

DR. NANTU SARKAR

Present Address

Assistant Professor
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Academic qualifications

- Ph.D. in Science (*Thermoelasticity*), **2013**
Jadavpur University, Kolkata, INDIA
Thesis defended successfully on - 13th July, 2013
- M.Sc. in Applied Mathematics, **2008**
Jadavpur University, Kolkata, INDIA
(**2nd Position in the University**).
- B.Sc. in Mathematics (Hons.), **2006**
Santipur College, University of Kalyani, West Bengal, INDIA
(**1st Position in the University**).

Research Interests

- Waves in Elasticity & Thermoelasticity

Specific Areas of Interest

- Waves in Thermoelasticity
- Waves in *Nonlocal* Elasticity and *Nonlocal* Thermoelasticity

Courses taught

- Metric Space, Continuum Mechanics, Numerical Analysis.
- Theory of Elasticity

Computational Proficiency

Operating Systems	:	Windows, Linux
Mathematical softwares	:	Mathematica, Matlab
Typing software	:	Latex

Research Experience

Aug. 2012 - July 2013	Research Fellow	Department of Mathematics Jadavpur University, Kolkata, INDIA
Oct. 2011 - July 2012	Visiting Fellow	Department of Mathematics Warsaw University, Warsaw, POLAND
Jan. 2010 - Sep. 2011	JRF (CSIR)	Department of Mathematics Jadavpur University, Kolkata, INDIA

Teaching Interests

- Linear Algebra, Complex Analysis, ODEs & PDEs, Numerical Analysis.
- Solid Mechanics

Teaching Experience

Dec. 2015 - till date	Assistant Professor	Department of Applied Mathematics University of Calcutta Kolkata, INDIA
Aug. 2015 - Dec. 2015	Assistant Professor	Department of Mathematics The University of Burdwan West Bengal, INDIA
Mar. 2015 - Aug. 2015	Assistant Professor	School of Sciences Netaji Subhas Open University Kolkata, INDIA
Feb. 2015 - Mar. 2015	Assistant Professor	Department of Mathematics Gobardanga Hindu College 24-Pgs (N), West Bengal, INDIA
July. 2013 - Feb. 2015	Assistant Professor	Department of Mathematics Heritage Institute of Technology Kolkata, INDIA
Jan. 2010 - Sep. 2011	Teaching Assistant	Jadavpur University Kolkata, INDIA

Academic Achievements

- Recipient of Dr. D. S. Kothari Post Doctoral Fellowship, UGC, 2014 (did not avail!).
- *ERASMUS MUNDUS Ph.D. SCHOLARSHIP* (Coordinated by LUND University, Sweden) for Ph.D. work at the Department of Mathematics, Warsaw University, Poland (2011).
- Qualified NET (CSIR), Dec. 2008.
- Recipient of “Post Graduate Merit Scholarship for University Rank Holders”, UGC (2006 - 2008).
- Recipient of “West Bengal Govt. Merit-cum-Means Scholarship” (2006 - 2008).

Published Research Papers

International Journals [**SCI & SCI(E)**] : **45**

45. N. Sarkar, S. Mondal, M.I.A. Othman “L-S theory for the propagation of the photo-thermal waves in a semiconducting nonlocal elastic medium”, *Waves in Random and Complex Media*, Accepted, 2020 (Taylor and Francis, England, **SCI**; ISSN: 1745-5030, **IF-3.33 Q1**).
44. D.K. Sharma, M.K. Sharma, N. Sarkar, “Effect of three-phase-lag model on the analysis of three-dimensional free vibrations of viscothermoelastic solid cylinder”, *Applied Mathematical Modelling*, 90, 281-301, 2021. (Elsevier, New York, USA, **SCI**; ISSN: 1872-8480, **IF-3.633 Q1**).
43. D.K. Sharma, M.K. Sharma, N. Sarkar, “Analysis of three-dimensional free vibrations of isotropic visco-thermoelastic solid cylinder with two relaxation time parameters”, *Journal of Thermal Stresses*, DOI: 10.1080/01495739.2020.1842827,2020. (Taylor and Francis, USA, **SCI**; ISSN: 1521-074X, **IF-2.626 Q2**).
42. Kh. Lotfy, A.A. El-Bary, N. Sarkar, “Memory-dependent derivatives (MDD) of magneto-thermal-elastic waves excited by laser pulses for two-temperature theory”, *Waves in Random and Complex Media*, DOI: 10.1080/17455030.2020.1847360, 2020 (Taylor and Francis, England, **SCI**; ISSN: 1745-5030, **IF-3.33 Q1**).
41. D.K. Sharma, Dinesh Thakur, N. Sarkar, “Effect of dual phase lag model on the vibration analysis of non local generalized thermoelastic diffusive hollow sphere”, *Waves in Random and Complex Media*, DOI: 10.1080/17455030.2020.1831100, 2020 (Taylor and Francis, England, **SCI**; ISSN: 1745-5030, **IF-3.33 Q1**).
40. D.K. Sharma, P. Thakur, N. Sarkar, “Effect of Dual-Phase-Lag model on free vibrations of isotropic homogenous nonlocal thermoelastic hollow sphere with void”, *Mechanics Based Design of Structures and Machines*, <https://doi.org/10.1080/15397734.2020.1824792>, 2020. (Taylor and Francis, USA, **SCI**; ISSN: 1539-7734, **IF-2.286 Q2**).
39. N. Sarkar, S. Mondal, “Thermoelastic plane waves under the modified Green-Lindsay model with two-temperature formulation”, *ZAMM - Zeitschrift fr Angewandte Mathematik und Mechanik*, 100 (11), 2020. DOI: 10.1002/zamm.201900267 (Wiley, Germany, **SCI**; ISSN: 1521-4001, **IF-1.103 Q3**).
38. D.K. Sharma, M. Bachher, M.K. Sharma, N. Sarkar, “On the analysis of free vibrations of nonlocal elastic sphere of FGM type in generalized thermoelasticity”, *Journal of Vibration Engineering & Technologies*, DOI: 10.1007/s42417-020-00217-2, 2020. (Springer Heidelberg, Germany, **SCI(E)**; ISSN: 2523-3920, **IF-0.537 Q4**).
37. Nihar Sarkar, S. De, N. Das, N. Sarkar, “Reflection of Thermoelastic Waves From the Insulated Surface of a Solid Half-Space With Time-Delay”, *Journal of Heat Transfer-Transactions of the ASME*, 142(9): 092101 (9 pages), 2020. (The American Society of Mechanical Engineers, USA, **SCI**; ISSN: 0022-1481, **IF-1.787 Q3**).
36. D.K. Sharma, D. Thakur, V. Walia, N. Sarkar, “Free vibration analysis of a nonlocal thermoelastic hollow cylinder with diffusion”, *Journal of Thermal Stresses*, 43(8), 981-997,2020. (Taylor and Francis, USA, **SCI**; ISSN: 1521-074X, **IF-2.626 Q2**).
35. D.K. Sharma, P.C. Thakur, N. Sarkar, M. Bachher, “Vibration analysis of functionally graded thermoelastic nonlocal sphere with dual-phase-lag effect”, *Acta Mechanica*, 231, 2931-2945, 2020. (Springer, Austria, **SCI**; ISSN: 0001-5970, **IF-2.102 Q3**).
34. D.K. Sharma, M. Bachher, S. Manna, N. Sarkar, “Vibrations of a nonlocal thermoelastic cylinder with void”, *Acta Mechanica*, 231, 1765-1781, 2020. (Springer, Austria, **SCI**; ISSN: 0001-5970, **IF-2.102 Q3**).

- 33. N. Sarkar**, S. M. Abo-Dahab, Sudip Mondal, “Reflection of magneto-thermoelastic waves at a solid half-space under modified Green-Lindsay model with two temperatures”, *Journal of Thermal Stresses*, 43 (9), 1083-1099, 2020. (Taylor and Francis, USA, **SCI**; ISSN: 1521-074X, **IF-2.626 Q2**).
- 32. Nihar Sarkar**, M Bachher, N Das, S De, **N. Sarkar**, “Waves in nonlocal thermoelastic solids of type III”, *ZAMM - Zeitschrift fr Angewandte Mathematik und Mechanik*, 100 (4), 2020. DOI: 10.1002/zamm.201900252 (Wiley, Germany, **SCI**; ISSN: 1521-4001, **IF-1.103 Q3**).
- 31. N. Sarkar**, “Thermoelastic responses of a nonlocal elastic rod due to nonlocal heat conduction”, *ZAMM - Zeitschrift fr Angewandte Mathematik und Mechanik*, 100 (4), 2020. DOI: 10.1002/zamm.201900252 (Wiley, Germany, **SCI**; ISSN: 1521-4001, **IF-1.103 Q3**).
- 30. N. Sarkar**, S. Mondal, M.I.A. Othman, “Effect of the Laser Pulse on Transient Waves in a Nonlocal Thermoelastic Medium under Green-Naghdi Theory”, *Structural Engineering and Mechanics, An International Journal*, 74 (4), 471-479, 2020. (Korean Federation of Science and Technology Societies (KOFST), **SCI(E)**; ISSN: 1225-4568, **IF-2.984 Q1**).
- 29. N. Sarkar**, “Thermoelastic responses of a finite rod due to nonlocal heat conduction”, *Acta Mechanica*, 231 (3), 947-955, 2020. (Springer, Austria, **SCI**; ISSN: 0001-5970, **IF-2.102 Q3**).
- 28. N. Das**, S. De, **N. Sarkar**, “Reflection of plane waves in generalized thermoelasticity of type III with nonlocal effect”, *Mathematical Methods in the Applied Sciences*, 43(3), 1313-1336, 2020. (Wiley, USA, **SCI(E)**; ISSN: 0170-4214, **IF-1.626 Q2**).
- 27. N. Sarkar**, S. Mondal, “Two-dimensional problem of two-temperature generalized thermoelasticity using memory-dependent heat transfer: An integral transform approach”, *Indian Journal of Physics*, DOI: 10.1007/s12648-019-01639-9, 2019. (Indian Assoc Cultivation Science, Jadavpur, Kolkata-700032, India, **SCI(E)**; ISSN: 0974-9845, **IF-1.407 Q3**).
- 26. N. Sarkar**, M.I.A. Othman, “Three-dimensional thermal shock problem in the frame of memory-dependent generalized thermoelasticity”, *Indian Journal of Physics*, DOI: 10.1007/s00707-019-02583-9, 2019. (Indian Assoc Cultivation Science, Jadavpur, Kolkata-700032, India, **SCI(E)**; ISSN: 0974-9845, **IF-1.407 Q3**).
- 25. N. Sarkar**, S. Mondal, “Thermoelastic interactions in a slim strip due to a moving heat source under dual-phase-lag heat transfer”, *Journal of Heat Transfer-Transactions of the ASME*, 141 (12), 124501 (7 pages), 2019. (The American Society of Mechanical Engineers, USA, **SCI**; ISSN: 0022-1481, **IF-1.787 Q3**).
- 24. Nihar Sarkar**, S. De, **N. Sarkar**, “Modified Green-Lindsay model on the propagation and reflection of thermoelastic waves at an isothermal stress free surface”, *Indian Journal of Physics*, DOI: 10.1007/s12648-019-01566-9, 2019. (Indian Assoc Cultivation Science, Jadavpur, Kolkata-700032, India, **SCI(E)**; ISSN: 0974-9845, **IF-1.407 Q3**).
- 23. Nihar Sarkar**, S. De, **N. Sarkar**, “Reflection of thermoelastic waves from the isothermal boundary of a solid half-space under memory-dependent heat transfer”, *Waves in Random and Complex Media*, DOI: 10.1080/17455030.2019.1623433, 2019 (Taylor and Francis, England, **SCI**; ISSN: 1745-5030, **IF-3.33 Q1**).
- 22. Nihar Sarkar**, S. De, **N. Sarkar**, “Waves in nonlocal thermoelastic solids of type II”, *Journal of Thermal Stresses*, 42 (9), 1153-1170, 2019. (Taylor and Francis, USA, **SCI**; ISSN: 1521-074X, **IF-2.262 Q2**).
- 21. N. Das**, **N. Sarkar**, A. Lahiri, “ Reflection of plane waves from the stress-free isothermal and insulated boundaries of a nonlocal thermoelastic solid”, *Applied Mathematical Modelling*, 73, 526-544, 2019. (Elsevier, New York, USA, **SCI**; ISSN: 1872-8480, **IF-3.633 Q1**).

20. Nihar Sarkar, So. De, **N. Sarkar**, “Memory response in plane wave reflection in generalized magneto-thermoelasticity”, *Journal of Electromagnetic Waves and Applications*, 33 (10), 1354-1374, 2019.(Taylor and Francis, England, **SCI**; ISSN: 1569-3937, **IF-1.373 Q3**).
19. S. Mondal, Nihar Sarkar, **N. Sarkar**, “Waves in dual-phase-lag thermoelastic materials with voids based on Eringen’s nonlocal elasticity”, *Journal of Thermal Stresses*, 42(8), 1035-1050, 2019. (Taylor and Francis, USA, **SCI**; ISSN: 1521-074X, **IF-2.262 Q2**).
18. **N. Sarkar**, S. Mondal, “Transient responses in a two-temperature thermoelastic infinite medium having cylindrical cavity due to moving heat source with memory-dependent derivative”, *ZAMM - Zeitschrift fr Angewandte Mathematik und Mechanik*, 2019. DOI: 10.1002/zamm.201800343 (Wiley, Germany, **SCI**; ISSN: 1521-4001, **IF-1.103 Q3**).
17. **N. Sarkar**, S. K. Tomar. “Plane waves in nonlocal thermoelastic solid with voids”, *Journal of Thermal Stresses*, 42, 580-606, 2019. (Taylor and Francis, USA, **SCI**; ISSN: 1521-074X, **IF-2.262 Q2**).
16. **N. Sarkar**, D. Ghosh, A. Lahiri, “A two-dimensional magneto-thermoelastic problem based on a new two-temperature generalized thermoelasticity model with memory-dependent derivative”, *Mechanics of Advanced Materials and Structures*, 26, 957-966, 2019 (Taylor and Francis, USA, **SCI(E)**; ISSN: 1537-6532, **IF-3.517 Q1**).
15. **N. Sarkar**, **S.Y. Atwa**, “Two-temperature problem of a fiber-reinforced thermoelastic medium with a Mode-I crack under GreenNaghdi theory”, *Microsystem Technologies*, 25(4), 1357-1367, 2019. (Springer, Germany; **SCI**; ISSN: 0946-7076, **IF-1.737 Q3**).
14. M. Bachher, **N. Sarkar**, “Nonlocal theory of thermoelastic materials with voids and fractional derivative heat transfer”, *Waves in Random and Complex Media*, 29 (4), 595-613, 2019 (Taylor and Francis, England, **SCI**; ISSN: 1745-5030, **IF-3.33 Q1**).
13. S. Biswas, **N. Sarkar**, “Fundamental solution of the steady oscillations equations in porous thermoelastic medium with dual-phase-lag model”, *Mechanics of Materials*, 126, 140-147, 2018 (Elsevier, Netherlands, **SCI**; ISSN: 0167-6636, **IF-2.993 Q2**).
12. **N. Sarkar**, Kh. Lotfy, “A 2d problem of time-fractional heat order for a two-temperature thermoelasticity under hydrostatic initial stress”, *Mechanics of Advanced Materials and Structures*, 25(4), 279-285, 2018 (Taylor and Francis, USA, **SCI(E)**; ISSN: 1537-6532, **IF-3.517 Q1**).
11. **N. Sarkar**, “Wave propagation in a initially-stressed elastic half-space solids under time-fractional order two-temperature magneto-thermoelasticity”, *European Physical Journal Plus*, 132:154. DOI: 10.1140/epjp/i2017-11426-8, 2017 (Springer, Germany, **SCI**; ISSN: 1046-283X, **IF-3.228 Q1**).
10. Kh. Lotfy, **N. Sarkar**, “Memory-Dependent Derivatives for Photothermal Semiconducting Medium in Generalized Thermoelasticity with Two-Temperature”, *Mechanics of Time-Dependent Materials*, 21,15-30, 2017 (Springer, Netherlands, **SCI(E)**; ISSN: 1385-2000, **IF-1.574 Q2**).
9. M. Bachher, **N. Sarkar**, A. Lahiri, “Fractional order thermoelastic interactions in an infinite voids material due to distributed time-dependent heat sources”, *Meccanica*, 50, 2167-2178, 2015 (Springer, Netherlands, **SCI**; ISSN: 0025-6455, **IF-2.153 Q2**).
8. M. Bachher, **N. Sarkar**, A. Lahiri, “Generalized thermoelastic infinite medium with voids subjected to a instantaneous heat sources with fractional derivative heat transfer”, *International Journal of Mechanical Sciences*, 89, 84-91, 2014 (Elsevier, England, **SCI**; ISSN: 0020-7403, **IF-4.631 Q1**).
7. **N. Sarkar**, “Analysis of magneto-thermoelastic response in a fiber-reinforced elastic solid due to hydrostatic initial stress and gravity field”, *Journal of Thermal Stresses*, 37, 1-18, 2014 (Taylor

