



# Curriculum Vitae

Title	<b>Dr. Mr.</b>	First Name	<b>SAMIT KUMAR</b>	Last Name	<b>MANDAL</b>	
Designation		<b>Professor</b>				
Department		<b>Physics &amp; Astrophysics</b>				
Address (Office)		<b>North Campus, University of Delhi, Delhi – 110 007</b>				
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Subject	Institution	Year	Details
<b>Ph.D</b>	<b>Nuclear Science Centre, New Delhi</b>	<b>1998</b>	Thesis topic: Investigation of Quasi Elastic Scattering around the barrier in a complex microscopic potential formalism
<b>Pre-Ph.D</b>	<b>Nuclear Science Center (NSC), New Delhi</b>	<b>1992</b>	Subjects: Accelerator Based Experimental Nuclear Physics
<b>M.Sc</b>	<b>Sambalpur University</b>	<b>1990</b>	Subjects: Nuclear Physics (Sp. Paper)

Career Profile			
Organisation / Institution	Designation	Duration	Role
Dept. Of Physics & Astrophysics, University of Delhi	Professor	13th Jan. 2011 – till date	Teaching & Research
Dept. Of Physics & Astrophysics, University of Delhi	Associate Professor	13th Jan. 2008-2011	Teaching & Research
Dept. Of Physics & Astrophysics, University of Delhi	Reader	13 <sup>th</sup> Jan. 2005-2008	Teaching & Research
Gesellschaft für Schwerionenforschung mbH, Darmstadt, Germany	Guest Scientist	July 1999 – 31st Dec. 2004	Research
Saha Institute of Nuclear Physics Kolkata	Research Associate	June 1998 – June 1999	Research
Nuclear Science Center, New Delhi.	Project Assistant	Dec. 1997-May 1998	Research
Nuclear Science Center, New Delhi	Junior Research Fellow of UGC & Senior Research Fellow of UGC	Nov. 1991 Nov. 1997	Research
Birla Industrial and Technological Museum Calcutta	Educational Assistant	Nov.1987 – Oct.1988	Trainee

### Research Interests / Specialization

- Experience with radioactive beam facility (projectile fragmentations and also ISOL type) and associated detectors systems.
- Involved in the RISING (Rare Isotope Spectroscopic INvestigation at GSI) and AGATA (Advanced GAMMA Tracking Array) projects.
- Design and fabrication of gas detectors. Knowledge about Silicon, CsI, different types of plastic and gas detectors for particle identification. Experience with NaI, BaF, germanium-clover, germanium-cluster and segmented clover detectors for gamma ray identification.
- Knowledge about thin film making & target preparations.
- Extensive knowledge about detector simulation, ion-optics simulations, pulse shape analysis of germanium detectors etc.
- Experience with Multi branch data acquisition system and analysis programs(viz, PAW, ROOT,Go4, LEA, CANDEL etc).

### Physics Interest:

- Multi-Nucleon transfer reaction and coupling effect at and near barrier energies.
- Study of nuclear reaction dynamics using nuclear scattering, transfer, break-up and fusion reaction at low energy. Threshold anomaly, Coupled channel effects etc. }
- Momentum distribution and spectroscopy of loosely bound nuclei. ( $^8\text{B}$ ,  $^{20-24}\text{O}$  etc.)
- g-factor measurement at low and relativistic energies.
- Nuclear structure studies using relativistic Coulomb excitation technique for drip line nuclei.
- Octupole collectivity for neutron rich nuclei (viz. Ba and neutron deficit Nd nuclei).
- Triaxiality and chirality of proton rich nuclei (viz. Nd, Ba, Cs nuclei)
- Structure study using decay spectroscopy around mass 180 region (K-isomer)
- Study of exotic structure for nuclei around mass 80 using fragmentation of relativistic heavy-ions.

### Teaching Experience ( Subjects/Courses Taught)

- 2015-2016: 1. Quantum Mechanics -II – 2<sup>nd</sup> Semester  
2. Nuclear Physics Laboratory (Final) 3<sup>rd</sup> & 4<sup>th</sup> Semester
- 2016-2017: 1. Nuclear & Particle Physics – 1<sup>st</sup> Semester  
2. Quantum Mechanics -II – 2<sup>nd</sup> Semester  
3. Nuclear Physics Laboratory (Final) 4<sup>th</sup> Semester
- 2017-2018: 1. Nuclear & Particle Physics – 1<sup>st</sup> Semester  
2. Quantum Mechanics -II – 2<sup>nd</sup> Semester

### Honors & Awards

1. Attended one international conferences with funding approved from D.S.T, New Delhi. The D.S.T. support is considered as a “Young scientist” award (1996).
2. **Member** of a high level committee appointed by GSI/ Federal Republic of Germany (year 2004) to visit India under the Indian Govt. (DST) invitation to set-up a collaboration for FAIR project (a mega science project at Germany).
3. **Visiting Fellow:** GSI, Darmstadt, Germany 28 Feb. 2005 – 8 March 2005
4. **Member** of the FAIR –CDR (Facility for Anti-proton Ion Research at GSI) committee appointed by DST-DAE 2006.
5. **Visiting Fellow:** GSI, Darmstadt, Germany May. 2006 – July 2006
6. **Nominated and selected** for 3 month visit to South African University/Institute under Indo-South Africa Education Exchange Programme (EEP)-2009 by UGC.
7. **Visiting Fellow:** GSI, Darmstadt, Germany June. 2010 – July 2010
8. **Nominated and selected** for Indian National Science Academy (INSA) exchange program (2012) to visit Germany for 3 months.

9. **Member** (2013 - 2014), Accelerator User Committee (AUC), Inter University Accelerator Center, New Delhi.
10. **Nominated** for attending and represent Indian contributions to FAIR-NUSTAR project for NUSTAR week at Helsinki, Finland from 7-11 Oct. 2013 by Indo-FAIR Co-ordination Centre (IFCC) at Bose-Institute, the centre coordinating FAIR related activities in India under the guidance of the Department of Science and Technology and the Department of Atomic Energy, Government of India
11. **Member (2012 – 2013 -)** Board of Studies for Nuclear Science and Technology, Amity University
12. **Joint Secretary** (2014- 2018): Indian Physics Association

#### Publications (LAST FIVE YEARS)

Books / Monographs Nil

<u>Year of Publication</u>	<u>Title</u>	<u>Publisher</u>	<u>Co-Author</u>
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#### In Indexed/ Peer Reviewed Journals (2012-2017)

1. *Measurement of mass-gated neutron multiplicity for the reaction at 57.4 MeV excitation energy*  
Meenu Thakur with S Mandal et al., Physical Review C Phys. Rev. C 98, (2018) 014606, ISSN: 0556-2813/ Impact Factor: 3.304
2. *Material engineering to fabricate rare earth erbium thin films for exploring nuclear energy sources*  
A Banerjee, SR Abhilash, GR Umopathy, D Kabiraj, S Ojha and S Mandal, Nuclear Instruments and Methods in Physics Research A, 887, 34 (2018), ISSN: 0168-9002/ Impact Factor: 1.362
3. *Fission Dynamics Studies of Near Super-heavy Compound Nucleus  $^{256}\text{Rf}$*   
Meenu Thakur with S Mandal et al., Acta Physica Polonica B 49 (2018) 631, ISSN: 0587-4254/ Impact Factor: 0.9
4. *Molecular Orbital interpretation to the couplings in collisions of 2.5 and 3 MeV  $\text{Xe}^{10+}$ ,  $^{12+}\text{-Au}$  and Zr systems*  
Punita Verma, Kajol Chakraborty, Ruchika Gupta, Sarvesh Kumar, Gaurav Sharma, Deepak Swami, **Smit K Mandal**, CP Safvan, Journal of Physics: Conference Series, 875 (2017) 092029. ISSN: 1742-6596
5. *Influence of neutron transfer channels on fusion enhancement in sub-barrier region*  
Khushboo, **S Mandal** et al., Eur. Phys. Journal: Web of Conferences 163 (2017) 00029 ISSN: 2100-014X
6. *Relationship between and effect of inelastic excitations and transfer channels on sub-barrier fusion enhancement*  
Khushboo, **S. Mandal** et al Physical Review C Phys. Rev. C 96, (2017) 014614, ISSN: 0556-2813/ Impact Factor: 3.146
7. *Engineering strain to achieve stable  $^{92}\text{Zr}$  targets on carbon backing*  
Khushboo, S.R. Abhilash, G.R. Umopathy, H. Duggal, D. Kabiraj, **S. Mandal**, Vacuum, Available online 19 August 2017, ISSN: 0042-207X/ Impact factor: 1.55

8. *Binary fragmentation based studies for the near super-heavy compound nucleus  $^{256}\text{Rf}$*   
Meenu Thakur with **S. Mandal** et al., The European Physical Journal A 53, (2017) 133, ISSN: 1434-6001 and 1434-601X/ Impact Factor: 2.373
9. *Influence of positive  $q$ -value neutron transfer coupling on fusion enhancement in  $^{28}\text{Si} + ^{154}\text{Sm}$  reaction.*  
G Kaur with **S. Mandal** et al., Acta Physica Polonica B 48 (2017) 619 ISSN: 0587-4254/ Impact Factor: 0.9
10. *Magnetic rotation phenomenon in the dipole ( $\Delta I=1$ ) bands of transitional strontium (Sr) isotopes near  $N=50$  shell closure*  
N Kumar, S Kumar, **SK Mandal** et al., The European Physical Journal A 53 (2017), 25, ISSN: 1434-6001 & 1434-601X / Impact Factor: 2.373
11. *Effect of coupling in the  $^{28}\text{Si} + ^{154}\text{Sm}$  reaction studied by quasi-elastic scattering*  
G Kaur with **S. Mandal** et al Physical Review C 94 (2016) 034613 ISSN: 0556-2813/ Impact Factor: 3.146
12. *Polarization measurements and high-spin states in  $^{86}_{38}\text{Sr}$*   
N Kumar, with **S Mandal**, et al., *Nuclear Physics A* 955 (2016) 1, ISSN: 0375-9474/ Impact Factor: 1.258
13. *Measurement of quasi-elastic scattering: to probe  $^{28}\text{Si} + ^{154}\text{Sm}$  reaction*  
G Kaur with **S. Mandal** et al Acta Physica Polonica B, 47 (2016) 847, ISSN: 0587-4254/ Impact Factor: 0.9
14. *Barrier distribution from  $^{28}\text{Si} + ^{154}\text{Sm}$  quasielastic scattering: Coupling effects in the fusion process*  
G Kaur with **S. Mandal** et al., Eur. Phys. Journal: Web of Conferences 117 (2016) 08025 ISSN: 2100-014X
15. *Negative-parity high-spin states and a possible magnetic rotation band in  $^{135}_{59}\text{Pr}_{76}$*   
Ritika Garg with **S. Mandal** et al, Physical Review C 92 (2015) 054325, ISSN: 0556-2813/ Impact Factor: 3.881
16. *Study of nuclear structure of  $^{76-86}\text{Sr}$  isotopes in the  $pn$  Interacting*  
M. Saxna, J Gupta and **S Mandal**, Physica Scripta 90 (2015) 085303 ISSN: 0031-8949 / Impact Factor: 1.296
17. *Isomeric Ratios in  $^{206}\text{Hg}$*   
T. Alexander with **S. Mandal** et al Acta Physica Polonica B 46 (2015) 601 ISSN: 0587-4254/ Impact Factor: 0.9
18. *Probing nuclear dissipation via evaporation residue excitation functions for the  $^{16,18}\text{O} + ^{198}\text{Pt}$  reactions*  
R Sandal with **S. Mandal** et al., accept for publication in *Physical Review C* 91 (2015)

044621 ISSN: 0556-2813/ Impact Factor: 3.881

19. *Fabrication of self-supporting targets of lead ( $^{206,208}\text{Pb}$ ) using evaporation technique*  
S Goyal, **S Mandal** et al., *Nuclear Instruments and Methods in Physics Research A*, 777 (2015) 70 ISSN: 0168-9002/ Impact Factor: 1.316
20. *Effect of shell structure on neutron multiplicity of fissioning systems  $^{220,222,224}\text{Th}$  nuclei*  
S Goyal, **S Mandal** et al., *Eur. Phys. Journal: Web of Conferences* 86 (2015) 00013 ISSN (Electronic Edition): 2100-014X
21. *Neutron detector array at IUAC: Design features and instrumentation developments*  
P Sugathan with **S Mandal** et al., *Pramana* 83 (2014) 807 ISSN: 0304-4289/ Impact Factor: 0.72
22. *Isomeric decay spectroscopy of the  $^{217}\text{Bi}$  isotope*  
A. Gottardo with **S Mandal** et al. *Physical Review C* 90 (2014)034317 ISSN: 0556-2813/ Impact Factor: 3.881
23. *Study of nuclear structure of  $^{76-86}\text{Sr}$  isotopes in the pn Interacting*  
M. Saxna, J Gupta and **S Mandal**, submitted to *Physica Scripta* (2015) ISSN: 0031-8949 / Impact Factor: 1.296
24. *Probing nuclear dissipation via evaporation residue excitation functions for the  $^{16,18}\text{O} + ^{198}\text{Pt}$  reactions*  
R Sandal with **S. Mandal** et al., accept for publication in *Physical Review C* (2015) ISSN: 0556-2813/ Impact Factor: 3.881
25. *Fabrication of self-supporting targets of lead ( $^{206,208}\text{Pb}$ ) using evaporation technique*  
S Goyal, **S Mandal** et al., *Nuclear Instruments and Methods in Physics Research A*, 777, 70 (2015), ISSN: 0168-9002/ Impact Factor: 1.316
26. *Effect of shell structure on neutron multiplicity of fissioning systems  $^{220,222,224}\text{Th}$  nuclei*  
S Goyal, **S Mandal** et al., *Eur. Phys. Journal: Web of Conferences* 86, 00013 (2015) ISSN (Electronic Edition): 2100-014X
27. *Neutron detector array at IUAC: Design features and instrumentation developments*  
P Sugathan with **S Mandal** et al., *Pramana* 83 (5), 807 (2014) ISSN: 0304-4289/ Impact Factor: 0.72
28. *Isomeric decay spectroscopy of the  $^{217}\text{Bi}$  isotope*  
A. Gottardo with **S Mandal** et al. *Physical Review C* 90, 034317 (2014) ISSN: 0556-2813/ Impact Factor: 3.881
29. *Rotational behavior of  $^{120, 122, 124}\text{Te}$*   
M. Saxna with **S Mandal et al.** *Physical Review C* 90 (2), 024316 (2014) ISSN: 0556-2813/ Impact Factor: 3.881
30. *High spin band structure of  $^{85}_{38}\text{Sr}_{47}$*   
S. Kumar **S Mandal et al.** *Physical Review C* 90 (2), 024315 (2014) ISSN: 0556-2813/ Impact Factor: 3.881

31. *National Array of Neutron Detectors (NAND): A versatile tool for nuclear reaction studies*  
KS Golda, with **S. Mandal** et al., *Nuclear Instruments and Methods in Physics Research A*, 763, 58 (2014), ISSN: 0168-9002/ Impact Factor: 1.316
32. *Excited states in the neutron-rich nucleus  $F^{25}$*   
Z Vajta with **S Mandal et al.**, *Physical Review C* 89, 054323(2014) ISSN: 0556-2813/ Impact Factor: 3.881
33.  *$\beta$ -decay studies of neutron-rich Tl, Pb, and Bi isotopes.*  
Al. Morales with **S Mandal et al.**, *Physical Review C* 89, 014324 (2014) ISSN: 0556-2813/ Impact Factor: 3.881
34. *Pulse Shape Analysis of a twofold clover detector with an EMD based new algorithm: A Comparison.*  
Davinder Siwal, **S. Mandal** et al., *Nuclear Instruments and Methods in Physics Research A* , 741, 108( **2014**), ISSN: 0168-9002/ Impact Factor: 1.316
35. *Detector system for the study of low energy heavy ion reactions using kinematic coincidence technique.*  
A. Jhingan with **S. Mandal** et al., *Nuclear Instruments and Methods in Physics Research A* 745, 106 (2014) ISSN: 0168-9002/ Impact Factor: 1.316
36. Exotic decay of hot rotating nuclei near proton drip line  
J Ray with **S. Mandal** et al., *Eur. Phys. Journal : Web of Conferences* 66, 02089 (2014) ISSN (Electronic Edition): 2100-014X
37. New Isomers in the Neutron-Rich Region Beyond  $^{208}\text{Pb}$   
A Gottardo with **S. Mandal** et al., *Eur. Phys. Journal : Web of Conferences* 66, 02043 (2014) ISSN (Electronic Edition): 2100-014X
38. Effect of N/Z in pre-scission neutron multiplicity for  $^{16,18}\text{O} + ^{194,198}\text{Pt}$  systems  
R Sandal with **S. Mandal** et al., *Eur. Phys. Journal : Web of Conferences* 66, 03006 (2014) ) ISSN (Electronic Edition): 2100-014X
39. *New  $\mu$ s isomers in the neutron-rich  $^{210}\text{Hg}$  nucleus.*  
A Gottardo with **S Mandal** et al., *Physics Letters B* 725 (4), 292-296, (2013), ISSN: 0370-2693/ Impact Factor: 6.019
40. *A new approach of denoising the regular and chaotic signals using Empirical Mode Decomposition: Comparison and application.*  
Davinder Siwal, Vinita Suyal, Awadhesh Prasad, **S Mandal**, R Singh, *Review of Scientific Instruments* 84 (7), 075117, (2013), ISSN: 0034-6748/ Impact Factor: 1.584
41. *Erratum: Effect of N/Z in pre-scission neutron multiplicity for  $^{16,18}\text{O} + ^{194,198}\text{Pt}$  systems [Phys. Rev. C 87, 014604 (2013)]*  
Rohit Sandal with **S Mandal et al.**, *Phys. Rev. C* **87**, 069901(2013) , ISSN: 0556-2813/ Impact Factor: 3.881
42. *High spin states in  $^{135}_{57}\text{La}_{78}$ .*  
Ritika Garg with **S Mandal et al.**, *Physical Review C* 87 (3), 034317, (2013), ISSN: 0556-2813/ Impact Factor: 3.881

43. *Direct Observation of Long-Lived Isomers in  $^{212}\text{Bi}$ .*  
L Chen with **S Mandal** et al., *Physical Review Letters* 110 (12), 122502, (2013), ISSN: 0031-9007/  
Impact Factor: 7.94
44. *Core-coupled states and split proton-neutron quasiparticle multiplets in  $^{122-126}\text{Ag}$ .*  
S Lalkovski with **S Mandal** et al., *Physical Review C* 87 (3), 034308, (2013), ISSN: 0556-2813/  
Impact Factor: 3.477
45. *Magnetic rotation (MR) band-crossing at high spin states: Role of nucleons in this crossing in  $N=78$  odd- $Z$  isotones.*  
Suresh Kumar, Ritika Garg, **Samit Kumar Mandal**, *Journal of Physics: Conference Series* 413 (1), 012034, (2013), ISSN: 1742-6588/ Impact Factor: NA
46. *Effect of  $N/Z$  in pre-scission neutron multiplicity for  $^{16,18}\text{O} + ^{194,198}\text{Pt}$  systems.*  
Rohit Sandal with **S Mandal** et al., *Physical Review C* 87 (1), 014604, (2013), ISSN: 0556-2813/  
Impact Factor: 3.477
47. *New Isomers in the Full Seniority Scheme of Neutron-Rich Lead Isotopes: The Role of Effective Three-Body Forces.*  
A Gottardo with **S Mandal** et al., *Physical Review Letters* 109(16), 162502, (2012), ISSN: 0031-9007/ Impact Factor: 7.328
48.  *$\beta$  decay of  $^{102}\text{Y}$  produced in projectile fission of  $^{238}\text{U}$ .*  
A.M Bruce with **S Mandal** et al., *Journal of Physics: Conference Series* 381 (1), 012053, (2012),  
ISSN: 1742-6588/ Impact Factor: NA
49. **Title of Paper:** *First measurement of beta decay half-lives in neutron-rich Tl and Bi isotopes.*  
G Benzoni with **S Mandalet** al., *Physics Letters B* 715 (4), 293-297, (2012), ISSN: 0370-2693/  
Impact Factor: 4.569
50. *Measurements and coupled reaction channels analysis of one-and two-proton transfer reactions for the  $^{28}\text{Si} + ^{90,94}\text{Zr}$  systems.*  
Sunil Kalkal, **S Mandal** et al., *Physical Review C* 85 (3), 034606, (2012), ISSN: 0556-2813/ Impact  
Factor: 3.477
51. *New results on mass measurements of stored neutron-rich nuclides in the element range from Pt to U with the FRS-ESR facility at 360–400 MeV/u.*  
L Chen with **S Mandal** et al., *Nuclear Physics A* 882, 71-89, (2012), ISSN: 0375-9474/ Impact  
Factor: 1.706

#### Articles

#### Conference Presentations

((only Invited Talk (2012-2017))

1. **Title of the Presentation:** *Instrumentation for Scanner Systems : Gamma Ray Tracking Array Present and Future of Nuclear Instrumentation in India”* , December 19, 2017, IIT Ropar

2. **Title of the Presentation:** *Multi-nucleon transfer and their effect on the reaction mechanism near Coulomb barrier*  
International Conference In Nuclear Physics With Energetic Heavy Ion Beams"  
Department of Physics, Panjab University, Chandigarh on 15 - 18 March, 2017
3. **Title of the Presentation:** *Femto Physics & Challenges: Exotic nuclei spectroscopy*  
Physics Society of Ramjas College, New Delhi, February 14th ,2017
4. *A new Generation Gamma Detector Array: Gamma ray Tracking and Pulse Shape Analysis*  
National Conference on Nuclear and Accelerator Physics (NCNAP-2016), Centre for Applied Physics Central University of Jharkhand, Ranchi, October 4-6, 2016
5. **Title of the Presentation:** *New Generation Gamma-ray Detector Array : Gamma Ray Tracking & Pulse Shape analysis*  
School on experimental techniques in gamma-ray spectroscopy, 25 - 29 April, 2016, Inter University Accelerator Centre, New Delhi
6. **Title of the Presentation:** *Dynamical effects in fusion fission reaction mechanism for mass above 200*  
Workshop on Fission studies using Neutron Detector Array & GPSC facility, 28-29 March 2016, Inter University Accelerator Centre, New Delhi
7. **Title of the Presentation:** *Multi-neutrons transfer and their effect on the mechanism of near barrier fusion reaction*  
National Conference on Recent Trends in Nuclear Physics" to be held during 15-16 February, 2016, Aligarh Muslim University, Aligarh
8. *NuSTAR – DEGAS and Indian Participation*  
*Recent Trends in Nuclear structure and its Implication in Astrophysics, 4-8, January 2016, organised by TIFR, Mumbai & Institute of Physics Bhubaneswar at Hotel Blue Lily, Puri*
9. **Title of the Presentation:** *Femto Physics & Challenges: Exotic nuclei spectroscopy*  
Recent Trends of Research in Basic Sciences, 27<sup>th</sup> Oct. 2015, Knowledge Consortium of Gujarat, Ahmedabad.
10. **Title of the Presentation:** *Multi-nucleon transfer and their effect on the reaction mechanism near Coulomb barrier*  
Workshop on " Recent trends in Nuclear physics, Sep. 14-15, 2015, Inter University Accelerator Centre, New Delhi
11. **Title of the Presentation:** *A new generation Gamma ray detector array*  
Seminar Programme on "Recent Advances in Accelerators and Detector Technology for Nuclear Science" 20<sup>th</sup> March 2015, Panjab University Chandigarh.
12. **Title of the Presentation:** *Multinucleon transfer reactions around the Coulomb Barrier and their effect on the fusion dynamic*  
DAE Symposium on Nuclear Physics, 8<sup>th</sup>-12<sup>th</sup> December 2014, Banaras Hindu University, Varanasi
13. **Title of the Presentation:** *Inflight spectroscopy of exotic isotopes (3 lectures)*  
DST-SERC school on Nuclear Structure at High Angular Momentum and Isospin, October 5 – 25, 2014, Tata Institute of Fundamental Research, Mumbai
14. **Title of the Presentation:** *Femto Physics & Challenges: Exotic nuclei spectroscopy*  
Refresher course in Physics 26<sup>th</sup> September 2014 Academic Staff College, Jawaharlal Nehru University, New Delhi
15. **Title of the Presentation:** *Spectroscopy of the exotic nuclei near the r-process waiting*



*point*

Refresher course in Physics 26<sup>th</sup> September 2014 Academic Staff College, Jawaharlal Nehru University, New Delhi

16. **Title of the Presentation:** *Nuclear Reaction (3 lectures)*  
Winter School on Accelerator, Nuclear and Particle Physics, March 29, 2014 to April 04, 2014 Physics Department, Banaras Hindu University, Varanasi
17. **Title of the Presentation:** *Transfer Reaction*  
FUSION14 (Satellite event) A two day school on Nuclear reactions around the Coulomb barrier, February 21-22, 2014, Inter University Accelerator Centre, New Delhi.
18. **Title of the Presentation:** *Future INGA*  
INGA-PICC meeting 17-18 February, 2014, VECC, Kolkata.
19. **Title of the Presentation:** Multi-nucleon transfer: a probe to investigate the reaction mechanism around the barrier.  
India-UK Seminar in Nuclear Physics at *ISOLDE*, 22–24 January 2014, Department of Physics, Panjab University, Chandigarh.
20. **Title of the Presentation:** *DEGAS Road Map.*  
NuSTAR WEEK 2013, 7th -11th October 2013, University of Helsinki, Helsinki, Finland
21. **Title of the Presentation:** *Future INGA.*  
Indian National Gamma Array Meeting, March 9-11, 2013, Tata Institute of Fundamental Research, Mumbai, India
22. **Title of the Presentation:** *Development of a transient field based g-factor set-up.*  
Indian National Gamma Array Meeting, March 9-11, 2013, Tata Institute of Fundamental Research, Mumbai, India
23. **Title of the Presentation:** *Spectroscopy of the exotic nuclei near the r-process waiting point.*  
National Conference on 'Nuclear Dynamics and Nuclear Astrophysics, February 5-6, 2013, University of Calcutta, Kolkata.
24. **Title of the Presentation:** *Experiments & Challenges: Search of Needles in the Haystack.*  
Department of Physics, Jammu University, Jammu, 19<sup>th</sup> July 2013
25. **Title of the Presentation:** *Effect of superfluity and few nucleon rearrangement collisions near mass 100 region.*  
Workshop on Science with rare ion Beams (SCRIBE) 2012, 7<sup>th</sup> -9<sup>th</sup> November, Variable Energy Cyclotron Centre (VECC), Kolkata.
26. **Title of the Presentation:** *Tracking Detectors for Low energy Branch.*  
“NuSTAR WEEK 2012”, 8-12 October 2012, Variable Energy Cyclotron Centre, Kolkata
27. **Title of the Presentation:** *A new approach for signal enhancement and its application to Pulse Shape Analysis.*  
Technische Universität Darmstadt, Germany, 18<sup>th</sup> September 2012
28. **Title of the Presentation:** *Pulse shape analysis of a segmented Germanium detector and a new technique for noise filtration.*  
Le Grand Accélérateur National d'Ions Lourds (GANIL), Caen, France 11<sup>th</sup> September 2012
29. **Title of the Presentation:** *Multi-nucleon transfer: a probe to investigate the reaction mechanism around Coulomb barrier.*  
International workshop on 'Future plan with radioactive beam' from April 16 - 18, 2012, Saha Institute of Nuclear Physics, Kolkata

30. **Title of the Presentation:** *Multi-nucleon transfer and their effect on the mechanism of near barrier fusion reaction.*

Bhabha Atomic Research Centre, Trombay, Mumbai, 15<sup>th</sup> March 2012

31. **Title of the Presentation:** *Pulse shape analysis of Ge-detectors : A new technique for noise filtration.*

International conference on **Frontier In Gamma Spectroscopy – FIG12**, from March 5 to 7, 2012, Inter-University Accelerator Centre, New Delhi

### ***International/National Conferences, Workshops (2012-2017 only) :***

#### **International:**

1. Pulse shape analysis of a two fold clover detector with empirical mode decomposition based algorithm  
Davinder Siwal, S. Mandal et al., AIP Conference Proceedings 1609 (2014) 25 ISSN: 0094-243X
2. Dipole bands in high spin states of  $_{57}^{135}\text{La}_{78}$   
Ritika Garg with S. Mandal et al., AIP Conference Proceedings 1609 (2014) 125 ISSN: 0094-243X
3. Effect of fissility in fission time scales for O+ Pt systems  
R Sandal with **S. Mandal** et al., AIP Conference Proceedings 1524 (2013) 167 ISSN: 0094-243X
4. Development of EMD based signal improvement technique and its application to pulse shape analysis  
D Siwal, V Suyal, A Prasad, **S Mandal**, R Singh, AIP Conference Proceedings 1524 (2013) 271  
ISSN: 0094-243X
5. Unusual rotational behaviour of  $^{120,122,124}\text{Te}$  nuclei  
M. Saxena with **S. Mandal** et al., Proceeding of International Symposium on Nuclear Physics, 58 (2013) 110 ISBN: 81-8372-076-5
6. Compton imaging with a two fold clover HPGe detector  
D Siwal, R Palit and **S.Mandal**, Proceeding of International Symposium on Nuclear Physics 58 (2013) 892 ISBN: 81-8372-076-5
7. Probing dissipation effects via evaporation residue excitation function for the  $^{16,18}\text{O}+^{198}\text{Pt}$  reactions  
R Sandal with **S. Mandal** et al., Proceeding of International Symposium on Nuclear Physics 58 (2013) 528 ISBN: 81-8372-076-5
8. Mass distribution studies in the fission of  $^{216}\text{Ra}$  compound system  
H Singh with **S. Mandal** et al., Proceeding of International Symposium on Nuclear Physics 58 (2013) 378 ISBN: 81-8372-076-5

#### **National Conference (peer reviewed proceeding):**

1. *Anomalous feature in high K-band.. of  $^{240}\text{Am}$*   
Poonam Jain, Kawalpreet Kalra, Alpana Goel, **S.K. Mandal**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 62 (2017) 288, ISBN: 81-8372-076-5

2. *Role of N-P residual interaction in  $K = 0$  band.. in actinide region*, Poonam Jain, Kawalpreet Kalra, Alpana Goel, **S.K. Mandal**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 62 (2017 ) 318, ISBN: 81-8372-076-5
3. *Measurement of fission delay time for the near super-heavy nuclei*, Meenu Thakur with **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 62 (2017 ) 664, ISBN: 81-8372-076-5
4. *LYSO crystal based position sensitive detector assembly for gamma-ray imaging.*, A. Banerjee, M. Kumar, A. Jhingan, **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 62 (2017 ) 1152, ISBN: 81-8372-076-5
5. *Mass-gated neutron multiplicity measurements for  $^{48}\text{Ti} + ^{208}\text{Pb}$  reaction* Meenu Thakur with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 388, ISBN: 81-8372-076-5
6. *Binary fragmentation study of near super-heavy nucleus  $^{256}\text{Rf}$  using mass-angle distribution probe* Meenu Thakur with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 392, ISBN: 81-8372-076-5
7. *Transfer reaction measurements for  $^{28}\text{Si} + ^{92,96}\text{Zr}$  systems* Khushboo, S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 484, ISBN: 81-8372-076-5
8. *Measurement of cross-section of the radioisotope  $^{27}\text{Mg}$  @ low energy neutron induced reactions*, Unnati Gupta with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 614, ISBN: 81-8372-076-5
9. *Fast timing readout for silicon strip detectors*, A. Jhingan with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 964, ISBN: 81-8372-076-5
10. *An Annular Parallel Plate Proportional Counter* A. Jhingan with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 966, ISBN: 81-8372-076-5
11. *Testing and characterization of a scintillator based position sensitive detector assembly for a one-shot gamma ray scanning setup*, A. Banerjee, S. Mandal Proc. of the DAE Symp. on Nucl. Phys. Vol. 61 (2016 ) 1080, ISBN: 81-8372-076-5
12. *High spin negative parity states in  $^{135}\text{Pr}$*  Ritika Garg with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015)96 ISBN: 81-8372-076-5
13. *Polarization Measurements and Re-investigation of Intermediate states in  $^{86}\text{Rb}$*

14. Suresh Kumar with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015) 198  
ISBN: 81-8372-076-5
15. *Systematic study of anomalous features of  $^{241}\text{Am}$* , Poonam Jain, Alpana Goel, S.K. Mandal, Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015) 302 ISBN: 81-8372-076-5
16. *Neutron emission from near super-heavy nuclei  $^{256}\text{Rf}$*   
Meenu Thakur with S. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015) 358  
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17. *Importance of neutron transfer channels in sub-barrier fusion reaction mechanism*, Khushboo, S. Mandal Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015) 370 ISBN: 81-8372-076-5
18. *Extricate of incomplete fusion reactions at 4-7 MeV/A System:  $^{19}\text{F} + ^{159}\text{Tb}$*   
Unnati Gupta, S. K. Mandal et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015) 556  
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19. *Testing and characterization of a fast scintillator detector*.  
A. Banerjee, S. Mandal, Proc. of the DAE Symp. on Nucl. Phys. Vol. 60 (2015) 1000 ISBN: 81-8372-076-5
20. *Collectivity and nuclear structure of  $^{120,122,124}\text{Te}$*   
Mansi Saxena with **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 59 (2014) 274  
ISBN: 81-8372-076-5
21. *Life time measurements for positive parity dipole bands in  $^{85}\text{Sr}$  using DSAM*  
N Kumar with **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 59 (2014) 274 ISBN: 81-8372-076-5
22. *High Spin states in  $^{86}_{38}\text{Sr}_{48}$*   
N Kumar with **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 59 (2014) 86 ISBN: 81-8372-076-5
23. *Investigation of dissipation in fission of  $^{220,222,224}\text{Th}$  isotopes formed in  $^{16}\text{O} + ^{204,206,208}\text{Pb}$  fusion reactions.*  
S Goyel, **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 59 (2014) 592 ISBN: 81-8372-076-5
24. *Quasi-elastic Scattering Measurements for  $^{28}\text{Si} + ^{154}\text{Sm}$  System*  
Gurpreet Kaur with **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 59 (2014) 530  
ISBN: 81-8372-076-5
25. *Exploration of reaction mechanism at deep sub-barrier region for  $^{28}\text{Si} + ^{96}\text{Zr}$  system.*  
Khushboo, **S. Mandal** et al., Proc. of the DAE Symp. on Nucl. Phys. Vol. 59 (2014) 596 ISBN: 81-8372-076-5
26. *High Spin States in  $^{86}\text{Sr}$  and their description using shell model calculations,*

Suresh Kumar with **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)224  
ISBN: 81-8372-076-5

27. *Measurement of Half life of exotic nuclei near proton drip-line*,  
M. Roy with **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)366 ISBN:  
81-8372-076-5
28. *De-excitation of hot rotating nuclei near proton dripline*,  
J Ray with **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)368 ISBN: 81-  
8372-076-5
29. *Evaporation residue excitation function measurement for the  $^{16,18}\text{O} + ^{198}\text{Pt}$  reactions*,  
Rohit Sandal with **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)532  
ISBN: 81-8372-076-5
30. *Measurement of the Fission Cross Sections for the  $^{16,18}\text{O} + ^{198}\text{Pt}$  Systems*,  
Rohit Sandal with **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)534  
ISBN: 81-8372-076-5
31. *Pulse Shape Analysis of a two fold clover detector with EMD based algorithm*,  
Davinder Siwal, **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)890  
ISBN: 81-8372-076-5
32. *Development of Magnet and associated power supply system for g - factor measurement setup*,  
Rajesh Kumar with **S. Mandal et al.**, Proc. of the DAE Symp. on Nucl. Phys. Vol. 57(2012)922  
ISBN: 81-8372-076-5

#### Total Publication Profile optional

##### Books

Nil

##### In Indexed/ Peer Reviewed Journals/conferences etc.

A) Refereed Journals :	~126+
B) International Conferences :	58+
C) National Symposia/Workshops/Meetings :	78+
D) Technical reports :	02
E) Invited talks & Seminars:	72+

##### Articles

Nil

##### Conference Presentations

~110 in national and international conferences

#### Public Service / University Service / Consulting Activity

- 1.) Convener, AERB committee, Appointed by University of Delhi
- 2.) Convener, A Training programme "Radiation Safety Aspect of Use of Ionizing Radiation Application at Delhi University", 01-03, December, 2010, organized by Atomic Energy Regulatory Board (AERB), Mumbai
- 3.) Local convener, DAE-BRNS Nuclear Physics Symposium 2012 (which was held at University of Delhi from 3rd -7th Dec. 2012)
- 4.) Convener, Student Orientation Program 2012 (which was held at University of Delhi on 2<sup>nd</sup> Dec. 2012)

Professional Societies Memberships

**Life Member, Indian Physical Association**

Projects (Major Grants / Collaborations)

**Member of the following collaboration :**

1. **PRESPEC** collaboration: GSI, Germany
2. **AGATA** collaboration: European collaboration
3. **FAIR** collaboration: GSI, Germany
4. **INO** Collaboration: India

**Beam Time Projects at IUAC, New Delhi (completed /on going):**

1. *Investigation of multi-nucleon transfer reactions in  $^{40}\text{Ca}$  on  $^{68,70}\text{Zn}$  at and near the Coulomb barrier*, Beam time project at IUAC, Funding agency: Inter University Accelerator Center (IUAC), New Delhi
2. *Investigation of multi-nucleon transfer reactions in medium mass nuclei at and near the Coulomb barrier using IUAC accelerator facility*. Funding agency: DU, New Delhi
3. *Few nucleon transfer between ground states and excited states in  $^{34}\text{S} + ^{90,94}\text{Zr}$  around the Coulomb barrier*. Beam time project at IUAC, Funding agency: IUAC, New Delhi
4. *Investigation of one phonon mixed symmetry states in even-even isotopes of Tellurium*, Funding agency IUAC
5. *Investigation of Fission reaction dynamics and Neutron multiplicity in the mass region  $\sim 200$* , Funding agency: IUAC.

**Major projects (on going):**

1. **Principal Investigator, IUAC-project:** *Investigation of few-nucleons transfer and fusion reaction mechanism in medium mass nuclei at and near the Coulomb barrier (2015 -*
2. **Principal Investigator, DST-Project:** *FAIR project: Pre-Operative Programme for Indian participation in the FAIR Project at GSI, Darmstadt, Germany – Accelerator and Detector-Related R&D and Prototyping” under the project Gamma Spectroscopy at NUSTAR (2009-2014)*
3. **Principal Investigator, IUAC-project:** *Investigation of few-nucleons transfer reaction in medium mass nuclei at and near the Coulomb barrier (2012 -15 )*
4. **Co-principal Investigator, DST-Project:** *Proposal of a National Array of Neutron Detectors (NAND) for Studies of Nuclear Reaction Dynamics from near Barrier Energy to Intermediate Energy (2010-17)*
5. **Principal Investigator:** *Investigation of multi-nucleon transfer dynamics by heavy ion induced reactions using stable and exotic projectiles. Indo-German (DST-DAAD) PPP-2009*
6. **Co-Investigator:** *Study of exotic nuclei far from stability by means of high intensity ion beams. Indo-Italian Executive Programme of S&T Co-operation 2008-2010,*
7. **Co-principal Investigator, DST-Project:** *Resistive plate chamber research & development, fabrication, testing & neutrino simulation studies for INO-ICAL experiments. (2011-13)*
8. **Co-Principal Investigator: DST project,** *A proposal by Indian Physicists to Collaborate on Neutrino Project at Fermilab. (2012 –17)*
9. **Co-Principal Investigator: DST project:** *R & D Efforts by University Groups for INO project. (2013- )*

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(Signature of Faculty Member)