

Rushabh Gala

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SUMMARY

Collaborative, analytical thinker and problem solver with experience in modeling and analyzing complex data through the use of Monte Carlo simulations and communicating the results to expert and non-expert audiences.

EXPERIENCE

NC State University Raleigh, NC 2018 - Present

- Analyzed and modeled background radiation for LEGEND experiment using Monte Carlo simulations and reduced contamination by about a factor of 100 and presented the results in national and international conferences.
- Co-managed a small team to a successful simulation campaign to fit the data using poissonian likelihood function and presented the results at **TAUP-2023** conference
- Implemented statistical tools such as regression, non linear fitting to estimate the age of brazil nuts using radioactive isotope decay techniques.
- Mentored a student on a study to determine the difference in simulation efficiency between the implementation of STL-based geometry and natively built G4 solid-based geometry in Geant4.

Tata Institute of Fundamental Research Mumbai, India 2017 - 2018

- Analyzed data from an accelerator based experiment which led to the discovery of novel energy levels in a nucleus
- Presented an oral talk and won a **first prize** at **Science Academies' Refresher's Course on Mathematical Physics**

EDUCATION

PhD in Physics	NC State University , GPA: 3.52/4.0	2018-Present
Master's in Physics	University of Mumbai , GPA: 9.13/10.0	2015-2017
Bachelor's in Physics	Ramnarain Ruia College , GPA: 6.89/7.0	2012-2015

SELECTED PUBLICATIONS

Abgrall, N. et al. (2021). *LEGEND-1000 Preconceptual Design Report*. arXiv: [2107.11462](#).

Dey, P. et al. (2022). "Experimental investigation of high-spin states in ^{90}Zr ". In: *Phys. Rev. C* 105 (4), p. 044307. DOI: [10.1103/PhysRevC.105.044307](#).

RELEVANT SKILLS

Programming Skills	C, C++, Python, JSON
Technical Skills	Data analysis, data modeling, visualization and presentation, Microsoft Office suite,
Interpersonal Skills	APS Student Ambassador (communication, leadership skills), Events Head : Indian Graduate Student Association (organizational, management skills), Public Relations Team (marketing, team building skills)