

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

	Degree	Year	Subject	University/Institution	% of marks
1	B. Sc	1997	Chemistry (Hons), Physics, Mathematics	Visva-Bharati University, Santiniketan-731235	75.4
2	M. Sc	1999	Inorganic Chemistry (Spl)	Visva-Bharati University, Santiniketan-731235	73.5
3	Ph. D	2006	Experimental Investigations of Rare Earth Manganates and Other Oxide Systems	Solid State and Structural Chemistry Unit, Indian Institute of Science (IISc), Bengaluru-560012	---

Area of expertise/Current Research Interest:

I have completed my PhD from Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science (IISc), Bangalore in 2006. My research area encompasses solid state chemistry and materials science. After about a year of postdoctoral research at CRISMAT Laboratory in France I came back to India. I joined at the Department of Chemistry, Visva-Bharati in October 2007.

My present research activity is focused on different types of functional transition metal oxide systems. From the technological viewpoint, I am interested in the properties of materials like magnetic, electrical, magnetoelectric, magnetoresistance, thermoelectric, multiferroic, catalysis and electrochemical behaviors. The present active research areas are: (i) Synthesis and development of bulk and nanodimensional transition metal oxides of different perovskite and spinel families with special emphasis on structure-property relationship, (ii) Optical properties of nano-sized spinel oxides, (iii) photocatalysis by nanostructured metal oxides, (iv) spin frustration in triangular lattice and (v) spin dynamics in lower dimensional magnetic systems, (vi) Electrochemical performance of nanodimensional oxides, (vii) high entropy oxides and (viii) nanocomposites.

Teaching Experience:

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

Awards:

S. No	Name of Award	Awarding Agency	Year
1	Visiting Scientist	University of Caen, France	2019
2	Visiting Scientist	University of Caen, France	2017
3	Visiting Scientist	University of Caen, France	2016
4	Visiting Scientist	University of Caen, France	2012-2013
5	Prof. K.P. Abraham Medal for best Ph.D. thesis in the area of <i>Materials Chemistry</i>	Indian Institute of Science (IISc), Bangalore	2006
6	CNRS Fellowship, CRISMAT Laboratory, University of Caen.	French Ministry of Education & Research, France	2006-2007
7	Visiting Scientist	Japanese Society for the Promotion of Science (JSPS), Japan	2004
8	Council of Scientific and Industrial Research (CSIR) Senior Research Fellow	Govt. of India	2001
9	Council of Scientific and Industrial Research (CSIR) junior Research Fellow	Govt. of India	1999

Number of research scholars produced and currently working:

Sl. No.	Name of the student	Thesis Title	Degree awarded
1.	Dr. Uma Dutta	<i>Synthesis, Structural and Magnetic Properties of Perovskite-Based Transition Metal Oxides and Some Metal Alloys</i>	20.02.2020
2.	Dr. Prasanta Bandyopadhyay	<i>Spectroscopic and DFT studies of Donor acceptor Organic molecules and Inorganic solids</i>	16.04.2021
3.	Dr. Debamalya Ghosh	<i>Synthesis of ceramic oxides from metal-organic precursors and investigation of their properties</i>	02.08.2021
4.	Dr. Ariful Haque	<i>Synthesis and physical characterization of simple and higher ordered perovskites</i>	01.08.2022
5.	Dr. Kalyan Ghorai	<i>Development of some visible light active spinel and perovskite based novel nanocomposite</i>	27.09.2022

	(From Jadavpur University)	<i>photocatalysts for hazardous pollutants degradation and electrocatalytic application</i>	
6.	Mr. Radhamadhab Das	<i>Conventional and high entropy transition metal oxides: design, synthesis and properties</i>	Working
7.	Ms. Sudipa Bhattacharya	<i>Studies on magnetic nanocomposites of strongly correlated electron oxides for emergent physical properties and energy applications</i>	Working
8.	Ms. Shreyashi Chowdhury	<i>Experimental investigations on functional high entropy metal oxides</i>	Working

Research project:

S. No	Title	Cost in Lakh	Year	Role as PI/Co-PI	Agency
1.	A concerted drive towards ambient pressure synthesis and physical characterization of multiferroic quadruple perovskites $A'A_3B_4O_{12}$	Rs. 34,69,753.00	2016-2019	Principal Investigator	SERB (DST) (Completed)
2.	Layered perovskite-related oxide materials: synthesis, structure and properties	Rs. 22,00,000.00	2016-2018	Co- Principal Investigator	Serb-Indo-Russian (Completed)
3.	Development of High Entropy Stabilized Functional Oxides: Synthesis, Characterization, Magnetic Properties and Supercapacitor Application	Rs. 35,93,832.00	2021-2024	Principal Investigator	Ongoing

Editorial Board Member:

- Advances in Nanoparticles (<https://www.scirp.org/journal/editorialboard.aspx?journalid=1573>)

Research article /Book publication:

- 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. (2022 in press) (Link: <https://doi.org/10.1016/j.ceramint.2022.07.058>)*
2. **Md. Motin Seikh**, Vincent Caignaert, Olivier Perez, Fabien Veillon, Nahed Sakly, 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.** (Accepted 2022).
 3. 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>)
 4. 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>)
 5. 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>)
 6. Olivier Perez, Vincent Caignaert, Nahed Sakly, **Md. Motin Seikh**, Philippe Boullay, Vincent Hardy and Bernard Raveau, “*Composite Spin Chain Structures Built up of Dimeric and Trimeric Polyhedral Units: The Oxides $A_{1+y}[(Mn_{1-x}Co_x)_{1-z}□_z]O_3$ ($A = Ca, Sr$; $x = 3/8$)*”, **Chem. Mater.** 34 (5), 2361-2375 (2022). (Link: <https://doi.org/10.1021/acs.chemmater.1c04360>)
 7. Mrinmoy Ghosh, Nayim Sepay, 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>)
 8. Kalyan Ghorai, Atanu Panda, Akbar Hossain, Monotosh Bhattacharjee, Malay Chakraborty, Swapan Kumar Bhattacharya, Parthasarathi Bera, Hansang Kim, **Md. Motin Seikh** and Arup Gayen, “*Synthesis of exfoliated $g-C_3N_4$ nanosheet by coupling*

with nanosized LaNiO_3 : An efficient Z-scheme type photocatalyst for reactive black 5 and methylene blue degradation under natural sunlight" **J. Rare Earths** 40 (5), 725-736 (2022). (Link: <https://doi.org/10.1016/j.jre.2021.04.013>)

9. 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 $A_{1+y}[(\text{Mn}_{1-x}\text{Co}_x)_{1-z}\text{O}_z]\text{O}_3$ ($A = \text{Ca, Sr}$; $x = 3/8$)" **Acta Cryst.** A77, C547 (2021). (Link: <https://scripts.iucr.org/cgi-bin/paper?S0108767321091455>)
10. Kalyan Ghorai, Atanu Panda, Akbar Hossain, Monotosh Bhattacharjee, Malay Chakraborty, Swapan Kumar Bhattacharya, Parthasarathi Bera, 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>)
11. 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: $\text{La}_2\text{MnCoO}_6$ and $(\text{La}_{0.4}\text{Y}_{0.4}\text{Ca}_{0.4}\text{Sr}_{0.4}\text{Ba}_{0.4})\text{MnCoO}_6$ " **J. Magn. Magn. Mater.** 538, 168267 (9 ps) (2021). (Link: <https://doi.org/10.1016/j.jmmm.2021.168267>)
12. Ariful Haque, Radhamadhab Das, M. Vasundhara, Debamalya Ghosh, Arup Gayen, Partha Mahata, Asish K. Kundu and **Md. Motin Seikh**, "Ambient Pressure Synthesis and Magnetic Properties of $\text{La}[\text{Cu}_{3-x}\text{Mn}_x][\text{Mn}_{4-y}\text{Ti}_y]\text{O}_{12}$ ($x = 0 \text{ \& } 1$; $y = 0.5 \text{ \& } 1$) Quadruple Perovskite" **J. Alloys Compds.** 875, 159984 (2021). (link: <https://doi.org/10.1016/j.jallcom.2021.159984>)
13. 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>)
14. Kamallesh Pal, Amitava Mukherjee, **Md. Motin Seikh**, Parthasarathi Bera and Arup Gayen, "Synthesis, structure, CO oxidation, and H_2 production activities of $\text{CaCu}_{3-x}\text{Mn}_x\text{Ti}_{4-x}\text{Mn}_x\text{O}_{12}$ ($x = 0, 0.5, \text{ and } 1.0$)" **Ceram. Int.** 47(10), 14798-14808 (2021). (Link: <https://doi.org/10.1016/j.ceramint.2020.10.080>)
15. 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 $\text{La}_2\text{MnCoO}_6$, **J. Phys. Chem. C** 125(5), 3088–3101 (2021) (Link: <https://doi.org/10.1021/acs.jpcc.0c09120>)
16. 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 $\text{La}_{1-x}\text{Ln}_x\text{Cr}_{0.5}\text{Co}_{0.5}\text{O}_3$ ($x = 0$ and 0.2 & $\text{Ln} = \text{Pr, Sm and Gd}$) Perovskites", **J. Magn. Mater.** 523, 167621 (8 ps) (2021). (Link: <https://doi.org/10.1016/j.jmmm.2020.167621>)
 17. Kalyan Ghorai, Atanu Panda, Monotosh Bhattacharjee, Debasish Mandal, Akbar Hossain, Parthasarathi Bera, **Md. Motin Seikh** and Arup Gayen, "Facile synthesis of $\text{CuCr}_2\text{O}_4/\text{CeO}_2$ 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>)
 18. Kalyan Ghorai, Monotosh Bhattacharjee, Debasish Mondal, Akbar Hossain, Trilochan Bhunia, Parthasarathi Bera, Tapas Kumar Mandal, **Md. Motin Seikh** and Arup Gayen, "Facile synthesis of $\text{CuCr}_2\text{O}_4/\text{BiOBr}$ 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>)
 19. Debamalya Ghosh, Ananya Pal, Debal Kanti Singha, Susanta Ghosh, Oleg I. Lebedev, **Md. Motin Seikh** and Partha Mahata, "Irregularly-Shaped $\text{Zn}_{0.6}\text{Mn}_{2.4}\text{O}_4$ Nanoparticles for Supercapacitors and Nitroaromatics Detection" **ACS Appl. Nano Mater.** 3(10), 10105–10114 (2020). (Link: <https://doi.org/10.1021/acsanm.0c02088>)
 20. 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 $\text{Sr}_{1+y}[(\text{Mn}_{1-x}\text{Co}_x)_{1-z}\square_z]\text{O}_3$ " **J. Mater. Chem. C** 8(41), 14559-14569 (2020). (Link: <https://doi.org/10.1039/D0TC03880F>)
 21. 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>)
 22. 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 $\text{La}_{2-x}\text{Bi}_x\text{MnCoO}_6$ ($x = 0, 0.5$ and 1)". **Magn. Magn. Mater.** 514, 167159 (2020). (Link: <https://doi.org/10.1016/j.jmmm.2020.167159>)*
23. Kamalesh Pal, Arka Dey, Rajkumar Jana, Partha Pratim Ray, Parthasarathi Bera, Lalit Kumar, Tapas Kumar Mandal, Paritosh Mohanty, **Md. Motin Seikh** and Arup Gayen, "Citrate combustion synthesized Al-doped $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ quadruple perovskite: Synthesis, characterization and multifunctional properties." **Phys. Chem. Chem. Phys.** 22, 3499 - 3511 (2020). (Link: <https://doi.org/10.1039/C9CP05005A>)
24. Uma Dutta, Oleg I. Lebedev, Asish K. Kundu and **Md. Motin Seikh**, "Bi-doped suppression of antisite disordering and associated magnetic properties of $\text{La}_{2-x}\text{Bi}_x\text{MnNiO}_6$ ($x = 0$ and 1)", **J. Phys.: Condens. Matter** 32, 085803 (2020). (Link: <https://doi.org/10.1088/1361-648X/ab5591>)
25. 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 $\text{Ni}_{1-x}\text{M}_x$ ($M = \text{Fe}, \text{Co}$ and Cu ; $0 \leq x \leq 0.5$) ferromagnetic alloy nanoparticles" **Mater. Chem. Phys.** 243, 122566 -9 (2020). (Link: <https://doi.org/10.1016/j.matchemphys.2019.122566>)
26. Prasanta Bandyopadhyay, Animesh Karmakar, 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>)
27. Ariful Haque, Ashish Shukla, Uma Dutta, Debamalya Ghosh, Arup Gayen, Partha Mahata, M. Vasundhara, Asish K. Kundu and **Md. Motin Seikh**, "Incompatible magnetic and dielectric properties of $\text{BiCu}_{3-x}\text{Mn}_x\text{Ti}_{4-y}\text{M}_y\text{O}_{12}$ ($x = 0$ & 0.5 ; $y = 1$ & 1.5 and $M = \text{Fe}$ & Mn)", **Ceram. Int.** 46, 5907–5912 (2020). (Link: <https://doi.org/10.1016/j.ceramint.2019.11.043>)
28. Ariful Haque, Debamalya Ghosh, Uma Dutta, Ashish Shukla, Arup Gayen, Partha Mahata, Asish K. Kundu and **Md. Motin Seikh**, "Change in magnetic properties of $\text{La}_2\text{MnCoO}_6$ in composite with $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ ", **J. Magn. Magn. Mater.** 494, 165847 (2020). (Link: <https://doi.org/10.1016/j.jmmm.2019.165847>)
29. Debamalya Ghosh, Debal Kanti 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>)
30. 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>)
31. 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>)
32. Uma Dutta, Ariful Haque and **Md. Motin Seikh**, “Synthesis, structure and magnetic properties of Ti doped $\text{La}_2\text{MnNiO}_6$ double perovskite” **Chimica Techno Acta** **6**, 80-92 (2019). (Link: <https://doi.org/10.15826/chimtech.2019.6.3.01>)
33. Ashish Shukla, Oleg I Lebedev, **Md. Motin Seikh** and Asish K Kundu, “Structural and Magnetic Characterization of Spin Canted Mixed Ferrite-Cobaltites: $\text{LnFe}_{0.5}\text{Co}_{0.5}\text{O}_3$ ($\text{Ln} = \text{Eu}$ and Dy)” **J. Magn. Magn. Mater.** **491**, 165558-62 (2019). (Link: <https://doi.org/10.1016/j.jmmm.2019.165558>)
34. Debamalya Ghosh, Ananya Pal, Susanta Ghosh, Arup Gayen, **Md Motin Seikh** and Partha Mahata, “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>)
35. **Md. Motin Seikh**, Vincent Caignaert, Nahed Sakly, Olivier Perez, Bernard Reveau and Vincent Hardy “Effect of thermal treatment upon the structure incommensurability and magnetism of the spin chain oxide $\text{Sr}_3\text{CaMn}_2\text{CoO}_{9+\delta}$ ” **J. Alloys Compds.** **790**, 572-576 (2019). (Link: <https://doi.org/10.1016/j.jallcom.2019.03.183>)
36. 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 $\text{LaFe}_{0.5}\text{Mn}_{0.5}\text{O}_3$ ” **J. Phys.: Condens. Matter** **31**, 225801 (2019). (Link: <https://doi.org/10.1088/1361-648X/ab0b98>)

37. Ashish Shukla, Akash Singh, **Md Motin Seikh** and Asish K. Kundu, “Low temperature magneto-dielectric coupling in nanoscale layered $\text{SmFe}_{0.5}\text{Co}_{0.5}\text{O}_3$ perovskite” **J. Phys. Chem. Solids** 127, 164-168 (2019). (Link: <https://doi.org/10.1016/j.jpcs.2018.12.022>)
38. Vandana Solanki, **Md. Motin Seikh** and Asish K. Kundu, “Influence of chromium in the structural and magnetic properties of $\text{LaCo}_{0.5}\text{Cr}_{0.5}\text{O}_3$ perovskite” **J. Magn. Magn. Mater.** 469, 95-99 (2019). (Link: <https://doi.org/10.1016/j.jmmm.2018.08.038>)
39. 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 $\text{La}_{1-x}\text{Ba}_x\text{Fe}_{0.5}\text{Mn}_{0.5}\text{O}_3$ Perovskites” **J. Alloys Compds.** 777, 1396-1402 (2019). (Link: <https://doi.org/10.1016/j.jallcom.2018.11.101>)
40. 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 $\text{Cu}_x\text{Fe}_{1-x}\text{Al}_2\text{O}_4$ hercynites”, **Appl. Catal. A Gen.** 570, 73-83 (2019). (Link: <https://doi.org/10.1016/j.apcata.2018.11.011>)
41. V. Hardy, V. Caignaert, O. Pérez, L. Hervé, N. Sakly, B. Raveau, **Md. M. 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>)
42. 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>).
43. K. Pal, R. Jana, A. Dey, P. P. Ray, **Md M. 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>)
44. 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>)
45. 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 $\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ nanoparticles”, **J. Magn. Magn. Mater.** 464, 132–138 (2018). (Link: <https://doi.org/10.1016/j.jmmm.2018.05.057>)
46. 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: $\text{CaCu}_{3-x}\text{Mn}_x\text{Ti}_{4-x}\text{Mn}_x\text{O}_{12}$ ($x = 0, 0.5$ and 1.0)” **ChemistrySelect** 3(4), 1076-1087 (2018). (Link: <https://doi.org/10.1002/slct.201703034>)
47. **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 $\text{Sr}_{4-x}\text{Ca}_x\text{Mn}_2\text{CoO}_9$ ” **J. Mater. Chem. C**, 6, 3362-3372 (2018). (Link: <https://doi.org/10.1039/C7TC05968J>)
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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 $LnBaCo_2O_{5.50+d}$ ”, *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 $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ 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 $\text{La}_{0.77}\text{Ca}_{0.23}\text{MnO}_3$* ” **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.

Relevant link:

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