ACADEMY OF DISCRETE MATHEMATICS AND APPLICATIONS

ADMA COLLOQUIUM LECTURE SERIES (ONLINE)

ABOUT ADMA

The Academy of Discrete Mathematics and Applications (ADMA) is a registered professional body functioning with the aim of promoting active and quality research in Discrete Mathematics and allied subjects. Established in 2005, it has been successfully disseminating front-line research culture among the discrete mathematicians in India.

Seventh Lecture

TITLE: **DISTANCES AND TOPOLOGICAL INDICES IN GRAPHS**

SPEAKER: **PROF. PETER DANKELMANN, UNIVERSITY OF JOHANNESBURG, SA**

Date: **23rd November, 2024 (Saturday)**

TIME: **07:00PM TO 08:00PM (IST)**

Registration Link: **https://forms.gle/T9BJHzDt8UVrnjyi6**

Registration deadline is 21st November, 2024 04:00pm (IST).

ABOUT SPEAKER

Peter Dankelmann was born and educated in Germany. He obtained his PhD in mathematics from RWTH Aachen University in 1993 under supervision of Lutz Volkmann.

After completing his PhD, he joined the University of Kwa-Zulu Natal in Durban, South Africa, which lead to extensive collaboration with Henda Swart, the leading graph theorist in South Africa at the time. In 2012 he moved to his current position at the University of Johannesburg.

Peter Dankelmann's research is on graph theory. He has published on topics such as connectivity, domination, connections to coding theory, and hypergraphs. The main focus of his research, however, is on distances in graphs and digraphs.

He has published over 120 papers, many in leading international journals. He is an elected member of the South African Academy of Science, and a Fellow of the Institute of Combinatorics and Its Applications. Peter Dankelmann is Editor-in-Chief of the journal Comminications in Combinatorics and Optimization.

Prof. Peter Dankelmann,
University of Johannesburg, SA

Distances and topological indices in graphs

Peter Dankelmann, University of Johannesburg

In this talk we consider topological indices of graphs that are based purely on distances between vertices. The most famous such index is the Wiener index, defined as the sum of the distances between all pairs of vertices. Also the total eccentricity index of connected graphs, defined as the sum of the eccentricities of all vertices, where the eccentricity of a vertex v is the distance from v to a vertex farthest from v, has attracted much attention from researchers.

In this talk we present a collection of old and new results on these topological indices and consider some of their variants.