Let $G$ be a finite group and let $B$ be a $p$-block of $G$ with $p$ a prime. Roughly speaking, a basic set for $B$ relates the irreducible modular and irreducible ordinary characters in $B$ in a very useful way.

When $G$ is a finite group of Lie type, Geck and Hiss gave a non-constructive proof of the existence of basic sets for all $p$-blocks of $G$ under some mild conditions on the prime $p$. In my talk I will explain how to construct these basic sets explicitly for certain groups of Lie type under similar conditions on the prime $p$. 