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*The lattice of C\*-covers of an operator algebra.*

Every non-selfadjoint operator algebra  $A$  generates a C\*-algebra, but isomorphic copies of  $A$  can generate many non-isomorphic C\*-algebras, and we call these the C\*-covers of  $A$ . A celebrated result—first proved by Hamana, is that a unique minimum C\*-cover for any  $A$  exists, called the C\*-envelope. The C\*-envelope is intrinsic to  $A$ , but non-isomorphic operator algebras  $A$  and  $B$  can share the same C\*-envelope. If we instead ask that  $A$  and  $B$  share ALL the same C\*-covers, must  $A$  and  $B$  be isomorphic?

There are multiple natural senses in which two operator algebras may have "the same" C\*-covers, and we will discuss how these different senses remember different information about the operator algebras involved. Along the way, we will see how to construct a simple operator algebra that is not similar to a C\*-algebra. This is joint work with Dr. Christopher Ramsey.