



# Preparatory Meeting

SEMINAR (Summer Term 2009)

## Wavelets with Applications in Scientific Computing

Wavelet-Analysis allows the efficient and sparse representation of a function on different scales. Therefore wavelet techniques are well suited for applications in Numerical Mathematics and Scientific Computing.

In our seminar we consider selected topics from wavelet theory having an impact on problems in Scientific Computing. Moreover, it shall be demonstrated how the theoretical tools can be used in concrete applications.

Research articles will be studied covering the following topics

- wavelets on the interval,
- interpolating wavelets,
- wavelet collocation method for partial differential equations,
- best basis selection,
- operator compression, and others.

**Prerequisite:** This seminar is a continuation of the class 'Wavelets' by Prof. Rieder in the winter term. However, freshmen (and -ladies!) are welcome and will be given topics they can conquer. **Further, the talk can be given in English or German.**

The preparatory meeting takes place at

**Tuesday, 03. Feb. 2009, 13.15 o'clock,  
Room 1C-04 (Allianz-Building)**

**Contact:** Prof. Dr. A. Rieder

E-mail: [rieder@math.uni-karlsruhe.de](mailto:rieder@math.uni-karlsruhe.de)

Zimmer 4C-08, Allianz-Gebäude (05.20)

<http://www.mathematik.uni-karlsruhe.de/ianm3/~rieder/>

JProf. Dr. T. Jahnke

E-mail: [jahnke@math.uni-karlsruhe.de](mailto:jahnke@math.uni-karlsruhe.de)

Zimmer 4C-11, Allianz-Gebäude (05.20)

<http://www.mathematik.uni-karlsruhe.de/ianm3/~jahnke/>