

# **Nijamuddin Ali**, M.Sc (Math), B.Ed., M.A.(Edn), M.Ed., Ph.D (Science)

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## CONTACT

### INFORMATION

Katwa College  
Katwa-713130, Burdwan,  
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## DESIGNATION

Assistant Professor of Mathematics

## RESEARCH INTEREST

Nonlinear dynamics, Bifurcations & Chaos, Mathematical Modelling,  
Mathematical Epidemiology, Food Chain Modelling, Numerical Simulations.

## EDUCATION

- B.Sc (Hons) in Mathematics, (2001-04), Siksha-Bhavana, Visva-Bharati- 79.8%
- M.Sc in Mathematics, (2004-06), Siksha-Bhavana, Visva-Bharati- 75.25%
- B.Ed. (2006-07), Vinaya Bhavana, Visva-Bharati- 66.58%
- M.Ed. (2011-13), IGNOU, 63.00%
- Ph.D. (2015), Siksha-Bhavana, Visva-Bharati.

Thesis title: **Studies on Nonlinear Dynamics of Some Food Chain Models**  
Name of the Ph.D Supervisor: **Prof. Santabrata Chakravarty**

## TEACHING EXPERIENCE

- Assistant Professor, Katwa College (B.Ed. Section), Katwa-713130, Burdwan, W.B., India. (09/10/2010 to till date)
- Assistant Teacher, Panchthupi T. N. Institution, Murshidabad -742161, W.B., India. (22/09/2010-08/10/2010)

## RESEARCH EXPERIENCE

- 2010-2015: Research Scholar, Department of Mathematics, Visva-Bharati (a Central University), Santiniketan-731 235, West Bengal, India.

## OTHER QUALIFICATIONS

- Qualified National Eligibility Test (NET) CSIR June, 2008.

## PUBLICATIONS

1. Mainul Haque, **Nijamuddin Ali**, Santabrata Chakravarty, Study of a tri-trophic prey-dependent food chain model of interacting populations. *Mathematical Bioscience*. Vol. **246** No. 1, 55–71, 2013. ISSN 0025-5564, **Impact factor 1.489**
2. **Nijamuddin Ali**, Santabrata Chakravarty, Stability analysis of a food chain model consisting of two competitive preys and one predator, *Nonlinear Dynamics*, Vol. 82, No. 3, 1303-1316, 2015, DOI 10.1007/s11071-015-2239-2. ISSN 1573-269X, **Impact factor 2.849**

3. **Nijamuddin Ali**, Santabrata Chakravarty, Global behaviour of a food chain model consisting of two different predator species. *International Journal of Mathematics and Computation*, Vol. 26, No. 3, 1-19, 2015. ISSN 0974-570X.
4. **Nijamuddin Ali**, Santabrata Chakravarty, Stability and bifurcation analysis of a three species competitive food chain model system incorporating prey refuge. *International Journal of Ecological Economics and Statistics*, Vol. 36, No. 2, 12-38, 2015. ISSN 0973-7537.
5. **Nijamuddin Ali**, Santabrata Chakravarty, Analyses of tri-trophic food chain model consisting of intra-specific competition among predators. *Proceedings of National Symposium on Applied Nonlinear Dynamics & Chaos (ISBN-978-93-5107-250-8)*, Elsevier Science & Technology Publication, 45-55, 2014.
6. **Nijamuddin Ali**, Stability and bifurcation of prey predator model with Qiwu's growth rate for prey. *International Journal of Mathematics and Computation*, Vol. 27, No. 2, 30-39, 2016. ISSN 0974-570X.
7. **Nijamuddin Ali**, Santabrata Chakravarty, Consequence of prey refuge in a tri-trophic prey-dependent food chain model with intra-specific competition. *Journal of Applied Nonlinear Dynamics*. Vol. 5, Issue 2, 199-219, 2016. DOI: 10.5890/JAND.2016.06.007. ISSN 2164-6473.
8. **Nijamuddin Ali**, Santabrata Chakravarty, Dynamic complexity of a three species competitive food chain model with inter and intra-specific competition. *International Journal of Mathematical Modelling & Computations*. Vol. 5. No. 4, 347-360, 2015. ISSN 2228-6233, **Impact factor 0.565**
9. **Nijamuddin Ali**, Turing instability in simple food chain model. *International Journal of Research on Social Sciences and Natural Sciences* Vol. 1, Issue 1, 105-110, 2016. ISSN 2455-5916.
10. Krisnendu Sarkar, **Nijamuddin Ali**, A prey predator model with Holling type-IV functional response. *International Journal of Research on Social Sciences and Natural Sciences*. Vol. 1, Issue 1, 24-34, 2016 . ISSN 2455-5916.
11. **Nijamuddin Ali**, Santabrata Chakravarty, Ezio Venturino, Dynamics of a tri-trophic ratio-dependent food chain model with intra-specific competition within the top predator. Revised manuscript submitted for publication in *Applied Mathematical Modelling*. ISSN 0307-904X.

#### PAPER PRESENTED IN INTERNATIONAL CONFERENCE

1. Presented paper entitled "**Stability analysis of a food chain model consisting of two competitive prey and one predator**" in "**International Conference on Revisiting Ancient Mathematics & Mathematical Sciences (ICRAMMS-2015)**", Department of Mathematics, University of Burdwan, West Bengal, India during February 18-20, 2015.
2. Presented paper entitled "**Dynamic complexity of a competitive food chain model**" in "**1<sup>st</sup> International Conference on Mathematics and its**

**Applications (ICMA-2015)**", Mathematics Discipline, Khulna University, Khulna, Bangladesh on December 23, 2015.

#### PAPER PRESENTED IN NATIONAL SEMINAR

1. Presented paper entitled "**Study of tri-trophic food chain model of interacting populations**" in "**National Seminar on Mathematics & Applications (NSMA-2011)**" organised by Department of Mathematics, University of Burdwan, West Bengal, India during February 24-25, 2011.
2. Presented paper entitled "**Global stability of ratio-dependent food chain model with Holling type-II response**" in National Seminar on "**Analysis of Nonlinear Systems (ANS-2011)**", organised by the Department of Mathematics, Visva-Bharati, Santiniketan, West Bengal, India during March 26-27, 2011.
3. Presented paper entitled "**Analysis of tri-trophic food chain model with two different predators**" in National Seminar on "**Nonlinear Aspects of Analysis and Algebra (NAAA-2012)**", organised by the Department of Mathematics, Visva-Bharati, Santiniketan, West Bengal, India during March 24-25, 2012.
4. Presented paper entitled "**Stability analysis of tri-trophic food chain model and its application to biological control**" in National Seminar on "**Mathematics & Applications (NSMA-2012)**", organised by the Department of Mathematics, University of Burdwan, West Bengal, India during February 28-29, 2012.
5. Presented paper entitled "**Dynamical complexity due to competition in a food chain model consisting of two competitive prey and one predator**" in National Seminar on "**Recent Perspectives on Nonlinear Mathematics & its Application (RPNMA-2014)**", organised by the Department of Mathematics, Visva-Bharati, Santiniketan, West Bengal, India during March 25-26, 2014.
6. Presented paper entitled "**Analysis of tri-trophic food chain model consisting of intra-specific competition among predators**" in Workshop and Symposium on "**Applied Nonlinear Dynamics and Chaos (ANDC-2014)**", jointly organised by Government College of Engineering & Textile Technology, Berhampore and Dumkal Institute of Engineering & Technology, Basantapur, Murshidabad, West Bengal, India during May 26-31, 2014.

#### WORKSHOP/SYMPOSIUM/SEMINAR ATTENDED

1. Attend the Seminar on Mathematics Phobia: Its Genesis and Remedies (MPGR-2010), organised by Department of Mathematics, Siksha-Bhavana, Visva-Bharati, Santiniketan, West Bengal during February 13-15, 2010.
2. Attend the Seminar on Mathematics for Nonlinear System (MNS-2010), organised by Department of Mathematics, Siksha-Bhavana, Visva-Bharati, Santiniketan, West Bengal during March 20-21, 2010.

3. Attend the Seminar on Science and Nature: Tagore's Vision and its Relevance , organised by Siksha-Bhavana, Visva-Bharati, Santiniketan, West Bengal during March 12-13, 2011.
4. Attend the Seminar on Current Trends in Indian Mathematics (CTIM-2012), organised by Department of Mathematics, Maharajadhiraj Uday Chand Women's College, Burdwan, West Bengal on March 22, 2012.
5. Attend the Workshop on Modification of Teacher Education Curriculum, organised by Department of Education (IASE), University of Kalyani, Nadia, West Bengal during December 12-19, 2012.
6. Attend the Seminar on Mathematics for Nonlinear Systems, organised by Department of Mathematics, Siksha-Bhavana, Visva-Bharati, Santiniketan, West Bengal during March 17-18, 2013.
7. Attend the Seminar on Mathematics and its Applications, organised by Department of Mathematics, Siksha-Bhavana, Visva-Bharati, Santiniketan, West Bengal during March 30-31,2013.
8. Attend the Workshop on Ensuring Quality in B.Ed. Programme through ODL Mode in West Bengal, organised by Netaji Subhas Open University, West Bengal on October 31,2013.
9. Attend the Workshop on Mathematics Teaching Under Semester System at Under Graduate Level: Perspectives & Strategies , organised by Centre for Mathematics Education (Institute of Science), Siksha-Bhavana, Visva-Bharati, Santiniketan, West Bengal during March 1-2, 2014.

#### REVIEWER OF REPUTED INTERNATIONAL JOURNALS

- Applied Mathematics and Computation – Elsevier,
- International Journal of Biomathematics- World Scientific,
- International Journal of Research on Social and Natural Sciences,
- International Journal of Dynamics and Control- Springer,
- International Journal of Ecological Economics and Statistics-Ceser,
- International Journal of Mathematics and Computation-Ceser.