## Title of the presentation

Pro C\*-algebras

## Abstract

Pro C\*-algebras are the generalisation of C\*-algebras in which the C\*-norm is replaced by a family of C\*-seminorms. In this talk, we discuss the analogy between pro C\*-algebra and C\*-algebra. Also, we discuss that any pro C\* algebra arises as the projective limit of C\*-algebras (hence, the name). With this observation, we write the spectrum of a pro C\*-algebra and see how it differs from its C\*-algebra counterpart. We will also see necessary and sufficient conditions under which a pro C\*-algebra isomorphic to a C\*-algebra.

## References

- N.Christopher Philips. Inverse Limits of C\*-Algebras. J.Operator Theory 19(1988), 159-195
- [2] Zhong-Jin Ruan. Subspaces of C\*-Algebras. Journal of Functional Analysis 76(1988), 217-230
- [3] W. Arveson Subalgebras of C\*-Algebras. Acta Math. 123(1969), 141-224
- [4] A.Mallios. Notas de Mathematica. North-Hallond, edited by L. Nachbin
- [5] M.Fragoulopoulou. Topological Algebras with Involution. North-Hallond Mathematics Studies Topological Algebras with Involution
- [6] Gerard J.Murphy. C\*-Algebras and Operator Theory.
- [7] Eberhard Kaniuth. Springer. A course in Commutative Banach Algebras
- [8] Walter Rudin. Third Edition Principles of Mathematical Analysis

- [9] Ian F. Putnam. January 3, 2019 Lecture Notes on  $C^*$ -Algebras.
- [10] D.Somasundaram. A First Course in Functional Analysis. Narosa