

Stanford



Maitrayee Ghosh

Postdoctoral Scholar, Photon Science, SLAC

Bio

BIO

I am a postdoctoral scholar at the High Energy Density Sciences Division in the SLAC National Accelerator Laboratory in the Stanford University. I have received my PhD from the University of Rochester in 2023 in high-pressure chemistry. My research interests include theoretical and computational investigations of materials in both ambient and high-pressure regimes, that can be relevant for planetary sciences and inertial confinement fusion. I hail from Kolkata, India, and enjoy reading fictions and traveling in my leisure.

HONORS AND AWARDS

- IBM-Zerner Graduate Student Award, 60th Sanibel Symposium, University of Florida (2020)
- Frank J. Horton Fellowship, Laboratory for Laser Energetics, University of Rochester (2018-2023)
- Sherman Clark Fellowship, Department of Chemistry, University of Rochester (2017)
- INSPIRE Scholarship, Department of Science and Technology, India (2011-2016)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Rochester (2023)
- Master of Science, University of Rochester (2019)
- Master of Science, Indian Institute of Technology Bhubaneswar (2016)
- Bachelor of Science, University Of Calcutta (2014)

STANFORD ADVISORS

- Siegfried Glenzer, Postdoctoral Faculty Sponsor
- Arianna Gleason-Holbrook, Postdoctoral Research Mentor

Publications

PUBLICATIONS

- **Thermally induced structural competitiveness and metastability of body-centered-cubic iron under nonequilibrium conditions** *PHYSICAL REVIEW B*
Zhang, S., Panjwani, A., Xiao, P., Ghosh, M., Ogitsu, T., Ping, Y., Hu, S. X.
2025; 111 (22)
- **Parametrized ion-distribution model for extended x-ray absorption fine-structure analysis at high-energy-density conditions** *PHYSICS OF PLASMAS*
Chin, D. A., Nilson, P. M., Ruby, J. J., Bunker, G., Ghosh, M., Signor, M. E., Bishel, D. T., Smith, E. A., Coppari, F., Ping, Y., Rygg, J. R., Collins, G. W.

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- **Light-enhanced oxygen degradation of MAPbBr₃ single crystal.** *Physical chemistry chemical physics : PCCP*
Wang, K., Ecker, B. R., Ghosh, M., Li, M., Karasiev, V. V., Hu, S. X., Huang, J., Gao, Y.
2024
- **Melting and transport properties of Al₂O₃ at extreme conditions** *Physical Review B*
Ghosh, M., Hu, S. X., Blackmann, E., Zhang, S.
2024; 110: 174107
- **Laser-direct-drive fusion target design with a high-Z gradient-density pusher shell.** *Physical review. E*
Hu, S. X., Ceurvorst, L., Peebles, J. L., Mao, A., Li, P., Lu, Y., Shvydky, A., Goncharov, V. N., Epstein, R., Nichols, K. A., Goshadze, R. M., Ghosh, M., Hinz, et al
2023; 108 (3-2): 035209
- **Cooperative diffusion in body-centered cubic iron in Earth and super-Earths' inner core conditions.** *Journal of physics. Condensed matter : an Institute of Physics journal*
Ghosh, M., Zhang, S., Hu, L., Hu, S. X.
2023; 35 (15)
- **First-principles equation of state of CHON resin for inertial confinement fusion applications.** *Physical review. E*
Zhang, S., Karasiev, V. V., Shaffer, N., Mihaylov, D. I., Nichols, K., Paul, R., Goshadze, R. M., Ghosh, M., Hinz, J., Epstein, R., Goedecker, S., Hu, S. X.
2022; 106 (4-2): 045207
- **Pseudo-Jahn-Teller effects in two-dimensional silicene, germanene and stanene: a crystal orbital vibronic coupling density analysis** *BULLETIN OF MATERIALS SCIENCE*
Ghosh, M., Datta, A.
2018; 41 (5)