

# Dr Aditya Nath Mishra

🏠 **Assistant Professor**  
Department of Physics  
C. M. Science College, Darbhanga

📧 ALICE@CERN

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## PROFESSIONAL SUMMARY

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I am an experimental high-energy physicist associated with the ALICE experiment at CERN, with over 14 years of research experience and international exposure across Hungary, Mexico, USA, and India. I have contributed to more than 450 scientific publications in high-impact journals and possesses extensive expertise in big data analysis, machine learning applications, and particle physics phenomenology. Currently serving as Assistant Professor at C. M. Science College, Darbhanga, I am actively engaged in teaching, research, and academic administration. I am committed to strengthening postgraduate research, enhancing collaborative scientific programs, and contributing to the overall academic development and research environment of C. M. Science College, LNMU.

## RESEARCH PROFILE

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1. Research Experience: 14+ years in High-Energy Nuclear-Particle Physics
2. Publications: 450+ (including ALICE Collaboration at CERN) I
3. International Exposure: CERN(Switzerland), Hungary, Mexico, USA
4. Research Areas: QGP, heavy-ion collisions, particle production, machine learning in HEP
5. Collaboration: Active member of ALICE Collaboration, CERN

## EDUCATION

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- 2012 - 2016 **Doctor of Philosophy in Physics (Ph.D.)**  
**Supervisor: Prof. Raghunath Sahoo**  
**Indian Institute of Technology Indore, Indore, India**  
**Title:** Multiparticle production using effective-energy approach and inclusive photon production in high-energy Pb+Pb collisions at 2.76 TeV in ALICE experiment at LHC.
- 2008 - 2009 **Bachelor of Education (B.Ed.)**  
PHYSICS AND MATHS with *1<sup>st</sup> Class*  
*University of Bikaner, India*
- 2005 - 2007 **Master of Science (M.Sc.)**  
PHYSICS with *1<sup>st</sup> Class*  
*University of Bikaner, Rajasthan, India*

## AWARDS

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1. **Dr A. P. J. Abdul Kalam Award for Innovative Academic Research**  
SEPTEMBER 2025: *AIRTFI-2025*
2. **Candidate Level Researcher Fellow award**  
JANUARY 2019: *Sistema Nacional de Investigadores (SNI), Mexico*
3. **Junior Research Fellow (All India Rank 037)**  
JUNE, 2010 : *Council of Scientific & Industrial Research (CSIR) India*
4. **GATE2010 (All India Rank 089)**  
2010 : *Ministry of Human Resource Development (MHRD) India*
5. **Junior Research Fellow (All India Rank 114)**  
DECEMBER, 2009 : *Council of Scientific & Industrial Research (CSIR) India*

## TEACHING EXPERIANCE

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1. **Assistant Professor**  
DECEMBER, 2025 – ONWARD  
*C. M. Science College, Lal Bagh, Darbhanga, Bihar, India*
2. **Assistant Professor**  
MARCH, 2023 – NOVEMBER 2025  
*University Centre for Research and Development (UCRD) and Department of Physics, Chandigarh University, Mohali, Punjab*
3. **Assistant Professor**  
SEPTEMBER, 2022 – FEBRUARY, 2023  
*REVA UNiversity, Benaluru, India*

**Courses Taught:** Electrodynamics, Quantum Mechanics, Nuclear & Particle Physics and Computational Physics

## RESEARCH EXPERIANCE

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1. **Post-Doctoral Researcher**  
MARCH, 2020 – AUGUST, 2022  
*Wigner Research Center for Physics, Budapest, Hungary*
2. **Post-Doctoral Researcher**  
OCTOBER, 2017 – FEBRUARY 2020  
*Instituto de Ciencias Nucleares UNAM, CDMX, Mexico*
3. **Visiting Researcher**  
SEPTEMBER 3, 2019 – SEPTEMBER 28, 2019  
*Kansas University, Kansas City, USA*
4. **Research Associate**  
APRIL, 2017 – SEPTEMBER, 2017  
*Indian Institute of Technology Madras, Chennai, India*

5. **Visiting Researcher**

JULY, 2016 – APRIL, 2017

*Indian Institute of Technology Indore, Indore, India*

6. **Junior Research Fellow**

JULY 2010 – APRIL , 2012

PROJECT: ALICE EXPERIMENT AT CERN, GENEVA.

*Department of Physics, University of Rajasthan, Jaipur, India*

## RESEARCH VISION AND FUTURE PLANS

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1. To establish a strong research program in high-energy physics at LNMU
2. To develop national and international collaborations (including CERN)
3. To integrate computational physics and data science into PG curriculum
4. To guide M.Sc. and Ph.D. students in advanced research areas

## ACADEMIC SERVICES ADMINISTRATIVE RESPONSIBILITIES:

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1. Reviewer for international peer-review journals in high-energy physics and nuclear physics
2. **Sports Incharge:**  
C. M. SCIENCE COLLEGE, DARBHANGA  
Organized institutional activities and student engagement
3. **Hostel Superintendent:**  
C. M. SCIENCE COLLEGE, DARBHANGA  
Managed student welfare, discipline, and administration

## COMPUTATIONAL SKILLS:

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1. **TOOTLKIT AND SCRIPTS:**  
*ROOT, an Object-Oriented Data Analysis Framework, GEANT a toolkit for the simulation of the passage of particles through matter.*
2. **OPERATING SYSTEMS:**  
*I began learning with Linux operating System as my computer education. Later on I gradually got expertise in MACOS, Ms-DOS and windows operating systems.*
3. **PROGRAMMING:**  
*I have experienced with programming languages as f77(g77,gFortran), C, C++ and Python*

## CONFERENCES, WORKSHOPS AND TALKS

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1. *Presented a paper titled “Study of Multiplicity (centrality) Dependent Thermodynamic and Transport Properties at LHC within Color String Percolation Model” at Zimanyi School 2021, Budapest, Hungary, December 06-10, 2021*

2. Presented a paper titled “Implementation of machine learning techniques to predict impact parameter and transverse sphericity in heavy-ion collisions at the LHC” at 9th Edition of the Large Hadron Collider Physics Conference (LHCP 2021 online), Paris, France, June 7-12, 2021
3. Presented a paper titled “Sudden increase in the degrees of freedom in dense QCD matter” at 9th International Conference on New Frontiers in Physics” (ICNFP 2020 online), Greece, Czech Republic, September 4-October 2, 2020
4. Presented a poster titled “Study of degrees of freedom in dense QCD matter using Color String Percolation Model” at DAE-BRNS High Energy Physics (HEP) Symposium 2020 (online), NISER, India, December 14-18, 2020
5. Presented a paper titled “ Study of degrees of freedom in dense QCD matter using Color String Percolation Model ” at Zimanyi School 2020, Budapest, Hungary, December 07-11, 2020
6. Presented a paper titled “Improving the selection on MPI using multiplicity and leading charged-particle transverse momentum” at 11th International Workshop on Multiple Partonic Interactions at the LHC (MPI@LHC 2019), Prague, Czech Republic, November 17-22, 2019
7. Presented a paper titled “Particle Production at high  $p_T$  and high multiplicity in  $pp$  collisions” at Zimanyi School 2019, Budapest, Hungary, December 02-06, 2019
8. **Delivered Invited Seminar** titled “Study of  $K^{*0}$  and  $\phi$  Meson Production in proton+proton Collisions with ALICE at the LHC and Universality of Particles Production in HEP” at Depto. de Física, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV-IPN), Mexico City on May 7, 2019
9. Presented three posters at 7th Annual Large Hadron Collider Physics (LHCP2019) conference, Puebla, Mexico, May 20-25, 2019
10. Presented a paper at XXIII DAE-BRNS High Energy Physics (HEP) Symposium 2018 , IIT Madras, India, December 10-14, 2018
11. Presented a paper at XXXII Reunión Anual de la División de Partículas y Campos de la SMF, ICN-UNAM, México City, México, May 28-30, 2018
12. Presented a poster at The 27th International Conference on Ultra-relativistic Nucleus-Nucleus Collisions Venezia, Italy 13-19 May 2018
13. **Delivered Invited Talk** at XI Workshop on Particle Correlations and Femtoscopy (WPCF) at Heavy-Ion Reactions Group, Warsaw University of Technology, Warsaw, Poland, November 3-7, 2015
14. **Delivered Invited Talk** at XLV International Symposium on Multiparticle Dynamics (ISMD 2015) at Max-Planck-Institut for Physik, Wildbad Kreuth ,Germany, October 4-9, 2015
15. Presented a paper at 7th International Conference on Physics and Astrophysics of Quark Gluon Plasma (ICPAQGP) at VECC Kolkata, February 2-6, 2015

16. **Delivered Invited Talk** at XLIV International Symposium on Multiparticle Dynamics (ISMD 2014) at INFN, Bologna, Italy, September 8-12, 2014
17. **Delivered Invited Talk** at X Workshop on Particle Correlations and Femtoscopy (WPCF 2014) at Karoly Robert College, Gyongyos, Hungary, August 25-29, 2014
18. Presented a Poster at DAE International Symposium on Nuclear Physics at Bhabha Atomic Research Centre (BARC), Mumbai, December 2-7, 2013
19. Presented a Poster at International conference on Recent trends in Applied physics and Material science (RAM-2013) at Govt. college of Engineering and Technology, Bikaner, February 01-02, 2013
20. Attended DST-SERC school on Nuclear Physics at Variable Energy Cyclotron Centre (VECC), Kolkata, January 7 - 25, 2013
21. Paper presented at DAE Symposium on Nuclear Physics at Delhi University, Delhi, December 3-7, 2012
22. Attended and delivered talk in QGP-MEET Workshop at VECC, Kolkata, July 3-6, 2012
23. Attended SERC School on Experimental High Energy Physics (EHEP) at VECC, Kolkata, June 20-July10, 2011

## RESEARCH PUBLICATIONS

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1. **Effect of event classifiers on jet quenching-like signatures in high-multiplicity p+p collisions at  $\sqrt{s}=13$  TeV.**  
[arxiv:2309.09533](https://arxiv.org/abs/2309.09533) (Under Review in Phys. ReV D)  
 Hushnud Hushnud, Omveer Singh, Srikanta Kumar Tripathy, **A. N. Mishra**, Kalyan Dey
2. **Parton energy loss in pp collisions at very high multiplicity**  
[arXiv:1905.06918](https://arxiv.org/abs/1905.06918) (Under Review in Phys. ReV C)  
**A. N. Mishra** and Guy Paić
3. **Probing QGP-like Collectivity in Oxygen–Oxygen Collisions at  $\sqrt{s_{NN}} = 7$  TeV Using the Color String Percolation Model.**  
 [Accepted in *Int. J. Mod. Phys. E* (2026)]  
<https://doi.org/10.1142/S0218301326500278>  
 Thresia Michael, R. Kanishka and **A. N. Mishra**
4. **Study of Thermodynamic Quantities in O+O Collisions at  $\sqrt{s_{NN}} = 7$  TeV Using the Color String Percolation Model at the LHC.**  
*Springer Proc.Phys.* **322** (2026) 269-273  
 Thresia Michael and **A. N. Mishra**
5. **Study of global observables in O-O collisions at sNN=7 TeV using a transport model.**  
*J.Subatomic Part. Cosmol.* **4** (2025) 100260  
 D. Behera, N. Mallick, S. Tripathy, S. Prasad, **A. N. Mishra**, and R. Sahoo

6. Event shape engineering and study of identified particle production in Oxygen–Oxygen collisions at  $\sqrt{s_{NN}} = 7$  TeV using AMPT.  
[Eur. Phys. J. A 61 \(2025\) 258](#)  
Thresia Michael, Hushnud Hushnud, R. Kanishka, and **A. N. Mishra**
7. A Deep Learning Based Estimator for Light Flavour Elliptic Flow in Heavy Ion Collisions at LHC Energies.  
[EPJ Web of Conferences 316 \(2025\) 03004](#)  
Gergely Gábor Barnaföldi, N. Mallick, S. Prasad, R. Sahoo and A. N. Mishra
8. Study of transverse sphericity dependent identified particle spectra in a multi-phase transport model for O+O collisions at  $\sqrt{s_{NN}} = 7$  TeV.  
[Int. J. Mod. Phys. E \(IJMPE\) 33 \(2024\) 2450025](#)  
M. Bassan, T. Michael, N. Bano and **A. N. Mishra**
9. Study of thermodynamical observables in Oxygen+Oxygen collisions at  $\sqrt{s_{NN}} = 7$  TeV using color string percolation approach.  
[Int. J. Mod. Phys. E \(IJMPE\) 33 \(2024\) 2450036](#)  
S. Gupta, T. Michael, N. Bano and **A. N. Mishra**
10. Exploring the QGP phase above the deconfinement temperature in pp and A–A collisions at LHC energies.  
[Nucl. Phys. A 1046 \(2024\) 122865](#)  
**A. N. Mishra**, Guy Paić, C. Pajares, R. P. Scharenberg and B. K. Srivastava
11. Equation of State of Quark–Gluon Matter in the Clustering-of-Color-Sources Approach.  
[MDPI Universe 10 \(2024\) 55](#)  
**A. N. Mishra**, Guy Paić, C. Pajares, R. P. Scharenberg and B. K. Srivastava
12. Sensitivity of Nuclear Density Profiles on Global Observables in O–O Collisions at the Large Hadron Collider Using AMPT Model.  
[Proceeding of 25th DAE-BRNS High Energy Physics Symposium \(2024\) 925-927](#)  
N. Mallick, S. Prasad, **A. N. Mishra**, R. Sahoo and Gergely Gábor Barnaföldi
13. A machine learning approach in estimating the coefficient of azimuthal anisotropy in heavy-ion collisions.  
[Proceedings of the DAE Symposium on Nuclear Physics 67 \(2024\) 1091-1092](#)  
N. Mallick, S. Prasad, **A. N. Mishra**, R. Sahoo and Gergely Gábor Barnaföldi
14. Quantifying the Underlying Event: Investigating Angular Dependence of Multiplicity Classes and Transverse-momentum Spectra in High-energy pp Collisions at LHC Energies.  
[J. Phys. G. 50 \(2023\) 095004](#)  
**A. N. Mishra**, Gergely Gábor Barnaföldi and Guy Paić
15. Deep learning predicted elliptic flow of identified particles in heavy-ion collisions at the RHIC and LHC energies.  
[Phys. Rev. D 107 \(2023\) 094001](#)  
N. Mallick, S. Prasad, **A. N. Mishra**, R. Sahoo and Gergely Gábor Barnaföldi

16. **Global properties in O+O collisions at  $\sqrt{s_{NN}} = 7$  TeV using AMPT model.**  
[Proceeding of Science PoS LHCP2022 \(2023\) 305](#)  
D. Behera, N. Mallick, S. Tripathy, S. Prasad, **A. N. Mishra** and R. Sahoo
17. **A Deep Learning Based Estimator for Elliptic Flow in Heavy Ion Collisions.**  
[Proceeding of Science PoS LHCP2022 \(2023\) 259](#)  
N. Mallick, S. Prasad, **A. N. Mishra**, R. Sahoo and Gergely Gábor Barnaföldi
18. **Effect of nuclear density profile on the global properties in O+O collisions at the Large Hadron Collider using a multi-phase transport model.**  
[Eur. Phys. J. A 58 \(2022\) 175](#)  
D. Behera, N. Mallick, S. Tripathy, S. Prasad, **A. N. Mishra** and R. Sahoo
19. **Estimating Elliptic Flow Coefficient in Heavy Ion Collisions using Deep Learning.**  
[Phys. Rev. D 105 \(2022\) 114022](#)  
N. Mallick, S. Prasad, **A. N. Mishra**, R. Sahoo and Gergely Gábor Barnaföldi
20. **Jet Transport Coefficient at the Large Hadron Collider Energies in a Color String Percolation Approach.**  
[MDPI Physics 4 \(2022\) 315](#)  
**A. N. Mishra**, Dushmanta Sahu, and R. Sahoo
21. **Medium modification type phenomena observed in high-multiplicity p+p collisions at LHC energies.**  
[EuroPhysics Letters 136 \(2021\) 62001](#)  
K Dey, **A. N. Mishra**, and S. K. Tripathy
22. **Sudden increase in the degrees of freedom in dense QCD matter.**  
[IJMPE 30 \(2021\) 2141006](#)  
**A. N. Mishra**, Guy Paić, C. Pajares, R. P. Scharenberg and B. K. Srivastava
23. **Deconfinement and degrees of freedom in pp and A-A collisions at LHC energies.**  
[Eur. Phys. J. A 57 \(2021\) 245](#)  
**A. N. Mishra**, Guy Paić, C. Pajares, R. P. Scharenberg and B. K. Srivastava
24. **Angular Dependence of Multiplicity Classes and Transverse-momentum Spectra within Non-extensive Statistical Approach in pp Collisions at 13 TeV.**  
[Proceedings of the DAE Symp. on Nucl. Phys. 65 \(2021\)](#)  
**A. N. Mishra**, Gergely Gábor Barnaföldi and Guy Paić
25. **Estimation of impact parameter and transverse sphericity in heavy-ion collisions at the LHC using machine learning techniques.**  
[Proceedings of the DAE Symp. on Nucl. Phys. 65 \(2021\)](#)  
N Mallick, S. Tripathy, **A. N. Mishra**, S. Deb and R. Sahoo
26. **Global properties in O+O collisions at 7 TeV using a multiphase transport model.**  
[Proceedings of the DAE Symp. on Nucl. Phys. 65 \(2021\)](#)  
D. Behera, N. Mallick, S. Tripathy, S. Prasad, **A. N. Mishra** and R. Sahoo

27. Implementation of machine learning techniques to predict impact parameter and transverse sphericity in heavy-ion collisions at the LHC.  
[Proceeding of Science PoS\(LHCP2021\)265](#)  
**A. N. Mishra**, Neelkamal Mallick, Sushanta Tripathy, Suman Deb and Raghunath Sahoo
28. Study of the jet transport coefficient at the Large Hadron Collider energies using Color String Percolation Model  
[Proceeding of Science PoS\(LHCP2021\)232](#)  
 , Dushmanta Sahu, **A. N. Mishra** and Raghunath Sahoo
29. Estimation of Impact Parameter and Transverse Sphericity in heavy-ion collisions at the LHC energies using Machine Learning.  
[Phys. Rev. D 103 \(2021\) 094031](#)  
 N Mallick, S. Tripathy, **A. N. Mishra**, S. Deb and R. Sahoo
30. Intriguing Similarities Between High- $p_T$  Particle Production in pp and A-A Collisions.  
[Springer Proceedings in Physics 261 \(2021\)](#)  
**A. N. Mishra**
31. Effective-energy universality approach describing total multiplicity centrality dependence in heavy-ion collisions.  
[EuroPhysics Letters 127 \(2019\) no.6, 62001](#)  
 E. K. G. Sarkisyan, **A. N. Mishra**, R. Sahoo and A. S. Sakharov
32. Intriguing similarities between high-pT particle production in pp and A-A collisions.  
[Phys. Rev. C 99 \(2019\) 034911](#)  
**A. N. Mishra**, Antonio Ortiz and Guy Paic
33. “ALICE data in the framework of Color String Percolation Model  
[Proceeding of Science PoS\(LHCP2019\)004](#)  
**A. N. Mishra**, E. Cuautle, G. Paic, C. Pajares, R. P. Scharenberg and B. K. Srivastava
34. Energy and Centrality dependence of  $dN_{ch}/d\eta$  and  $dE_T/d\eta$  in Heavy-Ion Collisions from  $\sqrt{s_{NN}} = 7.7$  GeV to 5.02 TeV  
[Eur. Phys. J. A 52 \(2016\) 319](#)  
**A. N. Mishra**, R. Sahoo, P. Sahoo, P. Pareek, N. K. Behera and B. K. Nandi
35. Multihadron production in high energy collisions and forward rapidity measurement on inclusive photons in PbPb collisions at 2.76 TeV in ALICE experiment at LHC  
[Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 61 \(2016\) 1142](#)  
**A. N. Mishra**
36. Universality of particle production and energy balance in hadronic and nuclear collisions.  
[\[Acta Physica Polonica B Proceedings Supplement, 09 \(2016\)\]](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov

37. Centrality dependence of midrapidity density from GeV to TeV heavy-ion collisions in the effective-energy universality picture of hadroproduction.  
[Phys. Rev. D 94 \(2016\) 011501\(R\)](#)  
E. K. G. Sarkisyan, **A. N. Mishra**, R. Sahoo and A. S. Sakharov
38. Multihadron production dynamics exploring the energy balance in hadronic and nuclear collisions.  
[Phys. Rev. D 93, 054046 \(2016\)](#)  
E. K. G. Sarkisyan, **A. N. Mishra**, R. Sahoo and A. S. Sakharov
39. Universality of particle production and energy balance in hadronic and nuclear collisions.  
[EPJ Web of Conferences 120, 01007 \(2016\)](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
40. Exploring energy balance in multihadron production: from hadronic to nuclear collisions.  
[Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 60 \(2015\), 750](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
41. Revealing similarity in multihadron production in hadronic and nuclear collisions.  
[\[Proceeding of Science PoS\(ICPAQGP2015\)052](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
42. Charged Particle, Photon Multiplicity, and Transverse Energy Production in High-Energy Heavy-Ion Collisions.  
[Adv. High Energy Phys. 2015, 612390 \(2015\)](#)  
R. Sahoo, **A. N. Mishra**, N. K. Behera and B. K. Nandi
43. Systematic study of identified spectra with radial flow at RHIC and LHC in Tsallis non-extensive statistics.  
[Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 60 \(2015\) 738](#)  
D. Thakur, P. Garg, S. Tripathy, A. Khuntia, **A. N. Mishra** and R. Sahoo
44. Multiparticle production in nuclear collisions using effective energy approach.  
[EPJ Web of Conferences 90, 01001 \(2015\)](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
45. Effective-energy budget in multiparticle production in nuclear collisions'  
[Eur. Phys. J. C 74, 3147 \(2014\)](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
46. Energy dissipation and charged particle density in Heavy-ion collisions.  
[Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 59 \(2014\) 740](#)  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
47. Hard Scattering contribution to particle production in high energy heavy ion collisions.  
[Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 59 \(2014\) 738](#)  
P. Pareek, **A. N. Mishra**, P. Sahoo and R. Sahoo

48. Transverse energy and charged particle production in heavy-ion collisions: From RHIC to LHC.  
*Int. J. Mod. Phys. E* **23**, 1450024 (2014)  
R. Sahoo and **A. N. Mishra**
49. Towards A Universal Law of Particle Production in Heavy- Ion Collisions.  
*AIP Conf. Proc.* **1536**, 1348 (2013)  
**A. N. Mishra**, R. Mazumder and R. Sahoo
50. Energy dissipation and charged particle production in heavy-ion collisions.  
*Proceedings of the DAE-BRNS Symp. on Nucl. Phys.* **58** (2013) 756  
**A. N. Mishra**, R. Sahoo, E. K. G. Sarkisyan and A. S. Sakharov
51. Constituent quarks and charged particle production in heavy-ion collisions.  
*Proceedings of the DAE-BRNS Symp. on Nucl. Phys.* **57** (2012) 772  
**A. N. Mishra**, R. Mazumdar, R. Sahoo and B. K. Nandi

## ALICE@CERN COLLABORATION RESEARCH PUBLICATIONS

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I started my research career in ALICE Experiment at LHC in University of Rajasthan, Jaipur, India in 2010. During my activity within the ALICE Collaboration at CERN, I have worked on different topics including the work on the detector and its subdetectors, data taking and data handling, the experiment hardware and software development. Here are the list of experimental publications:

1. Charged-particle production as a function of the relative transverse activity classifier in pp, p–Pb, and Pb–Pb collisions at the LHC”  
S. Acharya, ..., **A. N. Mishra** *et al.* [[ALICE Collaboration](#)] *JHEP* **01**, 199 (2024)
2. Femtoscopic correlations of identical charged pions and kaons in pp collisions at s=13 TeV with event-shape selection”  
S. Acharya, ..., **A. N. Mishra** *et al.* [[ALICE Collaboration](#)] *Phys. Rev. C* **109**, no.2, 024915 (2024)
3. Multiplicity and event-scale dependent flow and jet fragmentation in pp collisions at  $\sqrt{s} = 13$  TeV and in p–Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”  
S. Acharya, ..., **A. N. Mishra** *et al.* [[ALICE Collaboration](#)] *JHEP* **03**, 092 (2024)
4. Measurements of long-range two-particle correlation over a wide pseudorapidity range in p–Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”  
S. Acharya, ..., **A. N. Mishra** *et al.* [[ALICE Collaboration](#)] *JHEP* **01**, 199 (2024)
5. Probing the chiral magnetic wave with charge-dependent flow measurements in Pb-Pb collisions at the LHC”  
S. Acharya, ..., **A. N. Mishra** *et al.* [[ALICE Collaboration](#)] *JHEP* **12**, 067 (2023)
6. Prompt and non-prompt J/ $\psi$  production at midrapidity in Pb–Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”  
S. Acharya, ..., **A. N. Mishra** *et al.* [[ALICE Collaboration](#)] *JHEP* **02**, 066 (2024)

7.  $K^*(892) \pm$  resonance production in Pb-Pb collisions at  $\sqrt{s_{NN}}=5.02$  TeV  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Rev. C 109, no.4, 044902 (2024)
8. Skewness and kurtosis of mean transverse momentum fluctuations at the LHC energies”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Lett. B 850, 138541 (2024)
9. System-size dependence of the hadronic rescattering effect at energies available at the CERN Large Hadron Collider”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Rev. C 109, no.1, 014911 (2024)
10. Study of flavor dependence of the baryon-to-meson ratio in proton-proton collisions at  $\sqrt{s}=13$  TeV”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Rev. D 108, no.11, 112003 (2023)
11. Charm production and fragmentation fractions at midrapidity in pp collisions at  $\sqrt{s} = 13$  TeV”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] JHEP 12, 086 (2023)
12. Measurement of non-prompt  $D^0$ -meson elliptic flow in Pb–Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Eur. Phys. J. C 83, no.12, 1123 (2023)
13. Modification of charged-particle jets in event-shape engineered Pb–Pb collisions at  $\sqrt{s_{NN}}=5.02$  TeV”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Lett. B 851, 138584 (2024)
14. Pseudorapidity dependence of anisotropic flow and its decorrelations using long-range multiparticle correlations in Pb–Pb and Xe–Xe collisions”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Lett. B 850, 138477 (2024)
15. Measurement of the low-energy antitriton inelastic cross section”  
S. Acharya, ..., **A. N. Mishra** *et al.* [ALICE Collaboration] Phys. Lett. B 848, 138337 (2024)
16. Energy dependence of coherent photonuclear production of  $J/\psi$  mesons in ultra-peripheral Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV”  
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