Meeting: 1001, Evanston, Illinois, SS 8A, Special Session on Computability Theory and Applications

1001-03-162 **Valentina Harizanov*** (harizanv@gwu.edu), Department of Mathematics, George Washington University, Washington, DC 20052. *Effectively and Relatively Effectively Categorical Structures.*

A computable structure A is *relatively* Δ^0_α*-categorical* if for every isomorphic copy B of A there is an isomorphism that is Δ^0_α relative to the atomic diagram of B. Relative Δ^0_α-categoricity is equivalent to the existence of certain Σ^0_α Scott families of formulas. A computable structure A is Δ^0_α*-categorical* if for every computable isomorphic copy of A there is a Δ^0_α isomorphism. If α is a computable successor ordinal, then there is a computable structure that is Δ^0_α-categorical but not relatively Δ^0_α-categorical (Goncharov, Harizanov, Knight, McCoy, Miller and Solomon). For specific classes of algebraic structures, we will also survey old results and presents some new ones on computable categoricity and Δ^0_2-categoricity (obtained jointly with Calvert, Cenzer and Morozov). (Received August 23, 2004)