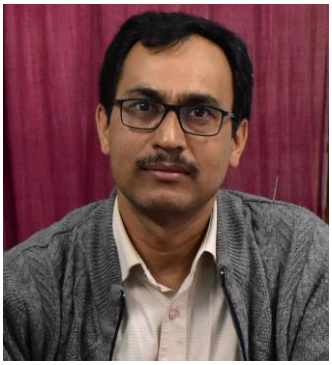
Curriculum Vitae of Dr. Md Motin Seikh



Name: Dr. Md Motin Seikh
Designation: Assistant Professor
Date of Joining: 12.10.2007
Department: Department of Chemistry
Visva-Bharati
Santiniketan-731235, West Bengal, India
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Details of Academic Qualification:

B. Sc. (Hons.)	Chemistry Honours, Visva-Bharati, Santiniketan-731235	1997
M. Sc.	Inorganic Chemistry, Visva-Bharati, Santiniketan-731235	1999
Ph. D.	Thesis title: "Experimental Investigations of Rare Earth Manganates and Other Oxide Systems" Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science (IISc), Bengaluru-560012	2006

Teaching Experience: 18 Yrs (UG & PG)

Assistant Professor of Inorganic Chemistry, Visva-Bharati (12.10.2007-present)

Details of professional training and research experience:

Postdoctoral fellow	CRISMAT Laboratory, University of Caen, France	22-05-2006 to 30-09-2007
Visiting Scientist	CRISMAT Laboratory, University of Caen, France	02-01-2012 to 27-12-2013

Awards:

1. **Prof**. **K.P. Abraham Medal** for best Ph.D. thesis in the area of Materials Chemistry from Indian Institute of Science (**IISc**), Bangalore (2006).
2. **CNRS** Fellowship (French Ministry of Education & Research), CRISMAT Laboratory, University of Caen, France (2006-2007)**.**
3. Visiting Scientist, Japanese Society for the Promotion of Science (**JSPS),** Japan (2004)
4. Council of Scientific and Industrial Research (**CSIR)** Senior Research Fellow, Govt. of India, India (2001)
5. National Eligibility Test (**NET**) for Junior and Senior Research Fellowship, Council of Scientific and Industrial Research (CSIR), Govt. of India, India (1999)
6. Graduate Aptitude Test in Engineering **(GATE)** with all India rank **12th** (1999)**.**

Membership in Professional Bodies:

(a) Chemical Research Society of India (CRSI); Life Membership (Membership No: LM 3512)

(b) Society for Materials Chemistry (SMC); Life Membership (Membership No: LM 1511)

Membership in Committees:

(a) Indian Institute of Science (IISc) Alumni Association; Life Membership

(b) Board of Studies, Department of Chemistry, Visva-Bharati, Member

Research Interest:

Studies on different classes of electronically correlated functional transition metal oxide systems in bulk and nanodimension.

- Rational design and synthesis of new compositions
- Exploration on magnetic, electrical, magnetotransport and catalytic properties
- Establishment of the structure-property relationship
- Functional high entropy oxide materials
- Electrocatalytic application of high entropy oxides

Research projects Completed:

S. No	Title	Cost in Lakh	Duration	Role as PI/Co-PI	Agency
1.	A concerted drive towards ambient pressure synthesis and physical characterization of multiferroic quadruple perovskites $A'A_3B_4O_{12}$	37.39	July 2016-June 2019	Principal Investigator: Dr. Md. Motin Seikh	SERB (EMR)
2.	Layered Perovskite-Related Oxide Materials: Synthesis, Structure and Properties	27.60	November 2016-October 2018	Co-Principal Investigator: Dr. Md. Motin Seikh	DST-RSF (Indo-Russian)
3.	Development of High Entropy Stabilized Functional Oxides: Synthesis, Characterization, Magnetic Properties and Supercapacitor Application	37.71	13 December, 2021-19 March 2025	Principal Investigator: Dr. Md. Motin Seikh	SERB (CRG)

Doctoral Theses Guided:

- Awarded: 5 (Five)

- Completed final PhD viva-voce examination: NA
- Present PhD students: 3 (Three)

Publications:

Sl. No	Types	No.	Publication type	
1.	Research articles	129	2 National journal	126 International journal
2.	Book chapters	4	----	International publishers
3.	Books	2	----	(a) Lambert Academic Publishing (b) Wiley-VCH
4.	Conference Proceedings	4	----	International

Google scholar citations:

Md Motin Seikh

Department of Chemistry,
Visva-Bharati University
, Santiniketan-731235
Transition Metal Oxides
Magnetic & Transport Properties
High Entropy Oxides
Electrocatalysis

	All	Since 2020
Citations	2835	1383
h-index	28	19
i10-index	83	47

37 articles — not available
26 articles — available

Based on funding mandates

TITLE CITED BY YEAR

Departmental academic/administrative responsibilities:

Student counseling and placement, Guiding students for (NET/GATE/IIT-JAM etc) & entrance test to national institution for the integrated PhD or PhD level. Member of BoS, Member of Reunion, Seminar, Routine & Syllabus committee (UG+PG), Admission Committee, Celebrating Teacher's Day and Gandhi Punnaha, Student's Farewell Program, Routine Committee of Siksha-Bhavana, NAAC Committee, Laboratory renovation team, University Departmental Promotion Committee (DPC).

Selected Recent Publications:

1. Radhamadhab Das, Sujan Sen, Shreyashi Chowdhury, Sudipa Bhattacharya, Sudisha Mondal, Tapas Kumar Mandal, Arup Gayen, Vasundhara Mutta and **Md. Motin Seikh**, "*Dominating role of carrier localization over Griffiths inhomogeneity and phase separation on magnetoresistance in high entropy manganite*", **J. Phys. Chem. C** 129, 940−953 (2025).
2. Radhamadhab Das, Debamalya Ghosh, Sudipa Bhattacharya, Shreyashi Chowdhury, Alok Pratap Singh, Susanta Ghosh, Arup Gayen and **Md. Motin Seikh**, "*High-Entropy Spinel Oxide: A Prolific System of Panoramic Functional Properties*" **J. Phys. Chem. C** 128, 14168−14184 (2024).
3. Shreyashi Chowdhury, Radhamadhab Das, Sudipa Bhattacharya, Sudisha Mondal, Vasundhara Mutta, Trilochan Bhunia, Arup Gayen and **Md. Motin Seikh**, "*Possible New Approach for*

Exchange-Spring Magnet and Continuous Spin State Transition in Half-Doped High-Entropy Cobaltite Perovskite" **J. Phys. Chem. C** 128, 13952−13967 (2024).

4. Radhamadhab Das, Shreyashi Chowdhury, K. K. Supin, Vasundhara Mutta, Arup Gayen and **Md. Motin Seikh**, "A r*emarkable high entropy effect on magnetic behaviour in quadruple perovskites*" **J. Mater. Chem. C**, 12, 1107-1123 (2024).
5. Radhamadhab Das, Sudip Pal, Sudipa Bhattacharya, Shreyashi Chowdhury, Supin K. K., M. Vasundhara, Arup Gayen and **Md. Motin Seikh**, "*Comprehensive analysis on the effect of ionic size and size disorder parameter in high entropy stabilized ferromagnetic manganite perovskite*" **Phys. Rev. Materials** 7, 024411 (2023).
6. Sudipa Bhattacharya, Radhamadhab Das, Ariful Haque, Asish K. Kundu and **Md. Motin Seikh**, "*Robust metal-insulator transition in "112"-layered double perovskites* $Y_{1-x}Ln_xBaCo_2O_{5.50\pm\delta}$ *(Ln = Sm, Eu and Gd; x = 0, 0.5 and 1)*" **J. Alloys Compds.** 914, 165147 (2022).
7. Olivier Perez, Vincent Caignaert, NahedSakly, **Md. Motin Seikh**, Philippe Boullay, Vincent Hardy and Bernard Raveau, "*Composite Spin Chain Structures Built up of Dimeric and Trimeric Polyhedral Units: The Oxides* $A_{1+y}[(Mn_{1-x}Cox)_{1-z}\square_z]O_3$ *(A = Ca, Sr; x = 3/8)*", **Chem. Mater.** 34 (5), 2361-2375 (2022).
8. Ariful Haque, Radhamadhab Das, Debamalya Ghosh, M. Vasundhara, Arup Gayen, Asish K. Kundu and **Md. Motin Seikh**, "*Observation of Predominant Long-Range Ordering by Overcoming the Magnetic Frustration in Cu-Doped* La_2MnCoO_6, **J. Phys. Chem. C** 125(5), 3088−3101 (2021)
9. Vincent Caignaert, Olivier Perez, Philippe Boullay, **Md. Motin Seikh**, Nahed Sakly, Vincent Hardy and Bernard Raveau, "*Oxygen over stoichiometry in the 2H-perovskite related structure: The route to a large family of cation deficient Ising chain oxides* $Sr_{1+y}[(Mn_{1-x}Co_x)_{1-z}\square_z]O_3$" **J. Mater. Chem. C** 8(41), 14559-14569 (2020).
10. Uma Dutta, Oleg I. Lebedev, Asish K. Kundu and **Md. Motin Seikh**, "*Bi-doped suppression of antisite disordering and associated magnetic properties of* $La_{2-x}Bi_xMnNiO_6$ *(x = 0 and 1)*", **J. Phys.: Condens. Matter** 32, 085803 (2020).
11. V. Hardy, V. Caignaert, O. Pérez, L. Hervé, N. Sakly, B. Raveau, Md. Motin Seikh and F. Damay, "*Pretransitional short-range ordering in a triangular lattice of Ising spin chains*" **Phys. Rev. B** 98, 144414-9 (2018).
12. **Md. Motin Seikh**, Vincent Caignaert, Olivier Perez, Bernard Raveau and Vincent Hardy, "*Interplay between single-ion magnetism, single-chain magnetism and long-range ordering in the spin chain oxides* $Sr_{4-x}Ca_xMn_2CoO_9$" **J. Mater. Chem. C**, 6, 3362-3372 (2018).
13. Debamalya Ghosh, Uma Dutta, Ariful Haque, Natalia E Mordvinova, Oleg I Lebedev, Kamalesh Pal, Arup Gayen, **Md. Motin Seikh** and Partha Mahata, "*Ultra-high sensitivity of luminescent* $ZnCr_2O_4$ *nanoparticles toward nitroaromatic explosives sensing*" **Dalton Trans**., 47, 5011-5018 (2018).
14. **Md. Motin Seikh**, V. Caignaert, O. Perez, B. Raveau and V. Hardy "*Single-ion and single-chain magnetism in triangular spin-chain oxides*" **Phys. Rev. B** 95, 174417 (2017).
15. **Md. Motin Seikh**, V. Caignaert, A. Sundaresan, C. De and B. Raveau, "*Ti-rich Double perovskites* $LnCu_{3-y}Ti_{2-x}Mn_{2+x+y}O_{12}$*: Ferrimagnetism and Magnetoresistance up to room temperature*", ***J. Mater. Chem. C*** **2**, 6061 - 6067 (**2014**).

16. **Md. Motin Seikh**, V. Caignaert, V. Pralong, and B. Raveau, "*Ferrimagnetism up to 200 K in Ti-rich double perovskites $ACu_3Ti_{4-x}Mn_xO_{12}$: Role of double exchange mechanism*" **Appl. Phys. Lett**. 103, 082401-5 (**2013**).
17. **Md. Motin Seikh**, Tapati Sarkar, V. Pralong, V. Caignaert and B. Raveau, "*Dramatic Effect of A-site Substitution upon the Structure and Magnetism of the "114" $CaBaCo_4O_7$ Cobaltite*" **Phys. Rev. B** 86, 184403 (**2012**).
18. **Md. Motin Seikh**, Ch. Simon, V. Caignaert, V. Pralong, M. B. Lepetit, S. Boudin and B. Raveau, *"New Magnetic Transitions in the Ordered Oxygen-Deficient Perovskite $LnBaCo_2O_{5.50\pm\delta}$",* **Chem. Mater. *20***, 231-238 (**2008**).
19. **Md. Motin Seikh**, C. Narayana, P. A. Metcalf, J. M. Honig and A. K. Sood, "*Brillouin scattering studies in Fe_3O_4 across the Verwey transition*", **Phys. Rev. B71**, 174106 (5 pages) (**2005**).
20. **Md. Motin Seikh**, C. Narayana, L. Sudheendra, A. K. Sood and C. N. R. Rao, "*A Brilliouin scattering study of $La_{0.77}Ca_{0.23}MnO_3$ across the metal insulator transition*", **J. Phys. Condens. Matter 16**, 4381-4390 (**2004**).

Research article /Book publication@Md. Motin Seikh

1. Monotosh Bhattacharjee, Trilochan Bhunia, Akbar Hossain, Chandan Kumar Mandal, Prasanta Kumar Sinha, Srabanti Ghosh, Aathira Bhaskaran, Sounak Roy, Bibhutibhushan Show, **Md Motin Seikh**, Parthasarathi Bera, Arup Gayen "*Exsolution-Mediated In Situ NiCuFe Alloying in Chemically Tailored Hercynite: A Key to Coke-free Dry Reforming of Methane*" **ACS Appl. Energy Mater.** 8, 10961−10973 (2025). (Link: https://doi.org/10.1021/acsaem.5c01072)

2. Radhamadhab Das, Sujan Sen, Shreyashi Chowdhury, Sudipa Bhattacharya, Sudisha Mondal, Tapas Kumar Mandal, Arup Gayen, Vasundhara Mutta and **Md. Motin Seikh**, "*Dominating role of carrier localization over Griffiths inhomogeneity and phase separation on magnetoresistance in high entropy manganite*", **J. Phys. Chem. C 129,** 940−953 (2025). (Link: https://doi.org/10.1021/acs.jpcc.4c07154)

3. Asish K. Kundu, **Md. Motin Seikh** and Bernard Raveau, "*Magneto-dielectric effect in corundum-type oxide: Co_4NbTaO_9*", **J. Magn. Magn. Mater.** 610, 172571 (2024). (Link: https://doi.org/10.1016/j.jmmm.2024.172571)

4. Akbar Hossain, Kalyan Ghorai, Trilochan Bhunia, Jordi Llorca, Vasundhara Mutta, Parthasarathi Bera, Aathira Bhaskaran, Sounak Roy, **Md. Motin Seikh** and Arup Gayen, "*Cu-doped LaNiO3 perovskite catalyst for DRM: A revisit in the light of molecular level nanocomposite*", **Phys. Chem. Chem. Phys. 26,** 26603-26621 (2024). (Link: 10.1039/D4CP02252A)

5. Radhamadhab Das, Debamalya Ghosh, Sudipa Bhattacharya, Shreyashi Chowdhury, Alok Pratap Singh, Susanta Ghosh, Arup Gayen and **Md. Motin Seikh**, "*High-Entropy Spinel Oxide: A Prolific System of Panoramic Functional Properties*" **J. Phys. Chem. C 128,** 14168−14184 (2024). (Link: https://doi.org/10.1021/acs.jpcc.4c03000)

6. Shreyashi Chowdhury, Radhamadhab Das, Sudipa Bhattacharya, Sudisha Mondal, Vasundhara Mutta, Trilochan Bhunia, Arup Gayen and **Md. Motin Seikh**, "*Possible New Approach for Exchange-Spring Magnet and Continuous Spin State Transition in Half-Doped High-Entropy Cobaltite Perovskite*" **J. Phys. Chem. C 128,** 13952−13967 (2024). (Link: **https://doi.org/10.1039/D4CP02252A**)

7. Sudipa Bhattacharya, Preeti Yadav, Manoj K. Singh, M. Vasundhara, Arup Gayen, Asish K. Kundu and **Md. Motin Seikh**, "*Universal dielectric response in electronically correlated functional oxides* $CaCu_3Ti_4O_{12}$, $LaFeO_3$, $YFe_{0.5}Cr_{0.5}O_3$ *and their nanocomposites: A comparative study*" **ChemistrySelect 9(15)**, e20240012, (**2024**). (Link: https://doi.org/10.1002/slct.202400126).

8. Sudipa Bhattacharya, Radhamadhab Das, Shreyashi Chowdhury, K. K. Supin, M. Vasundhara, J. R. Sahu, Trilochan Bhunia, Arup Gayen, Oleg I. Lebedev and **Md. Motin Seikh**, "*Entanglement of cation ordering and manipulation of the magnetic properties through a temperature-controlled topotactic interface reaction in nanocomposite perovskite oxides*" ***Mater. Adv.*, 5**, 3863-3880 (2024). (Link: **https://doi.org/10.1039/D3MA00891F**)

9. Shreyashi Chowdhury, Radhamadhab Das, K. K. Supin, M. Vasundhara, Trilochan Bhunia, Arup Gayen and **Md. Motin Seikh**, "*Effect of local chemical disordering on magnetic properties in high entropy manganite of variable hole concentration*" **Ceram. Int. 50**, 10203–10215 **(2024)**. (Link: https://doi.org/10.1016/j.ceramint.2023.12.330)

10. Akbar Hossain, Monotosh Bhattacharjee, Kalyan Ghorai, Jordi Llorca, M. Vasundhara, Sounak Roy, Parthasarathi Bera, **Md. Motin Seikh** and Arup Gayen, "*High activity in the dry reforming of methane using a thermally switchable double perovskite and in situ generated molecular level nanocomposite*" ***Phys. Chem. Chem. Phys.* 26, 5447-5465** (2024). (Link: **https://doi.org/10.1039/D3CP05494B**)

11. Radhamadhab Das, Shreyashi Chowdhury, K. K. Supin, Vasundhara Mutta, Arup Gayen and **Md. Motin Seikh**, "A r*emarkable high entropy effect on magnetic behaviour in quadruple perovskites*" ***J. Mater. Chem. C***, **12**, 1107-1123 (**2024**). **(Link: https://doi.org/10.1039/D3TC03607C**)

12. Karan Goswami, Dipak Das, Parthasarathi Bera, Sounak Roy, **Md. Motin Seikh**, Prasanta Kumar Sinha and Arup Gayen, "*One-pot synthesis of ligand-free highly active Pdcatalyst supported onNiFespinel oxide for Suzuki-Miyaura cross-coupling reaction*" **J. Mol. Struct. 1299**, 137136 (**2024**). (Link: https://doi.org/10.1016/j.molstruc.2023.137136).

13. Sudipa Bhattacharya, Radhamadhab Das, Shreyashi Chowdhury, Supin K K, M. Vasundhara, Akbar Hossain, Arup Gayen and **Md. Motin Seikh**, "*Effect of incoherent*

interaction between A-site Cu^{2+} and Mn^{3+} on magnetic properties of B-site non-magnetic $A'A_3B_4O_{12}$ quadruple perovskite" **J. Magn. Magn. Mater**. 588**,** 171404 (**2023**). (Link: https://doi.org/10.1016/j.jmmm.2023.171404).

14. Radhamadhab Das, Sudipa Bhattacharya, Shreyashi Chowdhury, Sujan Sen, Tapas Kumar Mandal, Trilochan Bhunia, Arup Gayen, M. Vasundhara and **Md. Motin Seikh**, "*High entropy effect on double exchange interaction and charge ordering in half doped $Nd_{0.5}Sr_{0.5}MnO_3$ manganite*" **J. Alloys Compd.** 951, 169950 (**2023**) (Link: https://doi.org/10.1016/j.jallcom.2023.169950).

15. Radhamadhab Das, Sudip Pal, Sudipa Bhattacharya, Shreyashi Chowdhury, Supin K. K., M. Vasundhara, Arup Gayen and **Md. Motin Seikh**, "*Comprehensive analysis on the effect of ionic size and size disorder parameter in high entropy stabilized ferromagnetic manganite perovskite*" **Phys. Rev. Materials 7**, 024411 (**2023**). (Link: https://doi.org/10.1103/PhysRevMaterials.7.024411).

16. Mrinal Saha, Siddhartha Mukherjee, Parthasarathi Bera, **Md. Motin Seikh** and Arup Gayen, "*Structural, optical, dielectric, and magnetic properties of spinel MFe_2O_4 (M = Co and Zn) nanoparticles synthesized by CTAB-assisted hydrothermal method*" **Ceram. Int.** 48, 35719–35732 **(2022).** (Link:https://doi.org/10.1016/j.ceramint.2022.07.058**)**

17. **Md. Motin Seikh**, Vincent Caignaert, Olivier Perez, Fabien Veillon, NahedSakly, Vincent Hardy and Bernard Raveau, "*Competition between single ion and single chain magnetism in stoichiometric spin chain oxides $[Sr_4Mn_2CoO_9]_n$ $[Sr_5Mn_3CoO_{12}]$"* **J. Solid State Chem**.313, 123278(**2022**). (Link: https://doi.org/10.1016/j.jssc.2022.123278)

18. Sudipa Bhattacharya, Radhamadhab Das, Asish K. Kundu and **Md. Motin Seikh**, "*High Sensitivity of Nickel Doping upon Magnetism in the "114" Magnetoelectric $CaBaCo_4O_7$*" **J. Magn. Magn. Mater.** 557, 169466 (**2022**). (Link: https://doi.org/10.1016/j.jmmm.2022.169466)

19. Sudipa Bhattacharya, Radhamadhab Das, Ariful Haque, Asish K. Kundu and **Md. Motin Seikh**, "*Robust metal-insulator transition in "112"-layered double perovskites $Y_{1-x}Ln_xBaCo_2O_{5.50\pm\delta}$ (Ln = Sm, Eu and Gd; x = 0, 0.5 and 1)*" **J. Alloys Compds.** 914, 165147 (**2022**). (Link:https://doi.org/10.1016/j.jallcom.2022.165147)

20. Ariful Haque, Sudipa Bhattacharya, Radhamadhab Das, Akbar Hossain, Arup Gayen, Asish K. Kundu, M. Vasundhara and **Md. Motin Seikh**, "*Effects of Bi doping on*

structural and magnetic properties of cobalt ferrite perovskite oxide $LaCo_{0.5}Fe_{0.5}O_3$" **Ceram. Int.** 48 (11), 16348-16356 (**2022**). (Link: https://doi.org/10.1016/j.ceramint.2022.02.185)

21. Olivier Perez, Vincent Caignaert, NahedSakly, **Md. Motin Seikh**, Philippe Boullay, Vincent Hardy and Bernard Raveau, "*Composite Spin Chain Structures Built up of Dimeric and Trimeric Polyhedral Units: The Oxides* $A_{1+y}[(Mn_{1-x}Cox)_{1-z}\square_z]O_3$ *(A = Ca, Sr; x = 3/8)*", **Chem. Mater.** 34 (5), 2361-2375 (**2022**). (Link: https://doi.org/10.1021/acs.chemmater.1c04360)

22. Mrinmoy Ghosh, NayimSepay, Dieter Schollmeyer, Hiroshi Sakiyama, Masahiro Mikuriya, Dasarath Mal, Arup Gayen, **Md. Motin Seikh** and Sandip Saha, "*Spacers directed self-assembly of heterobimetallic copper(II)-lanthanide(III) [Ln = Nd and Gd] moieties: syntheses, structural diversities and magnetic properties*" **Polyhedron**, 216, 115718 (10 ps) (**2022**). (Link: https://doi.org/10.1016/j.poly.2022.115718)

23. Kalyan Ghorai, Atanu Panda, Akbar Hossain, Monotosh Bhattacharjee, Malay Chakraborty, Swapan Kumar Bhattacharya, Bibhutibhushan Show, Abhimanyu Sarkar, ParthasarathiBera, Hansang Kim, **Md. Motin Seikh** and Arup Gayen, "*$LaNiO_3$/g-C_3N_4 nanocomposite: An efficient Z-scheme photocatalyst forwastewater treatment using direct sunlight*" **J. Rare Earths**40 (5), 725-736 **(2022). (Link:** https://doi.org/10.1016/j.jre.2021.04.013)

24. O. Pérez, V. Caignaert, B. Raveau, V. Hardy, N. Sakly and **Md. Motin Seikh, "***Designing composite spin chain structures built up of dimeric and trimeric polyhedral units: the oxides* $A_{1+y}[(Mn_{1-x}Co_x)_{1-z}\diamond_z]O_3$ *(A = Ca, Sr; x = 3/8)***"** **Acta Cryst.** A77, C547 (**2021**). (Link: https://scripts.iucr.org/cgi-bin/paper?S0108767321091455)

25. Kalyan Ghorai, Atanu Panda, Akbar Hossain, Monotosh Bhattacharjee, Malay Chakraborty, Swapan Kumar Bhattacharya, ParthasarathiBera, Hansang Kim, **Md. Motin Seikh** and Arup Gayen, "*Anatase* TiO_2 *decorated* $CuCr_2O_4$ *nanocomposite: A versatile photocatalyst under domestic LED light irradiation*" **Appl. Surf. Sci.** 568, 150838 (20 ps),(**2021**). (Link: https://doi.org/10.1016/j.apsusc.2021.150838)

26. Radhamadhab Das, Sudipa Bhattacharya, Ariful Haque, Debamalya Ghosh, Oleg I. Lebedev, Arup Gayen and **Md. Motin Seikh**, "*A comparative magnetic behaviour of conventional and high entropy double perovskites:* La_2MnCoO_6*and* $(La_{0.4}Y_{0.4}Ca_{0.4}Sr_{0.4}Ba_{0.4})MnCoO_6$" **J. Magn. Magn. Mater.** 538, 168267 (9 ps) (**2021**). (Link: https://doi.org/10.1016/j.jmmm.2021.168267)

27. Ariful Haque, Radhamadhab Das, M. Vasundhara, Debamalya Ghosh, Arup Gayen, ParthaMahata,Asish K. Kunduand **Md. Motin Seikh** "*Ambient Pressure Synthesis and Magnetic Properties of* $La[Cu_{3-x}Mn_x][Mn_{4-y}Ti_y]O_{12}(x = 0 \& 1; y = 0.5 \& 1)$ *Quadruple Perovskite*" **J. Alloys Compds.** 875, 159984 (**2021**). (link: https://doi.org/10.1016/j.jallcom.2021.159984)

28. Arnab Chatterjee, **Md. Motin Seikh**, Shubhamoy Chowdhury and Rajarshi Ghosh, "*Catecholase and catechol cleavage activities of a dinuclear phenoxobridged Cu(II) complex: synthesis, structure and magnetostructural studies*" **Inorganica Chim. Acta.** 521, 120345 (**2021**). (Link: https://doi.org/10.1016/j.ica.2021.120345)

29. Kamalesh Pal, Amitava Mukherjee, **Md. Motin Seikh**, Parthasarathi Bera and Arup Gayen, "*Synthesis, structure, CO oxidation, and* H_2 *production activities of* $CaCu_{3-x}Mn_xTi_{4-x}Mn_xO_{12}$ $(x = 0, 0.5, and\ 1.0)$" **Ceram. Int.** 47(10), 14798-14808 (**2021**). (Link: https://doi.org/10.1016/j.ceramint.2020.10.080)

30. Ariful Haque, Radhamadhab Das, Debamalya Ghosh, M. Vasundhara, Arup Gayen, Asish K. Kundu and **Md. Motin Seikh**, "*Observation of Predominant Long-Range Ordering by Overcoming the Magnetic Frustration in Cu-Doped* La_2MnCoO_6, **J. Phys. Chem. C** 125(5), 3088−3101 (**2021**) (Link: https://doi.org/10.1021/acs.jpcc.0c09120)

31. Debamalya Ghosh, Radhamadhab Das, Ariful Haque, Kalyan Ghorai, Arup Gayen, Partha Mahata, Asish K. Kundu and **Md. Motin Seikh**, "*Synthesis, Structure and Magnetic Properties of* $La_{1-x}Ln_xCr_{0.5}Co_{0.5}O_3$ $(x= 0 \text{ and } 0.2$ *&* $Ln=Pr, Sm \text{ and } Gd)$ *Perovskites*", **J. Magn. Magn. Mater.** 523, 167621 (8 ps) (**2021**). (Link: https://doi.org/10.1016/j.jmmm.2020.167621)

32. Kalyan Ghorai, Atanu Panda, Monotosh Bhattacharjee, Debasish Mandal, Akbar Hossain, ParthasarathiBera, **Md. Motin Seikh** and Arup Gayen, "*Facile synthesis of CuCr2O4/CeO2 nanocomposite: A new Fenton like catalyst with domestic LED light assisted improved photocatalytic activity for the degradation of RhB, MB and MO dyes*" **Appl. Surf. Sci.** 536, 147604 (19 ps) (**2021**). (Link: https://doi.org/10.1016/j.apsusc.2020.147604)

33. Kalyan Ghorai, Monotosh Bhattacharjee, Debasish Mondal, Akbar Hossain, Trilochan Bhunia, Parthasarathi Bera, Tapas Kumar Mandal, **Md. Motin Seikh** and Arup Gayen, "*Facile synthesis of* $CuCr_2O_4/BiOBr$ *composite and its improved Rh-B degradation activity under household visible LED light irradiation*" **J. Alloys**

Compds. 867, 157947 (21 ps) (**2021**). (Link: https://doi.org/10.1016/j.jallcom.2020.157947)

34. Debamalya Ghosh, Ananya Pal, Debal Kanti Singha, Susanta Ghosh, Oleg I. Lebedev, **Md. Motin Seikh** and Partha Mahata, "*Irregularly-Shaped $Zn_{0.6}Mn_{2.4}O_4$ Nanoparticles for Supercapacitors and Nitroaromatics Detection*" **ACS Appl. Nano Mater.** 3(10), 10105–10114 (**2020**). (Link: https://doi.org/10.1021/acsanm.0c02088)

35. Vincent Caignaert, Olivier Perez, Philippe Boullay, **Md. Motin Seikh**, Nahed Sakly, Vincent Hardy and Bernard Raveau, "*Oxygen over stoichiometry in the 2H-perovskite related structure: The route to a large family of cation deficient Ising chain oxides $Sr_{1+y}[(Mn_{1-x}Co_x)_{1-z}\square_z]O_3$*" **J. Mater. Chem. C** 8(41), 14559-14569 (**2020**). (Link: **https://doi.org/10.1039/D0TC03880F**)

36. Prasanta Bandyopadhyay and **Md. Motin Seikh**, "*Components of the Interaction Energy of Odd-electron Halogen Bond: An ab Initio Study*" ***Phys. Chem. Chem. Phys***. ***22,*** 15389-15400 ***(2020)***. (Link: **https://doi.org/10.1039/D0CP02619K**)

37. Ariful Haque, Radhamadhab Das, Debamalya Ghosh, O. I. Lebedev, Arup Gayen, Asish K. Kundu and **Md. Motin Seikh**, "*Unravelling the role of Bi-substitution on vibronic ferromagnetism in $La_{2-x}Bi_xMnCoO_6$ (x = 0, 0.5 and 1)*". **Magn. Magn. Mater.** 514, 167159 (**2020**). (Link: https://doi.org/10.1016/j.jmmm.2020.167159)

38. Kamalesh Pal, Arka Dey, Rajkumar Jana, ParthaPratim Ray, ParthasarathiBera, Lalit Kumar, Tapas Kumar Mandal, Paritosh Mohanty, **Md. Motin Seikh** and Arup Gayen, "*Citrate combustion synthesized Al-doped CaCu3Ti4O12 quadruple perovskite: Synthesis, characterization and multifunctional properties.*"***Phys. Chem. Chem. Phys***. ***22,*** 3499 - 3511 ***(2020)***.(Link: **https://doi.org/10.1039/C9CP05005A**)

39. Uma Dutta, Oleg I. Lebedev, Asish K. Kunduand **Md. Motin Seikh**, "*Bi-doped suppression of antisite disordering and associated magnetic properties of $La_{2-x}Bi_xMnNiO_6$ (x = 0 and 1)*", **J. Phys.: Condens. Matter 32,** 085803 **(2020).** (Link:https://doi.org/10.1088/1361-648X/ab5591)

40. Uma Dutta, Ariful Haque, Debamalya Ghosh, M. Mukesh, M. Vasundhara, Natalia E. Mordvinova, Oleg I. Lebedev, Arup Gayen, Asish K. Kundu and **Md. Motin Seikh**, "*Facile synthesis and tunable magnetization in carbon encapsulated $Ni_{1-x}M_x$(M = Fe, Co and Cu; 0≤x ≤0.5) ferromagnetic alloy nanoparticles*" **Mater. Chem. Phys.** 243, 122566 -9 (**2020**). (Link: https://doi.org/10.1016/j.matchemphys.2019.122566)

41. Prasanta Bandyopadhyay, AnimeshKarmakar, Jyotirmoy Deb, Utpal Sarkar and **Md. Motin Seikh**, "*Non-covalent interactions between epinephrine and nitroaromatic compounds: A DFT study*" **Spectrochim. Acta A** 228, 117827 (8ps) (**2020**). (Link: https://doi.org/10.1016/j.saa.2019.117827)

42. Ariful Haque, Ashish Shukla, Uma Dutta, Debamalya Ghosh, Arup Gayen, ParthaMahata, M. Vasundhara, Asish K. Kundu and **Md. Motin Seikh**, "*Incompatible magnetic and dielectric properties of* $BiCu_{3-x}Mn_xTi_{4-y}M_yO_{12}$ *(x= 0 & 0.5; y= 1 & 1.5 and M= Fe & Mn)*", **Ceram. Int.**46, *5907–5912* (**2020**). (Link: https://doi.org/10.1016/j.ceramint.2019.11.043)

43. Ariful Haque, Debamalya Ghosh, Uma Dutta, Ashish Shukla, Arup Gayen, ParthaMahata, Asish K. Kundu and **Md. Motin Seikh**, "*Change in magnetic properties of* La_2MnCoO_6 *in composite with* $CaCu_3Ti_4O_{12}$", **J. Magn. Magn. Mater.** 494, 165847 (**2020**). (Link: https://doi.org/10.1016/j.jmmm.2019.165847)

44. DebamalyaGhosh, DebalKanti Singha, Oleg I. Lebedev, **Md. Motin Seikh** and Partha Mahata, "*A Remarkable Annealing Time Effect on Magnetic Properties of Single Source Coordination Polymer Precursor derived* $CoFe_2O_4$ *Nanoparticles*" **New J. Chem. 43**, 19044 - 19052 (**2019**). (Link: **https://doi.org/10.1039/C9NJ04550C**)

45. Prasanta Bandyopadhyay, Soumyadip Ray and **Md. Motin Seikh**, "*Unraveling the regioselectivity of odd electron halogen bond formation using electrophilicity index and chemical hardness parameters*" **Phys. Chem. Chem. Phys**. **21**, 26580 - 26590 (**2019**). (Link: **https://doi.org/10.1039/C9CP05374C**)

46. Prasanta Bandyopadhyay, Rajkumar Jana, Kalishankar Bhattacharyya, Oleg I. Lebedev, Uma Dutta, Utpal Sarkar, Ayan Datta and **Md. Motin Seikh**, "*Interaction of a bioactive molecule with surfaces of nanoscale transition metal oxides: experimental and theoretical studies*", **New J. Chem.** 43(42), 16621-16628 (**2019**). (Link: **https://doi.org/10.1039/C9NJ03124C**)

47. Uma Dutta, Ariful Haque and **Md. Motin Seikh**, "*Synthesis, structure and magnetic properties of Ti doped* La_2MnNiO_6 *double perovskite*" **Chimica Techno Acta** 6, 80-92 (**2019**). (Link: https://doi.org/10.15826/chimtech.2019.6.3.01)

48. Ashish Shukla, Oleg I Lebedev, **Md. Motin Seikh** and Asish K Kundu, "*Structural and Magnetic Characterization of Spin Canted Mixed Ferrite-Cobaltites:* $LnFe_{0.5}Co_{0.5}O_3$ *(Ln= Eu and Dy)*" **J. Magn. Magn. Mater.** 491, 165558-62 (**2019**). (Link: https://doi.org/10.1016/j.jmmm.2019.165558)

49. Debamalya Ghosh, Ananya Pal, Susanta Ghosh, Arup Gayen, **Md. Motin Seikh** and ParthaMahata, "*Metal Ion Sensing and Electrochemical Behavior of MOF Derived* $ZnCo_2O_4$" Eur. J. Inorg. Chem. 3076-3083 (**2019**). (Link: **https://doi.org/10.1002/ejic.201900439**)

50. **Md. Motin Seikh**, Vincent Caignaert, NahedSakly, Olivier Perez, Bernard Reveau and Vincent Hardy "*Effect of thermal treatment upon the structure incommensurability and magnetism of the spin chain oxide* $Sr_3CaMn_2CoO_{9+\delta}$" **J. Alloys Compds**. 790, 572-576 (**2019**). (Link: https://doi.org/10.1016/j.jallcom.2019.03.183)

51. U. Dutta, D. Ghosh, A. Haque, L. Kumar, T. K. Mandal, P. S. Walke, K. Pal, A. Gayen, A. K. Kundu and **Md. Motin Seikh** "*A revisit to the effect of annealing temperature on magnetic properties of* $LaFe_{0.5}Mn_{0.5}O_3$" **J. Phys.: Condens. Matter 31,** 225801 **(2019).** (Link: https://doi.org/10.1088/1361-648X/ab0b98)

52. Ashish Shukla, Akash Singh, **Md. Motin Seikh** and Asish K. Kundu, "*Low temperature magneto-dielectric coupling in nanoscale layered SmFe0.5Co0.5O3 perovskite*" **J. Phys. Chem. Solids** 127, 164-168 (**2019**). (Link: https://doi.org/10.1016/j.jpcs.2018.12.022)

53. Vandana Solanki, **Md. Motin Seikh** and Asish K. Kundu, "*Influence of chromium in the structural and magnetic properties of* $LaCo_{0.5}Cr_{0.5}O_3$ *perovskite*" **J. Magn. Magn. Mater.** 469, 95-99 (**2019**). (Link: https://doi.org/10.1016/j.jmmm.2018.08.038)

54. U. Dutta, A. Hossain, Pravin S. Walke, D. Ghosh, Natalia E. Mordvinova, O. I. Lebedev,A. Haque, K. Pal, A. Gayen, A. K. Kundu and **Md. Motin Seikh**, "*Synthesis, Structure and Magnetic Properties of Nanodimensional* $La_{1-x}Ba_xFe_{0.5}Mn_{0.5}O_3$ *Perovskites*" **J. Alloys Compds**. 777, 1396-1402 (**2019**). (Link: https://doi.org/10.1016/j.jallcom.2018.11.101)

55. S. Maiti, D. Das, K. Pal, J. Llorca, L. Soler, S. Colussi, A. Trovarelli, K. R. Priolkar, P. R. Sarode, K. Asakura, **Md. Motin Seikh** and Arup Gayen, "*Methanol steam reforming behavior of sol-gel synthesized nanodimensional* $Cu_xFe_{1-x}Al_2O_4$ *hercynites*", **Appl. Catal. A Gen.** 570, 73-83 (**2019**). (Link: https://doi.org/10.1016/j.apcata.2018.11.011)

56. V. Hardy, V. Caignaert, O. Pérez, L. Hervé, N. Sakly, B. Raveau, **Md. Motin Seikh** and F. Damay, "*Pretransitional short-range ordering in a triangular lattice of Ising spin chains*" **Phys. Rev. B** 98, 144414-9 **(2018). (Link:** https://doi.org/10.1103/PhysRevB.98.144414)

57. B. Raveau, V. Caignaert, V. Hardy and **Md. Motin Seikh**, "*Transition metal oxides with triangular metallic sub-lattices: From multiferroics to low dimensional magnets*" **Comptes Rendus Chimie** 21, 952-957 (**2018**). (Link: https://doi.org/10.1016/j.crci.2018.07.012).

58. K. Pal, R. Jana, A. Dey, P. P. Ray, **Md. Motin Seikh** and A. Gayen, "*Performance analysis of Fe-doped calcium copper titanate quadruple perovskite in optoelectronic device*" ***Chem. Phys. Lett***. 709, 110-115 (**2018**). (Link: https://doi.org/10.1016/j.cplett.2018.08.052)

59. K. Pal, K. Ghorai, S. Aggrawal, T. K. Mandal, P. Mohanty**,** **Md. Motin Seikh** and A. Gayen "*Remarkable Ti-promotion in vanadium doped anatase titania for methylene blue adsorption in aqueous medium*" **J. Env. Chem. Eng.** 6, 5212–5220 (**2018**). (Link: https://doi.org/10.1016/j.jece.2018.08.015)

60. U. Dutta, D. Ghosh, A. Haque, Pravin S. Walke, N. E. Mordvinova, O. I. Lebedev, K. Pal, A. Gayen, A. K. Kundu and **Md. Motin Seikh**, "*Influence of Ti-doping on the magnetic exchange interaction of* $La_{0.5}Ca_{0.5}MnO_3$ *nanoparticles*", **J. Magn. Magn. Mater.***464, 132–138 (**2018**).* (Link: https://doi.org/10.1016/j.jmmm.2018.05.057)

61. Kamalesh Pal, Arka Dey, Partha P Ray, Natalia E Mordvinova, Oleg I Lebedev, Tapas K Mandal, **Md. Motin Seikh** and Arup Gayen*"Synthesis, Characterization and Catalytic Activity of Quadruple Perovskite:* $CaCu_{3-x}Mn_xTi_{4-x}Mn_xO_{12}$ *(x= 0, 0.5 and 1.0)*" **ChemistrySelect** 3(4), 1076-1087 (**2018**). (Link: **https://doi.org/10.1002/slct.201703034)**

62. **Md. Motin Seikh**, Vincent Caignaert, Olivier Perez, Bernard Raveau and Vincent Hardy, "*Interplay between single-ion magnetism, single-chain magnetism and long-range ordering in the spin chain oxides* $Sr_{4-x}Ca_xMn_2CoO_9$**" J. Mater. Chem. C**, **6**, 3362-3372 (**2018**). (Link: **https://doi.org/10.1039/C7TC05968J**)

63. Debamalya Ghosh, Uma Dutta, Ariful Haque, Natalia E Mordvinova, Oleg I Lebedev, Kamalesh Pal, Arup Gayen, **Md. Motin Seikh** and Partha Mahata, "*Ultra-high sensitivity of luminescent* $ZnCr_2O_4$ *nanoparticles toward nitroaromatic explosives sensing*" **Dalton Trans.**, **47**, 5011-5018 (**2018**). (Link: **https://doi.org/10.1039/C8DT00047F**)

64. Amar S Katkar, Shobhnath P Gupta, **Md. Motin Seikh**, Lih-Juann Chen and Pravin S Walke, "*Room-temperature ferromagnetic Cr-doped* Ge/GeO_x*core–shell nanowires*" **Nanotechnology 29**, 235705 (**2018**). (Link: https://doi.org/10.1088/1361-6528/aab7a9)

65. Kamalesh Pal, Rajkumar Jana, Arka Dey, Partha P Ray, **Md. Motin Seikh** and Arup Gayen, "*Application of $CaCu_3Ti_4O_{12}$ based quadruple perovskites as a promising candidate for optoelectronic devices*" **Chem. Phys. Lett.699**, 229–233 (**2018**). (Link: https://doi.org/10.1016/j.cplett.2018.03.062)

66. Debamalya Ghosh, Uma Dutta, Ariful Haque, Natalia E.Mordvinova, Oleg I. Lebedev, Kamalesh Pal, Arup Gayen, ParthaMahata, Asish K. Kundu and **Md. Motin Seikh** " *Evidence of Low Temperature Spin Glass Transition in Bixbyite Type $FeMnO_3$*" **Mater. Sci. Eng. B** 226, 206-210 (**2017**). (Link: https://doi.org/10.1016/j.mseb.2017.09.022)

67. Aslam Hossain, Debamalya Ghosh, Uma Dutta, Pravin S Walke, Natalia E Mordvinova, Oleg I Lebedev, Bhavesh Sinha, Kamalesh Pal, Arup Gayen, Asish K Kundu, **Md. Motin Seikh** "*Synthesis, Structure and Magnetic Properties of Nanostructured $La_{1-x}A_xFe_{0.5}Mn_{0.5}O_3$ (A= Ca, Sr and Pb; x= 0 & 0.25) Perovskites*" **J. Magn. Magn. Mater**. 444, 68-76 (**2017**). (Link: https://doi.org/10.1016/j.jmmm.2017.07.087)

68. Prasanta Bandyopadhyay, Barnali Bhattacharya, Koushik Majhi, Prakash Majee, Utpal Sarkar and **Md. Motin Seikh**, "*Benzthiazoline-2-thione (BTT) revisited: An experimental and theoretical endeavor to understand UV-spectra*" **Chem. Phys. Lett.** 686, 88–96 (**2017**). (Link: https://doi.org/10.1016/j.cplett.2017.08.038)

69. **Md. Motin Seikh**, V. Caignaert, O. Perez, B. Raveau and V. Hardy "*Single-ion and single-chain magnetism in triangular spin-chain oxides*" **Phys. Rev. B** 95, 174417 (**2017**). (Link: https://doi.org/10.1103/PhysRevB.95.174417)

70. V. Solanki, S. Das, S. Kumar, **Md. Motin Seikh**, B. Raveau and Asish K. Kundu "*Crucial role of sol–gel synthesis in the structural and magnetic properties of $LaFe_{0.5}(Co/Ni)_{0.5}O_3$ perovskites*" **J. Sol-Gel Sci. Tech.** 82, 536-540 (**2017**). (Link: https://doi.org/10.1007/s10971-017-4319-x)

71. K. R. S. P. Meher, V. Caignaert, **Md. Motin Seikh**, B. Raveau and A Maignan "*Magnetoelectric coupling in ceramic of the Zn-doped CaBaCo 4 O 7 pyroelectric ferrimagnet*" **Ceram. Int.** 43, 208-211 (**2017**). (Link: https://doi.org/10.1016/j.ceramint.2016.09.137)

72. V. Solanki, O. I. Lebedev, **Md. Motin Seikh**, N. K. Mahato, B Raveau and Asish K. Kundu "*Synthesis and characterization of Co–Ni and Fe–Ni alloy nanoparticles*" **J. Magn. Magn. Mater.** 420, 39-44 (**2016**). (Link: https://doi.org/10.1016/j.jmmm.2016.06.087)

73. **Md. Motin Seikh**, Asish K. Kundu, V. Caignaert and B. Raveau, "*Gigantic effect of iron doping upon magnetism in the "114" magnetoelectric $CaBaCo_4O_7$*" **J. Alloys and Compd.** 656, 166-171 (**2016**). (Link: https://doi.org/10.1016/j.jallcom.2015.08.257)

74. Sayantani Maiti, Asish K. Kundu, Oleg I. Lebedev, P. Bera, C. Anandan, Arup Gayen and **Md. Motin Seikh**, "*Synthesis and magnetic properties of nano-dimensional $Fe_{1-x}Cu_xAl_2O_4$ $(0.3 \leq x \leq 0.8)$*" ***RSC Adv.***, **5**, 83809-83817 (**2015**). (Link: **https://doi.org/10.1039/C5RA14623B**)

75. Asish K. Kundu, Oleg I. Lebedev, Nadezhda E. Volkova, **Md. Motin Seikh**, Vincent Caignaert, Vladimir A. Cherepanov and Bernard Raveau , "*Quintuple perovskites $Ln_2Ba_3Fe_{5-x}Co_xO_{15-\delta}$ (Ln = Sm, Eu): nanoscale ordering and unconventional magnetism*"**J. Mater. Chem. C**, **3**, 5398-5405 (**2015**). (Link: **https://doi.org/10.1039/C5TC00494B**)

76. Asish K. Kundu, **Md. Motin Seikh** and PranjalNautiyal "*Bismuth centred magnetic perovskite: A projected multiferroic*" **J. Magn. Magn. Mater.** 378, 506-528 (**2015**). (Link: https://doi.org/10.1016/j.jmmm.2014.11.044)

77. B. Raveau and **Md. Motin Seikh**, "*Charge Ordering in Cobalt Oxides: Impact on Structure, Magnetic and Transport Properties*" **Z. Anorg. Allg. Chem.**, 641, 1385-1394 (**2015**). (Link: **https://doi.org/10.1002/zaac.201500085**)

78. PranjalNautiyal, **Md. Motin Seikh**, Oleg I. Lebedev, Asish K. Kundu, "*Sol-gel synthesis of Fe-Co nanoparticles and magnetization study*" **J. Magn. Magn. Mater**. **377,** 402–405 (**2015**). (Link: https://doi.org/10.1016/j.jmmm.2014.10.157)

79. P. Boullay, O. Pérez, B. Raveau, **Md. Motin Seikh** and C. Vincent "*Analysis of $Sr_{3-x}Ca_{1+x}Mn_2CoO_9$ combining electron, X-ray and neutron diffraction*" **Acta. Cryst. A70**, C929 (**2014**). (Link: http://scripts.iucr.org/cgi-bin/paper?S2053273314090706)

80. **Md. Motin Seikh**, V. Caignaert, E. Suard, K. R. S. Preethi Meher, A. Maignan and B. Raveau, "*Closely related magnetic and dielectric transitions in the "114" magnetoelectric Zn-doped $CaBaCo_4O_7$*" **J. Appl. Phys. 116**, 244106 (**2014**). (Link: https://doi.org/10.1063/1.4905033)

81. B. Raveau and **Md. Motin Seikh**, "*Impact of Crystal Chemistry upon Spin Orientation Transitions in Magnetic Perovskites*" **Z. Anorg. Allg. Chem**640, 2649–2657 (**2014**). (Link: **https://doi.org/10.1002/zaac.201400348**)

82. **Md. Motin Seikh**, V. Pralong, V. Caignaert and B. Raveau**, "***Local Melting of Charge Ordering in CaBaCo4O7 by Sr-Doping***" Z. Anorg. Allg. Chem 640**(6), 1141-1146 **(2014).** (Link:**https://doi.org/10.1002/zaac.201300671**)

83. N. E Volkova, O. I. Lebedev, L. Ya. Gavrilova, S. Turner, N. Gauquelin, **Md. Motin Seikh**, V. Caignaert, Vladimir A. Cherepanov, B. Raveau and G. Van Tendeloo, "*Nanoscale Ordering in Oxygen Deficient Quintuple Perovskite Sm2-εBa3+εFe5O15-δ: Implication for Magnetism and Oxygen Stoichiometry*" **Chem. Mater. 26**, 6303-6310 (**2014**). (Link: https://doi.org/10.1021/cm503276p)

84. **Md. Motin Seikh**, V. Caignaert, A. Sundaresan, C. De and B. Raveau, "*Ti-rich Double perovskites* $LnCu_{3-y}Ti_{2-x}Mn_{2+x+y}O_{12}$*: Ferrimagnetism and Magnetoresistance up to room temperature*", ***J. Mater. Chem. C*** **2**, 6061 - 6067 (**2014**). (Link: **https://doi.org/10.1039/C4TC00932K**)

85. Nabanita Pal, Malay Pramanik, **Md. Motin Seikh**, AsimBhaumik, "**O***rganic-inorganic hybrid supermicroporous chromium oxophenylphosphate with magnetic and catalytic properties*" **J. Magn. Magn. Mater.363**, 210-216 (**2014**). (Link: https://doi.org/10.1016/j.jmmm.2014.03.059)

86. **Md. Motin Seikh**, V. Caignaert, V. Pralong and B. Raveau, "*High sensitivity of magnetism of the "114" ferrimagnet* $CaBaCo_4O_7$ *to stoichiometry deviation*" **J. Phys. Chem. Solids** 75, 79-85 (**2014**).(Link: https://doi.org/10.1016/j.jpcs.2013.08.013)

87. **Md. Motin Seikh**, V. Caignaert, O. I. Lebedev, and B. Raveau "*Cubic Structure and Canted Antiferromagnetism of* $CaMn_7O_{12}$ *Doped with Trivalent Cations (Fe, Al, Cr)*" **Solid State Commun**. **180**, 52-55 (**2014**). (Link: https://doi.org/10.1016/j.ssc.2013.11.024)

88. **Md. Motin Seikh**, V. Caignaert, V. Pralong, and B. Raveau, "*Ferrimagnetism up to 200 K in Ti-rich double perovskites* $ACu_3Ti_{4-x}Mn_xO_{12}$*: Role of double exchange mechanism*" **Appl. Phys. Lett**. 103, 082401-5 (**2013**). (Link: https://doi.org/10.1063/1.4819060)

89. **Md. Motin Seikh**, V. Pralong, O. I. Lebedev, V. Caignaert and B. Raveau, "*The ordered double perovskite* $PrBaCo_2O_6$*: Synthesis, structure and magnetism"* **J. Appl. Phys.** 114, 013902-5 (**2013**). (Link: https://doi.org/10.1063/1.4812368)

90. P. Nautiyal, **Md. Motin Seikh**, V.Pralong and Asish K. Kundu, "*Influence of bismuth on the magnetic & electrical properties of* La_2MnNiO_6" **J. Magn. Magn. Mater.**347, 111–115 (**2013**). (Link: https://doi.org/10.1016/j.jmmm.2013.07.062)

91. V. K. Jha, P. Nautiyal, **Md. Motin Seikh**, R. Chatterjee, R. Mahendiran and Asish K. Kundu, "*Heat capacity, thermopower and magnetoresistance effects in multiferroic* $La_{0.5}Bi_{0.5}Mn_{0.5}Fe_{0.5}O_3$" **J. Mater Sci**. 48, 7629–7634 (**2013**). (Link: https://doi.org/10.1007/s10853-013-7580-6)

92. N. Barrier,O. I. Lebedev, **Md. Motin Seikh**, F. Porcherand B. Raveau, "*Impact of* Mn^{3+} *upon structure and magnetism of the perovskite derivative* $Pb_{2-x}Ba_xFeMnO_5$ *(x~0.7)*" **Inorg. Chem.** 52, 6073−6082 (**2013**). (Link: https://doi.org/10.1021/ic400426m)

93. **Md. Motin Seikh**, Tapati Sarkar, V. Pralong, V. Caignaert and B. Raveau, "*Complex Magnetic Phase Separation Induced by Li-Doping in the* $CaBaCo_4O_7$ *Cobaltite*" **J. Appl. Phys.** 113, 053910-6 (**2013**). (Link: https://doi.org/10.1063/1.4790373)

94. Nabanita Pal, **Md. Motin Seikh** and AsimBhaumik, "*Magnetic properties of mesoporous cobalt-silica-alumina ternary mixed oxides*" **J. Solid State Chem**. **198**, 114-119 (**2013*)***. (Link: https://doi.org/10.1016/j.jssc.2012.09.032)

95. V. K Jha, **Md. Motin Seikh**, R. Chatterjee and Asish K. Kundu, "*Effect of nickel on the magnetic and magnetotransport properties of* $La_{0.7}Bi_{0.3}MnO_3$",**ScienceJet2**, 31 (**2013**). (Link: http://www.cognizure.com/scilett.aspx?p=114637240)

96. **Md. Motin Seikh**, Tapati Sarkar, V. Pralong, V. Caignaert and B. Raveau, "*Dramatic Effect of A-site Substitution upon the Structure and Magnetism of the "114"* $CaBaCo_4O_7$ *Cobaltite*" **Phys. Rev. B** 86, 184403 (**2012**). (Link: https://doi.org/10.1103/PhysRevB.86.184403)

97. Tapati Sarkar, **Md. Motin Seikh**, V. Pralong, V. Caignaert and B. Raveau, *"Spectacular switching from ferrimagnetism to antiferromagnetism by zinc doping in "114" orthorhombic* $CaBaCo_4O_7$*",* **Appl. Phys. Lett**. 100, 232401 (**2012**). (Link:https://doi.org/10.1063/1.4725517)

98. Tapati Sarkar, **Md. Motin Seikh**, V. Pralong, V. Caignaert and B. Raveau, "*Magnetism of the ''114'' orthorhombic charge ordered* $CaBaCo_4O_7$ *doped with Zn or Ga: a spectacular valency effect*" **J. Mater. Chem**., 22, 18043 (**2012**). (Link: **https://doi.org/10.1039/C2JM33486K**)

99. Asish K. Kundu, V. K. Jha, **Md. Motin Seikh**, R Chatterjee and R Mahendiran, "*A comparative study of magnetic and dielectric behaviors for* $La_{1-x}Bi_xMn_{1-y}Fe_yO_3$ *series (with* $x = 0.5, 0.7$ *and* $y = 0.3, 0.7$*)*" **J. Phys. Condens. Matter** 24, 255902 (**2012**). (Link: https://doi.org/10.1088/0953-8984/24/25/255902)

100. M. K. Bhunia, S. K. Das, **Md. Motin Seikh** and A. Bhaumik, "*Metal directed structural diversity of two coordination polymers and their optical and magnetic properties"***Polyhedron** 30, 2218-2226 (**2011**). (Link: https://doi.org/10.1016/j.poly.2011.05.045)

101. Asish K. Kundu, **Md. Motin Seikh**, Akhilesh Srivastava, S. Mahajan, R. Chatterjee, B. Raveau, "*Incoherent Effect of Fe and Ni Substitutions in the Ferromagnetic-Insulator* $La_{0.6}Bi_{0.4}MnO_{3+\square}$*"* **J. Appl. Phys. 110**, 073904 (**2011**). (Link: https://doi.org/10.1063/1.3646458)

102. M. Nandi, K. Sarkar, **Md. Motin Seikh** and A. Bhaumik *"Mesoporous lanthanum-manganese oxides with nanoscale periodicity, high surface area and ferromagnetic property"***Microporous and Mesoporous Materials143**, 392-397 (**2011**). (Link: https://doi.org/10.1016/j.micromeso.2011.03.022)

103. **Md. Motin Seikh**, Asish K. Kundu, V. Caignaert, V. Pralong and B. Raveau, "*Magnetic and Electronic properties of* $Eu_{0.9}Ca_{0.1}BaCo_2O_{5.5+\square}$ *with the variation of Oxygen Stoichiometry*" **J. Appl. Phys. 109**, 093916-7 (**2011**). (Link: https://doi.org/10.1063/1.3587235)

104. S. K. Das, M. K. Bhunia, **Md. Motin Seikh** and A. Bhaumik**,"** *Highly porous Co(II)-salicylate Metal-Organic Framework: synthesis, characterization and magnetic properties"* **Dalton Transactions** 40, 2932 – 2939 (**2011**). (Link: **https://doi.org/10.1039/C0DT01483D**)

105. A. K. Mallik, R Binu, L N Satapathy, C. Narayana, **Md. Motin Seikh**, S. A. Shivashankar and S K Biswas, "*Effect of substrate roughness on growth of diamond by hot filament CVD"* **Bull. Mater. Sci.33**, 251–255 (2010). (Link: https://doi.org/10.1007/s12034-010-0039-3)

106. B. Raveau, **Md. Motin Seikh,** V. Pralong and V. Caignaert*"Ordered oxygen deficient '112' perovskites,* $LnBaCo_2O_{5.5+\delta}$*:complex magnetism and transport properties"***Bull. Mater. Sci. 32**, 305-312 (2009). (Link: https://doi.org/10.1007/s12034-009-0044-6)

107. **Md. Motin Seikh,** V. Caignaert, V. Pralong and B. Raveau, *"Destruction of Magnetic Ordering in "112"* $LnBaCo_2O_{5.50\pm\delta}$*: by Calcium Doping"* **Solid State Commun.149**, 697-702 (2009). (Link: https://doi.org/10.1016/j.ssc.2009.02.012)

108. **Md. Motin Seikh**, B. Raveau, V. Caignaert and V. Pralong, *"Switching from Unusual to Usual Ferromagnetism in "112"* $LnBaCo_2O_{5.50\pm\delta}$*: by Calcium Doping",***J.**

Magn. Magn. Mater.320, 2676-2681 (**2008**). (Link: https://doi.org/10.1016/j.jmmm.2008.05.043)

109. **Md. Motin Seikh**, V. Caignaert, V. Pralong, Ch. Simon and B. Raveau, "*Expansion of ferromagnetism by calcium doping in the ordered oxygen deficient perovskite* $EuBaCo_2O_{5.50\pm\delta}$*",* **J. Phys. Condens. Matter 20**, 015212 (7 pages) (**2008**). (Link: https://doi.org/10.1088/0953-8984/20/01/015212)

110. **Md. Motin Seikh**, Ch. Simon, V. Caignaert, V. Pralong, M. B. Lepetit, S. Boudin and B. Raveau, *"New Magnetic Transitions in the Ordered Oxygen-Deficient Perovskite* $LnBaCo_2O_{5.50\pm\delta}$*",* **Chem. Mater.** ***20,*** 231-238 (**2008**). (Link: https://doi.org/10.1021/cm7026652)

111. H. Zhu, M. Okada, A. Kamiya, A. K. Sarkar, M. Matsui, **Md. Motin Seikh**, T. Endo, "*Fabrication of LSMO Single Layers and LSMO-YBCO Double Layers*" **International Journal of Nanoscience5,** 511-515 (**2006**). (Link: https://doi.org/10.1142/S0219581X06004711)

112. **Md. Motin Seikh**, C. Narayana, A. K. Sood, P. Murugavel, M. W. Kim, P. Metcalf, J. M. Honigand C. N. R. Rao, "*A Brillouin study of the temperature-dependence of the acoustic modes across the metal-insulator transitions in* V_2O_3*and Cr-doped* V_2O_3", **Solid State Commun.139**, 466-471 (**2006**). (Link: https://doi.org/10.1016/j.ssc.2006.03.026)

113. **Md. Motin Seikh**, C. Narayana, P. A. Metcalf, J. M. Honig and A. K. Sood, "*Brillouin scattering studies in* Fe_3O_4 *across the Verwey transition*", **Phys. Rev. B71**, 174106 (5 pages) (**2005**).(Link: https://doi.org/10.1103/PhysRevB.71.174106)

114. **Md. Motin Seikh**, C. Narayana, A. K. Cheetham and C. N. R. Rao, "*A comparative study of the electron- and hole-doped compositions of single crystalline* $Nd_{1-x}Ca_xMnO_3$ *(x = 0.6 and 0.4) by Brillouin Scattering*" **Solid State Sci. 7,** 1486-1491 (**2005**). (Link: https://doi.org/10.1016/j.solidstatesciences.2005.06.016)

115. **Md. Motin Seikh**, A. K. Sood and C. Narayana, "*Electronic and vibrational Raman spectroscopy of* $Nd_{0.5}Sr_{0.5}MnO_3$ *through the phase transitions*", **Pramana-Journal of Physics64**, 119-128 (**2005**). (Link: https://doi.org/10.1007/BF02704535)

116. A. K. Kundu**, Md. Motin Seikh,** K. Ramesha and C. N. R. Rao, "*Novel effects of size disorder on the electronic and magnetic properties of rare earth manganates of the type* $La_{0.7-x}Ln_xBa_{0.3}MnO_3$ *(Ln = Pr, Nd, Gd or Dy) with large average radius of the A-site cations",* ***J. Phys. Condens. Matter*** **17,** 4171-4180 (**2005**).(Link: https://doi.org/10.1088/0953-8984/17/26/015)

117. K. Sardar, F. L. Deepak, A. Govindaraj, **Md. Motin Seikh** and C. N. R. Rao, "*InN Nanocrystals, Nanowires, and Nanotubes*", **Small 1**, 91-94 (**2005**). (Link: **https://doi.org/10.1002/smll.200400011**)

118. M. Ogata, A. K. Sarkar, H. Nakashima, M. Matsui, Y. Kurosaki, **Md. Motin Seikh**, K. Endo, H. Yamasaki, T. Endo, "*Controls of Step and Terrace Structures of LSMO Thin Films by IBS Deposition*", **Trans. Mater. Res. Soc. Jpn. 30(3)** 761-764(**2005**). (Link: https://www.mrs-j.org/pub/tmrsj/vol30_no3/vol30_no3_761.pdf)

119. **Md. Motin Seikh**, C. Narayana, L. Sudheendra, A. K. Sood and C. N. R. Rao, "*A Brilliouin scattering study of $La_{0.77}Ca_{0.23}MnO_3$ across the metal insulator transition*", **J. Phys. Condens. Matter 16**, 4381-4390 (**2004**).(Link: https://doi.org/10.1088/0953-8984/16/24/019)

120. **Md. Motin Seikh**, L. Sudheendhra and C. N. R. Rao, "*Magnetic properties of $La_{0.5-x}Ln_xSr_{0.5}MnO_3$ (Ln = Pr, Nd, Gd and Y)*", **J. Solid State Chem. 177**, 3633-3639 (**2004**).(Link: https://doi.org/10.1016/j.jssc.2004.06.004)

121. **Md. Motin Seikh**, L. Sudheendra, C. Narayana and C. N. R. Rao, "*A Raman study of the temperature-induced low-to-intermediate-spin state transition in $LaCoO_3$*", **J. Mol. Struc. 706**, 121-126 (**2004**).(Link: https://doi.org/10.1016/j.molstruc.2004.03.058)

122. **Md. Motin Seikh**, L. Sudheendra and C. N. R. Rao, "*Effect of cation size and size-disorder on the magnetic and electron transport properties of $La_{0.7-x}Ln_xSr_{0.3}MnO_3$ (Ln = Gd and Dy)*", **Solid State Sci. 6**, 561-564 (**2004**).(Link: https://doi.org/10.1016/j.solidstatesciences.2004.03.004)

123. L. Sudheendra, **Md. Motin Seikh**, A. R. Raju, N. Chandrabhas and C. N. R. Rao, "*Dielectric properties of rare earth cobaltates, $LnCoO_3$ (Ln = La, Pr and Gd) across the spin-state transition",***Ferroelectrics 306**, 227-234 (**2004**).(Link: https://doi.org/10.1080/00150190490460876)

124. C. N. R. Rao, A. K. Kundu, **Md. Motin Seikh** and L. Sudheendra, "*Electronic phase separation in transition metal oxides*", **Dalton Trans. (Feature article)**, 3003-3011 (**2004**).(Link: **https://doi.org/10.1039/B406785A**)

125. S. R. C. Vivekchand, A. Govindaraj, **Md. Motin Seikh** and C. N. R. Rao, "*A new method of purification of carbon nanotubes based on hydrogen treatment*", **J. Phys. Chem. 108**, 6935-6937 (**2004**). (Link: https://doi.org/10.1021/jp048737o)

126. F. L. Deepak, G. Gundiah, **Md. Motin Seikh**, A. Govindaraj and C. N. R. Rao, "*Crystalline silica nanowires*", **J. Mater. Res. 19**, 2216-2220 (**2004**). (Link: https://doi.org/10.1557/JMR.2004.0285).

127. **Md. Motin Seikh**, C. Narayana, S. Parashar and A. K. Sood, "*Temperature-dependent Brillouin scattering studies of surface acoustic modes in* $Nd_{0.5}Sr_{0.5}MnO_3$", **Solid State Commun.127**, 209-214 (**2003**). (Link: https://doi.org/10.1016/S0038-1098(03)00420-4)

128. G. Gundiah, G. V. Madhav, A. Govindaraj, **Md. Motin Seikh** and C. N. R. Rao, "*Synthesis and characterization of silicon carbide, silicon oxynitride and silicon nitride nanowires*", ***J. Mater. Chem.*12**, 1606-1611 (**2002**). (Link: **https://doi.org/10.1039/B200161F**)

129. L. Sudheendra, **Md. Motin Seikh**, A. R. Raju and C. Narayana, "*An Infrared spectroscopic study of the low-spin to intermediate-spin state* ($^1A_1$ - $^3T_1$) *transition in rare earth cobaltates*, $LnCoO_3$ *(Ln = La, Pr and Nd)*", **Chem. Phys. Lett**. **340**, 275-281 (2001). (Link: https://doi.org/10.1016/S0009-2614(01)00439-0).

Books

1. **Md. Motin Seikh, "*Investigations on Transition Metal Oxides*"** ISBN 978-3-8383-4217-7, Lambert Academic Publishing, Germany, (**2010**).
2. B. Raveau and **Md. Motin Seikh**, "*Cobalt Oxides: From Crystal Chemistry to Physics*" Wiley-VCH (**2012**).

Book Chapters

1. Prasanta Bandyopadhyay and **Md. Motin Seikh**, "*Understanding odd-electron halogen bond in the light of chemical reactivity indices*" Chapter 13, pp. 363-381, Eds. Savaş Kaya, László von Szentpály, Goncagül Serdaroğlu and Lei Guo**,** Chemical Reactivity, Volume 2 : Approaches and Applications (Elsevier **2023**).
2. B. Raveau and **Md. Motin Seikh**, **"***Magnetic and Physical Properties of Cobalt Perovskites*" Chapter 3, pp. 161-289, Ed. By K. H. J. Buschow, Handbook of Magnetic Materials (Elsevier **2015**).

3. **Md. Motin Seikh** and B. Raveau, "*Magnetoresistance and Phase separation in Cobalt Oxides"*, p. 107-156: **Giant Magnetoresistance: New Research: ISBN:** 978-1-60456-733-5, **Ed.** Adrian D. Torres and Daniel A. Perez, NOVA Publishers (**2009**).

4. C. N. R. Rao, **Md. Motin Seikh** and C. Narayana, "*Spin-state transition in $LaCoO_3$ and related materials*", **Topics in Current Chem. 234(II)**, 1-21 (**2004**).

Conference Proceedings

1. **Md. Motin Seikh**, Vincent Caignaert, Olivier Perez, Bernard Raveau and Vincent Hardy, "*Single-Ion Magnetism, Single-Chain Magnetism and Long-Range Ordering in Triangular Spin Chain Oxides* $Sr_{4-x}Ca_xMn_2CoO_9$" The XVI International IUPAC Conference on High Temperature Materials Chemistry (XVI HTMC), Ural Federal University, Ekaterinburg, Russia; July 2-6, **2018**, Ekaterinburg, Russia.
2. **Md. Motin Seikh**, M. B. Lepetit, S. Boudin, C. Simon, V. Caignert, V. Pralong and B. Raveau, "Magnetic Transitions in the Ordered Oxygen Deficient Perovskite LnBaCo2O5.50+d", *European Conference on Solid State Chemistry XI, ECSSC XI*, Septembre **2007**.
3. Michi Ogata, Ajay K.Sarkar, **Md. Motin Seikh**, Hong Zhu and Tamio Endo, "*Fabrication of LSMO Single Layers and LSMO/YBCO Double Layers*" International Conference on Materials for Advanced Technologies / International Conference on Advanced Materials, Singapore. (2005).
4. Hong Zhu, Masanori Okada, Atsushi Kamiya, Ajay K.Sarkar, Masahito Matsui, **Md. Motin Seikh** and Tamio Endo "*Fabrication of LSMO Single Layers and LSMO/YBCO Double Layers*" Proc. ICMAT-05 (Singapore). (2005)

Symposia and Conferences attended

1. **Poster Presentation** entitles "*Complex Magnetic Transition Versus Oxygen Content in the Ordered Oxygen Deficient Perovskite* $LnBaCo_2O_{5.5\pm\delta}$ *(Ln = Sm and Eu)* **Md. Motin Seikh**, V. Prelog, V. Caignard, C. Simon and B. Raveau, at **The 11th European Conference on Solid State Chemistry (ECSSC-XI), 2007,** Caen, FRANCE.
2. **Invited talk** on "***Novel Effects of Ionic Radius and Size Disorder on the Electronic and Magnetic Properties of Rare Earth Manganites*****"** 17th January, 2007, Kalyani University, INDIA.
3. **Invited talk** on "***Phonon Anomaly across the Metal-Insulator Transitions in Manganites and Magnetite*****"** 6th November, 2006, Göttingen University, GERMANY.

4. **Oxide-06, *International Symposium on Recent Developments in Metal Oxides and Related Materials*;** January 9-11, 2006, Indian Institute of Science, Bangalore, INDIA.
5. **Oral Presentation** on "*The LSMO thin film fabricated by ion beam sputtering (IBS) method; its steps and terrace*" at "**National Conference on Material Science**" December 22-27, 2004, Tokyo, JAPAN.
6. Attained "**15th International Workshop on Inelastic Ion-Surface Collisions**" October 17-22, 2004, Ise-Shima, JAPAN.
7. **Poster Presentation** entitled "Investigations of the sound velocity across the phase transitions in $Nd_{0.5}Sr_{0.5}MnO_3$ using Brillouin scattering technique" **Md. Motin Seikh**, C.Narayana, A. K. Sood and C. N. R. Rao at "**Emerging Directions in Chemical Sciences-An International Conference"** November 25-28, 2003, Bangalore, INDIA.
8. **Poster Presentation** entitled "*Brillouin scattering studies of the phase transition in* V_2O_3" **Md. Motin Seikh**, C. Narayana, P. Murugavel, A. K. Sood and C. N. R. Rao at "**IUPAC-Workshop on Advance Materials**" February 13-16, 2002, Bangalore, INDIA.
9. Poster Presentation entitled "*Brillouin scattering investigations of the perovskite manganite* $La_{0.77}Ca_{0.23}MnO_3$" **Md. Motin Seikh**, C. Narayana, A. K. Sood and C. N. R. Rao at "International Symposium on Spectroscopy, Structure and Dynamics" December 12-13, 2002, IACS, Kolkata, INDIA.