

---

**HENRY COHN**, Microsoft Research New England and MIT

*On cap sets and the group-theoretic approach to matrix multiplication*

In this talk, based on joint work with Jonah Blasiak, Thomas Church, Joshua A. Grochow, Eric Naslund, William F. Sawin, and Chris Umans, I'll describe the relationship between group-theoretic fast matrix multiplication algorithms and tricolored sum-free sets. In particular, I'll explain how to show that abelian groups of bounded exponent cannot prove that the exponent of matrix multiplication is 2, using the techniques of Croot, Lev, Pach, Ellenberg, and Gijswijt.