**Dr. Rehana Naz**Professor, Department of Mathematics & Statistical Sciences

Dr. Naz is a Professor of Mathematics at the Lahore School of Economics, Lahore, Pakistan. She received the M.Sc and M.Phil degrees in Applied Mathematics from Quaid-i-Azam University, Islamabad in 2002 and 2004 and the Ph.D. degree from the University of Witwatersrand, Johannesburg, South Africa in 2008. She was awarded a short-term Post-Doctoral Fellowship from the University of the Witwatersrand, South Africa. Dr. Naz is actively engaged in research, teaching, and academic service. She received the Research Productivity Award from Pakistan Council for Science and Technology in 2012 and was honored with the Best University Teacher Award by Higher Education Commission in Feb 2018.

Dr. Naz has made significant contributions to the subject, her peers and students, the department, the university, and academic and the research community. She has significantly contributed to the designing of several new courses at the Lahore School of Economics. Her teaching portfolio includes Linear Algebra, Calculus, Advanced Calculus, Real Analysis, Mathematical Economics I & II at the undergraduate level, and Mathematical Economics in the M. Phil Economics program. She actively contributed, along with other colleagues from the department, to the development of several minor programs in mathematics and data analytics, launched in 2020. Notably, she played a pivotal role in the development of the BS Double Major in Economics and Mathematics degree program, launched in 2021.

Dr. Naz served on the National Curriculum Revision Committee (NCRC) of the Higher Education Commission (HEC) for curriculum development of BS, MS, and Ph.D. Mathematics. She has been an active member of the Department’s curriculum committee, Board of Studies (BOS), Board of Faculties (BOF), and the academic committee of Lahore School of Economics since October 2009. Dr. Naz is tasked with attending peers' lectures and providing feedback on effective approaches to teaching mathematics. For the faculty at the Lahore school, she has led several training courses on using technology in the classroom, including Zoom, Maple, Python, Latex, Overleaf, Endnote, Mendeley, and the learning management system of the Lahore School of Economics. She is a reviewer of top Impact factor Journals including Journals published by Sciencedirect, Springer link, Taylor and Francis, IOP. Dr. Naz has worked as the guest editor of many international journals and is working as the Academic Editor of International Journal PLOS ONE. Dr. Naz has presented and worked as an organizer in the several national and international conferences. She was a member of organizing committee of the First Annual Conference on “Mathematical and Statistical Models in Economics, Finance and Applied Sciences” held on February 6-7, 2015 at the Main Campus of Lahore School of Economics. Dr. Naz has organized special sessions in International Conference on Dynamical systems, Differential equations and applications of American institute of Mathematical sciences, held in (Madrid, Spain 7-11 July 2014), (Orlando, Florida, USA 1-5 July 2016), (Taiwan, Taipe 5-9 July 2018) and ( Wilmington, NC USA, May 31 - June 4, 2023).

Dr. Naz has expertise in applying Lie group methods to optimal control theory, calculus of variations, and dynamical systems. She has applied these techniques to a variety of problems arising from physical, biological, and economic phenomena. In her PhD thesis she developed a new theory of constructing conserved quantities for jet flows using conservation laws which is cited by several authors. Most of her research papers have been published in top-ranked world-class journals. She has active research collaboration with professors at leading universities in the USA, UK, Germany, Canada, Italy, Spain, Brazil, Nigeria, and South Africa. Dr. Naz jointly with Dr. Azam Chaudhry and Dr. Fazal Mahomed developed a novel method known as the partial Hamiltonian method for the construction of first integrals for optimal control problems arising in economic growth theory. Closed-form solutions, analyses of the growth rates of capital and consumption, and discussions of saving rates are offered for many celebrated economic growth models to aid policymakers in developing policies. Dr. Naz has supervised several M.Phil Economics students jointly with the leading economist Dr. Azam Chaudhry.

Dr. Naz has published 62 papers in well-reputed international journals indexed in the Web of Science. Her recent publications include.

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