

Somdutta GHOSH

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📍 Department of Physics & Astronomy, 326 DeMerritt Hall, University of New Hampshire, 9 Library Way, Durham, NH 03824, USA

EDUCATION

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|-----------|---|
| 2017-2023 | Ph.D. in Physics , North Carolina State University, Raleigh, USA. (Expected Defense date : Jun 2023) |
| 2014-2016 | M.Sc. Physics , Indian Institute of Technology, Madras, Chennai, India. |
| 2011-June | B.Sc. Physics , Presidency University, Kolkata, India |

EXPERIENCE

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|----------------|---|
| 2023 - Present | Postdoctoral Fellow, NP3M COLLABORATION, University of New Hampshire & University of Notre Dame <ul style="list-style-type: none">➤ Collaborators : Francois Foucart, Rebecca Surman, Sherwood Richers➤ Research Topics : Compact Object Mergers, r-process nucleosynthesis, Neutrino Oscillation |
| 2019 - 2023 | Research Assistant, DEPARTMENT OF PHYSICS, North Carolina State University <ul style="list-style-type: none">➤ Advisors : Carla Fröhlich, Jim Kneller➤ Research Topics : Core-Collapse Supernovae, Equation of State of dense nuclear matter, Nucleosynthesis, Neutrino Oscillation |
| 2017-2018 | Teaching Assistant, DEPARTMENT OF PHYSICS, North Carolina State University <ul style="list-style-type: none">➤ PY 209 Physics lab for Engineers (E & M laboratory)➤ PY 211 Non-calculus physics lab (Mechanics laboratory)➤ PY 251 Introduction to Scientific Computing (Python) |

PUBLICATIONS

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|-----|---|
| [4] | S. Richers, J. Froustey, S. Ghosh , F. Foucart, J. Gomez; Asymptotic-state prediction for fast flavor transformation in neutron star mergers. PRD 110 10 (2024) |
| [3] | S. Ghosh , N. Wolfe, C. Fröhlich; PUSHing core-collapse supernovae to explosions in spherical symmetry V : Equation of state dependency of explosion properties, nucleosynthesis yields, and compact remnants. ApJ 929 43 (2022) |
| [2] | K. Ebinger, S. Curtis, S. Ghosh , C. Fröhlich et al.; PUSHing core-collapse supernovae to explosions in spherical symmetry IV : explodability, remnant properties and nucleosynthesis yields of low metallicity stars. ApJ 888 91 (2020) |
| [1] | C. Fröhlich, S. Curtis, K. Ebinger, S. Ghosh et al.; Nucleosynthesis for SN 1987A from single-star and binary-merger progenitors. J. Phys. G, 46, 084002 (2019). |

CONTRIBUTED TALKS AND POSTERS

March 2025	Fast flavor oscillation in neutron star mergers Contributed Talk , APS meeting, Anaheim, CA
Oct 2024	Fast flavor oscillation in neutron star mergers Contributed Talk , APS DNP meeting, Boston, MA
July 2024	Machine learning model for estimating fast flavor transformation Invited Talk , Neutrino Transport Workshop, ICERM, Providence, RI
April 2024	Effect of the nuclear Equation of State on the Core-Collapse Supernovae explosions Contributed Talk , APS April meeting, Sacramento, CA
May 2022	Effects of the nuclear equation of state on the outcome of core-collapse supernovae Contributed Talk , JINA frontiers workshop, South Bend, IN
Jan 2022	The impact of the equation of state on the core-collapse supernovae outcome Seminar , New Castle University, UK
Nov 2021	Effect of the nuclear equation of state on the outcome of core-collapse supernovae Seminar , IISC Bangalore, India
Sep 2021	Core-collapse supernovae : Impact of equation of state Poster Presentation , Nuclei in Cosmos conference, China
May 2021	The impact of the Equation of State on the Core-Collapse Supernova outcome Seminar , Stony Brook University, New York, USA
Oct 2019	Effects of the nuclear equation of state on the outcome of core-collapse supernovae Contributed Talk , APS DNP Meeting, Arlington, VA
Apr 2019	Using PUSH to explode massive stars Poster Presentation , Graduate Research Symposium, NCSU, Raleigh, NC

AWARDS AND HONORS

2022	Travel Award , JINA Frontiers Workshop Supported by JINA CEE
2021	Best Poster Award , Nuclei in Cosmos (XVI) school
2019	Travel Award , First Frontier Summer School Supported by JINA CEE
2014-2016	Scholarship , Indian Institute of Technology, Chennai

SERVICE & LEADERSHIP

2022	Organizing Committee , JINA Frontiers Workshop <i>Served as a member of the organizing committee</i>
2021-2022	Physics DEI Committee , North Carolina State University <i>Served as a member of the physics DEI committee</i>
2020	Career Guidance , Sreegopal Banerjee College, Mogra, WB, India <i>Higher studies in science : Carrier path</i>
2019-Present	Co-Organizer for Astronomy Outreach Events , North Carolina State University <i>Organize and coordinate public observing events around the Research Triangle (Raleigh, Durham, & Chapel Hill)</i>
2019-2021	Women in Physics , North Carolina State University <i>Served on the executive board for the WIP as the Treasurer and Vice-President</i>

REFERENCES

Francois Foucart

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Rebecca Surman

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Sherwood Richers

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