

CURRICULUM VITAE



DR. MD. LOKMAN ALI

Contact Address:

Department of Physics, Pabna University of Science
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Career Objective

Keen to enrich my knowledge by doing original research work with world-class researchers where success comes through creativity, hardworking and sincerity.

Academic Qualifications

Doctor of Philosophy (Ph.D):

- ✴ Institute : Osaka University, Japan.
- ✴ Department : Department of Mechanical Science and Bio-engineering
- ✴ Year of awarded : 2021

Master of Science (M.S.):

- ✴ Institute : University of Chittagong, Bangladesh.
- ✴ Department : Physics
- ✴ Year of Passing : 2013
- ✴ Result : 3.93 out of 4.00 (1st position among the 110 students of the batch)

Bachelor of Science (B.Sc.):

- ✴ Institute : University of Chittagong, Bangladesh
- ✴ Department : Physics
- ✴ Year of Passing : 2011
- ✴ Result : 3.72 out of 4.00 (1st position among the 110 students of the batch)

Academic Positions:

Profession	Organization	Position	Experience
Teaching	Dept. of Physics, Pabna University of Science and Technology	Associate Professor	06/08/2022 To date
Teaching	Dept. of Physics, Pabna University of Science and Technology	Assistant Professor	25/11/2016 05/08/2022
Teaching	Dept. of Physics, Pabna University of Science and Technology	Lecturer	25/11/2014 To 24/11/2016

Administrative Position:

Assistant Proctor: 01.09.2022 to present

Treasurer: Physics Association, Pabna University of Science and Technology

Elected Executive member: Teacher's Association, Pabna University of Science and Technology, [Awami Panel]

Member: Question moderation committee [Admission test 2017-2018]

Member: Law and security, Admission test Committee,

Awards and Achievements

- ★ 2013 : **Distinction Award** (in recognition of outstanding Results in M.S. degree)
- ★ 2011 : **Distinction Award** (in recognition of Excellent Results in B.Sc. (honor's) degree)

Scholarships

- ★ 2018 : **Japanese Government (MEXT) Scholarship** to pursue PhD degree from Osaka University, Japan

Areas of Research Interest

Multi-scale modeling, Theoretical solid mechanics, Computational materials science, Multi-principal elements alloys,

Research Experiences

First principle calculations, Density functional theory (DFT), Molecular dynamics (MD), LAMMPS,

Conference presentations (International and national)

The 9th international conference on Multiscale Materials Modeling, Oct. 28 to Nov. 2, 2018, Osaka, Japan.

Supervision Experience (Bachelor's and Master's levels)

- ✦ Successfully supervised 06 (Six) master's (thesis) research
- ✦ Successfully supervised total 22 (Twenty two) bachelors' and master's level research projects

Professional Training

- The 9th international conference on Multiscale Materials Modeling, Oct. 28 to Nov. 2, 2018, Osaka, Japan
- IEEE Authorship workshop, 7 to 8 June-2019 Venue: Suntory Memorial Hall, 5F,Bldg C3, Division of Advanced Science and Biotechnology, Graduate School of Engineering, Suita Campus, Osaka University, Japan

Scientific Association

- 🔗 Google Scholar: <https://scholar.google.com/citations?user=agk7avEAAAAJ&hl=en>
- 🔗 ResearchGate: <https://www.researchgate.net/profile/Md-Lokman-Ali>
- 🔗 ORCID: <https://orcid.org/0000-0001-5750-9412>

Publications

- ✦ Total Papers: 34
(Research Papers: 33, Review Papers: 01)

Research Scores and Citation

- ✦ Google Scholar : Citations # 333, h-index # 10, i10-index # 10
- ✦ Research Gate : Citations # 302, h-index # 9,

Other Skills:

- ✦ Analytical Tools (Experimental): SEM, XRD, UV-Visible Spectrophotometer, Precision Impedance Analyzer, Four Probe Technique.
- ✦ Analytical Tools (Simulation): LAMMPS, CASTEP code
- ✦ Sigma Plot, Origin, MS Word, MS Excel, MS PowerPoint, GRADS

List of My Selected Publications:

1	Mithun Khan, Md. Zahidur Rahaman, Md. Lokman Ali* , Impact of Edge Dislocation and Grain Boundaries on Mechanical Properties of <i>CoCrCuFeNi</i> High Entropy Alloy: An Atomistic Molecular Dynamics Simulations, Mithun Khan, Submitted to Journal of Applied Physics, Status: accepted, Publisher: American Institute of Physics (AIP).
2	Mithun Khan, Md. Lokman Ali* , Edge Dislocation and Grain Boundaries Effects on Mechanical Properties of <i>NiCoAl</i> Medium Entropy Alloy: A Molecular Dynamics Simulation, Mithun Khan, Submitted to Advanced Engineering Materials, Status: revision submitted, Publisher: Wiley
3	Md. Nadim Mahamud Nobin, Md. Khairul Alam, Md. Lokman Ali* , Edge Dislocations, Alloy Composition, and Grain Boundaries Effects on the Mechanical Properties in NiCo Medium Entropy Alloys, Journal: Scientific Reports, Status: Under Review, Publisher: Nature

4	Mithun Khan, Md. Lokman Ali* , Enhanced Physical Metallurgy of AlCrNi Medium Entropy Alloy Under Pressure, Journal: JOM, Publisher: Springer, Status: Under Review,
5	Md. Lokman Ali* , Mithun Khan, Narrowing Band Gap and Enhanced Optoelectronic Properties in Methylammonium Lead Halide Perovskite Under Pressure, Journal Name: Physica B; Condensed Matter, Publisher: Elsevier, Impact Factor: 3.00, Status: Accepted
6	Md Lokman Ali* ; Mithun Khan; Md Abdullah Al Asad; Md Zahidur Rahaman, Highly efficient and stable lead-free cesium copper halide perovskites for optoelectronic applications: A DFT based study, Journal: Heliyon, VOLUME 9, ISSUE 8, E18816, AUGUST 2023, Impact factor: 4.00, Publisher: Elsevier,
7	Mithun Khan; Md. Zahidur Rahaman; Md. Lokman Ali* , High-Throughput screening of inorganic lead-free halide perovskites CsCu ₂ X ₃ (X = Cl, Br, I) for optoelectronics applications, Journal: Materials Science and Engineering: B, Impact factor: 3.88, Publisher: Elsevier
8	Md. Lokman Ali* , Mithun Khan, Md. Rakib Hossain, Pressure-induced physical properties in topological semi-metals MAs ₂ (M = Hf, Ti), Journal: Results in Physics, 52, 106860, 2023, Impact Factor: 5.30, Publisher: Elsevier
9	Md. Nadim Mahamud Nobin, Mithun Khan, Md. Sayed Saiful Islam, Md. Lokman Ali* , Pressure-induced physical properties in topological semi-metal TaM ₂ (M = As, Sb); Journal: RSC Advances, Publisher's: Royal Society of Chemistry (RSC): <i>RSC Adv.</i> , 2023, 13 , 22088-22100, Impact factor: 4.132
10	Rubayet Akter, Mithun Khan, Md. Nadim Mahmud Nobin, Md. Shahajan Ali, Md. Mukter Hossain, Md. Zahidur Rahaman, Md. Lokman Ali* "Effects of grain boundary and chemical short-range order on mechanical properties of NiCoCr multi- principal element alloys: A molecular dynamics simulations", Materials Today Communications; Volume 36, August 2023, 106630; Publisher's: Elsevier
11	Mithun Khan; Md. Zahidur Rahaman; Md. Lokman Ali* , Pressure-Induced Band Gap Engineering of Nontoxic Lead-Free Halide Perovskite CsMgI ₃ for Optoelectronic Applications; ACS Omega, (2023), Impact factor: 4.10, Publisher's: American Chemical Society(ACS); DOI: https://doi.org/10.1021/acsomega.3c01388
12	M.H. Kabir, M.M. Hossain, M.A. Ali, M.M. Uddin, M.L. Ali , M.Z. Hasan, A. K. M. A Islam, S.H. Naqib, First principles study of mechanical, thermal, electronic, optical and superconducting properties of C40-type germanide-based MGe ₂ (M = V, Nb and Ta), Results in Physics, 106701 (2023); Publisher's : Elsevier, Impact factor: 5.3
13	Md. Lokman Ali* , Marof Billah, Mithun Khan, Md. Nadim Mahamud Nobin, Md. Zahidur Rahaman, "Pressure-induced Physical Properties of Alkali Metal Chlorides Rb ₂ NbCl ₆ : A Density Functional Theory Study; Journal: AIP Advances; Accepted; Publishers: American Institute of Physics

14	Md. Lokman Ali* , Md. Farhanul Islam, Md. Nadim Mahamud Nobin, Mithun Khan & Md. Zahidur Rahaman, Pressure-dependent structural, electronic, optical, and mechanical properties of superconductor CeRh ₂ As ₂ : A first-principles study, <i>Physica B: Condensed Matter</i> , 2023 Publishers: Elsevier, Doi: https://doi.org/10.1016/j.physb.2023.415224 , Impact Factor: 2.90
15	Nadim Mahamud Nobin, Mithun Khan , Md Lokman Ali* , An atomistic modeling study of high-throughput RVO ₃ (R=La, Nd) perovskites for efficient solar energy conversion materials; Journal Name: <i>Physica B: Condensed Matter</i> ; Publisher's: Elsevier; Published Year: 2023; Impact factor: 2.998 DOI: https://doi.org/10.1016/j.physb.2023.414879
16	Md. Lokman Ali* , Md. Farhanul Islam, Nadim Mahmud Nabin, Mithun Khan, Md. Zahidur Rahaman, Pressure-Induced Superconductivity in CsFe ₂ As ₂ ; Journal name: <i>Journal of Superconductivity and Novel Magnetism</i> ; Publisher's: Springer; Impact factor: 1.675 Year: 2023; Accepted
17	Md. Lokman Ali* , Mithun Khan & Md. Zahidur Rahaman, First-Principles Studies in Pd-Based RPd ₂ P ₂ (R = Pr and Nd) Superconductors Under Pressure, Journal name: <i>Journal of superconductivity and Noble Magnetism</i> ; Publisher's: Springer; Impact factor: 1.675 Published year: 2023 DOI: 10.1007/s10948-022-06476-2
18	Md Atikur Rahman, Kamrunnahar Mousumi, Md Lokman Ali , Md Zillur Rahman, Sayed Sahriar Hasan, Wakil Hasan, Md Rasheduzzaman, Md Zahid Hasan, First-principles calculations to investigate elastic, electronic, optical and thermodynamic properties of Pt ₃ X (X = Ti, Cu), <i>Results in Physics</i> , Impact factor: 4.565, Publishers: Elsevier , Year: 2022,
19	Md. Nurul Islam, Jiban Podder, Md. Lokman Ali , The effect of metal substitution in CsSnI ₃ perovskite with enhanced optoelectronic and photovoltaic properties. <i>RSC Advances</i> , 11, 39553-39563 (2021) Publisher's: Royal Society of Chemistry (RSC).
120	Md. Lokman Ali* , Enhanced lattice distortion, yield strength, critical resolved shear stress, and improving mechanical properties of transition-metals doped CrCoNi medium entropy alloy, <i>RSC Advances</i> , 2021, Vol. 11, No.: 138, pages: 23719 - 23724, ISSN: 2046-2069 (online), Impact factor: 3.361 , Publisher's: Royal Society of Chemistry
21	Md. Lokman Ali , Shuhei Shinzato, Vei Wang, Shen Zeki, Jun-Ping Du, Shigenobu Ogata, An atomistic modeling study of the relationship between critical resolved shear stress and atomic structure distortion in fcc high entropy alloys – Relationship in random solid solution and chemical short range order alloys-, <i>Materials Transactions</i> , Vol. 61, No. 4, Pages: 605-609, 2020, ISSN: 1345-9678 (print), 1347-5320 (online), Impact factor: 1.389 , Publishers: The Japan Institute of Metals and Materials
22	Md. Majibul Haque Babu, Jiban Podder*, Rabeya Rahman Tofa, Md. Lokman Ali , Effect of Co doping in tailoring the crystallite size, surface morphology and optical bandgap of CuO thin films prepared via thermal spray pyrolysis, <i>Surfaces and Interfaces</i> , Vol. 25, Pages: 101269, 2021, ISSN: 2468-0230, Impact Factor: 4.837 , Publishers: Elsevier,

23	Md. Nurul Islam, Jiban Podder*, Md. Lokman Ali , The effect of metal substitution in CsSnI ₃ perovskites with enhanced optoelectronic and photovoltaic properties. <i>RSC Advances</i> , 2021, Accepted, ISSN: 2046-2069 (online), Impact factor: 3.361 , Publisher's: Royal Society of Chemistry,
24	Md. Lokman Ali* , Enamul Haque, Md. Zahidur Rahaman, Pressure- and temperature-dependent physical metallurgy in a face-centered cubic NiCoFeCrMn high entropy alloy and its subsystems, <i>Journal of Alloys and Compounds</i> , Vol. 873, pages: 159843, 2021, ISSN: 0925-8388, Impact factor: 5.316 , Publishers: Elsevier,
25	Khandaker Monower Hossen, Md. Zahid Hasan, Md. Lokman Ali* , Narrowing bandgap and enhanced mechanical and optoelectronic properties of perovskite halides: Effects of metal doping, <i>AIP Advances</i> , Vol. 11, Pages: 015052, 2021, ISSN: 2158-3226, Impact factor: 1.579 , Publishers: American Institute of Physics (AIP),
26	Khandaker Monower Hossen, Md. Zahid Hasan, Md. Lokman Ali* , Understanding the influences of Mg doping on the physical properties of SrMoO ₃ perovskite, <i>Results in Physics</i> , Vol. 19, Pages: 103337, 2020, ISSN: 2211-3797, Impact factor: 4.476 , Publishers: Elsevier,
27	Md. Atikur Rahman, Md. Zahidur Rahaman, Md. Lokman Ali , Md. Shahjahan Ali, The physical properties of ThCr ₂ Si ₂ - type nickel-based superconductors BaNi ₂ T ₂ (T = P, As): An ab-initio study, <i>Chinese Journal of Physics</i> , 2019, Vol. No.: 59, Pages: 58-69. ISSN: 0577-9073, Impact factor: 3.31 , Publisher's: Elsevier,
28	Md. Lokman Ali* , Md. Tosaddek Hossen, Shahin Alam, Jakiul Islam, Sm. Rubayetul Islam, The Physical properties of ThCr ₂ Si ₂ -type superconductors MPd ₂ P ₂ (M = Y, La): A theoretical investigation, <i>International Journal of Modern Physics B</i> , Vol. 32, No. 28, Pages: 1850312, 2018, ISSN: 0217-9792 (print), ISSN: 1793-6578, Impact factor: 1.219 , Publisher's: World Scientific
29	Md. Lokman Ali* , Md. Zahidur Rahaman, Investigation on different physical aspects such as structural, elastic, mechanical, optical properties and Debye temperature of Fe ₂ ScM (M = P and As) semiconductors: a DFT based first principles study, <i>International Journal of Modern Physics B</i> , Vol. 32, No. 18, Pages: 1850121, 2018, ISSN: 0217-9792 (print), ISSN: 1793-6578, Impact factor: 1.219 , Publisher's: World Scientific,
30	Md. Zahidur Rahaman, Md. Lokman Ali* , Insight into the physical properties of two niobium-based compounds Nb ₃ Be and Nb ₃ Be ₂ via first principles calculations, <i>Chinese Journal of Physics</i> , 2019, Vol. No.: 59, Pages: 58-69. ISSN: 0577-9073, Impact factor: 3.31 , Publisher's: Elsevier,
31	Md. Zahidur Rahaman, Md. Lokman Ali* , Md. Atikur Rahman, Pressure dependent mechanical and thermodynamic properties of newly discovered cubic Na ₂ He, <i>Chinese Journal of Physics</i> , 2018, Vol. No.: 56, Pages: 231-237. ISSN: 0577-9073, Impact factor: 3.31 , Publisher's: Elsevier,

32	Md. Lokman Ali* , Md. Zahidur Rahman, Md. Atikur Rahman, The structural, elastic and optical properties of SCM (M = Rh, Cu, Ag, Hg) intermetallic compounds under pressure by ab initio simulations, <i>International Journal of Computational Materials Science and Engineering</i> , Vol. 5, No. 4, Pages: 1650024, ISSN: 2047-6841 (print), 2047-685X (online), Impact factor: 1.32 ,
33	Md. Afjalur Rahman, Md. Atikur Rahman, Uttam Kumar Chowdhury, MTH Bhuiyan, Md. Lokman Ali , Md. Abdur Razzaque Sarker, First principles investigation of structural, elastic, electronic and optical properties of Abi_2O_6 (A = Mg, Zn) with trirutile-type structure, <i>Cogent Physics</i> , Vol. 3, No. 1, Pages: 1257414, 2016, ISSN: 2331-1940, Publishers: Taylor and Francis,
34	Uttam Kumar Chowdhury, Md. Atikur Rahman, Md. Afjalur Rahman, MTH Bhuiyan, Md. Lokman Ali , Ab initio study on structural, elastic, electronic, and optical properties of cuprate based superconductor, <i>Cogent Physics</i> , Vol. 3, No. 1, Pages: 1231361, 2016, ISSN: 2331-1940, Publisher's: Taylor and Francis,

Core Courses

Bachelor of Science (B.Sc.)

Mechanics, Electromagnetism, Properties of Matter Waves & Vibration, Heat & Thermodynamics, Optics, Classical Mechanics, Elementary Quantum Theory, Quantum Mechanics, Classical Electrodynamics, Atomic & Molecular Physics, Basic Electronics, Relativity: Special & General, Nuclear Physics, Mathematical physics, Solid State physics, Radiation & Statistical Mechanics, Digital Electronics, Reactor Physics, Medical physics.

Master of Science (M.S.)

Advanced solid state physics

Course Taught

Quantum Physics, Elementary Quantum Theory, Computational Physics, General and Special, Reactor Physics, Radiation & Statistical Physics, Heat & Thermodynamics.

Language proficiency

Good reading, writing and speaking skill in both Bangla & English.

Personal Details

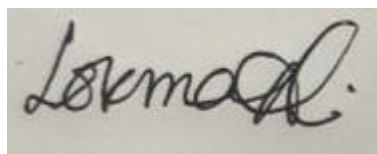
- ✳ Father's Name : Md. Hitullah Khan.
- ✳ Mother's name : Noorjahan.
- ✳ Date of Birth : 22th July, 1987
- ✳ Sex : Male
- ✳ Marital Status : Married
- ✳ Nationality : Bangladeshi by birth
- ✳ Height : 5'-7"
- ✳ Permanent address : Village+ Post Office: Kamarer Char, Police Station: Sherpur Sadar, District: Sherpur, Country: Bangladesh.

References

Dr. Shigenobu Ogata Professor Department of Mechanical Science and Bioengineering, Graduate School of Engineering Science, Osaka University, Japan Phone: +81-6-6850-6197 Email: Ogata@me.es.osaka- u.ac.jp	Dr. Md. Khairul Alam Professor, Department of Physics Pabna University of Science and Technology, Pabna Phone: +8801712659746 E-mail: drmkalam14@gmail.com	Dr. Md. Nasim Hasan Professor Department of Physics University of Chittagong, Bangladesh Phone: +8801727-472804 Email: nhasan72bd@yahoo.com
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I hereby declare that the information given above is correct to the best of my knowledge.

Sincerely yours,



Dr. Md. Lokman Ali

Date: 16/12/2023