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**Lauren Sager\*** (lbq32@wildcats.unh.edu), Kingsbury Hall, 33 Academic Way, Durham, NH 03824. *Invariant subspaces for triangular algebras in Schatten  $p$ -classes.*

In this talk, we seek to characterize subspaces of the Schatten  $p$ -classes on an infinite dimensional Hilbert space  $\mathcal{H}$ , which are invariant under lower triangular algebras. In doing so, we prove a Beurling-Blecher-Labuschagne theorem for  $H^\infty$ -invariant subspaces of  $L^p(\mathcal{M}, \tau)$  where  $\mathcal{M}$  is a von Neumann algebra with semifinite, faithful, normal tracial weight  $\tau$ ,  $0 < p \leq \infty$ , and  $H^\infty$  is a non-commutative Hardy space, similar to those defined by Arveson. As an application of the main result, we completely characterize all  $H^\infty$ -invariant subspaces of  $L^p(\mathcal{M} \rtimes_\alpha \mathbb{Z}, \tau)$  where  $\mathcal{M} \rtimes_\alpha \mathbb{Z}$  is the non-self-adjoint crossed product of a von Neumann algebra  $\mathcal{M}$  by an action  $\alpha$  on  $\mathcal{M}$ . Then, we are able to completely characterize all lower triangular subalgebra-invariant subspaces of the Schatten  $p$ -class for  $0 < p \leq \infty$ . Our result answered a question asked implicitly by McAsey, Muhly and Saito in 1979. (Received September 19, 2016)