Sujoy Kumar Ghosh

Current status
Marie Skłodowska-Curie Individual Fellow (2021-present)
Laboratorio NEST, Istituto Nanoscienze-CNR and Scuola Normale Superiore, Piazza S. Silvestro 12, I-56127 Pisa, Italy

Professional experience
Postdoctoral Research Associate (June, 2019 – January, 2021)
Ulsan National Institute of Science and Technology (UNIST), South Korea.

Ph.D. from Department of Physics, Jadavpur University, India, 2019.
Thesis title: *"Flexible Piezo- & Pyro-electric Energy Harvester for Self-powered Electronics: From Portable Gadgets to Healthcare Monitoring":*

Date of birth: 28.02.1990

Education
2012: M.Sc. in Physics (Marks: 77.00 %)
Jadavpur University, Department of Physics, Kolkata 700032, India
2010: B.Sc. in Physics (Marks: 70.33 %)
Jadavpur University, Department of Physics, Kolkata 700032, India

Fellowships and awards

Marie Skłodowska-Curie Individual Fellowship [Grant agreement No 896811]	**2021**
Young Scientist Award in "International Virtual Conference on Advances in Functional Materials (AFM 2020)"	2020
Newton-Bhabha Fellow	2017
Best Poster award in "Fourth International Symposium on Semiconductor Materials and Devices (ISSMD-4)"	2017
DST award for participation in the **66th Lindau Nobel Laureate Meeting**, Lindau, Germany (26th June to 1st July)	2016
Travel grant award by Centre for International Co-operation in Science (CICS), INSA for attending Nano World Conference 2016, Boston, USA	2016
Travel grant award by the Science and Engineering Research Board (SERB), DST for participating 2016 MRS Spring Meeting & Exhibit, Phoenix, Arizona, USA	2016
Materials Horizons Poster Prize by Royal Society of Chemistry (RSC)	2015
DST-INSPIRE Scholarship	2007-2012
DST-INSPIRE Fellowship [IF130865]	2013–2018

Publications:
Total SCI Publications: 40
h-index: 24
Book Chapter: 2
CONFERENCE PROCEEDINGS: 10
CONFERENCE PRESENTATIONS: 14 (International) and 07 (National)
Google Scholar link
https://scholar.google.co.in/citations?user=F-uSVscAAAAJ&hl=en
Scopus link:
https://www.scopus.com/authid/detail.uri?authorId=57203692459

Reviewer of journals
Elsevier:
- Mechanical Systems And Signal Processing
- Sensors & Actuators A: Physical
- Materials And Design
- Energy And Buildings
- Nano Energy
- Polymer

RSC:
- Sustainable Energy & Fuels
- Dalton Transactions

IOP:
- Journal of Physics D: Applied Physics
- Engineering Research Express

Membership
ASIAN POLYMER ASSOCIATION (APA) (Membership number.: S 025)

LIST OF PUBLICATIONS
In peer review journals

1. Varun Gupta, Anand Babu, **Sujoy Kumar Ghosh**, Zinnia Mallick, Hari Krishna Mishra, Dalip Saini, and Dipankar Mandal, Revisiting δ-PVDF based piezoelectric nanogenerator for self-powered pressure mapping sensor, Appl. Phys. Lett. 119, 252902 (2021).

2. Chetana Ghosal, ,‡ **Sujoy Kumar Ghosh‡ (‡ contributed equally)** Krittish Roy, Brajadulal Chattopadhyay, Dipankar Mandal, Environmental bacteria engineered piezoelectric bio-organic energy harvester towards clinical applications, ***Nano Energy*** 93 (2022) 106843.

3. Biswajit Mahanty,‡ **Sujoy Kumar Ghosh‡ (‡ contributed equally)**, Santanu Jana, Zinnia Mallick, Subrata Sarkar and Dipankar Mandal, ZnO nanoparticle confined stress amplified all-fiber piezoelectric nanogenerator for self-powered healthcare monitoring, ***Sustainable Energy Fuels,*** 2021, 5, 4389–4400.

4. Krittish Roy, Srikanta Jana, Zinnia Mallick, **Sujoy Kumar Ghosh**, Basudeb Dutta, Subrata Sarkar, Chittaranjan Sinha, and Dipankar Mandal, Two-Dimensional MOF Modulated Fiber Nanogenerator for Effective Acoustoelectric Conversion and Human Motion Detection, ***Langmuir 2021***, 37, 7107–7117.

5. Biswajit Mahanty, **Sujoy Kumar Ghosh**, Kuntal Maity, Krittish Roy, Subrata Sarkar, and Dipankar Mandal, All-Fiber Pyro- and Piezo-electric Nanogenerator for IoT Based Self-Powered Health-Care Monitoring, ***Mater. Adv., 2021***, 2, 4370–4379.

6. **Sujoy Kumar Ghosh** Jonghwa Park Sangyun Na Minsoo P. Kim Hyunhyub Ko, A Fully Biodegradable Ferroelectric Skin Sensor from Edible Porcine Skin Gelatine, ***Adv. Sci. (I.F. 15.84) 2021***, 8, 2005010, DOI: 10.1002/advs.202005010.

7. Biswajit Mahanty[†], **Sujoy Kumar Ghosh**[†] ([†] contributed equally to this work), Santanu Jana, Krittish Roy, Subrata Sarkar and Dipankar Mandal, All-Fiber Acousto-electric Energy Harvester from Magnesium Salt Modulated PVDF Nanofiber, ***Sustainable Energy Fuels (I.F. 5.503)***, **2021**, 5, 1003–1013.

8. Young-Ryul Kim, Minsoo P. Kim, Jonghwa Park, Youngoh Lee, **Sujoy Kumar Ghosh**, Jinyoung Kim, Donghee Kang, and Hyunhyub Ko, "Binary Spiky/Spherical Nanoparticle Films with Hierarchical Micro/ Nanostructures for High-Performance Flexible Pressure Sensors", ***ACS Appl. Mater. Interfaces (I.F. 8.758)***, **2020**, 12, 58403−58411.

9. **Sujoy Kumar Ghosh**, Tridib Kumar Sinha, Mengying Xie, Chris R. Bowen, Samiran Garain, Biswajit Mahanty, Krittish Roy, Karsten Henkel, Dieter Schmeißer, Jin Kuk Kim, and Dipankar Mandal, "Temperature–Pressure Hybrid Sensing All-Organic Stretchable Energy Harvester", ***ACS Appl. Electron. Mater. (ACS Editors' Choice, Most read of the month January 2021)***, 2021, 3, 248−259.

10. **Sujoy Kumar Ghosh**, Dipankar Mandal, "Envisioned strategy for early intervention of virus suspected patients through non-invasive piezo- and pyro-electric based wearable sensors", ***J. Mater. Chem. A*** **(I.F. 11.3)**, 2021, 9, 1887–1909.

11. Krittish Roy, Srikanta Jana, **Sujoy Kumar Ghosh**, Biswajit Mahanty, Zinnia Mallick, Subrata Sarkar, Chittaranjan Sinha, Dipankar Mandal, "Three-Dimensional MOF-Assisted Self-Polarized Ferroelectret: An Effective Autopowered Remote Healthcare Monitoring Approach", ***Langmuir*** **(I.F. 3.557) 2020**, 36, 11477–11489.

12. Yoojeong Park, Young-Eun Shin, Jonghwa Park, Youngsu Lee, Minsoo P. Kim, Young-Ryul Kim, Sangyun Na, **Sujoy Kumar Ghosh**, and Hyunhyub Ko, "Ferroelectric Multilayer Nanocomposites with Polarization and Stress Concentration Structures for Enhanced Triboelectric Performances", ***ACS Nano*** **(I.F. 14.588) 2020**, 14, 7101−7110.

13. **Sujoy Kumar Ghosh**, Krittish Roy, Hari Krishna Mishra, Manas Ranjan Sahoo, Biswajit Mahanty, Prakash Nath Vishwakarma and Dipankar Mandal, "Rollable Magnetoelectric Energy Harvester as Wireless IoT Sensor", ***ACS Sustain. Chem. Eng.*** **(I.F. 7.6) 2020, 8, 864-873.**

14. Ayesha Sultana, **Sujoy Kumar Ghosh**, Md. Mehebub Alam, Priyabrata Sadhukhan, Krittish Roy, Mengying Xie, Chris R. Bowen, Subrata Sarkar, Sachindranath Das, Tapas Ranjan Middya, Dipankar Mandal, "Methylammonium Lead Iodide Incorporated Poly(vinylidene fluoride) Nanofibers for Flexible Piezoelectric-Pyroelectric Nanogenerator", ***ACS Appl. Mater. Interfaces*** **(I.F. 8.7) 2019**, **11, 27279−27287.**

15. Krittish Roy, **Sujoy Kumar Ghosh**, Ayesha Sultana, Samiran Garain, Mengying Xie, Chris R. Bowen, Karsten Henkel, Dieter Schmeißer, and Dipankar Mandal, "A Self-Powered Wearable Pressure Sensor and Pyroelectric Breathing Sensor Based on GO Interfaced PVDF Nanofibers", ***ACS Appl. Nano Mater.*** **2019**, **2, 2013–2025**.

16. Yan Zhang, Chris Rhys Bowen, **Sujoy Kumar Ghosh** and Dipankar Mandal, Hamideh Khanbareh, Mustafa Arafa, Chaoying Wan, "Ferroelectret materials and devices for energy harvesting applications" ***Nano Energy*** **(I.F. 16.6) 2018**, 57, 118–140.

17. Ayesha Sultana, Md. Mehebub Alam, **Sujoy Kumar Ghosh**, Tapas Ranjan Middya, Dipankar Mandal, "Energy Harvesting and Self-Powered Microphone Application On Multifunctional Inorganic-Organic Hybrid Nanogenerator", ***Energy*** **(I.F. 5.7) 2019**, 166, 963–971.

18. **Sujoy Kumar Ghosh**, and Dipankar Mandal, "Synergistically enhanced piezoelectric output in highly aligned 1D polymer nanofibers integrated all-fiber nanogenerator for wearable nano-tactile sensor" ***Nano Energy*** **(I.F. 16.6) 2018**, 53, 245–257.

19. Md. Mehebub Alam, **Sujoy Kumar Ghosh**, Ayesha Sultana, and Dipankar Mandal, "An effective wind energy harvester of paper ash-mediated rapidly synthesized ZnO nanoparticle-interfaced electrospun PVDF fiber", ***ACS Sustainable Chem. Eng.*** **(I.F. 7.6) 2018**, 6, 292−299.

20. **Sujoy Kumar Ghosh**, Mengying Xie, Christopher Rhys Bowen, Philip R. Davies, David J. Morgan and Dipankar Mandal, "A hybrid strain and thermal energy harvester based on an infra-red sensitive Er^{3+} modified poly(vinylidene fluoride) ferroelectret structure", ***Sci. Rep.*** **(I.F. 3.99) 2017**, 7, 16703.

21. **Sujoy Kumar Ghosh** and Dipankar Mandal, "Sustainable energy generation from piezoelectric biomaterial for noninvasive physiological signal monitoring", ***ACS Sustainable Chem. Eng.*** **(I.F. 7.6) 2017**, 5, 8836−8843.

22. Wahida Rahman,[†] **Sujoy Kumar Ghosh**,[†] **([†]Both contributed equally)** Tapas Ranjan Middya and Dipankar Mandal, "Highly durable piezo-electric energy harvester by a super

toughened and flexible nanocomposite: effect of laponite nano-clay in poly(vinylidene fluoride)", ***Mater. Res. Express*** **(I.F. 1.9) 2017**, 4, 095305.

23. Ayesha Sultana, **Sujoy Kumar Ghosh**, Vitor Sencadas, Tian Zheng, Michael Higgins, Tapas Ranjan Middya, Dipankar Mandal, "Human skin interactive self-powered wearable piezoelectric bio-e-skin by electrospun Poly-L-Lactic acid nanofibers for non-invasive physiological signal monitoring", ***J. Mater. Chem. B*** **(I.F. 5.0) 2017,** 5, 7352–7359.

24. **Sujoy Kumar Ghosh**, Prakriti Adhikary, Santanu Jana, Anirban Biswas, Vitor Sencadas, Sudipto Dutta Gupta, Bipan Tudu, Dipankar Mandal, "Electrospun gelatin nanofiber based self-powered bio-*e*-skin for health care monitoring", ***Nano Energy*** **(I.F. 16.6)** 2017, 36, 166–175.

25. **Sujoy Kumar Ghosh**, Dipankar Mandal, "Bio-assembled, piezoelectric prawn shell made self-powered wearable sensor for noninvasive physiological signal monitoring", ***Appl. Phys. Lett.*** **(I.F. 3.59)** 2017, 110, 123701.

26. Biswajit Mahanty, **Sujoy Kumar Ghosh**, Samiran Garain, Dipankar Mandal, "An effective flexible wireless energy harvester/sensor based on porous electret piezoelectric polymer", ***Mater. Chem. Phys.*** **(IF: 3.4) 2016**, *186*, 327-332.

27. Md. Mehebub Alam, **Sujoy Kumar Ghosh**, Debabrata Sarkar, Shrabanee Sen, Dipankar Mandal, "Improved dielectric constant and breakdown strength of γ-phase dominant super toughen PVDF/TiO_2 nanocomposite film: an excellent material for energy storage application and piezoelectric throughput", ***Nanotechnology*** **(I.F. 3.5)** 2017, *28,* 015503 (10pp).

28. **Sujoy Kumar Ghosh**, Anirban Biswas, Shrabanee Sen, Chittaranjan Das, Karsten Henkel, Dieter Schmeisser, Dipankar Mandal, "Yb^{3+} assisted self-polarized pvdf based ferroelectretic nanogenerator: a facile strategy of highly efficient mechanical energy harvester fabrication", ***Nano Energy*** **(I.F. 16.6)** 2016, *30*, 621-629.

29. **Sujoy Kumar Ghosh**, Tridib Kumar Sinha, Biswajit Mahanty, Santanu Jana, and Dipankar Mandal, "Porous polymer composite membrane based nanogenerator: a realization of self-powered wireless green energy source for smart electronics applications", ***J. Appl. Phys.*** **(I.F. 2.3)** 2016, *120*, 174501.

30. Santanu Jana, Samiran Garain, **Sujoy Kumar Ghosh**, Shrabanee Sen and Dipankar Mandal, "The preparation of γ-crystalline non-electrically poled photoluminescant zno–pvdf nanocomposite film for wearable nanogenerators", ***Nanotechnology*** **(I.F. 3.5)** 2016, 27, 445403.

31. Kuntal Maity, Biswajit Mahanty, Tridib Kumar Sinha, Samiran Garain, Anirban Biswas, **Sujoy Kumar Ghosh**, Smarajit Manna, Samit K Ray and Dipankar Mandal, "Two-dimensional piezoelectric mos_2-modulated nanogenerator and nanosensor made of poly(vinlydine fluoride) nanofiber webs for self-powered electronics and robotics", ***Energy Technol.*** **(IF: 3.1),** 2016, 5, 234-243.

32. **Sujoy Kumar Ghosh** and Dipankar Mandal, "Efficient natural piezoelectric nanogenerator: electricity generation from fish swim bladder", ***Nano Energy*** **(I.F. 16.6)** 2016, 28, 356–365.

33. **Sujoy Kumar Ghosh** and Dipankar Mandal, "High-performance bio-piezoelectric nanogenerator made with fish scale" ***Appl. Phys. Lett.*** **(I.F. 3.59)** 2016, 109, 103701. (Selected for Press release by AIP News Staff, Sep 6, 2016; selected for APL Editor's pick in the week of Sep 12, 2016 and most read of the month October 2016); (https://publishing.aip.org/publishing/journal-highlights/fish-biowaste-converted-piezoelectric-energy-harvesters).

34. Tridib Kumar Sinha,[†] **Sujoy Kumar Ghosh**,[†] **([†]Both contributed equally)** Rishi Maiti, Santanu Jana, Basudam Adhikari, Dipankar Mandal and Samit K. Ray, "Graphene-Silver-induced self-polarized pvdf-based flexible plasmonic nanogenerator toward the realization for new class of self-powered optical sensor" ***ACS Appl. Mater. Interfaces*** **(I.F. 8.7) 2016**, 8, 14986−14993.

35. **Sujoy Kumar Ghosh**, Wahida Rahman, Tapas Ranjan Middya, Shrabanee Sen, and Dipankar Mandal, "Improved breakdown strength and electrical energy storage performance of poly(vinylidene fluoride)/unmodified montmorillonite clay nano-dielectrics", ***Nanotechnology*** **(IF: 3.5) 2016,** *27*, 215401.

36. **Sujoy Kumar Ghosh**, Tridib Kumar Sinha, Biswajit Mahanty, and Dipankar Mandal, "Self-poled efficient flexible "ferroelectretic" nanogenerator: a new class of piezoelectric energy harvester", ***Energy Technol.*** **(IF: 3.1), 2015,** *3*, 1190–1197.

37. Abiral Tamang,[†] **Sujoy Kumar Ghosh**,[†] **([†]Both contributed equally)** Samiran Garain, Md. Mehebub Alam, Jorg Haeberle, Karsten Henkel, Dieter Schmeisser, and Dipankar Mandal, "DNA assisted β-phase nucleation and alignment of molecular dipoles in pvdf film: a realization of self-poled bio-inspired flexible polymer nanogenerator for portable electronic devices", *ACS Appl. Mater. Interfaces* **(I.F. 8.7) 2015**, *7*, 16143−16147. (**Selected for ACS press release in August 12, 2015**); (https://www.acs.org/content/acs/en/pressroom/presspacs/2015/acs-presspac-august-12-2015/flexible-biodegradable-device-can-generate-power-from-touch-video.html).

38. Md. Mehebub Alam, **Sujoy Kumar Ghosh**, Ayesha Sultana and Dipankar Mandal, "Lead-free $ZnSnO_3$/MWCNTs-based flexible hybrid nanogenerator for piezoelectric power generation", ***Nanotechnology*** **(I.F. 3.5)**, **2015**, 26, 165403 (6pp).

39. Subrata Maji, Piyush Kanti Sarkar, Leena Aggarwal, **Sujoy Kumar Ghosh**, Dipankar Mandal, Goutam Sheet and Somobrata Acharya, "Self-oriented β-crystalline phase in the polyvinylidene fluoride ferroelectric and piezo-sensitive ultrathin langmuir–schaefer film", ***Phys. Chem. Chem. Phys.*** **(IF: 3.56)**, **2015**, 17, 8159-8165.

40. **Sujoy Kumar Ghosh**, Md. Mehebub Alam, Dipankar Mandal, "The *in situ* formation of platinum nanoparticles and their catalytic role in electroactive phase formation in

poly(vinylidene fluoride): a simple preparation of multifunctional poly(vinylidene fluoride) films doped with platinum nanoparticles", ***RSC Advances*** **(IF: 3.04)**, **2014**, 4, 41886-41894.

Book Chapter:

1. Engineered polymer nanocomposites for energy harvesting applications, *Ch.10: Designing piezo- and pyroelectric energy harvesters*, Editors: M. T. Rahul, Nandakumar Kalarikkal, Sabu Thomas, Bruno Ameduri, Didier Rouxel, Raneesh Balakrishnan, Elsevier (Expected June 1, 2022), Paperback ISBN: 9780128241554**,** DOI: 10.1016/B978-0-12-824155-4.00003-X.

2. 2D Nanomaterials for Energy Applications: Graphene and Beyond, *Ch.1: Piezoelectricity of 2D materials and its applications toward mechanical energy harvesting*, Editors: Spyridon Zafeiratos, Elsevier (2020), ISBN: 9780128167236**,** DOI: 10.1016/C2018-0-00152-8.

3. Nanobatteries and Nanogenerators: Materials, Technologies and Applications, *Ch. 22: Design strategy and innovation in piezo- and pyroelectric nanogenerators.* Editors: Huaihe Song Rajendran Venkatachalam Tuan Anh Nguyen Hao Bin Wu Phuong Nguyen Tri, Elsevier (2020), ISBN: 9780128215487, DOI: 10.1016/B978-0-12-821548-7.00022-1.

Conference proceedings

1. "Improved mechanical energy harvesting by Au-nanoparticles interfaced poly(vinylidene fluoride) electrospun fibers" AIP Conf. Proc. 2115, 030607 (2019).
2. "Design of flexible piezoelectric-pyroelectric nanogenerator for self-powered wearable sensor" AIP Conf. Proc. 2115, 030604 (2019).
3. "Protein promoted β-phase nucleation in poly (vinylidene fluoride) for energy harvesting applications" AIP Conf. Proc. 2115, 030592 (2019).
4. "Enhanced mechanical energy harvesting ability of electrospun poly(vinylidene fluoride)/hectorite clay nanocomposites" AIP Conf. Proc. 1942, 050081 (2018); doi: 10.1063/1.5028712.
5. "All-Fiber Pyroelectric Nanogenerator" AIP Conf. Proc. 1942, 140025 (2018).
6. "Cost effective-High Performance Inorganic-Organic Hybrid Nanogenerator" Advanced Science Letter, Volume 22, Number 1, January 2016, pp.184-187(4) , http://dx.doi.org/10.1166/asl.2016.6785.
7. "Self Powered Flexible Electronics Based on Self Poled "Ferroelectretic" Nanogenerator" MRS Advances, *May 10 2016*, http://dx.doi.org/10.1557/adv.2016.319.
8. "The Fabrication of Flexible Hybrid Nanogenerator for Self-Powering Devices" *IISRR-International Journal of Research, 2015*, vol. 1 (2), ISSN 2394-885X, 74-75.

9. "Energy Harvesting Performance of A Lead Free Hybrid Piezoelectric Nanogeneraton", *IISRR-International Journal of Research, 2015,* vol. 1 (2), ISSN 2394-885X, 53-54.
10. "Montmorillonite Induced **γ**-phase in PVDF with Superior Dielectric Property", *IISRR-International Journal of Research, 2015***,** vol. 1 (2), ISSN 2394-885X, 81-82.

Conference presentation

1. An International Conference & Expo On Recent Advances in Polymer & Rubber Science & Technology, (RAPT 2014) January 22nd -25th 2014, University of Calcutta, Kolkata, India, Poster presentation.
2. International Conference on Functional Materials (ICFM), February 5th – 7th 2014, Materials Science Centre IIT, Kharagpur, 721 302, India, Poster presentation.
3. Recent Trends in Condensed Matter Physics (RTCMP-2014), June 26th - 27th 2014, Department of Physics, Jadavpur University, Kolkata, India, Oral presentation.
4. CONDENSED MATTER DAYS 2014 (CMDAYS14), August 27th-29th 2014, University of Calcutta, Kolkata-98, India, Poster presentation.
5. The First International Conference on Emerging Materials: Characterization & Application (EMCA-2014), December 4th -6th 2014, CSIR-Central Glass & Ceramic Research Institute, Kolkata, India, Poster presentation.
6. Basic Physics to Contemporary Research, 18th March (A one day seminar), 2015, Department of physics, Jadavpur University, India, Poster presentation.
7. National Symposium on Recent Trends in Instrumentation Science and Technology, March 19 – 21st 2015, Department of Instrumentation Science, Jadavpur University, Kolkata-700 032, India, Oral presentation.
8. 4th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN-2015), December 8-11th 2015, Indian Institute of Technology Guwahati (IITG), India, Poster presentation.
9. Recent Trends in Functional Materials in relation to Nanomaterials and Nanotechnology (RTFMNN), February 4-5th 2016, Department of Chemistry, St. Paul's Cathedral Mission College, Kolkata, India, Poster presentation.
10. National Conference on EMERGING TRENDS IN CONDENSED MATTER PHYSICS & MATERIALS SCIENCE, March 18–19, 2016, Kalyani University, India, Oral presentation.
11. 2016 MRS Spring Meeting & Exhibit, March 28-April 1, 2016, Phoenix, Arizona, USA, Oral presentation.
12. NanoWorld Conference, April 04-06, 2016, Boston, USA, Poster presentation.
13. National Conference on Nanotechnology: Materials and Applications (NCoN:M&A), June 16-17, 2016, Jadavpur University, India, Oral presentation.
14. Recent Trend in Composite Material 2016, August 18, 2016, Jadavpur University, India, Participation.
15. Twist and Turn in Physics Research: Special Emphasis on Bio- and Condensed Matter Physics, February 21-22, 2017, Jadavpur University, India, Poster presentation.
16. Fourth International Symposium on Semiconductor Materials and Devices (ISSMD-4), March 8-10, 2017, Jadavpur University, India, Poster presentation.
17. International Conference on Energy Option for Tomorrow: Technology to Sustainability (ICEOT 2017), April 17-19, 2017, Kolkata, India, Poster presentation.

18. International Conference on Advances in Polymer Science & Technology, Nov. 23-25, 2017, New Delhi, Poster Presentation.
19. 62nd DAE Solid State Physics Symposium (DAE SSPS-2017), Dec. 26-30, 2017, Mumbai, India, Poster Presentation.
20. Third International Conference on Nanomaterials: Synthesis, Characterization, and Application (ICN 2018), May 11-13, 2018, Kottayam, Kerala, India, Poster presentation.
21. 63rd DAE Solid State Physics Symposium (DAE SSPS-2018), Dec. 18-22, 2018, Haryana, India, Thesis presentation
22. International Virtual Conference on Advances in Functional Materials (AFM 2020), August 26-28, 2020, Oral presentation (Young Scientist Award presentation).