1043-20-40 **Gerhard O. Michler*** (michler@math.cornell.edu), Malott Hall, Math. Dept., Cornell University, Ithaca, NY 14853. *Can the finite simple groups be classified at all?* Preliminary report.

The mathematical literature does not contain an accessible proof for the announced classification theorem, see [4] and [5]. Already in 1976 R. Brauer remarked in [1] that it is possible that there are infinitely many isomorphism types of simple groups which are neither of Lie type nor alternating groups. In this lecture the author presents a construction method for finite simple groups G from indecomposable subgroups of $\mathrm{GL}_n(2)$, $n \geq 3$. It has been used in [3], [4] to construct all but 3 known sporadic simple groups. By Kondo's work [2] the alternating groups A_{4k}, $k \geq 3$ can be constructed this way also. Hence it is not limitted to small cases.

REFERENCES: [1] R. Brauer, Blocks of characters and structure of finite groups, Bull. AMS **1**(1979), 21-38. [2] T. Kondo, On alternating groups III, J. Alg. **14**(1970), 35-69. [3] G. Michler, Theory of finite simple groups. Cambridge University Press, Cambridge, 2006. [4] G. Michler, Theory of finite simple groups II, CUP (to appear). [5] M. B. Nathanson, Desperately seeking mathematical truth, Notices AMS **55**(2008), 773. (Received August 02, 2008)