



**Arya Vidyapeeth College**  
আর্য্য বিদ্যাপীঠ মহাবিদ্যালয়



## Personal profile

**Name of the Faculty: Dr. Ranjan Das**

**Designation: Associate Professor**

Personal Information Date of Birth: 02-03-1967

Gender: Male

Nationality: Indian

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Date of joining the present service: 11-10-1999

Academic Qualification MSc, PhD

Teaching Experience

In UG level: 21 Years

In PG level: 21 Years



Research Experience Date of obtaining / PhD Degree: 01-07-2011; Gauhati University.  
 Title of the PhD thesis:  
 “SOLITARY WAVES IN PLASMAS”  
 Length of research experience: 09 years  
 Specialization (Area of interest): Relativity, Fluid Dynamics and Plasma Physics  
 Research Guidance (PhD guideship): From Gauhati University  
 No. of student obtained PhD degree: 01  
 No. of student perusing PhD degree: 01  
 No. Of research projects:

Title of the project	Funding agency	Amount (In Rs.)	Status (ongoing/completed)
Ion acoustic solitary waves in a relativistic and nonrelativistic plasma	UGC NERO	4,30,000/-	Completed

Publications **No. Of Book chapters published: 05**  
 i) “A Book of Degree Mathematics” [For Degree Second Semester (G)]; Pragati Prakashan; 2020, ISBN:938996132-7.  
 ii) “A New Approach to College Mathematics” [For Fifth Semester (G) Paper II]; Ashok Book Stall; 2015, ISBN:978-93-84846-29-9  
 iii) “A New Approach to College Mathematics” (Paper I) ; Ashok Book Stall; 2014, ISBN:978-93-84095-33-8.  
 iv) “A New Approach to College Mathematics” [Foe 3<sup>rd</sup> Semester(G)]; Ashok Book Stall; 2013, ISBN:978-93-81850-61-9.  
 v) “A New Approach to College Mathematics” [Foe 1<sup>st</sup> Semester(G)] ; Ashok Book Stall; 2012, ISBN:978-93-81850-36-7.

**No. Of Research paper published: 30**

**Published Papers:**

i) R. Sarma, A. N. Dev, B. Boro, R. Das, and N. C. Adhikary, Three-dimensional modified Korteweg-de Vries equation in a magnetised relativistic plasma with positron beam and vortex-like electron distribution, Year:2020,

Vol. 74, Issue: 2, pp. 2-9 (The European Physical Journal D).

ii) R. Sarma, G.C. Das, R. Das, N. C. Adhikary, On the nonlinear solitary and shock waves in Maxwellian multi-component space plasma, Year: 2018, Vol. 25, Issue:7, pp. 073704 (Physics of Plasmas USA).

iii) R. Das, Propagation of ion acoustic solitary waves with high relativistic thermal ions and non-thermal electrons and thermal positrons in plasma, Year: 2017, Vol. 65, Issue:3&4 (Indian Journal of theoretical Physics INDIA)

iv) R. Das and K. C. Nath, Modified Korteweg-de Vries solitons on dust ion acoustic solitary waves in a warm plasma with electrons drift motion, Year: 2016, Vol. 19, Issue: 3, pp. 541 – 553 (Advances and Applications in Fluid Mechanics, INDIA).

v) R. Das, Effect of positron inertia on ion acoustic solitary waves in electron-positron-ion plasma, Year: 2016, Vol. 1, Issue:6, pp. 548 – 558 (International Journal of Advanced Scientific and Technical Research, INDIA).

vi) R. Das and R. Sarma, Effect of positron temperature on high relativistic electron-positron-ion plasmas with nonthermal electrons, Year: 2015, Vol. 6, Issue: 7, pp.1115 – 1121 (International Journal of Scientific & Engineering Research INDIA)

vii) R. Das and P. Deka, Korteweg de Vries Solitons in high relativistic electron-beam plasma, Year: 2015, Vol. 6, Issue:5, pp.864 – 870 (International Journal of Scientific & Engineering Research INDIA).

viii) G. C. Das, R. Das and M. P. Kashyap, An Investigation on the Relationship Between Performance in Mathematics and Students' Attitude Towards the Subject in Secondary Schools of Guwahati, Year: 2015, Vol. 5, Issue:6, pp.864 – 870 (Indian Journal of Applied Research INDIA).

ix) R. Das, Drifting effect of electrons on the formation of ion-acoustic solitons in a plasma with negative ions, Year: 2014, Vol. 5, Issue:7, pp. 595 – 600 (International Journal of Scientific & Engineering Research INDIA).

x) G. C. Das and R. Das, A comparative study on students' mathematical performance between government and private secondary schools in Kamrup district, Assam, Year: 2014, Vol. III, Issue: III, pp. 88 – 95 (International Multidisciplinary e-Journal).

xi) R. Das, Effect of beam temperature on the formation of ion acoustic solitons in a magnetized ion-beam plasma in presence of electron inertia, Year: 2014, Vol. 1, Issue:2, pp. 18 – 28 (International Journal of Modern Sciences and Engineering Technology INDIA)

- xii) R. Das, Effect of ion temperature on dust ion acoustic solitary waves in a warm unmagnetized plasma with electron inertia, Year: 2014, Vol. 3, Issue:1, pp. 8791 – 8799 (International Journal of Innovative Research in Science, Engineering and Technology INDIA).
- xiii) R. Das and K. Karmakar, Fast and Slow Modes on Dust Ion Acoustic Solitary Waves in a Warm Plasma, Year: 2013, Vol. 3, Issue:4, pp.1 – 7 (International Journal of Scientific and Research Publications INDIA).
- xiv) R. Das and K. Karmakar, Modified Korteweg-de Vries solitons in a dusty plasma with electron inertia and drifting effect of electrons, Year: 2013, Vol. 91, pp.839 – 843 (Canadian Journal of Physics CANADA).
- xv) R. Das and K. Karmakar, Ion Acoustic Solitary Waves in a Negative ion Beam Plasma in Presence of electron inertia, Year: 2013, Vol. 2, Issue: 6, pp.372 – 374(International Journal of Scientific Research INDIA)
- xvi) G. C. Das and R. Das, An Empirical View on Private Tutoring in School Mathematics of Kamrup District, Year: 2013, Vol. 3, Issue: 5, pp.1 – 5 (International Journal of Scientific and Research Publications INDIA).
- xvii) R. Das and G. C. Das, Math Anxiety: The Poor Problem Solving Factor in School Mathematics, Year: 2013, Vol. 3, Issue: 4, pp.1 – 5(International Journal of Scientific and Research Publications INDIA).
- xviii) R. Das and J. Das, Ion acoustic solitons in a plasma with relativistic electrons in presence of negative ions, Year: 2012, Vol. 69, Issue:2, pp.75 – 76 (Far East Journal of Applied Mathematics INDIA)
- xix) R. Das, Relativistic effect on fully nonlinear ion acoustic solitons in a magnetoplasma, Year: 2012, Vol. 8, Issue:12, pp.1 – 12(International Journal of Applied Mathematics and Mechanics INDIA).
- xx) R. Das, Effect of ion temperature on small-amplitude ion acoustic solitons in a magnetized ion-beam plasma in presence of electron inertia, Year: 2012, Vol. 341, pp.543 – 549 (Astrophysics and Space Science NETHERLAND).
- xxi) R. Das and R. Kumar, Drifting effect of electrons on dust ion acoustic solitary waves in unmagnetized plasma, Year: 2012, Vol. 10, Issue: 2, pp.280 – 285 (International Journal of Research & Reviews in Applied Sciences PAKISTAN)
- xxii) R. Das and R. Kumar, Relativistic solitons in a magnetized ion-beam plasma system. Year: 2012. Vol. 6. Issue: II. pp.189 – 200(International J. of

Math. Sci. & Engg. Appls. INDIA).

xxiii) B. C. Kalita, R. Das and H. K. Sarmah, Relativistic solitons in a magnetized warm plasma, Year: 2011, Vol. 7, Issue: 2, pp.51 – 60 (International Journal of Applied Mathematics and Mechanics INDIA).

xxiv) B. C. Kalita, R. Das and H. K. Sarmah, Weakly relativistic solitons in a magnetized ion-beam plasma in presence of electron inertia, Year: 2011, Vol. 18, pp. 012304 – 012304 -5(Physics of Plasmas USA).

xxv) B. C. Kalita, R. Das and H. K. Sarmah, Weakly relativistic effect in the formation of ion-acoustic solitary waves in a positive ion-beam plasma, Year: 2010, Vol. 88, pp. 157 – 164 (Canadian Journal of Physics CANADA)

xxvi) B. C. Kalita, R. Das and H. K. Sarmah, Weakly relativistic electron-beam plasma and formation of ion- acoustic solitary waves, Year: 2009, Vol. 27, Issue: 2, pp.101 – 110 (Heat and Technology ITALY).

xxvii) B. C. Kalita, R. Das and H. K. Sarmah, Solitons in a plasmas with negative ions under smaller and higher order relativistic effects, Year: 2009, Vol. 5, Issue: 6, pp.100 – 116 (International Journal of Applied Mathematics and Mechanics INDIA).

xxviii) B. C. Kalita and R. Das, Small amplitude solitons in a warm plasma with smaller and higher order relativistic effects, Year: 2007, Vol. 14, Issue: 7, pp. 072108-072108-6 (Physics of Plasmas USA)

xxix) B. C. Kalita and R. Das, Modified Korteweg de Vries (MKdV) and Korteweg de Vries (KdV) Solitons in a Warm Plasma with Negative Ions and Electrons' Drift Motion, Year: 2002, Vol. 71, Issue: 12, pp. 2918 – 2924 (Journal of the Physical Society of Japan JAPAN).

xxx) B. C. Kalita and R. Das, A comparative study of modified korteweg – de vries (MKdV) and korteweg – de vries (KdV) solitons in plasmas with negative ions under the influence of electrons' drift motion, Year: 1998, Vol. 5, Issue: 10, pp.3588 – 3594 (Physics of Plasmas USA).

Papers  
presented in  
Seminar/  
Conference

i) Higher Order Relativistic Effect on electron beam plasma. International Conference on Frontiers in Mathematics-2015. 26-03-2015 to 28-03-2015, Department of Mathematics (G. U.)

ii) The theoretical investigation of Korteweg-de Vries(KdV) and modified Korteweg-de Vries(mKdV) solitons in plasma with negative ions under the influence of electron's drift motion. UGC Sponsored National Seminar on Mathematics – its interdisciplinary Approaches in Modern Curriculum.

30-08-2013 to 31-08-2013. Department of Mathematics , Devicharan Barua Girls'College, Jorhat.

iii) Ion-acoustic solitons in a plasma with negative ions and drifting effect of electrons. UGC Sponsored National Seminar on Recent Trends in Mathematics & its Applications. 7.10.2013 to 8.10.2013, Department of Mathematics , Digboi College, Digboi.

iv) Variable Viscosity, Thermal Conductivity, Heat and Mass Transfer on MHD Flow over a Vertical Isothermal Cone Surface with Chemical. UGC Sponsored National Seminar on Recent Trends in Mathematics & its Applications. 07.10.2013 to 08.10.2013. Department of Mathematics , Digboi College, Digboi.

Linkage with  
Other  
institution  
(research  
collaboration)

i) Editorial board member of American Journal of Physics and Applications.

Membership  
in reputed  
national/  
international  
agency

i) Life member of Assam Academy of Mathematics (State level).  
Membership No. 112945.

ii) Life member of Physics Academy of the North East.  
Membership No. LM-0192.

iii) Life member of Assam Science Society.  
Membership No. 5399.

iv) Life member of Indian Association of Physics Teachers.  
Membership No. 10200, L6469.

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