Abstract: The Existential Closedness (EC) problems are natural questions about the algebraic properties of important transcendental functions in arithmetic geometry. These problems have their origins in model theory and can be seen as analogues of Hilbert's Nullstellensatz for certain systems of analytic equations, and also as counterparts of Schanuel-type conjectures. In the talk I will introduce the EC problems, I will explain the partial results that have been proven so far, and also how they fit in a bigger picture with other important theorems and conjectures in arithmetic geometry.