, 2018
Assistant Professor [Stage –II]	-do-	12 July, 2010	12 July, 2015
Assistant Professor [Stage –I]	-do-	14 June, 2010	12July 2010
Assistant Professor [Stage –I]	Pt. NRS Govt. College, Rohtak	27 Sept. 2008	14June, 2010
Assistant Professor [Stage –I]	Government College, Jhajjar	12 July, 2006	27 Sept. 2008
Lecturer (Assistant Professor)	University Institute of Engineering and Technology (UIET) M. D. University, Rohtak	14 Nov, 2005	12 July, 2006
Lecturer (Guest)	UIET (Earlier-Department of Engineering & Technology) M. D. University, Rohtak	16Aug., 2005	25 Oct.,2005

❖ Training programmes

Name of the Training programme	Organized by the organization	Date of the event
One week workshop-course on " Greener Strategies for organics and nanomaterials"	**Department of chemistry, GJUST, Hisar** (Sponsored by: GIAN-MHRD)	25.11.2016 to 29.11.2016
Short Term Course (STC) on Research Methodology (All discipline)	HRDC-Kurukshetra University, Kurukshetra	28.04.2016 to 04.05.2016
Refresher Course Himachal Pradesh University, Shimla, Himachal Pradesh.	Himachal Pradesh University, Shimla, Himachal Pradesh.	19.11. 2012 to 08.12. 2012
Training course on "*Capacity Building for Lecturers of Higher Education*" conducted by HIPA, Gurgaon, Haryana.	HIPA, Gurgaon, Haryana	29.06.2009 to 03.07. 2009
Training for Eduset on "Script Writing" at NITTR, Chandigarh	NITTR, Chandigarh	03 – 07 Nov. 2008
Refresher Course Pt. NRS Govt. College, Rohtak	Pt. NRS Govt. College, Rohtak	05 – 25 May 2008
Induction Training Programme on "Induction Training Programme for newly recruited Government Lecturers at HIPA, Gurgoan, HR	HIPA, Gurgoan, Haryana.	28 May to 15 June 2007
Orientation Course at Himachal Pradesh University, Shimla, Himachal Pradesh.	Himachal Pradesh University, Shimla, Himachal Pradesh.	01 – 30 April 2007

❖ **Project undertaken**

Title of the project	Duration	Funding agency	Status
Growth and opto-electronic characterization of the phosphor materials (Rs-**9,58,560**/-)	2011-2014	University Grant Commission, New Delhi	Completed Jan 2015
Fluorescence characteristics of π-conjugated Lanthanide-metallopolymers for light emitting applications (Rs-**34,31,890**/-)	2017-2020	SERB-DST New Delhi	**Ongoing**

❖ **Publications**

Book Authored – 03 and Book Chapter-02

Name of book/Chapter	Publisher	ISBN
Recent Developments in Dye-Sensitized Solar Cells and Potential Applications	*"Advanced Photovoltaic Materials"* **(Oct 2018)** Advanced Materials Book Series WILEY-Scrivener Publisher, USA	**9781119407546**
Comprehensive Coordination & Organometallic Chemistry	Ane Books Pvt. Ltd. New Delhi (Jan, 2018)	**9789386761422**
Comprehensive Nuclear Chemistry *Fundamental and Applications*	Book World Publisher, New Delhi (Dec, 2016)	**9788192288543**
Developments in Organic Light Emitting Materials and Their Potential Applications	*"Advanced Magnetic and Optical Materials"* **(Nov 2016)** Advanced Materials Book Series WILEY-Scrivener Publisher, USA	**9781119241911**
Recent Advancements in Luminescent Materials and Their Prospective Applications	*"Advanced Magnetic and Optical Materials"* **(Nov, 2016)** Advanced Materials Book Series WILEY-Scrivener Publisher, USA	**9781119241911**
Comprehensive Engineering Chemistry	I. K. International Publisher, New Delhi. (Aug 2008)	**9788189866556**

❖ **Awards and distinctions**

- **Got the Best paper presentation Awards of *Chemical Sciences* in the Indian Science Congress Association, 2008, held at Vishakhapatnam, Andhra Pradesh.**

❖ **Assignment with in the M.D. University, Rohtak.**
Activities/Assignments

- Hostel Warden of Boys Hostel -III (Himalaya) and Boys Hostel -V (Udiagiri) (since Aug 2010 to July 2018).
- Worked as organizer and Treasurer for the **1st Chemistry Alumni Meet** (Mar., 29, 2018).
- Worked as organizer in the National Conference on Recent Advances in Chemical Sciences (NCRACS-2018) organized by Department of Chemistry, Maharshi Dayanand University, Rohtak, Haryana (Mar., 7, 2018).
- **Worked as organizer for** National Youth Festival 2017 and Inter Zonal Youth Festival (IZYF-2016 & IZYF-2017)
- Worked as organizer and Treasurer in the National Conference on Advances in Chemical Sciences (ACS-2013) organized by Department of Chemistry, Maharshi Dayanand University, Rohtak, Haryana (Mar., 1-2, 2013).
- Worked as organizer in the National Conference on Thermodynamics and Biological System (NCTBS-2011) organized by Department of Chemistry, Maharshi Dayanand University, Rohtak, Haryana (Nov. 26-28, 2011).
- Worked as organizer in the SCIENCE CONCLAVE organized by Maharshi Dayanand University, Rohtak, Haryana (Dec., 2-3, 2011).

List of Publications in Various Reputed Journals

Sr. No.	Title with name of author(s) as appearing in the publication	Journal name, Vol, Year, pages	Impact factor	ISSN / ISBN
78	***Fabrication and Photovoltaic characterization of Nano-TiO_2 based DSSCs using alizarin dye as photosensitizers*** **Devender Singh***, Shri Bhagwan, Raman Kumar Saini and Ishwar Singh	**Submitted to** Journal of Materials Science: Materials in Electronics	2.324	ISSN : 0976-3961
77	*Effect of Electron Donors on the Optical Properties of Tris(8-hydroxyquinolinato) aluminum (III).* Kapoor Singh, Amit Kumar, Akshay Kumar Palai, **Devender Singh** and Ishwar Singh	**Communicated to** Journal of Electronic Materials,	**1.59**	ISSN: 0361-5235
76	*Photoluminescence studies of Europium(III) doped $M_2Y_2Si_2O_9$ (M = Mg, Ca, Sr and Ba) nanophosphor materials* **Devender Singh** and Suman Sheoran	**Submitted to** Journal of Electronic Materials	1.569	ISSN: 0957-4522 ISSN: 1573-482X
75	*Preparation and optical characterization of $CaMgSi_2O_6:RE^{3+}$ (RE^{3+} =Eu or Tb) nanophosphors for light emitting applications* **Devender Singh**[*†], Vijeta Tanwar[†], Shri Bhagwan, K. C. Singh, Anura Priyajith Samantilleke and Bernabe Mari	**Submitted to** Journal of Electronic Materials,	1.569	ISSN: 0957-4522 ISSN: 1573-482X
74	*Enhancement of down conversion emission properties of green $SrAl_2O_4:Eu^{2+},Ln^{3+}$($Ln^{3+}$=Dy / Y, Pr) nanophosphors* **Devender Singh***, Vijeta Tanwar, Anura Simantilke, Bernanbe Mari, Pratap Singh Kadyan and Ishwar Singh	**Submitted to** Journal of Materials Science: Materials in Electronics	2.324	ISSN : 0976-3961
73	*Synthesis and enhanced luminescence characteristics of Ln(III)-complexes of fluorinated β-diketone and oxygen donor ancillary ligands for white OLEDs applications* **Devender Singh***, Kapoor Singh, Shri Bhagwan, Raman Kumar Saini, Pratap Singh Kadyan and Ishwar Singh	**Communicated to** Journal of Luminescence	2.719	ISSN: 0361-5235
72	*Synthesis and Enhanced Luminescence studies of Eu(III) Ternary Complexes of β-diketones and heteroaromatic Monodentate Auxiliary Ligands* **Devender Singh***, Kapoor Singh, Shri Bhagwan, Raman Kumar Saini, Pratap Singh Kadyan and Ishwar Singh	**Communicated to** Advanced Materials Letters	1.90	ISSN : 0976-3961 eISSN : 0976-397X
71	*Synthesis, structure and photoluminescent characterization of $MGdAl_3O_7:Eu^{3+}$ (M = Ca, Sr, Mg and Ba) red emitting materials for display applications* **Devender Singh,** Sonika Kadyan, Kuldeep and Shri Bhagwan	**Accepted** Journal of Materials Science: Materials in Electronics	2.324	ISSN : 0976-3961
70	*Synthesis, structure and photoluminescent characterization of $MLaAl_3O_7:Eu^{3+}$ (M = Ca, Sr, Mg and Ba) red emitting materials for display applications* **Devender Singh,** Sonika Kadyan, Kuldeep and Shri Bhagwan	**Accepted** Journal of Materials Science: Materials in Electronics	2.324	ISSN : 0976-3961
69	*Synthesis, structure and photoluminescent characterization of $MYAl_3O_7:Eu^{3+}$ (M = Ca, Sr, Mg and Ba) red emitting materials for display applications* Sonika Kadyan, **Devender Singh**	**Accepted** Journal of Materials Science: Materials in Electronics 2018	2.324	ISSN : 0976-3961
68	*Electroluminescent materials: Metal complexes of 8-hydroxyquinoline- A review* **Devender Singh***, Shri Bhagwan, Vandna Nishal, Raman Kumar Saini and Ishwar Singh	Materials & Design 2016 , 100, 245–253	4.525	ISSN: 0264-1275
67	*Synthesis and Optoelectronic characterization of poly (toluene-co-perylene) copolymer for Light Emitting Application* Raman Kumar Saini**, Devender Singh**, Shri Bhagwan, Sonika and Pratap Singh Kadyan	Nanoscience & Nanotechnology-Asia 2018, 8(1), 26-32	0.55	ISSN: 1878-5352
66	*Optical characterization of Eu3+ doped MLSiO4 (M = Ca, Sr, Ba and L = Mg) phosphor materials for display devices* **Devender Singh*,** Suman Sheoran and Jasbir Singh	Journal of Materials Science: Materials in Electronics 2018, 29, 294–302	2.324	ISSN : 0976-3961

65	*Structural and photoluminescence characteristics of $M_3Al_5O_{12}:Eu^{3+}$ (M = Y, Gd and La) nanophosphors for optoelectronic applications* **Devender Singh,** Sonika Kadyan and Shri Bhagwan	Journal of Materials Science: Materials in Electronics 2017, 28(18), 13478-13486	2.324	ISSN : 0976-3961
64	Synthesis and optical characterization of trivalent europium doped $M_4Al_2O_9$ (M = *Y, Gd and La) nanomaterials for display applications* **Devender Singh** and Sonika Kadyan	Journal of Materials Science: Materials in Electronics 2017, 28(15), 11142–11150	2.324	ISSN : 0976-3961
63	*Europium doped silicate phosphors: Synthetic and characterization techniques* **Devender Singh*,** Suman Sheoran and Vijeta Tanwar	Advanced Materials Letters 2017, 8(5), 656-672	1.90	ISSN : 0976-3961 eISSN : 0976-397X
62	*Synthesis of $SrAl_4O_7:Eu^{2+},Ln^{3+}(Ln^{3+}$=Y, Pr) Nanophosphors using Rapid Gel Combustion Process and their Down Conversion Characteristics* **Devender Singh***, Vijeta Tanwar, Anura Simantilleke, Bernanbe Mari, Pratap Singh Kadyan and Ishwar Singh	Electronic Materials letters 2017, 13, 222-229 DOI: 10.1007/s13391-017-6038-4	2.05	ISSN: 0957-4522 ISSN: 1573-482X
61	*Optical Characteristics of Eu(III) doped $MSiO_3$ (M = Mg, Ca, Sr and Ba) Nanomaterials for White Light Emitting Applications* **Devender Singh***, Suman Sheoran Vijeta Tanwar and Shri Bhagwan,	Journal of Materials Science: Materials in Electronics- 2017, 28, 4, 3243–3253	2.324	ISSN : 0976-3961
60	*Optical characteristics of sol-gel derived $M_3SiO_5:Eu^{3+}$ (M = Sr, Ca and Mg) nanophosphors for display device technology* **Devender Singh***, Suman Sheoran, Shri Bhagwan and Sonika Kadyan	Cogent Physics 2016, 3, 1262573	U.R	ISSN : 0976-3961
59	*Synthesis and luminescent characteristics of $M_3Y_2Si_3O_{12}:Eu^{3+}$ (M = Ca, Mg, Sr and Ba) nanomaterials* **Devender Singh***†, Suman Sheoran	Journal of Materials Science: Materials in Electronics- 2016, 27(12), 12707–12718	2.324	ISSN : 0976-3961
58	*Synthesis and optical characterization of color-tunable heterocyclic ligand based beryllium(II) complexes for white lighting applications* ***Devender Singh***, Shri Bhagwan, Vijeta Tanwar and Raman Kumar Saini*	Materials & Design 2016 , 100, 245–253	3.997	ISSN: 0264-1275
57	*Synthesis and characterization of color-tunable mixed ligand based magnesium complexes for display device applications* **Devender Singh***, Shri Bhagwan, Raman Kumar Saini and Vijeta Tanwar	Journal of Materials Science: Materials in Electronics 2016, 27(6), 6464-6473	2.324	ISSN : 0976-3961 eISSN : 0976-397X
56	Optoelectronic Properties of Color-Tunable Mixed Ligand Based Zinc Complexes for White Light Emitting Devices **Devender Singh***, Shri Bhagwan, Raman Kumar Saini, Vijeta Tanwar and Vandna Nishal	Journal of Electronic Materials 2016, 45, 4865-4874 DOI 10.1007/s11664-016-4721-0	1.64	ISSN: 0361-5235
55	*Synthesis and luminescent characterization of $SrAl_4O_7:Eu^{2+},RE^{3+}$ (RE=Nd, Dy) nanophosphors for light emitting applications* **Devender Singh***, Vijeta Tanwar, Anura Simantilleke, Bernabe Mari, Pratap Singh Kadyan and Ishwar Singh	Journal of Materials Science: Materials in Electronics 2016, 27, 5303-5308	2.324	ISSN : 0976-3961 eISSN : 0976-397X
54	*Fabrication and Characterization of DSSCs Based on Nano-TiO2 Using azo dyes as Organic Photosensitizers* Raman Kumar Saini†, **Devender Singh**†, Shri Bhagwan, Ishwar Singh and Pratap Singh Kadyan*	Journal of Nanoelectronics and Optoelectronics 2016, 11(5), 715–722	0.55	ISSN: 1555-130X (Print): EISSN: 1555-1318
53	*Preparation and Enhanced Luminescence of Tb(III) Ternary Complexes of β-diketones and Monodentate Auxiliary Ligands* **Devender Singh***, Kapoor Singh, Shri Bhagwan, Raman Kumar Saini, Pratap Singh Kadyan and Ishwar Singh	Cogent Chemistry 2016, 2: 1134993, 10 pages	U.R	ISSN: 0141-9382
52	*Bis(5,7-dimethyl-8-hydroxyquinolinato)beryllium(II) complex as optoelectronic material* **Devender Singh***, Kapoor Singh, Shri Bhagwan , Raman Kumar Saini, Pratap Singh Kadyan and Ishwar Singh	Journal of Luminescence 2016, 169, 9-15	2.69	ISSN 0022-2313
51	*Luminescent Characterization of Eu^{2+} doped $BaMAl_{10}O_{17}$ (M = Ca/Mg or both) Blue Nanophosphors for White Light*	Journal of Materials Science: Materials in Electronics	2.324	ISSN: 0957-4522

	Emitting Applications **Devender Singh***, Vijeta Tanwar, Anura Simantilke, Pratap Singh Kadyan and Ishwar Singh	2015, 26: 9977–9984		(print) ISSN: 1573-482X (elect.)
50	*Photoluminescent Characterization of $MAl_2O_4:Eu^{2+},Dy^{3+}$ (M = Ca /Ca+Ba /Ca+Mg) Blue Nanophosphors for White Light Display Applications* **Devender Singh***, Vijeta Tanwar, Anura Simantilke, Bernanbe Mari, Pratap Singh Kadyan and Ishwar Singh	Advanced Materials Letters 2016, 7(1), 47-53	1.90	ISSN : 0976-3961 eISSN : 0976-397X
49	*Rapid synthesis and enhancement of down conversion emission properties of green $SrAl_2O_4:Eu^{2+},Ln^{3+}(Ln^{3+}=Dy/Dy,Nd)$ nanophosphors* **Devender Singh***, Vijeta Tanwar, Anura Simantilleke, Bernabe Mari, Pratap Singh Kadyan and Ishwar Singh	Journal of Electronic materials 2016, 45, 2718-2724	1.64	ISSN: 0361-5235
48	*Rapid synthesis and enhancement in down conversion emission properties of $BaAl_2O_4:Eu^{2+},RE^{3+}(RE^{3+}=Y, Pr)$ nanophosphors* **Devender Singh***, Vijeta Tanwar, Anura Simantilke, Bernanbe Mari, Pratap Singh Kadyan and Ishwar Singh	Journal of Materials Science: Materials in Electronics, 2016, 27, 2260-2266	2.324	ISSN: 0957-4522 (print) ISSN: 1573-482X (elect.)
47	*Optoelectronic characterization of trivalent europium doped Gd_2O_3 and MGd_2O_4 (M =Ba or Sr) nanophosphors for display device applications* **Devender Singh***, Vijeta Tanwar, Shri Bhagwan, Suman Sheoran, Vandna Nishal, Anura Priyajith Samantilleke, Bernabe Mari and Pratap Singh Kadyan	Journal of Nanoelectronics and Optoelectronics 2016, 11, 305-310	0.55	ISSN: 1555-130X (Print): EISSN: 1555-1318
46	*Synthesis and optical characterization of europium doped MY_2O_4 (M = Mg, Ca, Sr) nanophosphors for solid state lightening applications* **Devender Singh***, Vijeta Tanwar, Shri Bhagwan, Vandna Nishal, Suman Sheoran, Sonika Kadyan, Anura P. Samantilleke and Pratap Singh Kadyan	Indian Journal of Materials Science 2015, Article ID 845065, 8 pages	U.R	2314-7490 (Online)
45	*Characterization and luminescent properties of zinc-Schiff base complexes for WOLED.* Vandna Nishal, **Devender Singh**, Raman Kumar Saini, Vijeta Tanwar, Sonika and Pratap Singh Kadyan	Cogent Chemistry 2015, 1, 1079291, 10 pages	U.R	ISSN: 0141-9382
44	*Synthesis and Optical Characterization of Mixed Ligands Beryllium-Complexes for Display Device Applications* Vandna Nishal, **Devender Singh**, Raman Kumar Saini, Vijeta Tanwar, Shri Bhagwan Sonika Kadyan, Ishwar Singh and Pratap Singh Kadyan	International Journal of Optics 2015 (2015), Article ID 691854, 7 pages	0.509	**ISSN:** 1687-9384 **E-ISSN:** 1687-9392
43	*Synthesis and optoelectronic characterization of heterocyclic ligands based Magnesium-complexes as light emitting materials* Vandna Nishal, **Devender Singh**, Raman Kumar Saini, Shri Bhagwan , Vijeta Tanwar, Sonika, Sonia Verma, Ishwar Singh and Pratap Singh Kadyan	Der Pharma Chemica 2015, 7(9), 326-333	0.516	ISSN 0975-413X
42	*Optoelectronic characterization of zinc complexes for display device applications* Vandna Nishal, **Devender Singh**, Raman Kumar Saini, Shri Bhagwan, Vijeta Tanwar, Sonika, Ritu Srivastava and Pratap Singh Kadyan	Journal of Materials Science: Materials in Electronics, 2015, 26 (9), 6762-6768	2.324	ISSN: 0957-4522 ISSN: 1573-482X (elect.)
41	*Optoelectronic characterization of Eu^{3+} doped MLa_2O_4 (M = Sr, Ca, Mg) nanophosphors for display devices* **Devender Singh**, Vijeta Tanwar, Anura P. Samantilleke and Pratap Singh Kadyan	Cogent Physics 2015, 2: 1104200, 13 pages	U.R	
40	*Photovoltaic characterization of dye sensitized solar cells based on TiO_2 nanoparticles using triarylmethane dyes as photosensitizers* Raman Kumar Saini, **Devender Singh**, Shri Bhagwan, Sonika, Ishwar Singh and Pratap Singh Kadyan	Journal of Nanoelectronics and Optoelectronics 2016, 11,(3), 175-182.	0.55	ISSN 1555-130X (Print): EISSN: 1555-1318
39	*Photovoltaic analysis and effect of electrolyte on nano-titania based DSSCs using Patent blue V dye* Raman Kumar Saini, **Devender Singh**, Shri Bhagwan, Sonika, Ishwar Singh and Pratap Singh Kadyan	Der Pharma Chemica, 2015, 7(8), 162-169	0.516	ISSN 0975-413X
38	*Photovoltaic characterization of nano-titania based DSSCs*	Research Journal of Pharmaceutical,	0.209	ISSN

	using xanthene dyes Raman Kumar Saini, **Devender Singh**, Shri Bhagwan, Sonika, Ishwar Singh and Pratap Singh Kadyan	Biological and Chemical Sciences (RJPBCS) 2015, 6(5), 1108-1116.		0975-8585
37	*Heavy metals in Wheat Grains of Haryana (India) and their Health Implications.* Sonia Verma, Sanjiv K. Yadav, Sudesh Yadav, **Devender Singh*** and Ishwar Singh*	Journal of Chemical and pharmaceutical research, 2015, 7(10), 342-351.	0.751	ISSN: 0975-7384
36	*Evaluation of Serum Metal Profile in Relation to Biri Smoking using ICP-MS* Sonia Verma, Sudesh Yadav*, **Devender Singh**, Partap Singh Kadyan and Ishwar Singh	International Journal of Environmental Analytical Chemistry 2015, 95, 14, 1385–1394	1.295	**ISSN** 0306-7319 (Print), 1029-0397 (online)
35	*Characterization of Near Infrared Light Emitting (benzene-co-pentacene) copolymer.* Raman Kumar Saini, **Devender Singh**, Shri Bhagwan, Sonia Verma, Sonika and Pratap Singh Kadyan	*Der Pharma Chemica*, 2014, 6, (4), 256-260	0.75	ISSN 0975-413X
34	*Synthesis and optoelectronic characterization of mono(5,7-dichloro-8- hydroxyquinolinato)bis(8-hydroxyquinolinato)aluminium(III) complex.* Kapoor Singh, **Devender Singh**, Amit Kumar, Shri Bhagwan, Raman Kumar Saini, Pratap Singh Kadyan, Ritu Shrivastva and Ishwar Singh*	Advanced Science Letter, 2014, 20, 1396-1400	**1.253**	ISSN/eISSN 1936-6612/1936-7317
33	*Enhanced luminescence from the β-diketone based europium complexes*. Kapoor Singh, Raman Kumar Saini, **Devender Singh**, Pratap Singh Kadyan, Shri Bhagwan, Ritu Shrivastva and Ishwar Singh*	Advanced Science Letter, 2014, 20, 1475-1478	**1.253**	ISSN/eISSN 1936-6612/1936-7317
32	*Synthesis and Optical Characterization of Terbium Doped M_2SiO_4 Nanophosphors.* **Devender Singh***, Vijeta Tanwar, Shri Bhagwan, Anura P. Simantilleke, Ishwar Singh and Pratap Singh Kadyan	Advanced Science Letter, 2014, 20,1531-1534	**1.253,**	ISSN/eISSN 1936-6612/1936-7317
31	*Synthesis and luminescent characterization of $MAlO_3:Eu^{3+}$ red nanophosphors.* **Devender Singh***, Vijeta Tanwar, Shri Bhagwan, Sonika, Pratap S. Kadyan, Anura P. Simantilleke and Bernabe Mari	Advanced Science Letter, 2014 , 20, 1726-1729	**1.253**	ISSN/eISSN 1936-6612/1936-7317
30	*A new zinc-schiff base complex as an electroluminescent material.* Vandna Nishal, **Devender Singh**, Amit Kumar, Vijeta Tanwar, Ishwar Singh, Ritu Srivastava and Pratap Singh Kadyan*	Journal of Organic Semiconductors, 2014, 2(1), 15-20	U.R	ISSN/ E-ISSN 2160-6099/ 2160-6110
29	*Synthesis and characterization of soluble (Benzene-co-perylene) copolymer.* Raman Kumar Saini*, **Devender Singh**, Shri Bhagwan, Sonika and Pratap Singh Kadyan	Chemical Science Transactions, 2014, 3(3), 1193-1199.	0.705	ISSN/E-ISSN 2278-3458/ 2278-3318
28	*Red emitting $MTiO_3$ (M = Ca or Sr) phosphors doped with Eu^{3+} or Pr^{3+} with some cations as co-dopants.* B. Mari, K.C. Singh, Paula Cembrero-Coca, Ishwar Singh, **Devender Singh**, Subash Chand	Display 2013, 34(4), 346–351	**1.526**	0141-9382
27	*Synthesis, Characterization and Electroluminescent Characteristics of Mixed-Ligand Zinc(II) Complexes.* Vandna Nishal, Amit Kumar, Pratap Singh Kadyan, **Devender Singh**, Ritu Srivastava, Ishwar Singh, Modeeparampil N. Kamalasanan	Journal of Electronic Materials, 2013, 42(6), 973-978	**1.64**	0361-5235
26	*Tris[2,4,6-(2-hydroxy-4-sulhpo-1-naphthylazo)]-s-triazine, trisodium salt as a spectrophotometric Reagent for microdetermination of Lead(II) in alloys, environmental and biological samples.* Pratap Singh Kadyan*, **Devender Singh**, Sapana Garg, Sonia Verma and Ishwar Singh	Research Journal of Chem. Environ., 2013, 17(3), 53-58.	**0.636**	**E-ISSN No. 2278-4527**
25	*Selective Determination of Uranium Using 1-(2-Quinolylazo)-2,4,5-Trihydroxybenzene as a Colorimetric Reagent.* Pratap Singh Kadyan*, Sapana Garg, **Devender Singh** and Sonia Verma	Chemical Science Transaction, 2013, 2(2), 435-440.	0.705	ISSN/E-ISSN 2278-3458/ 2278-3318
24	*Spectrophotometeric Determination of Zinc (II) in Food-Stuffs and Biological Samples with Tris-[2,4, 6-(2-Hydroxy-4-*	Journal of Chemical, Biological and Physical Sciences,	0.703	**e- ISSN: 2249 –1929**

	Sulpho-1-Naphthylazo)]-S-Triazine, Trisodium Salt. Sapana Garg, **Devender Singh**, Sonia Verma and Pratap Singh Kadyan*	2012, 2(4), 1746-1752.		
23	*Micro-determination of Vanadium using 1-(2-Quinolylazo)-2,4,5-trihydroxybenzene as an Analytical Reagent .* Pratap Singh Kadyan, **Devender Singh**, Ashok Sharma, Poonam, Sonia Verma and Ishwar Singh*	Der Pharma Chemica, 2012, 4(4), 1577-1581.	0.516	0975-413X
22	*Enhanced Red Emission from Europium Doped Yttrium Oxide Nano Phosphor.* **Devender Singh***, Pratap Singh Kadyan, Vijeta Tanwar, Vandna Nishal, Sang-Do Han and Ishwar Singh	Asian Journal of Chemistry, 2012, 24(12), 5873 – 5875	**0.27**	0970-7077
21	*Spectrophotometric determination of trace cadmium in tobacco with tris-[2,4,6- (2-hydroxy-4- sulpho-1-naphthylazo)]-s-triazine, trisodium salt* Pratap Singh Kadyan, **Devender Singh** and Ishwar Singh	Asian Journal of Chemistry, 2012, 24(12), 5876-5878.	**0.27**	0970-7077
20	*Rapid gel synthesis and optical characterization of the* $Y_{2-x}O_3$*:*xTb^{3+} *nano phosphor .* **Devender Singh***, Ishwar Singh, Pratap Singh Kadyan, Subash Chand, Vijeta Tanwar and Sang Do Han	Archives of Applied Science Research, 2012, 4 (1), 518-523.	U.R	0975-508X
19	*Micro-determination of palladium using 2, 6-bis(1-hydroxy-2-naphthylazo)pyridine as an analytical reagent.* Pratap Singh Kadyan, **Devender Singh** and Ishwar Singh*	Asian Journal of Chemistry, 2012, 24(10), 4594-4596.	**0.27**	0970-7077
18	*Spectrophotometric Determination of Silver with 1-(2-Quinolylazo)-2,4,5-trihydroxybenzene.* Pratap Singh Kadyan, **Devender Singh**, Ashok Sharma, Poonam, Sonia Verma and Ishwar Singh*	Journal of Indian Council of Chemists, 2011, 28(2), 1-6	U.R	0971-5037
17	*1-(2-Quinolylazo)-2,4,5-trihydroxybenzene as Spectrophotometric Reagent for Micro-determination of Palladium (II).* Pratap Singh Kadyan, **Devender Singh**, Ashok Sharma and Ishwar Singh*	Der Pharma Chemica, 2011, 3(6), 70-74.	0.516	0975-413X
16	*Electroluminescent characteristics of bis(5-chloro-8-hydroxyquinolinato) zinc(II) complex.* Anita Sharma, **Devender Singh**, P.S. Kadyan, Amit Kumar, Kapoor Singh, Gayatri Chauhan and Ishwar Singh	Indian Journal of Chemistry, 2010, 49A (4), 448-451.	0.891	0376-4710
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14	*Preparation and characterization of long persistence strontium aluminate phosphor.* Sang-Do Han, Krishan C. Singh, Tai-Yeon Cho, Hak-Soo Lee, **Devender Jakhar**, Chi-Hwan Han, Jihye Gwak	Journal of Luminescence 2008, 128 (3), 301-305	2.69	0022-2313
13	*Fabrication and characterization of OLED with Mg complex of 5-chloro-8-hydroxyquinoline as emission layer.* Anita Sharma, **Devender Singh**, J.K. Makrandi, M.N. Kamalasanan, Ritu Shrivastva and Ishwar Singh*	Materials Chemistry and Physics, 2008, 108(2-3), 179-183.	2.234	0254-0584
12	*Selenium Status in food grains of Northern Districts of India.* Sanjiv K. Yadav, Ishwar Singh, Anita Sharma and **Devender Singh**	J. Environment Management, 2008, 88, 770-774.	4.005	0301-4797
11	*Development of micro hydrogen gas sensor with* SnO_2*-*Ag_2O*-*PtO_x *composite using MEMS process.* Il Jin Kim, Sang Do Han, Chi Hwan Han, Jihye Gwak, Dae Ung Hong, **Devender Jakhar**, K.C. Singh and Jin Suk Wang	Sensors and Actuators B: Chemical, 2007, 127(2), 441-446	5.667	0925-4005
10	*Electroluminescent characteristics of OLEDs fabricated with bis(5,7-dichloro-8-ydroxyquinolinato) zinc(II) as light emitting material.* Anita Sharma, **Devender Singh**, J.K. Makrandi, M.N. Kamalasanan, Ritu Shrivastva and Ishwar Singh*	Materials Letters 2007, 61, 4614–4617	2.687	0167-577X

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8	*A bis-azo dye as a chromogenic reagent for determining traces of copper in foodstuffs, blood sera and body tissues.* Ishwar Singh, A. K. Sharma, S. K. Yadav and **Devender Singh**	Journal of Indian Chemical Society, 2006, 83, 97-100.	0.702	0019-4522
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6	*Synthesis and photoluminescent characteristics of yellow ZnS:Cu,Cl phosphor.* Gaytri Sharma, Anita Sharma, **Devender Singh**, Ishwar Singh, Young-Woo Rhee and Sang Do-Han	Indian Journal of Chemistry, 2005, 44A, 447-451.	0.891	0376-4710
5	*Crystal growth of electroluminescent ZnS:Cu,Cl phosphor and its TiO2 coating by sol-gel method for thick film El device.* Sang Do-Han, Ishwar Singh, **Devender Singh**, You-He Lee, Gaytri Sharma and Chi-Hwan Han	Journal of Luminescence, 2005, 115, 97-103.	2.69	0022-2313
4	*Preparation of small-sized particles of Eu^{2+}-activated barium magnesium aluminate phosphors* Sang Do-Han, Chi-Hwan Han Ishwar Singh and **Devender Singh**	Indian Journal of Chemistry, 43A, 2004, 2542-2544.	0.891	ISSN: 0376-4710
3	*Reaction of lead(II) with 2,6-bis(1-hydroxy-2-naphthylazo)pyridine as a spectrophotometric method for determination of phosphate and citrate.* Ishwar Singh, Ashok K. Sharma, Sanjiv K. Yadav and **Devender Singh**	Asian journal of Chemistry, 2003, 15 (3&4**)**, 1699-1702.	0.27 .	ISSN: 0970-7077
2	*Synthesis and analytical applications of a new heterocyclic bis-azo dye: 2,6-Bis(7-hydroxyphenanthryl-8-azo)pyridine* Ishwar Singh, Ashok K. Sharma, Sanjiv K. Yadav and **Devender Singh**	Asian journal of Chemistry, 2003, 15(2), pp 1069-1074.	0.27	ISSN: 0970-7077
1	*Synthesis and analytical studies of a new bis-azo dye: 2,6-Bis(9-hydroxyphenanthryl-10-azo)pyridine* Ishwar Singh, Ashok K. Sharma, Sanjiv K. Yadav, **Devender Singh** and Sang Do-Han	Asian journal of Chemistry, 2003, 15(1), 185-190.	0.27	ISSN: 0970-7077

➢ Participation and papers presented in conference/seminar/workshop/symposia etc.

Sr. No.	Title of the paper presented	Title of the conference/ seminar etc & organizer	Date of event	Conferences details
27	Synthesis and Luminescent Characterization of Color-Tunable Mixed Ligand Based Light Emitting Zinc-Complexes	International Conference on Advances in Analytical Sciences (ICAAS-2018), Dehradoon, Uttarakhand, India	15-17 March, 2018	International
26	Luminescence Characterization of Silicate Nanophosphors for Display Applications	National conference held at Gurukul Kangri Visvidhalaya, Haridwar, Uttarakhand	20-22 Nov, 2016	National
25	Optical Characterization of Trivalent Europium Doped M_2SiO_4 (M=Sr, Ca, Mg) Nanophosphors for Optoelectronic Applications	International Conference IUMRS-ICEM2016 held at Suntec, Singapore	4-8 July, 2016	International
24	Synthesis and luminescent characterization of $CaMgSi_2O_6:RE^{3+}$ (RE^{3+} =Eu or Tb) nanophosphors	International Conference on Materials Science & Technology held at University of Delhi, Delhi, India	1-4 march, 2016	International
23	Synthesis and Optical Characteristics of Color-Tunable Mixed Ligand Based Zinc Complexes for Organic Light Emitting Devices	NCOSC-2016, Department of Chemistry, Guru Jambheswar University of Science and Technology, Hisar, Haryana	17-18 Feb, 2016	National
22	Enhanced optical characterization of the terbium (III)-complexes of β-diketone and ancillary ligands	Presented at International conference held at Birla Institute of Technology and Science, Pilani	16-18 Oct. 2015	International

21	Synthesis and improved optical properties of the β-diketone based Eu(III)-complexes	Presented at National conference held at Gurukul Kangri Vishvidhalaya, Haridwar	28-30 sept 2015	National
20	Preparation and optical characterization of the blue-green nanophosphors	NSAS held at Jamia Humdard University, New Delhi	Feb, 2015	National
19	Synthesis and Spectral Characterization of Europium doped MY_2O_4 phosphors	Indian Science Congress, hled at University of Mumbai, Maharastra	3-7 Jan, 2015	National
18	Synthesis and Optical Characterization of Terbium Doped M_2SiO_4 Nanophosphors	Presented in the National conference (NCNRE-2014) held at Jamia Milia Ishlamia University, New Delhi	28-29 April, 2014	National
17	Synthesis and characterization of Zinc-schiff base complex as a blue electroluminescent material	Presented in the Indian Science Congress (ISCA), Jammu University, Jammu.	3-7 Feb, 2014	National
16	Synthesis and optoelectronic Characterization of $SrAl_4O_7$: Eu^{2+}, $(Dy, Y)^{3+}$ nano phosphor	Presented in the National conference on **Advances in Chemical Sciences** (ACS-2013), held at Department of Chemistry, Maharshi Dayanand University, Rohtak, Haryana.	1-2 Mar, 2013	National
15	Synthesis and Optoelectronic Characterization of the Green Nano Phosphor	Presented in the 31st Annual Conference of Indian Council of Chemists (ICC), held at Department of Chemistry, Saurashtra University, Rajkot, Gujrat.	26-28 Dec., 2012	National
14	Synthesis and Characterization of the $SrLa_2O_4$:Eu phosphor	Presented in National Conference on "Global Challenges: New Frontiers in Chemical Sciences" (GC-NFCS-2012), held at Kurukshetra University, Kurukshetra.	22-23Sep, 2012	National
13	Micro-determination of Lead(II) in Environmental and Biological samples	Presented in the National Seminar on Environmental Pollution and its Mitigation Strategies, held at JNU, New Delhi.	28-29 Mar, 2012	National
12	Enhanced Red emission from europium doped Yttrium oxide Nano phosphor	Presented in the International Conference on Global Trends in Pure & applied Chemical Sciences (ICGTCS-2012), held at Udaipur, India	3-4 Mar, 2012	International
11	Determination of Uranium Using a Heterocyclic Azo Dye as a Colorimetric Reagent	Presented in the National conference on SETMRC, held at Ujjain, M.P.	25-26 Nov 2011	National
10	Synthesis and optical characterization of nano ZnS phosphor	Presented in the Indian Science Congress, SRM University, Chennai	3-7 Jan 2011	International
9	Synthesis and Optical properties of red nano $(Y_{1-x}Eu_x)_{2-y}K_yO_{3-y}$ phosphor	Presented in the Indian Council of Chemist, Punjab University, Chandigarh	Dec 2010	National
8	Synthesis of green (ZnS:Cu,Cl) electroluminescent phosphor for thick-film EL devices	Presented in the Indian Science Congress, KERELA, Jan 2010	3-7 Jan, 2010	National
7	Synthesis and Optical Characterization of Nanocrystalline Y_2O_3:Tb^{3+} Phosphor By Novel Method	Presented in the 27th Annual conference of Indian Council of Chemist held at Haridwar	Dec, 2008	National
6	Preparation and Optical Properties of Green Eu-Doped Long Persistent Aluminate Phosphor	95th Indian Science Congress, Visakhapatnam, Andhra Pardesh	3-7 Jan, 2008	National
5	Synthesis and optical characterization of nano $(Y_{1-x}Eu_x)_2O_3$: MX phosphor	International Workshop on Advanced Materials and Technologies for Nano and Oxide Electronics,IIT, Delhi	Feb. 2007	International
4	A new method for the preparation of nano long persistent aluminate phosphor and their optical properties	18th Annual General Meeting of the Materials Research Society of India (MRSI), NPL, New Delhi	Feb. 2007	National
3	Synthesis and luminescence characterization of Eu-doped Y_2O_3 phosphor by improved combustion method	National Symposium on Modern Trends in Chemical Sciences, KU, Kurukshetra	Oct, 2006	National
2	Synthesis and optical characterization of Eu-doped Y_2O_3 and $[(Y,Gd)_2O_3]$ phosphor by improved method	ASID 06, New Delhi	Oct, 2006	International
1	Micro-determination of copper in foodstuffs and biological samples with the help of a new bis-azo dye.	Presented in '90th Indian Science Congress' held at Banglore	Jan 2003	National