Name: Dr. Subhraraj Panda

Designation: Associate Professor,

Dept of Physics,
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Centurion University of Technology and Management,
Odisha, India.

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About Me

"I am an academic and researcher with expertise in physics and ultrasound, currently teaching radiology , Postgraduate of Physics and B.Tech . I completed my Ph.D. in 2019 and had the honor of being the first Head of the Department of Physics at Centurion University of Technology and Management,odisha. My work includes creating educational materials and guiding students in topics like quantum mechanics, lasers, and imaging techniques. I have also served as a reviewer for the NIF INSPIRE-MANAK program for over five years.

AREA OF INTEREST

Fluid andUltrasonic and Condensed Matter Physics,

COURSES TAUGHT

- Engineering Physics
- Basic equipment of radiotherapy
- Basic radiation Physics
- Applied Radiation physics and radiation protection
- Principles of Radiation Physics
- Basic Nuclear Medicine and imaging
- Semiconductor Electronics Devices
- Solid State Physics

- Quantum Mechanics
- Atomic and Nuclear Physics
- Optics and Optical fibers
- Introduction to Laser

TEACHING EXPERIENCE- 24 Years

RESEARCH EXPERIENCE- 15

ADMINISTRATIVE/EXECUTIVE EXPERIENCE 15 Years

RESEARCH GUIDANCE

Ph.D.: 2 scholars

M.Sc.: 18

PUBLICATIONS

JOURNAL PUBLICATIONS = 50

1. Panda, R., Panda, S., & Biswal, S. K. (2024). Thermo-Acoustic Behaviour of K2CrO4 and K4 [Fe (CN) 6] in Aqueous Dimethylformamide at Different Temperatures. *Recent Innovations in Chemical Engineering*, *17*(3), 190-207.
2. Panda, S.(2024). Molecular interaction of Dextran and Sodium Hydroxide through Ultrasonic Investigation. *Journal of the Turkish Chemical Society Section A: Chemistry*, *11*(4), 1369-1376.
3. Panda, S. (2024). Acoustical Analysis of Dextran+ urea: Insights into Molecular Interactions. *Recent Innovations in Chemical Engineering (Formerly Recent Patents on Chemical Engineering)*, *17*(1), 44-54.
4. Panda, R., Panda, S., & Biswal, S. K. (2024). A Review of Ultrasonic Wave Propagation through Liquid Solutions. *Current Microwave Chemistry*, *11*(1), 2-15.
5. Panda, R., Panda, S., & Biswal, S. K. (2024). Acoustic behavior of electrolytes in aqueous dimethyl sulphoxide as a solvent at different temperatures. *Journal of Thermal Analysis and Calorimetry*, 1-15.
6. Das, N., Praharaj, M. K., & Panda, S. (2024). Exploring ultrasonic wave transmission in liquids and liquid mixtures: A comprehensive overview. *Journal of Molecular Liquids*, 124841.
7. Panda, S. (2023). Thermo-acoustic parameters of polymer dextran with aqueous sodium hydroxide: an ultrasonic study. *Current Materials Science: Formerly: Recent Patents on Materials Science*, *16*(2), 217-224.
8. Panda, S. (2023). Acoustic and thermodynamics study of aqueous dextran: an ultrasonic analysis. *Romanian Journal of Biophysics*, *33*(3).
9. Panda, S. (2023). Ultrasonic Study of Novel Polymer Dextran in Aqueous Media at 12 MHz. *Current Microwave Chemistry*, *10*(2), 237-243.
10. Nayak, S., Patnaik, P.,& ., Panda, S.(2023). Property Enhancement of Vanadium Doped Silicon Carbide: A Computational Study. *Suranaree J. Sci. Technol.* 30 (3), 030-160

11. Patnaik, P., Panda, S., & Mukhopadhyay, G. (2022). Substitutional Tungsten Doping in Silicon Carbide Introducing Magnetic Properties: A Computational DFT Approach. *Nanoscience & Nanotechnology-Asia*, *12*(4), 53-59.
12. Panda, S. (2022). Thermoacoustical parameters of dextran polymer in sodium hydroxide solutions. *Songklanakarin J. Sci. Technol*, *44*(4), 1125-1130.
13. Panda, S. (2022). Molecular interaction of novel polymer dextran with 1 (N) sodium hydroxide solution: Ultrasonic studies. *Asia-Pac. J. Sci. Technol*, *27*, 1-7.
14. Panda, S. (2022). Molecular interaction study of binary liquid solution using ultrasonic technique. *Recent Innovations in Chemical Engineering (Formerly Recent Patents on Chemical Engineering)*, *15*(2), 138-146.
15. Panda, S. (2022). Analysis of aqueous dextran: an ultrasonic study. *Current Microwave Chemistry*, *9*(1), 30-36.
16. Panda, S., & Patnaik, P. (2022). Elastic Properties of Zinc Sulfide by Using Generalized Gradient Approximations. *Bulgarian Journal of Physics*, *49*(3).
17. Panda, S. (2022). Thermoacoustical Analysis of Polymer Dextran at Different Frequencies. *Bulgarian Journal of Physics*, *49*(2).
18. Panda, S. (2020). Molecular interaction of polymer dextran in sodium hydroxide through evaluation of thermo acoustic parameters. *Ind J Pharma Edu Res*, *54*(3), 630-636.
19. Panda, S., & Mahapatra, A. P. (2019). Molecular interaction of dextran with urea through ultrasonic technique. *Clay Research*, *38*(1), 35-42.
20. Panda, S., & Mahapatra, A. P. (2019). Intermolecular interaction of dextran with urea. *Int J Innov Technol Explor Eng*, *8*(11), 742-8.
21. Panda, S., & Mahapatra, A. P. (2016). Ultrasonic study of acoustical parameters of dextran solution with 1 (N) NaOH at different temperatures and concentrations. *ICEPMU-2016*, 53.
22. Panda, S., & Mahapatra, A. P. (2017). Study of acoustical parameters of dextran in 2 (M) glycine using ultrasonic technique at different frequencies. *J Pure Appl Ultrason*, *39*, 83-87.
23. Praharaj, M. K.,& Panda, S.(2022) Thermodynamic Parameters and their Excess Values for Binary Mixtures of Cyclohexane and Substituted Benzenes at Different Frequencies. *Indian J of Natural Sciences*, *13*(71), 41230-41235..
24. Praharaj, M. K.,& Panda, S.(2022) (2022). Study of Molecular interaction in Binary Mixtures containing N, N-Dimethylformamide and n-Butanol. *Indian J of Natural Sciences*, *13*(71), 41720-41725.
25. Panda, S. (2020). Ultrasonic analysis of dextran in aqueous media at 323 K, *Shodh Sarita, 7(28),1-8*
26. Panda, S. (2020). Ultrasonic study on polymer dextran in aqueous media at 12 MHz, *Shodh Sarita, 10(40),69-75*
27. Panda, S. (2020). Acoustic and thermodynamics study of Aqeous Dextran, *Shodh Sanchar Bulletin, 10(40)70-76*
28. Panda, S. (2020). Molecular Interaction Of Aqueous Dextran At Different Temperatures And Frequencies *International Journal of Modern Agriculture, 9(4).28-37*

29. Panda, S. (2020). Variation of concentration of dextran with glycine at 308 K and at frequency 5MHz, *International Journal of Modern Agriculture, 9(4). 9(4).23-27*
30. Panda, S. (2020).Panda, S Adiabatic compressibility, intermolecular free length and surface tension of power transformer oils at different temperatures through ultrasonic method. *Indian J of Natural Sciences* 10(60),June,26640-26645
31. T Patro, j., and Pand S.92020)Physico-Chemical Properties of Edible Oils through Ultrasonic Investigation. *Indian J of Natural Sciences. 10(60),june,26454-26459*
32. Panda, S.and 2Sutapa Khuntia Determination of thermo acoustical parameters of dextran with glycine at 303 K and at frequency 9MHz. *Indian J of Natural Sciences 10(60)June,26449-26453*
33. Panda, S and Achyuta Prasad Mahapatra Molecular Interaction Study Using Ultrasonic Technique Of Binary Liquid Solution *Indian J of Natural Sciences 10(60),june,26442-26448*
34. Pradhan,S,. Panda S,. and Barik, D,.(2020) Evaluation of relaxation time, acoustic impedance and Gibb's free energy of edible oils through ultrasonic technique, *Indian J of Natural Sciences* 10(60),22764-22768
35. Panda S,. Mohanty,P,. and Mishra, S,(2020) Analysis and diagnostic of distribution transformer oil in lieu of life expectancy. *Test Engineering and ManagementMay - June 83(may-june),2020,9638 – 9648*
36. Panda S,. Mohanty,P,. and Mishra, S,(2020) Analysis of Acoustic Wave Propagation in a Power Transformer oil. *Gedrag & Organisatie Review, 33 (02)929-934*
37. Panda S,. *Rakesh Mallik (2020)Saturated Absorption Spectroscopy Of Rubidium By Modulated Probe Beam, Aegaeum Journal 8(4), 1128-1134*
38. Barik, D,. Shibashis Pradhan1, Prabhat K Patnaik Subhraraj panda1 and Chandra Sekhar (2020), Parameter Analysis and Different Geometrical Approach for Ultra Wideband Planner Antenna*Indian J of Natural Sciences*, *10*(59), 19973-19980
39. Pradhan S., Subhraraj Panda and Prabhat Kumar Patnaik(2020)Superposition Modulation and its Power Distribution Method *Indian J Nat Sci*, *10*(59), 18436-18441.
40. Panda, S., Praharaj, M., & Panda, S. (2020). Evaluation of ultrasonic parameters in binary solution of dextran and urea at various concentration and temperatures. *Indian J of Natural Sciences*, *10*(59), 18552-18557..
41. Panda, S. (2020). Ultrasonic investigation of dextran with glycine at different temperatures and frequencies. *Indian J Nat Sci*, *10*(59), 18436-18441.Panda, S., & Mahapatra, A. P. (2016). Variation of acoustical parameters of dextran in 2 (M) glycine with temperature and concentrations. *International Journal of Chemical and Physical Sciences*, *5*(5), 15-22.
42. Panda S,.and Pradhan,S.,(2020)Molecular Interaction of Dextran with (1N) NaOH through Ultrasonic Technique. *J of Natural Sciences*, *10*(59),,18340-18345
43. Panda, S., & Mahapatra, A. P. (2018). Ultrasonic investigation of aqueous dextran at different temperatures and frequencies. *World Journal of Pharmaceutical and Life Sciences*, *4*(12), 76-82.

44. Panda, S., & Mahapatra, A. P. (2015). Molecular interaction studies of aqueous Dextran solution through ultrasonic measurement at 313 K with different concentration and frequency. *Arch Phys Res*, *6*(1), 6-12.
45. Panda, S., & Mahapatra, A. P. (2018). Evaluation of thermo acoustical parameters of dextran with (1N) sodium hydroxide using ultrasonic technique at different temperatures and concentrations *world journal of pharmacy and pharmaceutical sciences, 7(4),1065-1078*
46. Panda, S., & Mahapatra, A. P. (2016). Variation of acoustical parameters of dextran in 2 (M) glycine with temperature and concentrations. *International Journal of Chemical and Physical Sciences*, *5*(5), 15-22.
47. Panda, S., & Mahapatra, A. P. (2016). Acoustic and ultrasonic studies of dextran in 2 (M) glycine-variation with frequencies and concentrations. *International Journal of Pure and Applied Physics*, *12*(1), 71-79.
48. Panda, S., & Mahapatra, A. P. (2016). Molecular interaction of a novel polymer dextran with 2(M) glycine –free volume, internal pressure, absorption coefficient, Rao's constant and Wada's constant *International Journal of Physics and Mathematical Sciences* 6(2),62-68
49. Panda, S., & Mahapatra, A. P. (2015). Molecular interaction studies of aqueous Dextran solution through ultrasonic measurement at 313 K with different concentration and frequency. *Arch Phys Res*, *6*(1), 6-12.
50. Panda, S., & Mahapatra, A. P. (2014). Variation of thermo-acoustic parameters of dextran with concentration and temperature. *J of Chemical and Pharma Res*, *6*(10), 818-5.

BOOK PUBLICATIONS : 1

1. Title of the book:"*Laser modelling using principles of Design Thinking*", Notion Press; 1stedition-**2022**, ISBN-10 : 1637149174 ISBN-13 : 978-1637149171

BOOK CHAPTER: 5

1. Title of the book -Project Management and Smart Electrical Systems-Chapter-"*Analysis and diagnostic of distribution transformer oil in lieu of grid reliability",* Amazon,Kindle, 9798587652200/ASIN-B08RDZBQH3
2. Title of the book: Discovery, Disruption, and Future Implications of Nanomaterials,book Chapter-6-*"Unraveling Quantum Dots: Trailblazers in Nanoscience and Beyond"*,Pages:183-218,**2024**, IGI Global Book, ISBN13: 9798369343975|EISBN13: 9798369343982,DOI: 10.4018/979-8-3693-4397-5.ch006
3. Title of the book: Discovery, Disruption, and Future Implications of Nanomaterials,book Chapter-1-"*Crafting Nanotubes From Atoms: Synthesis Strategie"s*,Pages:1-31,**2024**, IGI Global Book, ISBN13: 9798369343975|EISBN13: 9798369343982,DOI: 10.4018/979-8-3693-4397-5.ch001
4. Title of the book: Exploring Nanomaterial Synthesis, Characterization, and Applications, Chapter 8,"*Polymer Nanocomposites: Innovations in Material Design and Applications"* Pages:*169-196*,**2025**, IGI Global Book,*ISBN13:*

9798369363263|ISBN13 Softcover: 9798369363270|EISBN13: 9798369363287, DOI: 10.4018/979-8-3693-6326-3.ch008

5. Title of the book: Exploring Nanomaterial Synthesis, Characterization, and Applications, Chapter 10 "*Polymer Nanocomposites and Nanostructured Polymers"* Pages:*213-240,**2025**, ISBN13: 9798369363263|ISBN13 Softcover: 9798369363270|EISBN13: 9798369363287, DOI: 10.4018/979-8-3693-6326-3.ch010*

Patents

1."DFT STUDY OF TUNGSTEN DOPED SILICON CARBIDE" Indian Patent" Application Number- 202331013328 A, Publication Date : 10/03/2023

PARTICIPATION IN CONFERENCE & SEMINARS (AS INVITED/PLENARY/CHAIR)

1. Indian Science Academies' "106 Refresher course in Experimental Physics " Department of Physics, Maharaja's College (Autonomous), Vizianagaram. from **April 15 to May1, 2019**
2. QIP Short Term Course on "Fluorescence Spectroscopy and its Application" from November **23-27th, 2015** at IIT Kanpur, UP.
3. Indian Science Academies' Refresher course in "Quantum Mechanics" Department of Physics, IIT Roorkee. from **28 November-December 12, 2013.**
4. AICTE -QIP Short Term Course on "Micro and Nano Fabrication" from **February 27-2nd ,2012** at IIT Kanpur, UP.
5. AICTE -QIP Short Term Course on "Emerging Trends in Carbon Nanotube" **from November 07-11, 2011** at IIT Kanpur, UP.
6. Workshop on "Electronic and Ionic Materials and Devices" to be held during **March 25-27, 2011** at the Department of Physics, Banaras Hindu University, Varanasi under UGC Networking Programme.
7. MHRD-AICTE faculty development programme on "Trends and Technique in Nanotechnology" from **July 4-17 2010**, NIT Calicut, Kerala.
8. Short term course on "Contribution of small angle X-Ray scattering (SAXS) to Nanoscience and Nanotechnology" from **May 22- 26 2010 NIT Rourkela**, Orissa.
9. AICTE -QIP Short Term Course on "Carbon Nanotube and Carbon in Nanotechnology" from **February 22-16,2010** at IIT Kanpur, UP
10. Two week summer refresher course in "Physics" being organized in Institute of Physics, Bhubaneswar, from **June 5, 2006 to June 17, 2006**.

DECLARATION

I hereby declare that the information furnished above is true to the best of my knowledge and understanding.

Subhraraj Panda