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Seminar Title	: Isoclinism and Derivation of Lie Superalgebras and Lie-Yamaguti Algebras
Speaker	: Tofan Kumar Khuntia ( Rollno : 519ma2005)
Supervisor	: Prof. Kishor Chandra Pati
Venue	: Seminar Room, Department of Mathematics
Date and Time	: 25 Nov 2024 (11.00 AM)
Abstract	: Due to the wide applications of Lie superalgebra in physics and related topics, various concepts of the Lie algebras are extended to the case of Lie superalgebras. Recently, the notions of isoclinism and derivation have been studied for various algebras including Lie superalgebras. Using these concepts, we define $n$ -isoclinism for the Lie superalgebras and prove some important results related to their inner superderivations. Isoclinism is also defined for the relative central extension of a pair of Hom-Lie superalgebras and the impact of isomorphism in the equivalence class of isoclinism on the relative central extensions is figured out. Lie-Yamaguti algebras (LY-algebras) are also studied extensively due to their dual nature. Having both the bilinear and trilinear operations simultaneously makes it challenging to investigate their structural aspects. We study $G$ -derivations associated to the LY-algebras by taking $G$ as an automorphism group of those algebras. Then the relationship of $G$ -derivations with other generalized derivations is determined for LY-algebras along with their other properties. We also define isoclinism for LY-algebras and then some important results related to the isoclinism and covers of LY-algebras are discussed.