# Numerical methods for stratified flows - A tribute to Prof. Karel Kozel

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A review of collaborative research from 1994 between the Czech Technical University, the Institute of Thermomechanics in Prague and Université de Toulon is presented. The team and school of numerical mathematics created and leaded by Prof. Karel Kozel continuously developed methods and codes for transonic flows, especially in the goal of improving the modelling of turbine blades. Such methods when able to solve equations of complex flows involving the generation of waves are adapted and transferable to stably stratified environmental flows. This was the main subject of this long term collaboration started with joint PhD programmes and co-organisation of workshops and summer schools mostly in Prague and in Toulon. A review of this collaborative work is presented here concerning adapted high order and TVD type schemes, with a special emphasis on boundary conditions.

**References:**

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