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Gianluca Vinti* (gianluca.vinti@unipg.it), Dipartimento di Matematica e Informatica, Università degli Studi di Perugia, Via Vanvitelli, 1, 06123 Perugia, Italy. *Approximation by multivariate Kantorovich sampling operators and applications to Image Processing.*

Multivariate signal analysis and inverse problems represent one of the main approaches for the image reconstruction and processing. In this talk, we present some approximation results by means of multivariate Kantorovich sampling operators and we discuss some of their applications to Image Processing. In particular, we show applications to biomedical images and to thermographic images for earthquake engineering. First, we discuss the theoretical results involving bounded continuous and uniformly continuous functions, together with a modular approximation theorem for functions belonging to Orlicz spaces. Then, an algorithm for image reconstruction based on Kantorovich sampling operators is described together with several examples and applications. (Received September 13, 2014)