

Dr. Asoke Kumar Dhar

Professor

Department of Mathematics

ACADEMIC QUALIFICATIONS

- 1981: B.Sc. (Honours) (First Class 2nd , University of Calcutta)
Major: Mathematics, Minors: Physics and Chemistry.
- 1983: M.Sc. (University of Calcutta , First Class 1st , Gold Medalist) Applied Mathematics, Specialization: Advanced Computer Science and Cybernetics.
- 1985: M.Phil. (University of Calcutta) Applied Mathematics, Specialization: Advanced Computer Science and Cybernetics.
- 1985: Qualified NET conducted by CSIR.
- 1995: Ph.D. (University of Calcutta), Thesis Title: Some problems on Nonlinear effect of water waves, Supervisor: Prof. K. P. Das, University of Calcutta (Retired).

Teaching experience: 27 years

- 1991-1995: Lecturer, Department of Mathematics, Mahishadal Raj College, Midnapore, India.
- 1995-2009: Reader, Department of Mathematics, Bengal Engineering and Science University, Shibpur, India.
- 2009: Professor, Department of Mathematics, Indian Institute of Engineering Science and Technology, Shibpur, India.

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Area of Research:

Research Experience: 28 Years

- Nonlinear Fluid Dynamics
- Deterministic and Random Schools
- Problems concerning Partial Differential Equation
- Zakharov's Integral Equation
- Stability Analysis

Project Coursework Topic: Some Techniques for Nonlinear Water Waves and Nonlinear Model Equations.

Courses Undertaken:

Undergraduate

All Mathematics courses at Graduate level.

Post Graduate

- Analytical Theory of Ordinary Differential Equations
- Special Functions
- Partial Differential Equations
- Continuum Mechanics I
- Advanced Numerical Analysis
- Sessional on Numerical Analysis Lab.
- Continuum Mechanics II
- Mathematical Methods
- Classical Mechanics.

Recent Publications (Last 10 Years):

1. **D.P. Majumder and A.K. Dhar**, “*Stability analysis from fourth order evolution equation for two stokes wave trains in deep water in the presence of air flowing over water,*” International Journal of Applied Mechanics and Engineering **14 No-4** pp 989-1008 (2009).
2. **D.P. Majumder, and A.K. Dhar** “*Stability analysis from fourth order evolution equation for deepwater capillary-gravity waves in the presence of air flowing over water*”. Int. J. of Applied Mechanics and Engineering, Vol.**14**, No. 2, pp-433-442 (2009).
3. **D.P. Majumder, and A.K. Dhar**, “*Nonlinear energy transfer within the peak of a narrow gravity wave spectrum in the presence of air flowing over water.*” Bull. Cal. Math. Soc. **101(6)** pp-615-626 (2009).
4. **D.P. Majumder and A.K. Dhar**, “*Stability of small but finite amplitude interfacial capillary gravity waves for perturbations in two horizontal directions,*” International Journal of Applied Mechanics and Engineering vol. **16 No-2** pp 425-434 (2011).
5. **J. Mondal and A.K. Dhar**, “*The third order nonlinear evolution equation for two Stokes wave trains for gravity capillary waves in the presence of air flowing over water.*” Bull. Cal. Math. Soc. **105(2)** pp103-116 (2013).
6. **D.P. Majumder and A.K. Dhar**, “*Fourth order nonlinear evolution equation for interfacial gravity waves in the presence of air flowing over water and a basic current shear*”, Int. J. of Applied Mechanics and Engineering, Vol.**20**, No. 3, pp-517-530 (2015). (SCOPUS)
7. **D.P. Majumder and A.K. Dhar**, “*The effect of randomness on the stability of capillary gravity waves in the presence of air flowing over water*”, International Journal of Applied Mechanics and Engineering vol. **20, No-4** pp 835-855 (2015). (SCOPUS)
8. **A.K. Dhar and J. Mondal**, “*Stability analysis from fourth order evolution equation for counterpropagating gravity wave packets in the presence of wind flowing over water*”, Australian and New Zealand Industrial and Applied Mathematics Journal, URL— <http://journal.austms.org.au/ojs/index.php/ANZIAM> , J. 56(E) pp E22-49 , 2015/article/view/8139, DOI: <http://dx.doi.org/10.0000/anziame.v56i0.8139> ,ISSN 1446–8735. (Science Citation Index)
9. **A.K. Dhar and J. Mondal**, “*Effect of capillarity on fourth order nonlinear evolution equation for two stokes wave trains in deep water in the presence of air flowing over water*”, Int. J. of Applied Mechanics and Engineering, 2015, vol.20, No.2, pp.267-282 ,DOI: 10.1515/ijame-2015-0018(SCOPUS)
10. **A.K. Dhar and J. Mondal**, “*Fourth order nonlinear evolution equations for counterpropagating capillary gravity wave packets in the presence of wind flowing over water*”, International Journal of Mathematics and Physical Sciences Research ISSN 2348-5736 ,Vol. 3, pp: (62-70), Month: April 2015 - September 2015

11. A.K. Dhar and J.Mondal, “*Stability analysis from fourth order evolution equations for two gravity wave packets in the presence of wind flowing over water*”, International Journal of Information Research and Review, Vol. 2, Issue, 06, pp. 738-750, June, 2015
12. A.K. Dhar and J.Mondal, “*Stability analysis from third order nonlinear evolution equation for counterpropagating capillary gravity wave packets in the presence of wind flowing over water.*”, International Journal of Mathematics and Physical Sciences Research ISSN 2348-5736 ,Vol. 3, pp: (125-133), Month: April 2015 - September 2015.