



## ONLINE **INSPEM'S WEEKLY SEMINAR**

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## Topic: Introduction to Fuzzy Graph Theory

## **ABSTRACT**

In real-life phenomena complete and precise information is not always available. This issue makes their modeling more complex. For such cases, mathematical models are developed to handle various types of systems containing elements of uncertainty. These models are usually based on the most famous extension of the ordinary set theory namely fuzzy sets, introduced in 1965 by Zadeh. Since then, the theory of fuzzy sets has become a hot topic of research in different disciplines including mathematics, medical and life sciences, management sciences, social sciences, engineering, artificial intelligence, signal processing, relation computer sciences and except the computer sciences and except the sciences. robotics, computer sciences, decision making and so on.

One decade after presenting fuzzy sets, in 1975, Rosenfeld wrote a paper on fuzzy graphs that opened the door for the development of graph theory based on fuzzy sets. There are many cases in which some aspects of a graph may be uncertain. For example, in traffic network problems the vehicle travel time or vehicle capacity on a road network may not be known exactly. Fuzzy graphs can help researchers to handle such complex problems in different fields, such as rule-based expert systems, artificial intelligence, decision analysis, information science, control engineering, pattern recognition, management science, operations research, robotics, social situations and so on. #UNSDG

In this talk, an introduction to fuzzy graph theory and its application is presented.



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