1024-20-123 **Hyun Kyu Kim*** (hk299@cornell.edu), Department of Mathematics, Cornell University, Ithaca, NY 14853, and **Gerhard O. Michler**. *Simultaneous construction of the sporadic groups Fi_{22} and Co_2.*

Recently G.Michler formulated an algorithm constructing certain finite simple groups G from well-defined extensions E of irreducible subgroups T of $GL_n(2)$ by an n-dimensional FT-module A, where F is the field with 2 elements. In this lecture I apply this algorithm in 3 cases where A is an irreducible FT-module of dimension $n = 10$ and $T \in \{\text{Mathieu group } M_{22}, Aut(M_{22})\}$. The algorithm returns Fischer's sporadic simple group Fi_{22} and Conway's sporadic group Co_2 as uniquely determined (up to isomorphism) simple subgroups of $GL_{23}(13)$ and $GL_{78}(13)$, respectively. (Received January 09, 2007)