Department of Mathematics
University of Delhi, South Campus

Seminar Talk

You are cordially invited to a lecture

by

Dr. Abhay Jindal

Indian Institute of Science, Bengaluru

On

"Approximation by inner functions".

At 3.30pm

Thursday, 23 January, 2025

at
South Campus, Room No. 317, Arts Faculty,
University of Delhi South Campus

Abstract: A classical result of Carathéodory states that a holomorphic map from the open unit disc to itself can be approximated locally uniformly by finite Blaschke products. An analogous result for functions from open unit bi-disc to open unit disc was proved by Rudin.

We are interested in matrix-valued functions that are contractive (have norm at most one) on the disc and the bi-disc. A Carathéodory type approximation result of these functions can be obtained using the Nevanlinna-Pick interpolation theory. This is already known. We shall see that these approximation results can be proved through particular unitary dilations of a contraction using the realization formula for contractive matrix-valued functions.

If time allows, we shall discuss some applications of these approximation results.

For further details contact: Sachi Srivastava, Professor-In-charge, Department of Mathematics, UDSC, E-mail:sachi_srivastava@yahoo.com; Phone: 7838266611