On the Structure of Finite Groups of Characteristic $p$

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Abstract: In this talk I will discuss a joint project with G. Parmeggiani and U. Meierfrankenfeld whose goal is to describe the structure of finite groups $G$ of characteristic $p$ (i.e.: $C_G(O_p(G)) \leq O_p(G)$) in terms of the conjugacy class $Bau_p(G)$ and certain subnormal subgroups of $G$, the Baumann components of $G$.

The main result will be the factorization

$$G = N_G(W(B))Block(G),$$

where $B \in Bau_p(G)$, $W(B)$ is a non-trivial characteristic subgroup of $B$ (whose definition is independent of $G$) and $Block(G)$ is a normal subgroup of $G$, whose structure can be given explicitly.