Dr. Siddhartha Biswas

M.Sc. (IIT Bombay), **Ph.D.** (IIEST, Shibpur)

Assistant Professor

Department of Mathematics

University of North Bengal

Academic Qualification:

1. **B. Sc (Honors) in Mathematics,** Ramakrishna Mission Residential College, Narendrapur (University of Calcutta).
2. **M. Sc in Mathematics,** Indian Institute of Technology **(IIT),** Bombay.
3. **PhD in Science**, Indian Institute of Engineering Science and Technology **(IIEST),** Shibpur.

Research Area: Thermoelasticity, Differential Equations, Solid Mechanics.

Research Experience: 2015-2021

Awards and Honors:

1. **NET–JRF, GATE, INSPIRE Scholarship.**
2. **Best Research Award (2020) from Science Father**
3. **Best Researcher Award (2020) from Science Father**
4. **Incredible Young Researcher of India (2021) from Record Owner**
5. **National Best Scientist Award (2021)in Applied Mathematics from International Multidisciplinary Research Foundation (IMRF)**

Journal Papers (2017-2021):

1. **S. Biswas (2019),** Three dimensional thermoelastic problem in orthotropic medium, **Journal of Thermal Stresses (Taylor & Francis)**, vol. **43(1),** pp. 21-37.

   https://doi.org/10.1080/01495739.2019.1687058

2. **S. Biswas** and B. Mukhopadhyay **(2019),** Three dimensional vibration analysis in transversely isotropic cylinder with matrix Frobenius method, **Journal of Thermal Stresses** (Taylor & Francis), vol. **42(10),** pp. 1207-1228.

https://doi.org/10.1080/01495739.2019.1638332

3. **S. Biswas (2019),** Eigenvalue approach to a magneto-thermoelastic problem in transversely isotropic hollow cylinder: comparison of three theories, **Waves in Random and Complex Media** (Taylor & Francis).

   https://doi.org/10.1080/17455030.2019.1588484

4. **S. Biswas (2019),** Three dimensional vibration analysis of porous cylindrical panel with three-phase-lag model, **Waves in Random and Complex Media** (Taylor & Francis).

   https://doi.org/10.1080/17455030.2019.1707328

5. **S. Biswas**, N. Sarkar **(2018),** Fundamental solution of the steady oscillations equations in porous thermoelastic medium with dual-phase-lag model, **Mechanics of Materials(Elsevier)**, vol. **126,** pp. 140-147.
   doi.org/10.1016/j.mechmat.2018.08.008

6. **S. Biswas**, S.M. Abo-Dahab **(2018),** Effect of phase-lags on Rayleigh wave propagation in initially stressed magneto-thermoelastic orthotropic medium, **Applied Mathematical Modelling (Elsevier)** vol. **59,** pp. 713-727.
   https://doi.org/10.1016/j.apm.2018.02.025
7. **S. Biswas (2018),** Stroh analysis of Rayleigh waves in anisotropic thermoelastic medium, **Journal of Thermal Stresses (Taylor & Francis),** vol. **41**(5), pp. 627-644.

   https://doi.org/10.1080/01495739.2018.1425940

8. **S. Biswas**, B. Mukhopadhyay **(2019),** Eigenfunction expansion method to characterize Rayleigh wave propagation in orthotropic medium with phase lags, **Waves in Random and Complex Media (Taylor & Francis),** vol. **29(4), pp.** 722-742.

   https://doi.org/10.1080/17455030.2018.1470355

9. **S. Biswas**, B. Mukhopadhyay **(2018),** Eigenfunction expansion method to analyze thermal shock behavior in magneto-thermoelastic orthotropic medium under three theories, **Journal of Thermal Stresses** (Taylor & Francis), vol. **41**(3), pp. 366-382.

   https://doi.org/10.1080/01495739.2017.1393780

10. **S. Biswas,** B. Mukhopadhyay, S. Shaw **(2017),** Thermal shock response in magneto-thermoelastic orthotropic medium with three-phase-lag model, **Journal of Electromagnetic Waves and Applications (Taylor & Francis)**, vol. **31**(9), pp. 879-897.

https://doi.org/10.1080/09205071.2017.1326851

11. **S. Biswas**, B. Mukhopadhyay, S. Shaw **(2017),** Rayleigh surface wave propagation in orthotropic thermoelastic solids under three-phase-lag model, **Journal of Thermal Stresses (Taylor & Francis)**, vol. **40**(4), pp. 403-419.

https://doi.org/10.1080/01495739.2017.1283971

12. S. M. Abo-Dahab, **S. Biswas (2017),** Effect of rotation on Rayleigh waves in magneto-thermoelastic transversely isotropic medium with thermal relaxation times, **Journal of Electromagnetic Waves and Applications**(Taylor & Francis), vol. **31**(15), pp. 1485-1507.

https://doi.org/10.1080/09205071.2017.1351403

13. S. M. Abo-Dahab, **S. Biswas (2018),** P, T and SV wave propagation at the interface between solid-liquid media with magnetic field and initial stress in the context of three-phase-lag model, **Mechanics of Advanced Materials and Structures(**Taylor & Francis), vol. **27**(2), pp. 165-175.

https://doi.org/10.1080/15376494.2018.1472347

14. **S. Biswas (2018),** Fundamental solution of steady oscillations in thermoelastic medium with voids, **Waves in Random and Complex Media** (Taylor & Francis), vol. **30**(4), pp. 759-775.

https://doi.org/10.1080/17455030.2018.1557759

15. **S. Biswas,** B. Mukhopadhyay and S. Shaw **(2019),** Effect of rotation in magneto-thermoelastic transversely isotropic hollow cylinder with three-phase-lag model, **Mechanics Based Design of Structures and Machines (Taylor & Francis), vol. 47(2),** pp. 234-254.

https://doi.org/10.1080/15397734.2018.1545587

16. **S. Biswas (2019),** Modeling of memory-dependent derivatives in orthotropic medium with three-phase-lag model under the effect of magnetic field, **Mechanics Based Design of Structures and Machines (**Taylor & Francis**),** vol**. 47(3),** pp. 302-318.

    https://doi.org/10.1080/15397734.2018.1548968

17. **S. Biswas (2019),** Fundamental solution of steady oscillations for porous materials with dual-phase-lag model in micropolar thermoelasticity, **Mechanics Based Design of Structures and Machines** (Taylor & Francis), **v**ol. **47(4),** pp. 430-452.

    https://doi.org/10.1080/15397734.2018.1557528

18. **S. Biswas (2019),** Modeling of memory dependent derivatives with the state space approach, **Multidiscipline modeling in materials and structures.**

    https://doi.org/10.1108/MMMS-06-2019-0120

19. **S. Biswas (2019),** Vibration analysis of transversely isotropic hollow cylinder considering three different theories with matrix Frobenius method, **Multidiscipline modeling in materials and structures,** vol. **15(6), pp.** 1212-1237.

    https://doi.org/10.1108/MMMS-04-2019-0074

20. **S. Biswas** and S. Shaw (2018), A thermodynamic framework to analyze thermal shock response in anisotropic hollow cylinder with energy dissipation, **Multidiscipline Modeling of materials and structures,** vol. **14(3), pp.** 410-430.

    https://doi.org/10.1108/MMMS-08-2017-0095

21. **S. Biswas** (2020), Fundamental solution of steady oscillations equations in nonlocal thermoelastic medium with voids, **Journal of Thermal Stresses**, vol. **43(**3), pp. 284-304.

    10.1080/01495739.2019.1699482

22. **S. Biswas** (2020), Thermoelastic interaction in unbounded transversely isotropic medium containing spherical cavity with energy dissipation, **Indian Journal of Physics,**

    DOI: 10.1007/s12648-020-01705-7

23. **S. Biswas** (2020), Thermal shock problem in porous orthotropic medium with three-phase-lag model, **Indian Journal of Physics,**

    DOI: 10.1007/s12648-020-01703-9

24. A. S. Pramanik and **S. Biswas** (2020), Surface waves in nonlocal thermoelastic medium with state space approach, **Journal of Thermal Stresses, vol.** 43(6), pp. 667-686.

    DOI: 10.1080/01495739.2020.1734129

25. **S. Biswas** (2020), Surface waves in porous nonlocal thermoelastic orthotropic medium, **Acta Mechanica, vol. 231(7), 2741-2760.**

    DOI: 10.1007/s00707-020-02670-2

26. **S. Biswas**(2020), Rayleigh waves in a nonlocal thermoelastic layer lying over a nonlocal thermoelastic half-space, **Acta Mechanica,** vol. **231**(10), pp. 4129-4144.

    DOI: 10.1007/s00707-020-02751-2

27. **S. Biswas**(2020), Three-dimensional nonlocal thermoelasticity in orthotropic medium based on Eringen's nonlocal elasticity, **Waves in Random and Complex Media,**

    DOI: 10.1080/17455030.2020.1810366

28. **S. Biswas** and S. M. Abo-Dahab (2020)Electro–magneto–thermoelastic interactions in initially stressed orthotropic medium with Green–Naghdi model type-III, **Mechanics Based Design of Structures and Machines,**

    DOI: 10.1080/15397734.2020.1815212.

29. **S. Biswas** (2020), Surface waves in piezothermoelastic transversely isotropic layer lying over piezothermoelastic transversely isotropic half space, **Acta Mechanica, 232(2), 373-387.**

    DOI : 10.1007/s00707-020-02848-8

30. A. S. Pramanik and **S. Biswas (2020),** Surface waves in porous thermoelastic medium with two relaxation times, **Mechanics Based Design of Structures and Machines.**

31. A. S. Pramanik and **S. Biswas (2020),** Eigenvalue approach to hyperbolic thermoelastic problem in porous orthotropic medium with Green-Lindsay model, **Mechanics Based Design of Structures and Machines.**

32. **S. Biswas (2020),** State Space Approach to Thermoelastic Problem with Three-Phase-Lag Model, **International Applied Mechanics,** vol. **56(**2), pp. 240-252.

33. I Haque and **S. Biswas(2021),** State space approach to characterize Rayleigh waves in a layer lying over a half space with nonlocal thermoelasticity, **Waves in Random and Complex Media.**

34. **S. Biswas(2021),** The propagation of plane waves in nonlocal visco-thermoelastic porous medium based on nonlocal strain gradient theory**, Waves in Random and Complex Media.**

35. **S. Biswas (2021),** Rayleigh waves in porous nonlocal orthotropic thermoelastic layer lying over porous nonlocal orthotropic thermoelastic half space, **Waves in Random and Complex Media.**

36. **S. Biswas (2021),** Rayleigh waves in a magneto-thermoelastic anisotropic half-space**, Journal of Thermal Stresses, 44(2), 197-213.**

Project: (2019-20)

Title: Hyperbolic thermoelasticity in anisotropic medium with voids (Funded by North Bengal University)

Workshop (2016-2021):

1. **Dec. 01-28 (2016),** Annual Foundation School (AFS-1**), IIT Guwahati.**
2. **Nov. 20-24 (2017),** Recent Advances in Modeling & Computational Techniques in Applied Mathematics**, IIEST, Shibpur.**
3. **Sept. 19-25 (2020),** Workshop on **'Numerical Linear Algebra',** Assam University.
4. **October 08 - 12, 2021,** Second International Workshop on "**Advanced Topics in Mathematics2021",** organized by the Centre for Applied Mathematics, International Institute of Information Technology Naya Raipur.