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Abstract for a lecture invited by the organisers of the workshop on Nonlinear Functional Analysis and Its Applications in memory of Professor Ronald E. Bruck

(Scheduled to take place via Zoom during April 4--6, 2022, at the Technion -- Israel Institute of Technology, Haifa, Israel)

Modular approximation in convergence spaces

In this talk, we will investigate the latest nonlinear approximation results obtained in modular spaces equipped with a sequential convergence structure. A class of such spaces contains all Banach spaces, modular function spaces such as Lebesgue, Orlicz spaces, variable Lebesgue spaces, and their generalisations. We will discuss questions of existence and uniqueness of best approximants in the sense of modular distances in such spaces. In this context, we will also investigate the continuity aspects of generally nonlinear, multi-valued modular projection operators.   We will indicate some important areas of application.