



Vienna School
of Mathematics

PhD Colloquium

Andrea Scaglioni:

Numerical approximation of PDEs with random coefficients

In this presentation, I introduce and discuss the numerical solution of partial differential equations with random coefficients. I focus on collocation algorithms, as they offer a realistic solution for real-world applications. As a downside, their mathematical analysis is relatively involved. I show how to exploit a regularity property of the problem to build approximations that effectively synthesize the random nature of the exact solution. Finally, I give examples of collocation algorithms based on this idea and discuss their convergence and optimality properties. In the spirit of the PhD Colloquium, the talk will be as self-contained as possible and assume minimal previous knowledge from the audience.

25. November

14:00 - 14:45

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