Theorems on rational and quasi-interpolation, and applications, using logarithmically monotone radial basis functions

by

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Venue : Room B6605, Blue Zone, Level 6
Yeung Kin Man Academic Building (YEUNG)
City University of Hong Kong

Cancelled

ABSTRACT:

In the choice of the approximation method for multivariable functions, the choice of the linear space from which we approximate the functions is presumably the most important part of the work of the approximation theorist.

In many instances, for radial basis functions, the choice of approximation scheme is interpolation and quasi-interpolation, and the spaces are spanned by translates of a radially symmetric kernel function

$$\varphi(\| \cdot - \xi \|), \qquad \xi \in \Xi,$$

where Ξ is a set of (distinct) centres in *n*-dimensional real space, and φ is the radial basis function. For the latter, logarithmically multi- and completely monotone functions are the most often selected classes due to their versatility, and certain existence and uniqueness theorems are available (joint work with Janin Jäger). In this talk we present new results on theory of *rational interpolation* as well (joint work with S. DeMarchi and Emma Perracchione) as compared to interpolation.

The application we are interested in is the solution of partial differential equations (usually, elliptic) from radial basis function spaces.

Please come and join us! ** **All interested are welcome** **

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