

CURRICULUM VITÆ

Dr. SHYAM SUNDAR SANTRA



PERSONAL DETAILS

Father's Name : Sri Ananda Santra

Mother Name : Smt. Niva Santra

Date of Birth : 05-05-1989

Marital Status : Married

Mother Tongue : Bengali

Nationality : Indian

Permanent Address : Vill. - Sahapur, P.O. – Bhangamora, Dist. – Hooghly ,
P.S. – Pursurah, Pin – 712410 (West Bengal), INDIA.

Present address : Department of Mathematics
JIS College of Engineering,
Kalyani Nadia, India

Contacts : shyam01.math@gmail.com
+91-8917234698

EDUCATIONAL QUALIFICATIONS:

DEGREE	SUBJECT	BOARD/ UNIVERSITY	YEAR OF PASSING	Div.
Ph.D.	Mathematics	Sambalpur University	27 th July, 2019	
B. Ed	Science	Maharshi Dayanand University	2013	1 st
M. Sc.	Mathematics	Sambalpur University	2012	1 st class 1 st
+3 Science	Mathematics (Hons)	Calcutta University	2010	2 nd
+2 science	Science (PCM)	West Bengal Council of Higher Secondary Education	2006	1 st
10 th	Bengali, English, History, Geography, Physics, Life Science, Mathematics	West Bengal board of Secondary Education	2004	1 st

SPECIALIZATION IN M. Sc.:

- Analytic Number Theory
- Advanced Complex Analysis
- Operator Theory
- Optimization Technique – II

CURRENT POSITION:

I am working as an Assistant Professor (Mathematics) and Associate Dean (Research) in the Department of Mathematics, JIS College of Engineering, Kalyani Nadia, India Since 1st June 2023.

TEACHING EXPERIENCE:

I worked as a guest faculty at Sukanti Science college, Sonapur, Odisha (under Sambalpur University) during the period April 2014 – May 2018 (only Saturday, Sunday and the time of the vacation periods of Sambalpur University) to teach Mathematics for B.Sc. students.

I worked as an Assistant Professor in the Department of Mathematics, JIS College of Engineering, Kalyani Nadia, India during the period 30th August 2019 to 18th August 2022.

I worked as a Senior Assistant Professor in the Department of Mathematics, Applied Science Cluster, University of Petroleum and Energy Studies, Dehradun, Uttarakhand - 248007, India since 22nd August, 2022.

ACADEMIC DUTIES IN JIS COLLEGE OF ENGINEERING:

- Organized IOCER COVID-19, 2020 conference at JIS College of Engineering and worked as a Publication Chair.
- Worked as an Evaluator for JISCE Integrated Hackathon.
- Worked as a member of NAAC Criteria 1.
- Organized IOCER COVID-19, 2020 conference at JIS College of Engineering and worked as a Finance Chair. (<http://iocer.jacsai.org/#committee>).
- Organized ICANSASA 2020 conference at JIS College of Engineering and worked as a Coordinator of Finance. (<http://icansasa.jacsai.org/#committee>)
- Worked as a Reviewer to the International Conference IOCER COVID-19, 2020.
- Working as a member to Implementation of MOODLE at JIS Collage of Engineering.
- Worked as a secession coordinator to the International Conference IOCER COVID-19, 2020.
- Working as a member of Examination Cell.
- Working as a member of Research and Development Cell.
- Working as a member of Attendance Committee.
- Working as a coordinator of Mathematics Club.
- Working as a member of departmental BOS.
- Working as a coordinator of design of departmental website.

ACADEMIC ACHIEVEMENTS/AWARDS AND FELLOWSHIP:

- Awarded "JIS SAMMAN 2022" for the "BEST FACULTY WITH HIGHEST NUMBER OF PUBLICATION" of JISCE.
- Awarded "JIS INNOVATION AWARD" in the area of "RESEARCH & INNOVATION (ARTICLES /CHAPTERS & JOURNAL PUBLICATION)" in the year 2021.
- Awarded "JIS INNOVATION AWARD" in the area of "RESEARCH & INNOVATION (ARTICLES /CHAPTERS PUBLISHED IN BOOKS)" in the year 2020.
- Awarded "JIS INNOVATION AWARD" in the area of "RESEARCH & INNOVATION (PUBLICATION WITH

STUDENTS)" in the year 2020.

- I'm the eligible Supervisors seeking new PhD scholars under my supervision under MAKAUT (https://phd.makautwb.ac.in/instructions/List%20of%20available%20Supervisors_2021.pdf).
- Full financial support from University of Exeter, UK for attended International conference "Dynamic Days Europe 2018" **held at Loughborough University, UK during 3rd – 7th September, 2018.**
- Awarded the prestigious Newton Bhabha PhD Placement to work **at University of Exeter, Exeter, UK** funded by Department of Science and Technology, New Delhi, Govt. of India (Visa fee, Economy class international airfares and overseas medical insurance) and British Govt. (In-country costs including accommodation and monthly stipend). Every year only 25 students are selecting for this programme throughout the India from different science subjects (social sciences, engineering and medical sciences). I attended this programme during the period 4th June 2018 to 8th October 2018.
- Full financial support from SERB, DST (Govt. of India) for delivering a talk in "International Conference of Numerical Analysis and Applied Mathematics 2016 (ICNAAM 2016)" **held at Rodos Palace – Conference Centre, Rhodes, GREECE, during September 19 – 25, 2016.**
- Awarded Senior Research Fellow by Department of Science and Technology, New Delhi, Govt. of India in the year May, 2016.
- Awarded Junior Research Fellow by Department of Science and Technology, New Delhi, Govt. of India in the year May, 2014.
- Awarded the INSPIRE Fellowship for scoring the first class first in M.Sc. (Mathematics) by Department of Science and Technology, New Delhi, Govt. of India in the year May, 2014 to pursuing the PhD. This fellowship was for five years during the period 1st May 2014 to 30th April 2019.
- Awarded Gold Medal in Mathematics for scoring the first class first in M.Sc. in Mathematics (2010-2012) from Sambalpur University.

NEWTON BHABHA PHD PLACEMENT PROGRAMME 2017 - 18:

Awarded and attended Newton Bhabha PhD placement programme at University of Exeter, UK during the period 4th June 2018 to 7th October 2018 funded jointly by DST (India Govt.) and British Council (British Govt.).

INTERNATIONAL SEMINERS (OUTSIDE INDIA):

- Attended several Seminar talk of the Centre for Systems, Dynamics and control **during 4th June 2018 to 7th October 2018 at University of Exeter, UK.**
- Presented one-hour Seminar talk to the Centre for Systems, Dynamics and control **on 7th June 2018 at University of Exeter, UK.**

INTERNATIONAL CONFERENCES (OUTSIDE INDIA):

- Attended International conference "Dynamic Days Europe 2018" **held at Loughborough University, UK during 3rd – 7th September, 2018 funded by University of Exeter from Newton Bhabha Fund.**
- Delivered a talk in "International Conference of Numerical Analysis and Applied Mathematics 2016 (ICNAAM 2016)" **held at Rodos Palace – Conference Centre, Rhodes, GREECE, during September 19 – 25, 2016, funded by SERB (DST) – Govt. of India.**

CONFERENCES (IN INDIA):

- Attended and presented a paper in “International Conference on Applications of Networks, Sensors and Autonomous Systems Analytics (ICANSASA 2020)” held at JIS College of Engineering, Kalyani, Nadia, India during the period 11th – 12th December **2020**.
- Attended and presented a paper in “International Online Conference on Engineering Response to COVID-19, 2020” held at JIS College of Engineering, Kalyani, Nadia, India during the period 8th – 9th October 2020.
- Attended and presented a paper in “International Conference on Industry Interactive Innovations in Science, Engineering & Technology (I3SET2K19)” held at JIS College of Engineering, Kalyani, West Bengal, INDIA during 13th – 14th December 2019.
- Attended and presented a paper in “International Conference on Nanotechnology & Nanomaterial’s for Energy and Environment (ICNNEE2019)” held at JIS College of Engineering, Kalyani, West Bengal, INDIA during 18th – 19th October 2019.
- Attended and presented a paper in “International Conference on Mathematical Applications in Engineering and Technology (ICMA-2017)” held at PG and Research Department of Mathematics, Sacred Heart College, Vellore District, Tamilnadu, INDIA during 27th – 28th January 2017.
- Attended and presented a paper in “82nd Annual Conference of the Indian Mathematical Society” held at Kalyani University, West Bengal, INDIA during 27th -30th December, 2016.
- Attended and presented a paper in “81st Annual Conference of the Indian Mathematical Society” held at VNIT, Nagpur, Moharashtra, INDIA during December 27-30, 2015.
- Attended and presented a paper in “80th Annual Conference of the Indian Mathematical Society” held at Indian School of Mines, Dhanbad, Jharkhand, INDIA during December 27-30, **2014**.

FACULTY DEVELOPMENT PROGRAM:

- Attended the Faculty Development Programm on “Digital Pedagogy — Exploring New Frontiers of Digital Transfor-mations for Teaching-Learning Process” organized by JIS College of Engineering, Kalyani, West Bengal during the period 05th July 2021 to 16th July 2021.
- Attended the Faculty Development Programm on “Entrepreneur-Innovation-IPR-Startup” organized by JIS College of Engineering, Kalyani, West Bengal during the period 29th June 2021 to 03rd July 2021.
- Attended the Faculty Development Programm on “Advancement of Intelligent System and Computations” organized by Department of CSE, JIS College of Engineering, Kalyani, West Bengal during the period 20th April 2021 to 24th April 2021
- Attended the Faculty Development Programm on "Recent and Future Trends in Technology" organized by Guru Nanak Institute of Technology, Sodepur, Kolkata - 700114 during the period 27th April to 2nd May 2020.
- Attended the Faculty Development Programm on "Impact of Emerging Technologies on Applied Sciences, Engineering and Management" organized by JIS University during the period 4 - 6th May 2020.
- Attended the “One-week FDP on Role of Engineers to the Society” organized by JIS College of Engineering, Kalyani during the period 14th May to 19th May 2020.

- Attended the "One-week FDP on Facts and Facets of Environment (A Covid - 19 Perspective)" organized by "JIS College of Engineering, Kalyani during the period 18th to 22nd May 2020.
- Attended the Faculty Development Programm on "Advanced Materials & Mechatronic System for Industrial Automation" organized by JIS College of Engineering, Kalyani during the period 8th to 12th June 2020.
- Attended the International Faculty Development Programm on "Advances in Technologies evolving new dimensions in e-society" organized by JIS College of Engineering, Kalyani during the period 2nd Sept. to 6th Sept. 2020.
- Attended the "5 - Day Faculty Development Programme on Applied Mathematical Skills for Science and Engineering Using Contemporary Tools" organized by Maulana Abul Kalam Azad University of Technology, West Bengal during the period 14th to 18th September 2020.
- Attended the "FDP on Innovation Startup IPR: A Post COVID 19 View an Initiative of IIC Cell, JISCE" organized by JIS College of Engineering, Kalyani during the period 3rd to 9th June 2020.

ATAL FDP ATTENDED:

- Shyam Sundar Santra, Assistant Professor of JIS College of Engineering participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "PATENT DRAFTING AND FILING" from 2021-06-14 to 2021-06-18 at Jerusalem College of Engineering, Chennai.
- Shyam Sundar Santra, Assistant Professor of JIS College of Engineering participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "Mathematics for Data Sciences" from 2021-07-26 to 2021-07-30 at Kumaraguru College of Technology.
- Shyam Sundar Santra, Assistant Professor of JIS College of Engineering participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "NEP 2020 Implementation: Creativity with Mathematics and Science" from 02/08/2021 to 06/08/2021 at IIT Jammu.
- Shyam Sundar Santra, Assistant Professor of JIS College of Engineering participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Advanced FDP on " NEP 2020 Implementation: Creativity with Mathematics and Science" from 05/09/2021 to 09/09/2021 at IIT Jammu.

ORGANIZED STTP:

- Shyam Sundar Santra, Assistant Professor of JIS College of Engineering contributed to organize "AICTE Sponsored STTP on Risk & Reliability Based Asset Management" in three phases held from 07.06.2021 to 26.06.2021 organized by Department of Basic Science and Humanities (Mathematics), JIS College of Engineering, Kalyani, Nadia, West Bengal.
- Shyam Sundar Santra, Assistant Professor of JIS College of Engineering contributed to organize "AICTE Sponsored STTP on Catch young minds early-teachers training on orientation programme for new entrants" in three phases held from 07.06.2021 to 26.06.2021 organized by Department of Basic Science and Humanities, JIS College of Engineering, Kalyani, Nadia, West Bengal.

TRAINING PROGRAMME:

- Attended the online training on "Introduction to Data Analytics" organized by MSME - Technology Development Centre (PPDC), Govt. of India on 10th May 2020.
- Attended 13 no. of e-Sessions Organized by IIC-MHRD'S INNOVATION CELL (Govt. of India) during the period 28th April to 22ND May 2020.
- Attended "Advance Level Training Programme-2016" of "National Programme on Differential Equations: Theory, Methods and Applications (NPDE-TCA)" held at Bits-Pilani, Hyderabad Campus, INDIA during 25th May, 2016 - 14th June, **2016**.

REFRESHER COURSE:

- Attended the Refresher Course on "Avant-garde Theoretical Modelling and State of Art Experimental Techniques in Nano Electronic Devices" sponsored by AICTE and organized by JIS College of Engineering, Kalyani, Nadia during the period 10th to 20th December 2019.

WORKSHOPS:

- Attended "International Workshop on Recent Trends in Mathematics & Applications (IWRMTA - 2016)" held at Veer Surendra Sai University and Technology, Burla, Odisha, INDIA during 1st – 2nd August, **2016**.
- Attended "NATIONAL WORKSHOP ON RECENT TRENDS IN ANALYSIS" held at Department of Mathematics, Sambalpur University, Jyoti Vihar, Burla, Odisha, INDIA on 14th December 2018.

COMPUTER SKILLS:

- Conversant in Linux/Unix, Windows operating systems.
- Conversant in MS Office and LaTeX word processors.

MEMBER OF ACADEMIC/PROFESSIONAL BODIES:

- Life member of Indian Mathematical Society (Membership No. - L/2015/86).
- Life member of Smbalpur University Research Association.
- Guest Editor of the special issue "Differential Equations: Theories, Methods and Modern Applications" in axioms (Scopus/WoS/SCIE indexed)

RESEARCH INTEREST:

Oscillation Theory of

- Impulsive Differential Equations
- Delay Differential Equations/Difference Equations
- Stochastic Differential Equations
- Time Scale
- P – Laplacian Equations
- Fractional Differential Equations
- Fluid Dynamics

MOTIVATION OF RESEARCH:

I study the delay that describe how delays can lead to oscillations. For example, infectious diseases break out and peak periodically since population awareness, immune response and incubation times delay the effects and the reactions to the disease. Similarly, the delay caused by a finite speed of blood cell production may cause abnormal fluctuations in human blood cell counts (hematopoiesis, a so-called “dynamic” disease). Whether oscillations occur in these applications depends subtly in how the delayed mechanism feeds back into the system and how large the delay is. Population dynamics is just one application area of the type of equations.

I study the functional differential equations. They are also used to study oscillations and instability in neuroscience (interactions between neurons, reaction delays), signal processing (transmission delays, control latency) and the global climate (the El-Nino phenomenon). These equations are difficult because the rate of change does not only depend on the present state of the system but also on its past. I study the most difficult case (neutral functional differential equations), where the change also depends on the rate of change in the past. I have studied oscillatory and asymptotic behavior of solutions of first and second order neutral functional differential equations in [2, 4, 5, 8, 10 – 13, 16 – 18, 20, 22 - 24] of the list of publications.

I study the impulsive differential equations. They are now recognized as an excellent source of models to simulate processes and phenomena observed in theoretical physics, chemical technology, population dynamics, industrial robotic, economics, rhythmical beating, merging of solutions and non-continuity of solutions. Moreover, the theory of impulsive differential equations is emerging as an important area of investigation, since it is much richer than the corresponding theory of differential equations without an impulse effect. In present years much effort has been devoted to study the functional differential equations of neutral type. However, the differential equations of neutral type with impulses are not well studied due to the theoretical and practical difficulties arising in the theory. Keeping in view of the above fact, an attempt has undertaken to study the neutral nonlinear impulsive differential systems for the oscillatory and non-oscillatory properties. I studied the oscillatory and asymptotic behavior of solutions of first and second order neutral impulsive differential equations in [1, 3, 6, 7, 9, 14, 15, 29, and 21] of the list of publications.

During my PhD I study mathematical models that describe how delays can lead to oscillations. For example, infectious diseases break out and peak periodically since population awareness, immune response and incubation times delay the effects and the reactions to the disease. Similarly, the delay caused by a finite speed of blood cell production may cause abnormal fluctuations in human blood cell counts (hematopoiesis, a so-called "dynamic" disease). Whether oscillations occur in these applications depends subtly in how the delayed mechanism feeds back into the system and how large the delay is. Population dynamics is just one application area of the type of equations I study, called functional differential equations. They are also used to study oscillations and instability in neuroscience (interactions between neurons, reaction delays), signal processing (transmission delays, control latency) and the global climate (the El-Nino phenomenon). These equations are difficult because the rate of change does not only depend on the present state of the system but also on its past. I study the most difficult case (neutral functional differential equations), where the change also depends on the rate of change in the past. In this direction, I have published 18 papers (another 6 papers have been accepted) on oscillation theory of solutions of first and second order functional differential equations with or without impulses.

Although I don't have any publication on “Difference Equations”, “Time Scale”, “p-Laplacian” stochastic differential equations, and “Emden Fowler differential equations”, but I'm slightly in touch on those field and some works have been communicated.

Importance for welfare of society The models studied by me are highly relevant for describing infectious diseases, where the introduction of infected individuals into a population is modelled as an impulse, and where incubation

periods and lack of awareness cause delays. The fight against wide-spread and emerging communicable diseases are an ongoing concern for India. Enhanced quality operational research for better disease control is listed as a key aim in the report by the Working Group on Disease Burden for 2012-2017. This will improve epidemiological modelling to make predictions on effectiveness of resources spent on different parts of the disease cycle (in particular, for vector-borne diseases such as malaria or dengue fever). This research on impulsive perturbations of neutral delay differential equations will be extremely useful for applications in epidemiology. Epidemiology is the “study of the distribution and determinants of health-related states or events (including disease), and the application of this study to the control of diseases and other health problems”. Epidemiology examines how health conditions are distributed among a population and seeks to understand the risks or causes associated with those conditions. Simpler still, it looks at who has a given health condition, such as cancer or poor diet, and compares the characteristics of people and/or their environment who have that condition to the characteristics of those who do not. This information then informs public health efforts to treat and prevent the health conditions studied. Epidemiology draws from multiple fields and often involves *interdisciplinary* collaboration among many professions and academic fields, including medicine, statistics, psychology, and social work. Epidemiological methods can help social workers use data to capture the scope of a social problem, determine who it affects and how it affects their health and well-being, and understand factors that contribute to the problem. With this information social workers can develop targeted interventions to address the needs of specific client groups. For example, the Centers for Disease Control and Prevention (CDC) support the use of epidemiology for the study of autism; social workers may evaluate data on the effectiveness of various types of treatments to use in their work with children with autism. Social workers may also use epidemiological data to secure support and funding for programs and interventions; by quantifying and thoroughly describing a persistent or growing need within a vulnerable population and identifying studied risk factors as well as intervention methods, social workers present a better case for their ability to implement an effective program.

EDITORIAL BOARD MEMBER OF THE JOURNALS:

- Information Engineering and Applied Computing
- SCIREA Journal of Mathematics
- Axioms(MDPI)
(https://www.mdpi.com/journal/axioms/special_issues/differential_equation_modern_application)
- Contemporary Mathematics ([https://ojs.wiserpub.com/index.php/CM/SI/Fract Differ Equ](https://ojs.wiserpub.com/index.php/CM/SI/Fract_Differ_Equ))
- International Journal of Modern Physics C
(<https://www.worldscientific.com/page/ijmpc/callforpapers01>)

REVIEWER OF THE JOURNALS:

- Mathematical Reviews/MathSciNet (Reviewer Number: 140714)
- Acta Mathematica Scientia
- TWMS Journal of Applied and Engineering Mathematics
- Acta Mathematica Universitatis Comenianae
- Advances in Difference Equations
- Palestine Journal of Mathematics
- Sarajevo Journal of Mathematics
- Mathematics and Statistics
- Electronic Journal of Qualitative Theory of Differential Equations
- Journal of Differential Equations
- Heccettepe Journal of Mathematics
- Symmetry (MDPI)
- Mathematics (MDPI)
- Applied Sciences (MDPI)
- Axioms (MDPI)

IMPORTANT RESEARCH ID:

Research Gate: https://www.researchgate.net/profile/Shyam_Santra

ORCID ID: <https://orcid.org/0000-0001-9740-3081>

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=57192914412>

Publons/Researcher Id/WoS: <https://publons.com/researcher/1773292/shyam-sundar-santra/>

Google Scholar: https://scholar.google.com/citations?user=6xq_4DIAAAAJ

RESEARCH PUBLICATIONS (PUBLISHED /ACCEPTED) (INTERNATIONAL):

(Accepted)

1. M. Meganathan, **Shyam Sundar Santra**, J. Leo Amalraj, Dumitru Baleanu; Numerical Analysis of Fractional Order Discrete Bloch Equations, *Journal of Mathematics and Computer Science*, (*Scopus*)
2. P. Raghavendrana, T. Gunasekar, Hemalatha Balasundaram, **Shyam Sundar Santra**, Dumitru Baleanu, Solving fractional integro-differential equations by Aboodh transform, *Journal of Mathematics and Computer Science*, (*Scopus*)
3. Muniyappan Vijayakumar, Sivaraj Kanniyammal Thamilvanan, Balakrishnan Sudha, **Shyam Sundar Santra**, Dumitru Baleanu, Superlinear Distributed Deviating Arguments to Study Second-Order Neutral Differential Equations, *Journal of Mathematics and Computer Science*, (*Scopus*)

(2023)

4. A. K. Tripathy and **Shyam S. Santra**; Necessary and Sufficient Conditions for oscillations to a Second-order Neutral Differential Equations with Impulses, *Krag. J. Mathematics*, Vol. 47, No. 1 (2023), 81-93. (ISSN: 1450-9628 & 2406-3045) (*ESCI, WoS, Scopus*)
5. Jehad Alzabut, Said R Grace, Jagan Mohan Jonnalagadda, **S. S. Santra**, Bahaaeldin Abdalla; Higher-order Nabla Difference Equations of Arbitrary Order with Forcing, Positive and Negative Terms: Non-oscillatory Solutions, *Axioms* 2023, 12(4), 325; (*Scopus, WoS, SCIE, IF-1.824*)
6. **S. S. Santra**, S. Priyadharshini, V. Sadhasivam, J. Kavitha, U. Fernandez-Gamiz, S. Noeiaghdam and K. M. Khedher; On the oscillation of certain class of conformable Emden-Fowler type elliptic partial differential equations, *AIMS Mathematics*, 2023, Volume 8, Issue 6: 12622-12636. (*Scopus, WoS, SCIE, IF-2.739*)
7. S. Sangeetha, S. K. Thamilvanan, **S. S. Santra***, S. Noeiaghdam and M. Abdollahzadeh; Property A of third-order noncanonical functional differential equations with positive and negative terms, *AIMS Mathematics*, 2023, Volume 8, Issue 6: 14167-14179. doi: [10.3934/math.2023724](https://doi.org/10.3934/math.2023724) (Submitted on 03.01.2023_revision submitted on 28.02.2023_accepted on 14.03.2023_published on 17.04.2023) (*Scopus, WoS, SCIE, IF-2.739*)
8. F Masood, Osama Moaaz, Shyam Sundar Santra*, Unai Fernandez Gamiz, E. M. Elabbasy; Oscillation theorems for fourth-order quasi-linear delay differential equations, *AIMS Mathematics* 2023, Volume 8, Issue 7: 16291-16307. (*Scopus, WoS, SCIE, IF-2.739*)
9. **Shyam S. Santra**; Necessary and sufficient conditions for oscillation of second-order differential equation with several delays. (ISSN: 2065-961X) *Studia Universitatis Babeş-Bolyai Mathematica*. 68(2023), No. 2, 319-330. (*ESCI, WoS, Scopus*)
10. **Shyam Sundar Santra**, Palash Mondal, Mohammad Esmael Samei, Hammad Alotaibi, Mohamed Altanji, Thongchai Botmart; Study on the oscillation of solution to second-order impulsive systems, *AIMS Mathematics*_2023, Volume 8, Issue 9: 22237-22255. (*Scopus, WoS, SCIE, IF-2.2*)

- (2022)
11. Balaji Ramachandran, Ravikumar Solomon, Pardeep Sangwan, C. Edwin Samuel, Unai Fernandez-Gamiz, Shyam Sundar Santra, Mohamed Altanji and Vedyappan Govindan; An Experimental Analysis on Performance of Tobacco Seed Oil as an Alternative Fuel for Diesel Engine, *Alexandria Engineering Journal*, 80 (2023) 408–416. (*Scopus/WoS/SCIE*)
 12. Chinnasamy Jayakumar, **Shyam Sundar Santra**, Dumitru Baleanu, Reem Edwan, Vedyappan Govindan, Arumugam Murugesan and Mohamed Altanji; Oscillation Result for Half-Linear Delay Difference Equations of Second Order *MBE*,19(4):3879–3891. (*Scopus, WoS, SCIE*)
 13. **Shyam S. Santra** and Andrea Scapellato; Necessary and sufficient conditions for the oscillation of second-order differential equations with mixed several delays, *J. Fixed Point Theory Appl.* (2022) 24:18. (*Scopus, WoS, SCIE*)
 14. Osama Moaaz, Ali Muhib, Thabet Abdeljawad, **Shyam S. Santra**, Mona Anis; Asymptotic behavior of even-order noncanonical neutral differential equations_ *Demonstratio Mathematica_dema-D-21-00087* _ <https://doi.org/10.1515/dema-2022-0001> *Scopus, WoS, ESCI*
 15. S. Arulmozhi, K. Sukkiramathi, **S. S. Santra**, R. Edwan, Unai Fernandez-Gamiz and Samad Noeiaghdam; Heat and Mass transfer analysis of Radiative and Chemical reactive effects on MHD Nanofluid over an infinite moving vertical plate, *Results in Engineering_* <https://doi.org/10.1016/i.rineng.2022.100394> (*Scopus, WoS, ESCI*)
 16. A. K. Tripathy and **S. S. Santra**; Necessary and Sufficient Conditions for Oscillation of a Class of Second Order Impulsive Systems, *Differ Equ Dyn Syst (April 2022)* 30(2):433–450, (*Scopus, WoS, ESCI*)
 17. Mohamed Altanji, Annamalai Santhi, Vedyappan Govindan , **Shyam Sundar Santra** and Samad Noeiaghdam; Fixed Point Results Related to b-Intuitionistic Fuzzy Metric Space, *Journal of Function Space_Volume 2022*, Article ID 9561906, 15 pages (*Scopus, WoS, SCIE*)
 18. Omar Bazighifan, **Shyam S. Santra**; Second-order differential equations: Asymptotic behavior of the solutions. *Miskolc Mathematical Notes_Vol. 23 (2022)*, No. 1, pp. 105–115. (*Scopus, WoS, SCIE*)
 19. T. Padmavathi, S. Senthamilselvi, **Shyam Sundar Santra**, V. Govindan, Mohamed Altanji and Samad Noeiaghdam; Rotational Reaction over Infected Covid-19 on Human Respiratory Tract in the Presence of Soret Effect with Hall Current, *The bulletin of Irkutsk state University, Series Mathematics, 2022, vol. 40, pp. 15–33.* (*Scopus, WoS*)
 20. E. A. Vijayalakshmi, S. S. Santra, T. Botmart, H. Alotaibi, G. B. Loganathan, M. Kannan, J. Visuvasam and V. Govindan; Analysis of the Magnetohydrodynamic Flow in a Porous Medium_ *AIMS Mathematics* 2022, Volume 7, Issue 8: 15182-15194. (*Scopus, WoS, SCIE*)
 21. Padmavathi Thiyagarajan, S. Sethamilselvi, Hemalatha Balasundaram, O. Daniel Makinde, U. Fernandez-Gamiz,S. Noeiaghdam,**S. S. Santra** and M. Altanji; Mass Transfer Effects On Mucus Fluid in The Presence of Chemical Reaction_ *Alexandria Engineering Journal* Vol. 62, 193–210 (2023). (*Scopus, WoS, SCIE*)
 22. Swaminathan Deepa, Anumanthappa Ganesh, **Shyam Sundar Santra**, Vedyappan Govindan, Khaled Mohamed Khedher and Samad Noeiaghdam; Mittag-Leffler-Hyers- Ulam Stability of fractional differential Equations with Prabhakar Derivatives using Fractional Fourier Transform_ *Azerbaijan Journal of Mathematics V. 12, No 2, 2022, July.* (*Scopus, WoS, ESCI*)

23. Manickam Jayapriya, Anumanthappa Ganesh, **Shyam Sundar Santra**, Reem Edwan, Dumitru Baleano, K. M. Khedher; Sawi Transform and Hyers-Ulam stability of n-th order Linear Differential Equations, *Journal of Mathematics and Computer Science*_28 (2023), 393–411. (*Scopus, WoS, ESCI*)
24. Mohamed Altanji, Gokula nanda Chhatria, **Shyam Sundar Santra**, and Andrea Scapellato; Oscillation criteria for sublinear and superlinear first-order difference equations of neutral type with several delays_ *AIMS Mathematics*_ 2022, Volume 7, Issue 10: 17670-17684. (*Scopus, WoS, SCIE, Q2; 2.739*)
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NATIONAL COLLABORATOR (IN INDIA):

- Dr. Arun Kumar Tripathy (Ph.D. supervisor)
Department of Mathematics
Sambalpur University
Sambalpur – 768019, INDIA
Email: arun_tripathy70@rediffmail.com
- Dr. Chinnaappu Muthamilarasi
Department of Mathematics, Government Arts College for Men, Krishnagiri, Tamilnadu 635 001, [India](#)
- Dr. Ganapathy Balasubramanian
Department of Mathematics, Government Arts College for Men, Krishnagiri, Tamilnadu 635 001, [India](#)
- Dr. Hemalatha Balasundaram
Department of Mathematics, VISTAS, Vels University, Zamin Pallavaram, Chennai 600117, Tamil Nadu, [India](#)
- Dr. Senthamilselvi Sathiamoorthy
Department of Mathematics, VISTAS, Vels University, Zamin Pallavaram, Chennai 600117, Tamil Nadu, [India](#)
- Dr. Anumanthappa Ganesh
Department of Mathematics, Government Arts and Science College, Hosur, 635 110, Tamilnadu, [India](#)
- Dr. Swaminathan Deepa
Department of Mathematics, Adhiyamaan college of engineering, Hosur, 635 109, Tamilnadu, [India](#)
- Dr. Padmavathi Thiyagarajan
Department of Mathematics, VISTAS, Vels University, Pallavaram 600117, India;

INTERNATIONAL COLLABORATOR (OUTSIDE INDIA):

- Professor Dumitru Baleanu

Department of Medical Research, China Medical University Hospital, China Medical University, Taichung, 40402, [Taiwan, China](#)

- **Professor Juan J. Nieto**
Instituto de Matematicas, CITMAga, Departamento de Estadística, Análise Matemática e Optimización, Universidade de Santiago de Compostela, 15782 Santiago de [Compostela, Spain](#)
- **Professor Khaled Mohamed Khedher**
Department of Civil Engineering, College of Engineering, King Khalid University, Abha 61421, [Saudi Arabia](#)
- **Professor Rifaqat Ali**
Department of Mathematics, College of Science and Arts, Muhayil, King Khalid University, Abha 9004, [Saudi Arabia](#)
- **Professor Vedyappan Govindan**
Department of Mathematics, Phuket Rajabhat University, Phuket 83000, [Thailand](#)
- **Professor Rami Ahmad El-Nabulsi**
Research Center for Quantum Technology, Faculty of Science, Chiang Mai University, Chiang Mai 50200, [Thailand](#)
- **Professor Aliona Dreglea**
Industrial Mathematics Laboratory, Baikal School of BRICS, Irkutsk National Research Technical University, 664074 Irkutsk, [Russia](#)
- **Professor Osama Moaaz**
Section of Mathematics, International Telematic University Uninettuno, Corso Vittorio Emanuele II, 39, 00186 [Roma, Italy](#)
- **Professor Samad Noeiaghdam**
Department of Applied Mathematics and Programming, South Ural State University, Lenin Prospect 76, 454080, [Chelyabinsk, Russia](#)
- **Professor Denis Sidorov**
Melentiev Energy Systems Institute of Siberian Branch of Russian Academy of Science, 664033 [Irkutsk, Russia](#)
- **Professor Elmetwally M. Elabbasy**
Department of Mathematics, Faculty of Science, Mansoura University, Mansoura 5516, [Egypt](#)
- **Professor Belgees Qaraad**
Department of Mathematics, Faculty of Science, Mansoura University, Mansoura 5516, [Egypt](#)
- **Professor Sandra Pinelas**
Academia Militar
Departamento de Ciências Exactas e Naturais
Av. Conde Castro Guimarães, 2720-113, Amadora, [Portugal](#)
- **Professor Basak Karpuz**
Department of Mathematics,
Faculty of Science, Tinaztepe Campus, Dokuz Eylul University, 35160 Buca, [Izmir, Turkey.](#)
- **Professor Julio G. Dix**
Department of Mathematics, Texas State University, 601

University Drive, San Marcos, TX 78666, USA.


- Professor George E. Chatzarakis
Department of Electrical and Electronic Engineering Educators
School of Pedagogical and Technological Education (ASPETE) 14121, N.
[Heraklio, Athens, Greece.](#)
- Professor Tongxing Li
School of Informatics, Linyi University, Linyi, [Shandong 276005, P. R. China](#)
- Professor Omar Bazighifan
Department of Mathematics, Faculty of Education,
Seiyun University, [Hadhramout 50512, Yemen](#)
- Professor Hamid M. Sedighi
Department of Mechanical Engineering,
Faculty of Engineering,
Shahid Chamran University of Ahvaz, [Ahvaz, Iran](#)
- Professor Marianna Ruggieri
Faculty of Engineering and Architecture
University of Enna "Kore", 94100, [Enna, Italy](#)
- Professor Andrea Scapellato
University of Catania, Department of Mathematics and Computer Science
Viale Andrea Doria 6, 95125, [Catania, Italy](#)
- Professor Ozkan Ocalan
Akdeniz University, Faculty of Science, Department of Mathematics, 07058
[Antalya, Turkey](#)
- Professor Hammad Alotaibi
Department of Mathematics, Faculty of Science, Taif University,
[Taif, Saudi Arabia](#)
- Professor Hijaz Ahmad
Section of Mathematics, I
nternational Telematic University Uninettuno, Roma, Italy
- Professor Yu-Ming Chu
Department of Mathematics, Huzhou University, [Huzhou, China](#)
- Professor Taher A. Nofal
Mathematics Department, Faculty of Science, El- Minia University
[El- Minia, Egypt](#)
- Shao-Wen Yao
School of Mathematics and Information Science
Henan Polytechnic University, [Jiaozuo, China](#)
- Ioannis Dassios
AMPSAS, University College Dublin, [D4 Dublin, Ireland](#)

REFERENCES:

- Dr. Arun Kumar Tripathy (PhD Supervisor)
Department of Mathematics
Sambalpur University
Sambalpur – 768019, INDIA Email: arun_tripathy70@rediffmail.com

DECLARATION:

I do hereby declare that the above statements are true upto the best of my knowledge.



(SHYAM SUNDAR SANTRA)