ABiswas Research Page

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Professional Education:

- Ph.D. in Applied Mathematics (1998), University of New Mexico, Albuquerque, NM-87131, USA
- M.A. in Mathematics (1991-93), University of New Mexico, Albuquerque, NM-87131, USA
- M. Phil. in Applied Mathematics (1988-89), University of Calcutta, India
- M.A.in Applied Mathematics (1986-88), University of Calcutta, India
- B. Sc (Hons) in Mathematics (1983-86), St. Xavier's College, Calcutta, India

Research Interest Area(s)

Theory of Solutions, Nonlinear optics, Fluid Dynamics. Plasma Physics, Nuclear Physics, Mathematical Biosciences

Active Grants & Funding

NSF CREST (2006-11)
ARO & AFOSR (2008-11)

Professional Affiliations

- American Mathematical Society
- Society of Industrial and Applied Mathematics

Honors & Awards received (last five years)

Faculty Excellence Award for Research and Creative Activity (DSU)

Selected Publications (last three years)

PUBLICATION (BOOK)

Mathematical Theory of Dispersion-Managed Optical Solitons by Anjan Biswas, Daniela Milovic & Matthew Edwards Springer Verlag. New York. NY. (2010).

PUBLICATIONS (INVITED PAPERS)

INFLUENCE OF EVEN ORDER DISPERSION ON SUPER-SECH SOLITON TRANSMISSION QUALITY UNDER COHERENT CROSSTALK by Aleksandra Panajotovic, Daniela Milovic, Anjan Biswas & Essaid Zerrad. **Research Letters in Optics. Volume 2008, 613986, 5 pages. 2008.**

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SOLITON PERTURBATION THEORY FOR THE MODIFIED KAWAHARA EQUATION by Anjan Biswas. **Applications and Applied Mathematics**. Volume 3, Number 2, 218-223. 2008.

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SOLITON PERTURBATION THEORY FOR THE GENERALIZED FIFTH ORDER KdV EQUATION by Anjan Biswas, Essaid Zerrad & Swapan Konar. **Communications in Nonlinear Science and Numerical Simulation**. Volume 13, Issue 7, 1281-1286. 2008.

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STOCHASTIC PERTURBATION OF SOLITONS FOR ALFVEN WAVES IN PLASMAS by Anjan Biswas. **Communications in Nonlinear Science and Numerical Simulation**. Volume 13, Issue 8, 1547-1553. 2008.

COLLISION OF DUAL-POWER LAW OPTICAL SOLITONS IN NONLINEAR FIBER OPTICS by Anjan Biswas, Swapan Konar & Essaid Zerrad. **Advanced Studies in Theoretical Physics**. Volume 2, Number 4, 165-180. 2008.

OPTICAL SOLITONS IN A KERR LAW MEDIA WITH FOURTH ORDER DISPERSION by Anjan Biswas, Daniela Milovic, Essaid Zerrad & Fayequa Majid. **Advanced Studies in Theoretical Physics**. Volume 2, Number 20, 1007-1012. 2008.

INFLUENCE OF EVEN ORDER DISPERSION ON SOLITON TRANSMISSION QUALITY WITH COHERENT INTERFERENCE by A. Panajotovic**,** D. Milovic & Anjan Biswas**. Progress in Electromagnetics Research B**. Volume 3, 63-72. 2008.

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OPTICAL SOLITON COOLING IN A SATURABLE LAW MEDIA by A. Biswas, D. Milovic, F. Majid & R. Kohl. **Journal of Electromagnetic Waves and Applications**. Volume 22, 1735-1746. 2008.

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Applications. Volume 22, 1801-1808. 2008.

OPTICAL SOLITON PERTURBATION IN A NON-KERR LAW MEDIA by Russell Kohl, Anjan Biswas, Daniela Milovic & Essaid Zerrad. **Optics and Laser Technology**. Volume 40, Issue 4, 647-662. 2008.

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1-SOLITON SOLUTION OF THE ZAKHAROV-KUZNETSOV EQUATION WITH DUAL-POWER LAW NONLINEARITY by Anjan Biswas & Essaid Zerrad. **Communications in Nonlinear Science and Numerical Simulation**. Volume 14, Issues 9-10, 3574-3577. (2009).

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1-SOLITON SOLUTION OF THE NONLINEAR SCHRODINGER'S EQUATION WITH KERR LAWNONLINEARITY USING LIE SYMMETRY ANALYSIS by C. M. Khalique & Anjan Biswas. **International Journal of Theoretical Physics**. Volume 48, Number 7, 1872-1876. (2009).

TOPOLOGICAL AND NON-TOPOLOGICAL SOLITONS FOR THE GENERALIZED ZAKHAROV-KUZNETSOV MODIFIED EQUAL WIDTH EQUATION by Anjan Biswas. **International Journal of Theoretical Physics**. Volume 48, Number 9, 2698-2703. (2009).

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OPTICAL SOLITONS BY HE'S VARIATIONAL PRINCIPLE IN A NON-KERR LAW MEDIA by Russell Kohl, Daniela Milovic, Essaid Zerrad & Anjan Biswas. **Journal of Infrared, Millimeter and Terahertz Waves**. Volume 30, Number 5, 526-537. (2009).

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OPTICAL SOLITONS WITH PARABOLIC AND DUAL-POWER LAW NONLINEARITY VIA LIE SYMMETRY ANALYSIS by C. M. Khalique & Anjan Biswas. **Journal of Electromagnetic Waves and Applications**. Volume 23, Number 7, 963-973.

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1-SOLITON SOLUTION OF THE GENERALIZED ZAKHAROV-KUZNETSOV EQUATION WITH NONLINEAR DISPERSION AND TIME-DEPENDENT COEFFICIENTS by Anjan Biswas. **Physics Letters A**. Volume 373, Issue 33, 2931-2934. (2009).

DARK OPTICAL SOLITONS IN POWER LAW MEDIA WITH TIME DEPENDENT COEFFICIENTS by Manirupa Saha, Amarendra K. Sarma & Anjan Biswas. **Physics Letters A**. Volume 373, Issue 48, 4438-4441. (2009).

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SOLITON PERTURBATION THEORY FOR DISPERSION-MANAGED OPTICAL FIBERS by Russell Kohl, Daniela Milovic, Essaid Zerrad & Anjan Biswas. **Journal of Nonlinear Optical Physics and Materials**. Volume 18, Issue 2, 227-270. (2009).

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