CURRICULUM VIATE

DR. ARAVIND KUMAR

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Objective

Looking for a challenging and demanding career that utilizes my scientific technical and innovative skill and willing at place where cooperation, hard work and dedication are the key to success

Current Status

Working as Lecturer in Department of Physics, Kalindi Collage University of Delhi, East Patal Nager New Delhi 110008.

M.Phil/ Ph.D Project Report:

Studied the optical properties of Hydrogenated Amorphous Silicon thin films Deposited by Plasma Enhanced Chemical Vapor Deposition Technique (PECVD) and investigated various optical properties with the help of Spectrophotometer and after subsequent analysis optical band gap, refractive index, transmission coefficient, absorption coefficient etc.

Fellowship:

I Found **JRF** under Rajiv Gandhi National Fellowship scheme for SC/ST candidate, which is conducted by **UGC.**

Academic Qualification

Name of Examination	University/Board	Year of Passing	Subject
Ph.D	Chaudhary Charan Singh University, Meerut	2010	**Physics**
M. Phil	Chaudhary Charan Singh University, Meerut	2005	Physics
M.Sc.	Chaudhary Charan Singh University, Meerut	2002	Physics
B.Sc.	Chaudhary Charan Singh University, Meerut	2000	Physics, Maths Chemistry,

Teaching Experiences:-

1. 1 Year, (2008- 2009) , Depatment of Physics , **S.G.T B Khalsa** College University of Delhi -110007
2. 17 Year, (2009- 2010) , Department of Physics **, Kalindi** Collage University of Delhi , East Patal Nager New Delhi-110008

Experimental Skills and Hands on Experience of One Year

1. Thin Films Deposition Technique e.g. Physical Method like resistive heating evaporation & clean with RF, RF+VHF, RF+µw, µw, ECR Configurations.
2. Structural characterization of the films by SEM, TEM, STEM, XRD, FTIR & AFM.
3. Electrical characterization by I-V, C-V, photoconductivity, SCLC measurements & data analysis.
4. Study of optoelectronic properties e.g. Optical band gap photosensitivity, Transmission, absorption etc by UV, IV, PDS, CPM.
5. Designed and fabrication of Vacuum coating Units, PECVD system.
6. Thin films deposition & Metallization system handling.
7. Metallization on Various substrate and Devices like as Glass, Conducting glass, sensors.

Curriculum Activitey

NCC 'B' Certificate
NSS 240 Hours Work and Two Campus Certificate

AWARDED

Delhi university SC/ST/OBC Teacher forum, First B.R. AMBIDKAR NATIONL TEACHER AWARD-2010

Computer Skill

Operating System- Dos, Window9.X, word, Excel, Power point. Sai Lab, C++, Python

Personal Information

Father's Name	Shri Tara Chand
Mother Name	Smt. Sushila Devi
Date of Birth	15 March 1978
Cast	**SC**
Gender	Male
Nationality	Indian
Marital Status	Unmarried
Religion	Hindu
Language Known	English, Hindi

Convener/Co-convener/Coordinator in any staff council committee 2024-2025.

S.N.	Name	Designation	Years	Committee Name
1	Dr. Aravind kumar	Teacher In-Charge	2025-26	Department of Physics Kalindi college
2	Dr. Aravind kumar	Deputy Superintendent(SEC/VAC/AEC Exams Evaluation)	2025-26	Kalindi college
3	Dr. Aravind kumar	Deputy Superintendent (Regular Exams)	2025-26	Kalindi college

4	Dr. Aravind kumar	Convener(Head Examiner)	2025	Numerical Analysis (SEC Paper)
5	Dr. Aravind kumar	Convener	2024-25	Institute of Bio-resources and sustainable development (IBSD) Center.
6	Dr. Aravind kumar	Member	2024-25	Dr B.R Ambedkar Study Center.
7	Dr. Aravind kumar	Co-Convenor	2024-25	Central admission committee for B.Sc(H) Physics courses of college, 2025
8	Dr. Aravind kumar	Deputy Superintendent	2024-25	Central examination committee of college for theory exams, 2024-25
9	Dr. Aravind Kumar	Member	2024	Criteria 2
10	Dr. Aravind Kumar	Member	2024-24	Tent and Shameyana

Faculty achievement

1. Convenor, National level E-Poster making competition cantered on the theme **"Green Business: Profit with Purpose."** organized by IBSD Committee, Kalindi College, University of Delhi on dated 05-11-2024.
2. Convenor, National level E-Paper Presentation competition centered on the theme **" Green is the new Gold: Invest in sustainability"** organized by IBSD Committee, Kalindi College, University of Delhi on dated 09-11-2024.
3. Convenor, National seminar on topic: "Sustainable Startup: Integrating Tradition Knowledge with Innovation" organized by IBSD Committee in collaboration with IQAC Kalindi College, University of Delhi on dated 17-02-2025.

Faculty Induction Program

1. Four Week Faculty Induction/Orientation Programme for faculty in University/Colleges/ Institutes of higher Education**,** Teaching Learning center Ramanujan college university of Delhi under the aegis Ministry of education Malaviya Mission Teacher Training Programme from 27.03.2024 to 23.04.2024
2. Attended online training programme on "NEP 2020 Orientation & Sensitization Programme" under Malaviya Mission Teacher Training Programme (MM-TTP) of

University Grants Commission (UGC) organized by Mahatma Hansraj Malaviya Mission Teacher training centre (MH-MMTTC), Hansraj College, University of delhi in collaboration with Kalindi college, University of delhi, from 03.03.24 to 11.03.24.

Refresher Course

1. Two Week Refresher Course "Life and Science, Teaching Learning center Ramanujan college university of Delhi under the aegis Ministry of education Malaviya Mission Teacher Training Programme from 28.02.2024 to 13.03.2024.
2. Two Week Interdisciplinary Refresher course" Advanced Research Methodology Teaching Learning center Ramanujan college university of Delhi under the aegis Ministry of education Malaviya Mission Teacher Training Programme from 26.04.2024 to 09.05.2024.

Orientation & Sensitization Programme/ FDP

1 NEP 2020 Orientation & Sensitization Programme Maharshi Dayanand Saraswayi university Ajmer UGC- Malaviya Mission Teacher form 01.07.2024 to 10.07.2024.

2 Two-week Faculty Development Program(FDP) in Programming Using Python, Hindu College University of Delhi in collaboration with Spoken-Tutorial IIT Bombay from 22.07.2024 to 02.08.2024.

3 7 Days faculty Development Program "Practical Use of official Language Hindi, Kalindi college university of Delhi

Work Shop Attended

1. Unity of India and languages under the philosophy of Jagad Guru Shree Shankaracharya, Indian Language committee education Ministry Govt of India on 20.03.2024.
2. Inter College Events" Scivolution" On The Occasion of "National Science Day" in Collaboration Of Indraprastha Shakti- A National Movement for Women, organized by Physithon- The Physics society Depart of Physics Kalindi College 28.02.2024.
3. Attended a workshop "Physics in Action, Experiments for curious minds" organized by department of Physics, Kalindi college on 4.3.2025.
4. Webinar To commemorate the death Anniversary of AOJ Abdul Kalam on the topic "Creating a Liveable Planet Earth, Dara Rao Singh Rathore Mem. Degree College Gularia Budaun on 27.07.2024.
5. Physithon- The Physics society celebrates National Science Day Scivolution Viksit Bharat@2047 in Association Indraprastha Shakti- A National Movement for Women organized by Physithon- The Physics society Depart of Physics Kalindi College on 28.02.2024.

6. Inter college workshop on Indor air pollution and smoking member of organizing committee organized by Anti-Tobacco committee, Kalindi college University of delhi on 25.02.2025.

List of Publications

Paper published/Communicated in journal

List of publications

Paper published /Communicated in journals:

1. Optical, Structural and electrical properties of zinc sulphide vacuum evaporated thin films, by Pawan Kumar, **Aravind Kumar**, P.N.Dixit and T.P. Sharma**,** ***Indian Journal of Pure & Applied physics***, Vol-44, Sep-2006, PP-390-93. ISSN: 0019-5596**.(IF-0.711,)** **https://core.ac.uk/download/pdf/158621017.pdf [Scopus]**

2. Study of optical constants in CdxZn1-xS vacuum evaporated thin films, by Pawan Kumar, **Aravind Kumar**, P.N.Dixit, and T.P. Sharma**,** ***Indian Journal of Engineering & Material science*** 14 Aug-2007, PP-313-316. ISSN: 0971-4588**.(IF-0.711,)** **https://nopr.niscpr.res.in/bitstream/123456789/206/1/IJEMS%2014%284%29%20%282007%29%20313-316.pdf [**SCI mago Journal Rank (SJR) of 0.245]

3. "High pressure growth of nanocrystalline silicon films" by Sushil Kumar, Jhuma Gope, **Aravind Kumar**, A.Parashar, C.M.S. Rauthan, and P.N.Dixit, Journal of Nano Science and Nanotechnology, Vol- 8, 4211-4217, (2008). ISSN: 1533-4880. **(IF-1.339)** **https://pubmed.ncbi.nlm.nih.gov/19049205/ [Scopus]**

4. Study of Wavelength Dependence of Optical Constant for ZnSe Vacuum Evaporated Thin Films Pawan Kumar, **Aravind Kumar**, Pravinder, Kapil Malik, International Journal of Latest Research in Science and Technology, ISSN(online)-2278-5299,Vol-1,Issue 4, Page No. 342-344, November- December (2012). **(IF-1.177)** **https://www.mnkjournals.com/journal/ijlrst/pdf/temp/Volume_1_4/10089.pdf [Scopus]**

5. Structural & Optical Characterization of $Ge_xSe_{80-x}Pb_{20}$ Thin Films Prepared by Thermal Evaporation Technique by Pawan Kumar, **Aravind Kumar**,L.P. Purohit, Kapil Malik, Pravinder, International Journal of Soft Computing and Engineering(IJSCE), ISSN:2231-2307, Volume-3,Issue-1, Page No-413-415, March 2013**.(IF-1.177)** **https://studylib.net/doc/8389761/structural-and-optical-characterization-of-gex-se80 [Scopus]**

6. Effect of Post Deposition Anneling on Hydrogenated Amorphous Silicon Thin Films Grown at High Power by PECVD, **Aravind Kumar**, Pawan Kumar, Pravinder Kumar, Kapil Malik, P.N. Dixit, International Journal of Soft Computing and Engineering(IJSCE), ISSN:2231-2307, Volume-2,Issue-6, Page No-516-519, January 2013. **(IF-1.177).** **https://scholar.google.co.in/citations?user=ys9rv1wAAAAJ&hl=en [Scopus]**

7. Ellipsometric Analysis Cd_xSe_{1-x} thin films prepared by a Thermal Evaporation Technique, Dr Pawan Kumar, Dr Aravind Kumar, International Journal of Engineering Research & Management Technology,Issue-4,Volume 2,Page No-118-112, ISSN-2348-4039, July-2015. **.(IF1.840)https://www.researchgate.net/publication/252160517_Ellipsometric_analysis_of_Cd1-xZnxSe_thin_films_prepared_by_a_thermal_evaporation_technique [Scopus]**

8. Spectroscopic Study of Vacuum Evaporated Crystalline Cadmium Zinc Sulphide thin films. Aravind Kumar Pawan Kumar, International Journal of Scientist & Engineering Reserch Volume7, Issue 10, Page No-751-767, ISSN 2229-5518, October-2016, **(IF-3.8).** **https://scholar.google.co.in/citations?user=ys9rv1wAAAAJ&hl=en [UGC Care List 63975]**

9 Structural Optical and Raman Characterization of Nano- Crystalline Cu Doped Zno Thin films Deposited by Pulse Laser Deposition Technique. Pawan Kumar, Aravind Kumar,Alvaro Instan, Ram S. Katiyar, Global Journal of Science Frontier Research: A Physics and Space Science, Volume 19 Issue 9 Version1.0 Year 2019, Online ISSN:2249-4626 and Print ISSN: 0975-5896. Pag No-42-49**(IF-2.42).** **https://journalofscience.org/index.php/GJSFR/article/view/2535 [Scopus]**

10 Structural, Thermal and electrical properties of composites electrolytes (1-X) C_s $H_2PO_4/xZrO_2$ ($0 \leq x \leq 0.4$) for fuel cell with advanced electrode. Deshraj Singh, Pawan Kumar, Jitendra Singh, Dharm Veer, Aravind Kumar, Ram S, Katiyar, SN Applied Science A Springer Nature Journal, Vol-3, Issue-1, Article-46, (2021) ISSN:2523-3971,Page No- **(IF-1.42). https://link.springer.com/article/10.1007/s42452-020-04097-9 [Scopus]**

11 Effect of Post Growth Annealing Process on optical properties of CdSe thin films on Si p-type Substrate Deposited by pulsed Laser Deposition Technique, Pawan Kumar, Devender Kumar, **Arvind Kumar,** Ram Katiyar. *The International Journal of analytical experimental model analysis,* volume 13, Issue 6 June 2021, [ISSN No-0886-9367].Page No-3016-3028 **(IF-6.3).** **Link-** (https://www.researchgate.net/publication/357323907_Effect_of_Post_Growth_Annealing_Process_on_Optical_Properties_of_CdSe_Thin_Films_on_Si_p-type_Substrate_Deposited_by_Pulsed_Laser_Deposition_Technique **[Scopus]**

12 The Influence of TiO_2 on the proton Conduction and Thermal Stability of CsH_2PO_4 Composite Electrolytes. Deshraj Singh,Jitendra Singh, Pawan Kumar,Dharm Veer,Devendra Kumar, **Aravind Kumar,** Anshu Kumar. *"South African Journal of Chemical Engineering".* Volume-37, 19 June 2021, Page No-227-235 [ISSN-1026-9185] **(IF-5.519). Link-** (http://doi.org/10.1016/j.sajce.2021.06.006). **[Scopus]**

13 Role of cerium pyrophosphate for improving protonic conduction and stabilization of $SDP.2H_2O$ composite electrolytes. Pawan Kumar, Dharm Veer, Deshraj Singh, Aravind Kumar, Ram S Katiyar, Inorganic Chemistry Communications 21 October 2023, Page No-1-10, ISSN-1387-7003. [IF-3.9] Link-https://doi.org/10.1016/j.inoche.2023.111614. **[Scopus]**

14 Investigation of Optical and Structural properties of ZnTe thin films, by pawan kumar, Aravind Kumar, Parvinder, Kapil Malik, proceeding National Conference on Upcoming Trends in Chemical Science UTCS-2013.

Paper Presenting in workshop/Conferences/Published in proceedings:

1. "Electrical Properties of microcrystallion silicon films grown using PECVED" by Jhuma Gope, **Aravind Kumar** A. Prashar, sushil Kumar, C.M.S. Rautahn and P.N.Dixit, ***2nd national conference on condensed matter*** during 1-3 Feb,2007 at Jaipur, India.

2. "Properties of high rate deposited amorphous silicon films using PECVD technique"**Aravind Kumar**, Sushil Kumar, P.N.Dixit and V.K.Rastogi ***2nd national conference on condensed matter*** during 1-3 Feb, 2007 at Jaipur, India.

3. "Estimation of mobility of nano/micro crystalline silicon films using conductivity

measurement" by Jhuma Gope, **Aravind Kumar**, P.N.Dixit and C.M.S. Rauthan, ***Material Research Society of India***, Feb. 12-14,2007, New Delhi.

4. "Diamond-like carbon coating with silicon prepared by plasma-assisted chemical vapour deposition technique" by Neha Goyal, Sushil Kumar, **Aravind Kumar**, C.M.S. Rauthan and P.N.Dixit**,** ***Material Research Society of India***, Feb. 12-14,2007, New Delhi.

5. "Effect of annealing on the properties of hydrogenated amorphous silicon thin films grown at high power by PECVD technique" by **Aravind Kumar**, Jhuma Gope, Sushil Kumar, P.N.Dixit and C.M.S. Rauthan, ***Material Research Society of India,*** Feb. 12-14,2007, New Delhi.

6. "Vacuum Thermal Re-crystallization of a-Si:H Thin Films Deposited by PECVD Technique" by **Aravind Kumar** and P.N.Dixit, 96th Indian Science Congress, Junuary 3-7, 2009, Shillong, Meghalaya.

7. Optical and Structural Properties of ZnSeTe Thin Films Deposited on galas & ITO Substrate, Pawan Kumar, **Aravind Kumar**, Pravinder Kumar, Kapil Malik, Proceeding of National Conference on Upcoming Trends in Chemical Science UTCS-2013

8. Investigation of optical and Structural Properties of ZnTe thin Films, Pawan Kumar, **Aravind Kumar**, Pravinder Kumar, Kapil Malik, Proceeding of National Conference on Upcoming Trends in Chemical Science UTCS-2013.

9. Study of Optical Properties of C_dSSe Vacuum Evaporated Thin Films Pawan Kumar, **Aravind Kumar,** Kapil Malik, Parvinder, Inovation in science and Technology for Inclusive development,22-23 March-2014, Organized by department of Chemistry C.C.S University Meerut with ISCA Hardwar Chapter.

10. Effect of Thickness on the Optical and Electrical Properties of $Cd_xZn_{1-x}S$.Vacuum Evaporated Thin Films.Pawan Kumar, Aravind Kumar& P.N.Dixit, Advancement of Nano Materials and its Applications, Department of Physics D.A.V. Collage Kanpur (U.P), Feb. 09-11,2012.

11. Effect of Annealing on the Optical Properties of Hydrogenated Amorphous Silicon Thin Films Grown at High Power by PECVD Technique, Aravind Kumar, Pawan Kumar, Sushil Kumar, P.N. Dixit and V.K. Rastogi, National Conference on Advancement of Nano Materials and its Applications, Department of Physics D.A.V. College Kanpur (U.P), Feb. 15-16, 2011.

12. Study of Optical Properties of C_dSSe Vacuum Evaporated Thin Films Pawan Kumar, **Aravind Kumar,** Kapil Malik, Parvinder, ISCA Haridwar Chapter National Conference on Inovation in science and Technology for Inclusive development, Jointly Organized by Indian Science Congress Association, Haridwar Chapter & Department of Chemistry C.C.S University Meerut(U.P) India. 22-23 March-2014,

13. Effect of Thickness on Optical Properties of Se-Te Chalcogenide Semiconductor .Pawan Kumar, Kapil Malik, Parvinder, Anubha Gupta and Aravind Kumar, National Conference on Emerging Trend in Engineering & Science, Faculty of Engineering & Technology Gurukul Kangri University Haridwar Uttrakhand India, November 09-10, 2013.

National or International Workshop/Conferences/Symposium/ (Attended).

1. National workshop on recent Trends in Atmospheric and Environmental Science, Gurukula Kangri Vishwavidyalaya Haridwar, 4-5 April 2014.

2. Workshop & Hand on Training on Synthesis and Characterization of thin films, Department of physics Gurukula Kangri Vishwavidyalaya, Haridwar, 31st March- 1st April-2015.

3. International Conference on Advance Materials (ICAM-2000), Department of Physics Ch.Charan Singh University Meerut, December 26-28, 2000.
4. National Conference on Engineering Optics & Spectroscopy, Department of physics, Meerut College Meerut, Ch.Charan Singh University Meerut, April 5-7,2004.
5. International Symposium on Advances in Physics, Department of physics, NAS College Meerut, Ch.Charan Singh University Meerut, Feb 25,2006.
6. National Symposium on Perspectives in Engineering optics Department of physics, Meerut College Meerut, Ch.Charan Singh University Meerut, April 15,2007,
7. National Conference on Semiconductor Material & Technology, Department of physics Gurukula Kangri University Haridwar, 16-18 October-2008.
8. National Symposium on Laser and Their Applications, Department of Physics Ch.Charan Singh University Meerut, Sponsored by Asian Journal Of Physics, September 12, 2009.
9. Indo-Russian Workshop on Nanotechnology and Laser induced Plasma-2009, University of Delhi Delhi, November 24-26, 2009.
10. Second National Workshop on Quantum Mechanics: Theory and Application, Organized by Forum for interdisciplinary Application in Science (FiDAS), Deen Dayal Upadhyaya College, University of Delhi, October 22-23, 2010.
11. Workshop on The Physics and Mathematics of the Universe. Gurukula Kangri Vishwavidyalaya Haridwar, March 11-12, 2013.
12. National Seminar on Role of Ion Beam in Material Science and Application Programme on Ion Beam Facilities at IUAC New Delhi, Department of Physics Ch.Charan Singh University Meerut, September 20,2013.
13. Workshop & Hands on Training on Synthesis and Characterization of Thin Films, Department of physics Gurukula Kangri Vishwavidyalaya Haridwar, 31March-1 April, 2015.
14. Seminar on Light & Light Based Technologies (SLT-2016), Organised by Optical Society of india (Dehradun Local Chapter) & Doon University Dehradun, 13-14 February 2016.

Reference:

1) Prof T. P. Sharma
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Date.23/08/2025

Place. New Delhi.

(Dr. Aravind Kumar)