1163-65-958 **Antonio Leitao*** (acgleitao@gmail.com), Department of Mathematics, Federal Univ. of St. Catarina, P.O.Box 476, Florianopolis, SC 88040-900, Brazil. *On range-relaxed strategies and iterative type methods for obtaining stable solutions to ill-posed operator equations.*

In this talk we discuss a novel range-relaxed strategy for choosing the Lagrange multipliers in several iterative type methods for solving ill-posed operator equations (e.g. iterated Tikhonov (iT), Levenberg-Marquardt (LM), and the corresponding Kaczmarz versions (iTK and LMK).

Convergence analysis is presented (monotonicity, convergence, stability, semi-convergence). Numerical experiments are shown for some applications (both linear and nonlinear). The obtained numerical results validate the efficiency of the proposed approach. (Received September 14, 2020)