Name: Dr Ishwar Dutt
Designation: Assistant Professor
Subject: Physics
Specialization: Theoretical Nuclear Physics
Contact details: Department of Physics, Govt. Degree College, Solan, H.P., 173212.
Email ID: idsharma.pu@gmail.com

Educational Qualifications: -

- Ph.D. in Theoretical Nuclear Physics from Panjab University, Chandigarh, degree awarded in 2011.
- M.Sc. (Physics) from D.A.V. College, Jalandhar, affiliated to G.N.D.U., Amritsar, in 2005 with first division.
- B.Ed. from Vivekananda College of Education, Lakhanpur, Kathua, Jammu, affiliated to Jammu University, in 2003 with first division.
- B.Sc. (N.M.) from Govt. College, Sanjauli, Shimla, affiliated to H.P. University, Shimla, in 2002 with first division.
- Matric from Govt. High School, Kot-Beja, affiliated to H.P. Board, Dharamshala, in 1996 with first division.

Additional Qualifications:

- Six-month Certificate Course (Certificate in Computing – CIC) with first division from I.G.N.O.U., New Delhi (2001).
- CSIR-UGC (JRF), 2009 – Qualified
- GATE, 2009 – Qualified
- HP-TET – Qualified

Teaching Experience:

- Assistant Professor, Government Degree College, Solan (H.P.), from July 2023 – Present
- Associate Professor, Chitkara University, H.P., from October 2014 – July 2023
- Assistant Professor, Chitkara University, H.P., from July 2011 – September 2014
- Guest Faculty, Government College, Dera Bassi, Mohali (Punjab), from August 2005 – March 2006

Duties Assigned: University/College Level:

- Member, Internal Audit Committee (IAC) of the University
- Member, Unfair Means Cases (UMC) Committee of the University
- Observer for Mid-Term & End-Term Examinations of the University
- Superintendent for Mid-Term & End-Term Examinations of the University
- Deputy Superintendent for Mid-Term & End-Term Examinations of the University
- Head Examiner for End-Term Examination of Engineering Physics courses (several times)
- Member, Discipline Committee during extracurricular activities, orientation programs, and technical fests of the University
- Ph.D. Programme Coordinator of the University (Dec 2018 – July 2023)
- Care Taker Officer Boys (NCC) (August 2023 to present)

Departmental Level:

- Course Coordinator for Engineering Physics (2012–2022)
- Mentor for students during Odd and Even Semesters
- Designed various course handouts for laboratory and theory courses

Courses Taught:

- **B.Tech. students:**
  - Engineering Physics
- **Undergraduate Computer Science students:**
  - Digital Electronics – BCA students
- **Undergraduate Science students:**
  - Mechanics
  - Statistical and Thermal Physics
  - Elements of Modern Physics
  - Quantum Mechanics
  - Radiation Safety
  - Physics Workshop Skills
  - Electrical Circuits & Network Skills
  - Weather Forecasting

Election Duty:

- Assigned duty of Presiding officer in Lok Sabha Election 2024 in the Assembly constituency 51-Nalagarh under Parliamentary constituency 4 -Shimla.

Research Projects Completed:

- A research project entitled **"Analytical Parametrization of Fusion Barriers and Cross Sections Using Various Microscopic/Macroscopic Approaches and Experimental Data as a Guideline"** was sanctioned in 2013 with approximate funding of **₹12 lakh** under the *Fast Track Scheme for Young Scientists* by **SERB, Department of Science and Technology, Government of India**, and was completed in 2017 as **Principal Investigator**.
- A research project entitled **"Capacity Building and Technology Demonstration for the Socio-Economic Upliftment of SC/ST Population in the Nearby Villages of Himachal Pradesh"** was sanctioned in 2019 with approximate funding of **₹27.80**

lakh by the **Department of Science and Technology, Government of India**, and was completed in 2021 as **Co-Principal Investigator**.

Member of Editorial Board:

- Worked as a member of the Editorial Board of an open-access journal entitled *"Journal of Nuclear Physics, Material Sciences, Radiation and Applications"* (P-ISSN: 2321-8649; E-ISSN: 2321-9289).

Member of Organizing Committee: National/International Conferences

- **Co-Chairman**, *International Conference on Advances in Multi-Disciplinary Sciences and Engineering Research (ICAMSER-2021)* – A virtual multi-disciplinary conference in the fields of science and engineering, held on **2–3 July 2021** at Chitkara University, Himachal Pradesh.
- **Convener**, *7th HSCA International Conference on "Chemical, Physical and Biological Sciences"* – Organized on **20–21 October 2019** at Chitkara University, Himachal Pradesh, India, in collaboration with the **HIM Science Congress Association**.
- **Member, Organizing Committee**, *International Conference on Mathematical and Engineering Sciences (ICMES)* – Organized at Chitkara University, Himachal Pradesh, India, **20–22 March 2014**.
- **Member, Organizing Committee**, *International Conference on Recent Trends in Nuclear Physics (ICRTNP-12)* – Organized at Chitkara University, Himachal Pradesh, India, **19–21 November 2012**.

Professional Memberships:

- Life Member, Indian Physics Association (IPA) – Membership No. CHA/LM/12623
- Life Member, Indian Society for Technical Education (ISTE) – Membership No. LM-116384
- Life Member, Indian Nuclear Society (INS) – Membership No. LM-12076

Fellowships/Awards:

- **Junior Research Fellow (JRF)**, Department of Atomic Energy (DAE), Government of India Project, Department of Physics, Panjab University, Chandigarh (**Jan 2007 – Feb 2009**) – In collaboration with **BARC, Mumbai**.
- **Junior Research Fellow (JRF)**, University Grants Commission (UGC), Meritorious Scheme, Department of Physics, Panjab University, Chandigarh (**Mar 2009 – Jun 2009**).
- **Open Junior Research Fellow (CSIR-UGC JRF/NET)**, University Grants Commission, Department of Physics, Panjab University, Chandigarh (**Jul 2009 – Dec 2010**).

Other Curricular/ Co-curricular Activities:

- **10-day NSS Camp**, held from **15–24 January 2002** at Shimla.

Orientation Courses Attended:

- Successfully completed the **NEP-2020 Orientation and Sensitization Programme** under the *Malaviya Mission Teacher Training Programme (MM-TTP)* of the **University Grants Commission (UGC)**, organized by the *UGC-Malaviya Mission Teacher Training Center*, Maharshi Dayanand Saraswati University, Ajmer, Rajasthan, from **17–26 March 2025**, and obtained **Grade A**.
- Six-Day In-Service Induction Training Programme for Assistant Professors, organized by the State Council of Educational Research & Training (SCERT), Solan, Himachal Pradesh, from 21–26 August 2023.
- Attended a **5-day Orientation Programme** at **Chitkara University, Punjab Campus**, from **18–22 July 2011**.

FDP/workshop Attended:

- **Two-Day Workshop on *"Quantum Mechanics and its Applications"*, held at Jaypee Institute of Information Technology, Noida, Uttar Pradesh, from 18–19 April 2025.**
- **Seven-Day International Workshop on *Sustainable Development and Environmental Conservation* (Hybrid), organized by the *Department of Geography, Thakur Jagdev Chand Memorial College, Sujanpur Tihra, District Hamirpur (H.P.)*, from 13–19 February 2025.**
- **One-Week National Workshop, under the aegis of the *Centre of Excellence in Nanotechnology, Maharaja Agrasen University & Navyug Kanya Mahavidyalaya, Lucknow*, in collaboration with SAIF-CIL, Panjab University, Chandigarh, on the theme *"Role of Nanotechnology for Environmental Remediation"*, held from 6–12 November 2024.**
- **Successfully completed an Online One-Week Multidisciplinary Faculty Development Programme on *"Teaching Strategies & Tools in the Digital Era"* from 10–16 April 2024, obtaining Grade A. This FDP was organized by Rabindranath Tagore Government Degree College, Sarkaghat, Mandi (H.P.).**
- **Five-Day Online Faculty Development Programme on *"Mentoring and Facilitation Skills for Institutional Mentors"*, conducted from 27–31 May 2020 by the Ministry of Human Resource Development (MHRD), Government of India, Faculty Development Centre, Mahatma Gandhi National Council of Rural Education, sponsored by the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.**
- **One-Week National Workshop on *"Deep Dive into Python"*, held from 24–28 August 2021, organized by the Department of Applied Sciences, Chitkara University, Himachal Pradesh.**
- **Ten-Day Faculty Development Workshop on *Writing Research Papers*, held from 25 June – 6 July 2018 at Chitkara University, Himachal Pradesh, India.**
- **Five-Day Workshop on *Computer Simulation in Physics*, held from 24–28 December 2004 at D.A.V. College, Jalandhar, Punjab, India.**

Symposia/ Workshops/Conferences/Webinar Attended:

International:

- Reviewed Research Papers submitted to the 1st International Conference on Smart Computing and Communication for Sustainable Convergence (ISCCSC-2024), organized by the Centre for Research Impact & Outcome (CRIO), Chitkara University, Punjab, India, on 18 October 2024.
- One-Day 3rd International Conference on "Adoption of Emerging Technology in MSMEs: Special Focus on Artificial Intelligence", organized by the Global Association for MSME and SDGs Research in Developing Countries, held in Kathmandu, on 22 June 2024.
- International Conference on "Mathematical and Engineering Sciences (ICMES)", organized at Chitkara University, Himachal Pradesh, India, from 20–22 March 2014.
- International Conference on **"Fusion 14"**, held at **IUAC, New Delhi**, from **24–28 February 2014**.
- International Conference on **"Recent Trends in Nuclear Physics – 2012 (ICRTNP-12)"**, organized at **Chitkara University, Himachal Pradesh, India**, from **19–21 November 2012**.
- International Symposium on **Nuclear Physics**, held from **8–12 December 2009** at **BARC, Mumbai, India**.

National:

- Awareness Workshop (Online) of UGC-DAE CSR on "Utilization of In-House and Large-Scale DAE Facilities", hosted by the Department of Physics & Astrophysics, Central University of Haryana, Mahendergarh, on 22 August 2024.
- National Seminar on Eduset, held at D.A.V. College, Jalandhar, Punjab, from 4–5 February 2005.
- DAE Symposium on Nuclear Physics, held at IIT Roorkee, Uttarakhand, India, from 22–26 December 2008.
- National Workshop on Mathematica, held at Chitkara University, Himachal Pradesh, India, from 28–30 July 2011.
- Two-Day Online National Conference on "Advances in Applied Sciences and Mathematics (NCASM-20)", organized at Chitkara University, Punjab, India, from 24–25 September 2020.
- "Science Series", consisting of six lectures by renowned scientists from India and abroad, organized by UPES, Dehradun, in association with the Institute of Physics (IOP), London, Indian Physics Association (IPA), and Indian Association of Physics Teachers (IAPT), from 10 June – 31 July 2021.
- Azadi Ka Amrit Mahotsav: National Webinar on "Nuclear Power for Sustainable Development", organized by the Public Outreach Centre & Institute of Renewable Energy Technology & Management, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, on 4 September 2021.
- One-Day National Seminar on "Star Performer of Big Science: Cyclotron", organized by the Department of Physics, Maharaja Agrasen University, on 20 February 2024.

Regional/Organization Level:

- Workshop on “How to Make Effective Multiple-Choice Questions” (PBL), held at Chitkara University, Punjab, India, on 14 January 2012.
- Workshop on Problem-Based Learning (PBL), held at Chitkara University, Himachal Pradesh, India, on 19 August 2011.
- Workshop on Nanotechnology, held from 23–24 July 2011 at Chitkara University, Punjab, India.
- 4th Chandigarh Science Congress (CHASCON-2010), held from 19–20 March 2010 at Panjab University, Chandigarh, India.
- Workshop on Nuclear Reaction Mechanism (TWNRM-2010), held from 17–19 March 2010 at Panjab University, Chandigarh, India.
- 13th Punjab Science Congress, held from 7–9 February 2010 at Panjab University, Chandigarh, India.
- 3rd Chandigarh Science Congress (CHASCON-2009), held from 26–28 February 2009 at Panjab University, Chandigarh, India.
- 2nd Chandigarh Science Congress (CHASCON-2008), held from 14–15 March 2008 at Panjab University, Chandigarh, India.
- Diamond Jubilee National Seminar on “Advances in Physics”, organized by the Department of Physics, Panjab University, Chandigarh, from 28 February – 1 March 2008.
- 1st Chandigarh Science Congress, held from 10–11 March 2007 at Panjab University, Chandigarh, India.

Resource Person:

- Six-Day In-Service Training Programme for LAs and JLAs on Lab Technology, Lab Skills & Office Procedures, held from 25 August 2025 to 30 August 2025 at HP State Council of Educational Research and Training, Solan. Delivered lectures on 27 August 2025 and conducted a Physics Lab demonstration on 29 August 2025 on the following topics:
    - Physics Lab: Organization & Familiarization
    - Basic Lab Skills for Lab Attendants in Physics Lab and Safety Measures in Physics Lab
- Six-Day In-Service Training Programme for LAs and JLAs, held from 11 December 2023 to 16 December 2023 at HP State Council of Educational Research and Training, Solan.

Presentations (Oral/Poster):

- **Oral presentation** at the **International Conference on Innovative Technologies for Clean and Sustainable Development (ICSD-2021)**, **October 14–15, 2021** [Virtual], Chitkara University, Himachal Pradesh.
- **Oral presentation** at the **International Conference on Advances in Multi-Disciplinary Sciences and Engineering Research (ICAMSER-2021)**, **July 2–3, 2021** [Virtual], Chitkara University, Himachal Pradesh.

- **Oral presentation** at the **7th HSCA International Conference on "Chemical, Physical and Biological Sciences"**, Chitkara University, Himachal Pradesh, India, **October 20–21, 2019**, in collaboration with HIM Science Congress Association.
- **"The Study of N > Z Colliding Nuclei Using Different Proximity-Type Potentials"** – Poster presentation during the **4th Chandigarh Science Congress**, Panjab University, Chandigarh, India, **March 19–20, 2010**. *(Selected for oral presentation)*
- **The Role of Different Surface Energy Coefficients in Heavy-Ion Fusion Studies** – Poster presentation during the **13th Punjab Science Congress**, Panjab University, Chandigarh, India, **February 7–9, 2010**.
- **A Pocket Formula for Fusion Barriers Using Proximity Potentials** – Poster presentation during the **International Symposium on Nuclear Physics**, BARC, Mumbai, India, **December 8–12, 2009**.
- **The Role of Different Surface Energy Coefficients and Nuclear Radii in Heavy-Ion Fusion Studies** – Poster presentation during the **International Symposium on Nuclear Physics**, BARC, Mumbai, India, **December 8–12, 2009**.
- **Analytical Parametrization of Fusion Barriers for Different Surface Effects** – Poster presentation during the **DAE Symposium on Nuclear Physics**, IIT Roorkee, Uttarakhand, India, **December 22–26, 2008**.
- **The Study of Fusion Barriers Using Skyrme Energy Density Formalism** – Poster presentation during the **2nd Chandigarh Science Congress**, Panjab University, Chandigarh, India, **March 14–15, 2008**. *(Selected for oral presentation)*

Area of Research: **Theoretical Nuclear Physics**
Thesis Title: ***Systematic Study of Heavy-Ion Collisions at Low Energies***
Supervisor: **Prof. (Dr.) Rajeev K. Puri, Panjab University, Chandigarh, India**

Publications Details:

Books:

- Systematic Study of Fusion Barriers and Cross-Sections at Low Energies (ISBN: 978-3-659-17635-7), LAP Lambert Academic Publishing, Germany (2012).
- Chapter in The Engineering Physics (ISBN: 978-93-82782-04-9), Chitkara University Publication, Chandigarh (2013).
- Chapter in The Engineering Physics & Material Sciences (ISBN: 978-93-82782-08-7), Chitkara University Publication, Chandigarh (2013).
- Edited Book: Proceedings of the International Conference on Advances in Multi-Disciplinary Sciences and Engineering Research (ICAMSER-2021), 2–3 July 2021, Chitkara University, Himachal Pradesh (ISBN: 978-81-953416-1-0).

Journals:

- Dutt, I., & Puri, R. K. (2010). Comparison of different proximity potentials for asymmetric colliding nuclei. Physical Review C, 81(6), 064609.DOI: https://doi.org/10.1103/PhysRevC.81.064609
- Dutt, I., & Puri, R. K. (2010). Role of surface energy coefficients and nuclear surface diffuseness in the fusion of heavy-ions. Physical Review C, 81(4), 047601.DOI: https://doi.org/10.1103/PhysRevC.81.047601

- Dutt, I., & Puri, R. K. (2010). Systematic study of the fusion barriers using different proximity-type potentials for N= Z colliding nuclei: New extensions. Physical Review C, 81(4), 044615.
  DOI: https://doi.org/10.1103/PhysRevC.81.044615
- Dutt, I., & Puri, R. K. (2010). Analytical parametrization of fusion barriers using proximity potentials. Physical Review C, 81(6), 064608.
  DOI: https://doi.org/10.1103/PhysRevC.81.064608
- Dutt, I., & Dhiman, N. K. (2010). Study of fusion dynamics using Skyrme energy density formalism with different surface corrections. Chinese Physics Letters, 27(11), 112401.
  https://iopscience.iop.org/article/10.1088/0256-307X/27/11/112401
- Dutt, I., & Bansal, R. (2010). A modified proximity approach in the fusion of heavy ions. Chinese Physics Letters, 27(11), 112402.
  https://iopscience.iop.org/article/10.1088/0256-307X/27/11/112402/pdf
- Dhiman, N. K., & Dutt, I. (2011). Role of different Skyrme forces and surface corrections in exotic cluster decay. *Pramana*, *76*(3), 441-455.
  https://link.springer.com/article/10.1007/s12043-011-0048-9
- Dutt, I. (2011). A pocket formula for fusion barriers using proximity-type potentials. Physics of Atomic nuclei, 74(7), 1010-1018.
  https://link.springer.com/article/10.1134/S1063778811070040
- Dutt, I. (2011). The role of various parameters used in proximity potential in heavy-ion fusion reactions: New extension. Pramana, 76(6), 921-931.
  https://link.springer.com/article/10.1007/s12043-011-0094-3
- Dutt, I. (2013, April). A comparison of different parametrized pocket formulae to calculate fusion barriers. In AIP Conference Proceedings (Vol. 1524, No. 1, pp. 147-150). American Institute of Physics.
  https://aip.scitation.org/doi/10.1063/1.4801699
- Dutt I. and Kaur M. (2014). On the fusion of neutron/ proton -rich colliding nuclei using isospin-dependent potentials, Journal of Nuclear Physics, Material Sciences, Radiation and Applications- Vol. **1**, No. 2, 159-171.
  https://jnp.chitkara.edu.in/index.php/jnp/article/view/170
- Mittal, S., & Dutt, I. (2016, May). The systematic study of N/Z dependence on surface diffuseness parameter in the fusion of heavy neutron-rich colliding nuclei. In AIP Conference Proceedings (Vol. 1728, No. 1, p. 020143). AIP Publishing LLC.
  https://aip.scitation.org/doi/10.1063/1.4946194
- Mittal, S., & Dutt, I. (2017). The systematic study of N/Z dependence on surface diffuseness parameter in the fusion of heavy neutron-rich colliding nuclei by using Skyrme energy density formalism. International Journal of Pure and Applied Physics, 13(1), 84-88.
  https://www.ripublication.com/ijpapspl/ijpapv13n1spl_16.pdf
- Mittal, S., & Dutt, I. (2017). The Dependence of Surface Diffuseness Parameter on N/Z Ratio of The Fusion of Neutron-Rich Colliding Nuclei. Journal of Nuclear Physics, Material Sciences, Radiation and Applications, 4(2), 1-15.
  https://jnp.chitkara.edu.in/index.php/jnp/article/view/94
- Dutt I., (2020), "Published research documents in nuclear and high energy physics from 1996-2019: A bibliometric analysis of leading countries in comparison with India". Library Philosophy and Practice (e-journal). 4811
  https://digitalcommons.unl.edu/libphilprac/4811/
- Taneja A. & Dutt I. (2021), “COVID-19 and its implications on students’ learning behaviour” Library Philosophy and Practice (e-journal). 5103

https://digitalcommons.unl.edu/libphilprac/5103/
- Taneja A., Dutt I. & Sharma A. (2021), "COVID-19 and its implications on students' learning behaviour". Library Philosophy and Practice (e-journal). 5103 https://digitalcommons.unl.edu/libphilprac/5103/
- Taneja, A., Dutt, I. & Srivastav, A.L. Advances of waste management practices in India and China along with bibliometric assessment of their research outcomes. Environ SciPollut Res (2021). https://doi.org/10.1007/s11356-021-16904-w
- Kumar, A. Srivastav, A. Dutt, I. and Bajaj, K. (2021), Classification of Existing Health Model of India at the end of the Twelfth Plan using Enhanced Decision Tree Algorithm. Pertanika Journal of Science & Technology, Vol.-29(4), pp. 2341–2354 (2021). https://doi.org/10.47836/pjst.29.4.06
- Kanwar V.S., Dutta H., Dutt I., Kumar A., Prakasam C., & Kanwar M. (2022). Impact and awareness of COVID-19 on rural communities – an empirical study of India, Built Environment Project and Asset Management. Vol. 12(3), pp. 486–502 (2022). https://www.emerald.com/insight/content/doi/10.1108/BEPAM-01-2021-0007/full/html
- Singh N., Randhawa S., Dutt I. and Kumar A. (2020). Characterization Of Laundry Wastewater And Its Potential Applications In Garden Irrigation And Lavatory Cleaning: A Squat Review, *In AIP Conference Proceedings*: Vol. 2357, 030014 (2022). https://aip.scitation.org/doi/abs/10.1063/5.0086117
- Dutt I., Kumar A. and Singh N., Published Research Documents of India in Nuclear and High Energy Physics: A Bibliometric Analysis, In AIP Conference Proceedings: Vol. 2357, 040012 (2022). https://aip.scitation.org/doi/abs/10.1063/5.0086113
- Ishwar Dutt, Ashu Taneja, Arun Lal Srivastav and Jafar Ali. Research progress of India in waste management at global level: A bibliometric evaluation, Proceedings of International Conference on Innovative Technologies for Clean and Sustainable Development (ICITCSD – 2021) pp 595–601 Springer Cham (2022). https://link.springer.com/chapter/10.1007/978-3-030-93936-6_48
- Varinder S Kanwar, Hitakshi Dutta, Ishwar Dutt, Jafar Ali, Ashok Kumar. Sustainable Development of Scheduled Caste and Scheduled Tribes' Population in Select Villages of Himachal Pradesh, India: A Cross Sectional Study, Proceedings of International Conference on Innovative Technologies for Clean and Sustainable Development (ICITCSD – 2021) pp 823–844 Springer Cham (2022). https://link.springer.com/chapter/10.1007/978-3-030-93936-6_64
- Batra, S., Kumra, N., Dutt, I., Srivastav, A. L., & Sharma, S. R. (2022, October). Indian research in applied mathematics during 1996-2020: A bibliometric analysis. In AIP Conference Proceedings (Vol. 2451, No. 1, p. 020005). AIP Publishing LLC. https://doi.org/10.1063/5.0095631
- Srivastav, A. L., Dutt, I., Sharma, S. R., Sharma, A., & Kanwar, V. S. (2022, October). Global climate change: A culprit for the deterioration of nature and human life. In AIP Conference Proceedings (Vol. 2451, No. 1, p. 020001). AIP Publishing LLC. https://doi.org/10.1063/5.0102519
- Ahluwalia, D., Hothi, N., **Dutt, I**. (2023). Roles and Responsibilities of a Virtual Teacher. In: Ahuja, N.J., Kumar, A., Nayyar, A. (eds) Sustainable Blended Learning

in STEM Education for Students with Additional Needs. Contributions to Environmental Sciences & Innovative Business Technology. Springer, Singapore. https://doi.org/10.1007/978-981-99-3497-3_1

- Aswal, R.S., Prasad, M., **Dutt, I.** *et al.* Distribution, health effects and source apportionment of uranium and other potentially toxic elements in Ganga water. *J Radioanal Nucl Chem* **333**, 3027–3045 (2024). https://doi.org/10.1007/s10967-023-09298-1
- Garg, V.K., **Dutt, I**., Mittal, R. *et al.* Linear polarization of L_3 sub-shell X-ray lines for some high-Z elements. *Indian J Phys* **98**, 3445–3452 (2024). https://doi.org/10.1007/s12648-024-03116-4

Conferences:

- *A pocket formula for fusion barriers,*
  Ishwar Dutt, Narinder K. Dhiman, and Rajeev K. Puri,
  DAE Symposium on Nuclear Physics, Sambalpur, India, **52**, 357 (2007).
- *Role of different Skyrme forces in fusion of heavy-ion reactions,*
  Narinder K. Dhiman, **Ishwar Dutt** and Rajeev K. Puri,
  DAE Symposium on Nuclear Physics, Sambalpur, India **52**, 397 (2007).
- *The study of fusion barriers using Skyrme energy density formalism,*
  Ishwar Dutt, Narinder K. Dhiman, and Rajeev K. Puri,
  2nd Chandigarh Science Congress, India (2008).
  The poster is selected for presentation and awarded.
- *Analytical parametrization of fusion barriers for different surface effects,*
  Ishwar Dutt and Rajeev K. Puri,
  DAE Symposium on Nuclear Physics, IIT Roorkee, India,**53**, 449 (2008).
- *Significance of surface effects in heavy-ion fusion process*
  Ishwar Dutt and Rajeev K. Puri,
  3nd Chandigarh science congress, Chandigarh, India (2009).
- *Role of surface effects on fusion process using different Skyrme forces,*
  Ishwar Dutt and Rajeev K. Puri,
  RNB8, International Conference on Radioactive Nuclear Beams
  2009**,** Grand Rapids, USA.
- *A pocket formula for fusion barriers using proximity potentials*
  Ishwar Dutt and Rajeev K. Puri,
  International DAE Symposium on Nuclear Physics, BARC Mumbai, India,**54**, 298(2009).
- *Fusion of neutron/proton–rich colliding nuclei using different models*
  Maninder Kaur and **Ishwar Dutt,**
  International DAE Symposium on Nuclear Physics, BARC Mumbai, India, **54**, 300(2009).
- *The role of different surface energy coefficients in heavy-ion fusion studies,*
  Ishwar Dutt and Rajeev K. Puri,
  13thPanjab Science Congress, Chandigarh, India, Feb 7-9, (2010).
- *The role of universal function in fusion barriers,*
  Rajni Bansal, **Ishwar Dutt,** and Rajeev K. Puri,

FINUSTAR 3rd Int. Conf. On Frontiers in Nucl Str. 23-27 Aug 2010
Rhodes, Greece. (accepted)

- *The modified proximity potential and its effect in heavy-ion fusion dynamics,*
  Rajni Bansal, **Ishwar Dutt,** and Rajeev K. Puri,
  4th Chandigarh Science Congress, Chandigarh, India, March 19-20, 2010.
- *Comparison of nucleus-nucleus proximity potential with its new modification,*
  Rajni Bansal, **Ishwar Dutt**, and Rajeev K. Puri,
  Workshop on Nuclear Reaction Mechanism 2010, Panjab University
  Chandigarh, India, March 17-19, 2010.
- *The nuclear surface energy coefficients and its effect in fusion barriers,*
  Rajni Bansal, **Ishwar Dutt,** and Rajeev K. Puri,
  European Radioactive Ion Beam conference, Lamoura, France, June 6-11,
  2010.(accepted)
- 14.*The study of N>Z colliding nuclei using different proximity-type potentials*,
  Ishwar Dutt,
  4th Chandigarh Science Congress, Chandigarh, India, March 19-20, 2010.
  The poster is selected for presentation and awarded.
- *The role of various ingredients used in proximity potential in heavy-ion fusion reaction: new extensions,*
  Ishwar Dutt, Rajni Bansal, and Rajeev K. Puri,
  Int. Nucl. Phys. Conf. (2010)4-9 July 2010, Vancouver, BC, Canada.(accepted)
- *Isotopic dependence of fusion cross-sections for neutron/proton–rich colliding nuclei using different isospin dependent models,*
  Maninder Kaur, **Ishwar Dutt,** and Rajeev K. Puri,
  4th Chandigarh Science Congress, Chandigarh, India, March 19-20, 2010.
- *Mass dependence of different surface effects in heavy-ion fusion reactions,*
  Ishwar Dutt and Rajeev K. Puri,
  Int. Symposium on Quasifission Process in Heavy-Ion Reactions, Messina, Italy,
  Nov 8-9, 2010.(accepted)
- *Role of different surface energy coefficients and nuclear radii in the study of heavy-ion fusion reactions,*
  Ishwar Dutt,
  DAE Symposium on Nuclear Physics, Pilani, India, **55**, 398 (2010).
- *A comparative study of different proximity-type potentials using asymmetric colliding nuclei,*
  Ishwar Dutt,
  DAE Symposium on Nuclear Physics, Pilani, India, **55**, 400 (2010).
- *Analytical parametrization of fusion barriers using experimental data as guideline,*
  Ishwar Dutt and Tapas Sharma,
  DAE Symposium on Nuclear Physics, Visakhapatnam, India, **56**, 658 (2011).
- *Comparison of different approaches used to calculate the fusion barriers,*
  Ishwar Dutt,
  DAE Symposium on Nuclear Physics, Visakhapatnam, India, **56**, 664 (2011).
- *Role of surface diffuseness in heavy-ion fusion barrier studies,*

Ishwar Dutt,
Proceedings of the DAE Symposium on Nuclear Physics, Delhi University, India,**57**, 470 (2012).

- *The study of heavy-ion fusion probabilities using different parametrized pocket formulae,*
  Ishwar Dutt,
  Proceedings of the International DAE Symposium on Nuclear Physics, Bhabha Atomic Research Centre, Mumbai, India,**58**, 554 (2013).
- *Systematic study of the effect of N/Z ratio on surface diffuseness of colliding nuclei,*
  Ishwar Dutt and Suman Mittal
  National conference on Emerging challenges in Physics and Nano Science (ECPNS-2015) 4th March,2015 at DAV College Dasuya, Hoshiarpur Punjab.
- *The systematic study of N/Z dependence on surface diffuseness parameter in the fusion of heavy neutron-rich colliding nuclei,*
  Ishwar Dutt and Suman Mittal
  Workshop on "Recent Trends in Nuclear Physics" at IUAC, New Delhi from Sept 14-15, 2015.
- *Investigation of surface diffuseness of colliding nuclei with respect to N/Z ratio,* **Ishwar Dutt**, DAE Symposium on Nuclear Physics, Visakhapatnam, India, **56**, 664 (2011).
- Dutt, I., & Mitta, S. (2017). A comparative study of different parameterized pocket formulae to calculate fusion barrier characteristics: height and position and cross section. In Proceedings of the international conference in nuclear physics with energetic heavy ion beams: abstract book.
- Mittal, S., & Dutt, I. (2016). Dependence of surface diffuseness parameter on N/Z ratio of colliding nuclei using Skyrme energy density formalism. In Proceedings of the DAE-BRNS Symp. On Nucl. Phys (Vol. 61, p. 546).

Patents Filed:

- Dutt, I. (2020). An Apparatus For Providing Meditation. India Patent Ref. No.202011043915.
- Dutt I., Taneja A. & Srivastav A.L.(2021). Ear Protection Device**,** India Patent Ref. *No.*202111043975.
- Dutt I., Srivastav A.L. & Rinku (2022). SMART EXERCISE MAT. India Patent Ref. No.202211003590.

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