

Niveditha Ramasubramanian

— Educational and Professional Experience

- **Chargé de recherche (Staff scientist)** – CNRS/IP2I, Lyon, France *Feb 2024 – present*
Maternity leave: Aug 2024 – Jun 2025
- **Professor of Practice** - SASTRA University, India *Aug 2022 - present*
- **Postdoctoral Researcher** - CEA/IRFU, Saclay, France *Mar 2022 - Jan 2024*
- **Ph.D. in Physics** - Stony Brook University, USA *Aug 2015 - Dec 2021*
- **B.Tech in Electrical Engineering** - SASTRA University, India *May 2010 - Jun 2014*

— Awards and Fellowships

- **AGS/RHIC Thesis award**
Awarded to two Ph.D theses for research conducted at Brookhaven National Lab *May 2022*
- **Gerry Brown award**
Awarded for excellence in research in nuclear physics at Stony Brook University *May 2018*
- **Early Research Achiever award**
Awarded to Masters students who are hired early into the Ph.D program *Mar 2016*
- **Indian Academy of Sciences fellowship**
Undergraduate research fellowship awarded by the Government of India *May 2012*

— Media Coverage

- **BNL News:** Evidence for Tiny Drops of Quark-Gluon Plasma *May 2025*
- **DOE Highlight:** Evidence for Tiny Drops of Quark-Gluon Plasma *May 2025*

— Detailed Research Experience and Responsibilities

- **Staff Scientist - ALICE**
 - Full analysis of polarization of incoherent J/Ψ in $PbPb$ collisions with ALICE forward muon detectors and Run 3 dataset.
 - Calibration expert for Muon Forward tracker (MFT) in charge of improving noise scans and implementation of threshold scans.
- **Postdoctoral Researcher - CLAS12, ePIC**
 - Responsible for the full analysis of e+D collisions to obtain a beam spin asymmetry signal of ϕ meson for CLAS12 collaboration
 - Responsible for vertexing and central tracking alignment using Kalman Filter algorithm
 - Responsible for efficiency studies of Central tracking subsystem which consists of silicon and MPGD layer for ePIC detector of EIC Collaboration

○ Doctoral Student - PHENIX, sPHENIX

- Time Projection Chamber

- Responsible for the full design and construction of prototype TPC for sPHENIX collaboration
- Responsible for data-taking and analysis at Fermilab test beam facility
- Responsible for design and construction of major parts of full-scale TPC : inner and outer mandrel, tension rod for insulation, modules for Gas Electron Multiplier and their mechanical structure, zig-zag readout plane
- Developed a hough-transformation based tracking algorithm for track reconstruction

- Physics Analysis

- Responsible for full analysis of $d + Au$ collision system to obtain nuclear modification factor of π^0 and direct γ in six different centralities under two trigger conditions
- Performed full simulation and embedding studies for the production of π^0 , η and direct γ
- Developed a one-step algorithm based two-dimensional unfolding to obtain invariant yields of π^0 and direct γ
- Active member of data preservation group at PHENIX. I archived all code and workflows necessary to fully reproduce the analysis chain from raw calorimetry signals to the nuclear modification factor.

Communications

Conferences and Seminars (selected)

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| • Nuclear Theory Group Seminar, UCLA, USA | <i>Jul 2022</i> |
| • Lunch Seminar, Laboratoire Structure du Nucleon, CEA Saclay, France | <i>Jul 2022</i> |
| • International Symposium of Multiparticle Dynamics, Pitlochry, Scotland | <i>Jul 2022</i> |
| • Quark Matter Conference, Krakow, Poland | <i>Apr 2022</i> |
| • Moriond Conference, La Thuile, Italy | <i>Mar 2022</i> |
| • Division of Nuclear Physics Conference, Massachusetts, USA | <i>Oct 2021</i> |
| • Hard Probes Conference | <i>May 2020</i> |
| • Division of Nuclear Physics Conference, Virginia, USA | <i>Oct 2019</i> |
| • Micro Pattern Gas Detector Conference | <i>May 2019</i> |
| • Myriad Colourful Ways of Understanding QCD Matter, Bangalore, India | <i>Apr 2019</i> |
| • Gordon Photo Nuclear Reactions Conference | <i>May 2018</i> |
| • Micro Pattern Gas Detector Conference | <i>May 2017</i> |

Podcast

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| • Invited speaker, <i>Freedom to Be Average</i> (Failures Podcast) | <i>Oct 2020</i> |
| Discussed experiences as a woman in physics and gender disparities in science | |