1026-34-114 **Claude Mitschi*** (mitschi@math.u-strasbg.fr), Institut de Recherche, Mathématique Avancée, 67000 Strasbourg, France. *A generalization of the Riemann-Hilbert Problem.*

We discuss the existence of systems of linear ordinary differential equations with coefficients in $\mathbb{C}(z)$ that satisfy generalized monodromy data at prescribed, possibly irregular, singularities. This inverse problem reduces to the classical Riemann-Hilbert problem if all the singularities are required to be Fuchsian, and to the Birkhoff standard form problem if there are exactly two, one of which Fuchsian, prescribed singularities. This generalized Riemann-Hilbert problem is naturally related to the inverse problem in differential Galois theory over $\mathbb{C}(z)$ as far as one is concerned with the Poincaré rank of the singularities. The talk presents joint work with the late Andrey A. Bolibrukh and Stéphane Malek. (Received February 21, 2007)