



Colloquium

February 1, 4:05 p.m. (9th Period)
(in the Atrium)

Speaker: Dario Teran Acaro

Title: The Berkovich Closed Disk

Abstract: Let $(k, |\cdot|)$ be a non-Archimedean field. Probably the most important detail about being non-Archimedean is that k is a totally disconnected space under the topology induced by its absolute value. Consequently, it is not possible to have an analogous theory of analytic spaces following the same definitions as it is done over the complex numbers. Over the last Century, John Tate developed the theory of rigid analytic space which served as an analogous theory of analytic spaces in the non-Archimedean setting. Rigid analytic spaces satisfy most of the desired characteristics from analytic spaces. However, the model space of a rigid analytic space is not a topological space. Later, another attempt was done by Berkovich with his theory of Berkovich spaces. In this case, the model spaces tend to be much nicer spaces than in the case of Tate's theory since they are actually Hausdorff spaces. The elements to consider in the definition of Berkovich spaces are multiplicative subnorms over the field k . I will go over the basic construction of a Berkovich space presenting what is called the Berkovich closed disk where it is possible to see some characteristics of this type of geometry.