Hiroshi Umemura : Quantum Picard-Vessiot theory.

Since the 19th century, we were interested in q-analogues of special functions such as q-hypergeometric function. The Galois group of q-hypergeometric function is an algebraic group and it is not a quantum group. It is natural to wonder why Galois group is not quantized when we consider the q-analoques. Can we expect a quantized Galois theory in which Galois group is a quantum group? The answer seems affirmative. As a first step we propose a quantum Picard-Vessiot theory over a constant base field.