DESHBANDHU COLLEGE
(UNIVERSITY OF DELHI)
KALKAJI, NEW DELHI - 110019

Title	**Dr.**	First Name	**Abhishek**	Last Name	**Kumar**	Photograph
Designation		Assistant Professor				
Address		Department of Mathematics, Deshbandhu College (University of Delhi), Kalkaji, New Delhi-110019.				
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Residence		---				
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Educational Qualifications

Degree	Institution	Year
Ph.D.	Delhi Technological University, Delhi.	2019
PG	Indian Institute of Technology, Roorkee.	2013
UG	M. J. P. R. U. Bareilly.	2011
Any other qualification		

Career Profile

- Working as an Assistant Professor at Deshbandhu College, University of Delhi from 8th September 2022 to the present date.
- Worked as a Guest faculty on contractual basis at NIT Jalandhar.
- Worked as a Guest faculty at Department of Mathematics, University of Delhi (South Campus).
- Worked as an Assistant Professor at School of Basic Sciences & Research, Sharda University, Greater Noida.

Areas of Interest/Specialization

- Mathematical Biology.
- Dynamical Systems.
- Nonlinear Dynamics.
- Applied Mathematics.
- Mathematical Epidemiology.

Referee of Scientific Journals

- International Journal of Biomathematics.
- Waves in Random and Complex Media.
- Letters in Biomathematics.
- International Journal of Dynamics and Control.
- International Journal of Mathematics and Mathematical Sciences.

List of Publications:

Year 2022

- K. Goel, **A. Kumar**, and Nilam (2022): *Stability analysis of a logistic growth epidemic model with two explicit time-delays, the nonlinear incidence and treatment rates*, **Journal of Applied Mathematics and Computing,** vol. 68, pp. 1901-1928. [DOI: https://doi.org/10.1007/s12190-021-01601-1]

Year 2021

- **A. Kumar**, and Nilam (2021): *Effects of Nonmonotonic Functional Responses on a Disease Transmission Model: Modeling and Simulation*, **Communications in Mathematics and Statistics,** vol. 10, pp. 195-214. **[DOI:** https://doi.org/10.1007/s40304-020-00217-4]

Year 2020

- **A. Kumar** (2020*): Stability of a Fractional-Order Epidemic Model with Nonlinear Incidences and Treatment Rates*, **Iranian Journal of Science and Technology, Transactions A: Science,** vol. 44, pp. 1505-1517**.** [DOI: https://doi.org/10.1007/s40995-020-00960-x]
- K. Goel, **A. Kumar**, Nilam (2020): *Nonlinear dynamics of a time-delayed epidemic model with two explicit aware classes, saturated incidences, and treatment*, **Nonlinear Dynamics**, vol. 101, pp. 1693-1715. [DOI: https://doi.org/10.1007/s11071-020-05762-9]
- **A. Kumar**, M. Kumar, and Nilam (2020): *A Study on the Stability Behavior of an Epidemic Model with Ratio-Dependent Incidence and Saturated Treatment*, **Theory in Biosciences,** vol. 139, pp. 225-234. [DOI: https://doi.org/10.1007/s12064-020-00314-6]
- K. Goel, **A. Kumar**, and Nilam (2020): *A deterministic time-delayed SVIRS epidemic model with incidences and saturated treatment*, **Journal of Engineering Mathematics,** vol. 121, pp. 19-38. [DOI: https://doi.org/10.1007/s10665-020-10037-8]**.**
- **A. Kumar**, K. Goel, and Nilam (2020): *A Deterministic Time-Delayed SIR Epidemic Model: Mathematical Modeling and Analysis*, **Theory in Biosciences,** vol 139, pp 67-76. [DOI: https://doi.org/10.1007/s12064-019-00300-7]

Year 2019

- **A. Kumar**, and Nilam (2019): *Dynamic behavior of a SIR epidemic model along with Time delay; Crowley-Martin type incidence rate and Holling type II treatment rate,* **International Journal of Nonlinear Sciences and Numerical Simulation,** vol. 20 (7-8), pp. 757-771. [DOI: https://doi.org/10.1515/ijnsns-2018-0208]
- **A. Kumar**, and Nilam (2019): *Stability of a delayed SIR epidemic model by introducing two explicit treatment classes along with nonlinear incidence rate and Holling type treatment*, **Computational & Applied Mathematics**, vol. 38: 130. [DOI: https://doi.org/10.1007/s40314-019-0866-9]
- **A. Kumar**, and Nilam (2019), *Mathematical Analysis of a Delayed Epidemic Model with Nonlinear Incidence and Treatment Rates*, **Journal of Engineering Mathematics**, vol. 115(1), pp. 1-20. [DOI: https://doi.org/10.1007/s10665-019-09989-3]
- **A. Kumar**, Nilam (2019), *Dynamical Model of Epidemic Along with Time Delay; Holling Type II Incidence Rate and Monod–Haldane Type Treatment Rate*, **Differential Equations and Dynamical Systems**, vol. 27 (1-3), pp: 299-312. [DOI: https://doi.org/10.1007/s12591-018-0424-8]
- **A. Kumar**, Nilam, and R. Kishor (2019): *A Short Study of an SIR Model with Inclusion of an Alert Class, Two explicit Nonlinear Incidence Rates and Saturated Treatment Rate,* **SeMA Journal**, vol. 76(3), pp. 505-519. [DOI: https://doi.org/10.1007/s40324-019-00189-8]

Year 2018

- **A. Kumar**, and Nilam (2018): *Stability of a Time-Delayed SIR epidemic Model Along with Nonlinear Incidence Rate and Holling Type-II Treatment Rate*, **International Journal of Computational Methods,** vol. 15 (6), pp. 1850055. [DOI: https://doi.org/10.1142/S021987621850055X]

Conferences, Workshops, and Short-term training programs

Session Chaired:
- Chaired a session in the online workshop on "Advanced Topics in Mathematics – 2020" organized by the Centre for Applied Mathematics, Dr. SPM International Institute of Information Technology Naya Raipur, during October 01-05, 2020.

Workshop attended:
- Attended a national workshop on "Designing & Development of MOOCs on Digital Platform" at Sharda University, Greater Noida, during January 17-20, 2020.
- Attended an Indo-German Workshop on "Optimal Control, Inverse Problem and Their Applications" at IIT Delhi, India, during February 07-09, 2018.
- Attended an Advanced Workshop on "Finite Difference Methods for Differential Equations" at SAU, Delhi, India, during March 13-17, 2015.

Short-term training program:
- Participated in an online 5-days STTP on MATLAB based Teaching-Learning in Mathematics, Science & Research organized by RAIT, Nerul, Navi Mumbai in collaboration with DesignTech System Pvt. Mumbai during May 18 – 22, 2020.
- Participated in a one-week STTP on Recent Trends in Research Methodology (online mode) organized by RESET Society for Research International, Krishnagiri, Tamilnadu, India, during May 25 – 29, 2020.

Paper Presented:
- Presented a paper entitled "A SAIR model with two explicit nonlinear incidence rate and saturated treatment rate" at International Conference on Recent Advances in Pure and Applied Mathematics held at DTU Delhi, India, during October 23-25, 2018.
- Presented a paper entitled "A mathematical model with time-dependent contact rate to control the spread of H1N1" at International Conference on Innovations & Sustainable Development in Sciences, Management & Technology held at SSIPMT, Raipur, India, during March 25-26, 2017.
- Presented a paper entitled "Mathematical control strategy with time-dependent contact rate for contagious disease" at 5th International Conference on "Advancements in Engineering and Technology" held at BGIET Sangrur, Punjab, India, during March 24-25, 2017.

Conference attended:
- Attended an online workshop on "Advanced Topics in Mathematics – 2020" organized by the Centre for Applied Mathematics, Dr. SPM International Institute of Information Technology Naya Raipur, during October 01-05, 2020.
- Attended an international conference on "Current Trends in Theoretical and Computational Differential Equations with Applications" at SAU, Delhi, India, during December 01- 05, 2017.

Awards and Distinctions

- **A Commendable Research Award for Excellence in Research** by Delhi Technological University in 2020 and 2021.
- Qualified **CSIR UGC NET**.
- Qualified **IIT JAM**.

Abhishek Kumar

Signature of Faculty
Member

- You are also requested to give your complete resume as a Word or PDF file to be attached as a link on your department page.