

Dr. Saruchi

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Career Objective

“To serve in an institution, which provides me opportunities to enhance my skills and hone up my talent, to achieve institutional and personal objectives.”

Educational Background

Ph. D (Physics) from **CDL University**, **M.Phil.(Physics)** from **CDL University**, Haryana, **M.Sc.(Physics)** from **CDL University**, and **B.Sc.(PCM)** from **Kurukshetra University**, Haryana.

Examination	Board/University	College/School	Passing Year	Percentage
Ph.D (Physics)	CDL University		2018	
M.Phil.(Physics)	CDL University	-	2009	80.20
M.Sc.(Physics)	CDL University	-	2008	78.92
B.Sc.(PCM)	Kurukshetra University	Govt.National College, Sirsa	2006	72.34
12 th	Haryana Board Of School Education	Govt.Sr. Sec School, Fatehabad	2003	53.40
10 th	Haryana Board Of School Education	S.V.N. School, Fatehabad	2001	71.83

Teaching Experience

CDL University, Sirsa, Haryana

Nov. 2009 – May 2015

SSJG College, Sirsa, Haryana

2nd Aug.2017-6th April2018

JCDM PG College, Sirsa, Haryana

25th Jan.2019 to 24th Nov. 2021

CDL University, Sirsa, Haryana

25th Nov. 2021 to till date

- Served Physics Department in the University by teaching M.Sc. Students.
- Served Physics Department in the SSJG College by teaching B.Sc. Students.
- Served Physics Department in the JCDM College by teaching M.Sc. Students.
- Led lab sessions for M.Sc. students, where guided and graded their lab works.
- Led lectures in **Classical Mechanics, Statistical Mechanics, Materials Science and Atomic and Molecular Physics**

Research Work:

Studies of sol-gel derived nanodimensional metal oxides and their binaries.

- Nanoparticles of $\text{Sn}_x\text{Zr}_{1-x}\text{O}_2$, $\text{Zr}_x\text{Ce}_{1-x}\text{O}_2$, $\text{Ce}_x\text{Sn}_{1-x}\text{O}_2$ ($0 \leq x \leq 1$) and Ag doped zirconia have been synthesized successfully by sol-gel wet chemical route.
- Effect of Composition and heat treatment on the structural and optical properties of synthesized materials has been investigated.

Synthesis of Nd-doped silica by a wet chemical sol-gel route. Annealed the samples at various temperatures and characterized them using different characterization techniques. This research was a part of M.Phil. program. A research paper entitled "*Neodymia-silica nanocomposites: Synthesis and structural properties*" has been published on this research work in international journal *Advanced Materials Letters*.

List of Publications:

1. **"Tetragonal zirconia quantum dots in silica matrix prepared by a modified sol-gel protocol"**
Surbhi Verma, **Saruchi Rani**, Sushil Kumar
Applied Physics A (2018) 124:387
2. **" Crystal Structure, morphology and optical behavior of sol-gel derived pyrochlore rare earth titanates RE_2TiO_7 (RE= Dy, Sm)**
Surbhi Verma, **Saruchi Rani**, Sushil Kumar
Journal of Alloys and Compounds 750 (2018) 902-910
3. **"Rietveld refinement, micro-structural, optical and thermal parameters of zirconium titanate composites**
Surbhi Verma, **Saruchi Rani**, Sushil Kumar
Ceramic international 44 (2018) 1653-1661
4. **Tailoring the structural and optical parameters of zirconia nanoparticles via silver"**
Saruchi Rani, Surbhi Verma, Sushil Kumar
Applied Physics A. (2017) 123:539
5. **"Structural and optical studies of $\text{Sn}_{1-x}\text{Zr}_x\text{O}_2$ nanocomposites"**
Saruchi, Surbhi , Sushil Kumar

Advanced Science Letters 20, (2014) 1558-1561

6. **“Studies on structural parameters of ZrO₂-SnO₂ binary system”.**

Saruchi, Surbhi , Sushil Kumar

Physics of Semiconductor Devices with DOI: 10.1007/978-3-319-03002-9_185,
published by Springer International Publishing, Switzerland 2014.

7. **“Effect of annealing temperature on Structural, Photoluminescence and thermal properties of nanosized zirconium silicates.**

Surbhi, **Saruchi**, Sushil Kumar

Advanced Science Letters 20, (2014), 1504-1508.

8. **“Thermal evolution of mixed oxides of zirconia-silica prepared by sol-gel route”**

Surbhi, **Saruchi**, Sushil Kumar

Physics of Semiconductor Devices with DOI: 10.1007/978-3-319-03002-9_185,
published by Springer International Publishing, Switzerland 2014.

9. **Structural investigations on Nd-doped silica nanocomposites: effect of sintering temperature and dopant concentration**

Surbhi, **Saruchi**, Praveen Aghamkar, Sushil Kumar

Philosophical Magazine Letters 2014 with DOI:10.1080/09500839.2014.939734

10. **Neodymia-silica nanocomposites: Synthesis and structural properties**

Saruchi, Surbhi, Praveen Aghamkar, Sushil Kumar

This paper has been published in Adv. Mat. Lett., **4**(1), (2013),78-81

Conferences/Workshops

- Attended and presented paper in the International Conference in blended mode on International Conference on Frontiers in Physics, Materials Science & Nanotechnology (FPMSN-2022) held during March 25-26, 2022 at Department of Physics CDLU, Sirsa.

- Attended and presented paper in the National Conference on “Solid State Nuclear Track Detectors and Their Applications (SSNTDs-21)” held during 29-31 January, Ramjas College, Delhi.
- Attended and presented paper in the National Seminar on “Innovative research in Education, Engineering, Sciences and Management: Need of the Hour-2019 (IREESM-2019)” held during 29-30 March at JCD PG College of Education, Sirsa, Haryana.
- Attended and presented paper in the National Seminar on Inter-disciplinary Approaches: with special reference to Science & Technology, Humanities and Commerce held on 21 Feb. 2019 at JCDM PG College, Sirsa, Haryana.
- Attended and presented paper in the National Conference on Emerging Trends in Physics and Materials Science (ETPMS-2016) held during 19-20 March at Chaudhary Devi Lal University, Sirsa, Haryana.
- Attended and presented paper in the National Conference on Emerging Trends In Physics and Materials Science (ETPMS-2015) held during 7-8 March at Chaudhary Devi Lal University, Sirsa, Haryana.
- Attended and presented paper in the National Conference on Nanotechnology and Renewable Energy (NCNRE-2014) held during 28-29 April, 2014 at Jamia Millia Islamia, New Delhi.
- Attended and presented paper in the International Workshop on the Physics of Semiconductor Devices (IWPSD-2013) held during 10-13 December, 2013 at Amity University, Noida.
- Attended and presented paper in the International Conference on Nanoscience and nanotechnology (ICNN-2013) held during 10-12 November, 2013 at Baba sahib Bhim rao Ambedkar University, Lucknow.
- Attended and presented paper in the National Conference on Nanoscience and Instrumentation Technology (NCNIT-2013) held at NIT, Kurukshetra, Haryana during 28-29 March, 2013.

- Attended and presented paper in the International Conference on Recent Trends in Applied Physics and Material Science (RAM-2013) held during 01-02 February, 2013 at Govt. College of Engineering & Technology, Bikaner, Rajasthan.
- Attended and presented paper in the International Conference on Frontiers in Nanoscience, Nanotechnology (NanoSci.Tech.-2012)& their Applications held during 16-18 February, 2012 at Panjab University, Chandigarh, India.
- Attended and presented paper in the International Conference on Nanomaterials & Nanotechnology (ICNANO 2011) held at University of Delhi, Delhi, India during 18-21 December, 2011.

Member

- Member of UGBOS, Department of Physics, CDLU, Sirsa (2019-2021)
- Worked as a member of external examiner for UG practical (Physics) exams.
- Performed a duty as a Deputy Superintendent at CMK PG College, Sirsa during Dec.2019 examinations
- Perform a duty as a Deputy Superintendent at CMK PG College, Sirsa during March 2021 theory exams.
- In charge of Women cell at JCD Memorial PG College, Sirsa during session-2019-20
- Member of Women cell at JCD Memorial PG College, Sirsa during session-2020-21
- Member of IQAC Cell at JCD Memorial PG College, Sirsa.

Field of Interest

- **Materials Science**
- **Thermodynamics and Statistical Mechanics**

Key Skills

- A Sincere Researcher, Responsible Lecturer and good experimental hand.
- Hard working, persistence, patience, creativity and an analytical bent of mind.

Personal Information

Mother's Name : Mrs. Veena Chandna
Father's Name : Mr. Jai Gopal
Date Of Birth : 8th Sept,1986
E-mail ID : saruchi.science@gmail.com
Contact No. : 09466691408
Nationality : Indian
Gender : Female
MaritalStatus : Married
PermanentAddress :H.No. 378, Gali no. 16, Ward no.8, EktaNagari, MandiDabwali,
Sirsa, Haryana. Pin - 125055

References:

Dr. Sushil Kumar

Professor&Chairpersion

Department of Physics,

Ch. Devi Lal University, Sirsa

Contact No -09466739217

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I here by declare that all the information mentioned above is true to the best of my knowledge.

Date: 05/04/2021

(Dr. Saruchi)