On the optimality of greedy kernel algorithms:
Kernel exchange algorithms

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In meshfree approximation, kernel based methods provide versatile tools for high-dimensional scattered data approximation. The numerical properties of these kernel models, like accuracy and stability, depend on the choice of the kernel as well as the distribution of the data.
In this talk we discuss the use of greedy kernel algorithms for selecting suitable data points, with a focus on the optimality of these algorithms as well as the possibility of an a-posteriori exchange of selected data points points, thereby introducing kernel exchange algorithms.

Joint work with: Armin Iske

References:

[1] T. Wenzel and A. Iske. Kernel exchange algorithms. In preparation., 2024.
[2] T. Wenzel, G. Santin, and B. Haasdonk. Analysis of target data-dependent greedy kernel algorithms: Convergence rates for f-, f· P-and f/P-greedy.
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