

# KO-MIX

## Interní seminář pracovníků KMD

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Srdečně zveme pracovníky KMD, KAP a další zájemce z řad veřejnosti na přednášku pořádanou v rámci odborného semináře *KO-MIX*

# A posteriori error estimates for parabolic problems

- Přednáší:** **RNDr. Miloslav VLASÁK, Ph.D.**  
(KNM MFF UK v Praze - Sokolovská 83, 186 75 Praha 8)
- Termín:** **Pondělí 14. prosince 2015, 14:30 hodin**
- Místo konání:** **Kabinet KMD a KAP**  
(Univerzitní nám. 1410/1, Liberec, budova G areálu TUL - 4. patro)

### Abstrakt přednášky:

We will consider a linear parabolic problem represented typically by the heat equation. This problem will be discretized by classical conforming finite element method in space and either by conforming or by non-conforming Galerkin method in time. For this type of time discretizations we will show some natural relations to more common time discretization techniques.

Considering a posteriori error analysis we mainly follow the ideas of Dolejší, Ern, Vohralík (2013), where lower order time discretizations are analysed by the technique of the equilibrated flux reconstructions, and the ideas of Akrivis, Makridakis, Nochetto (2011), where higher order time discretizations are considered, but their analysis provides only asymptotic upper bounds.

We will derive a posteriori guaranteed and cheaply computable upper bound to dual norm of residual term and we will prove that the resulting estimate is efficient at least in asymptotic sense. To provide good behavior of the a posteriori error estimate we will use natural properties of former continuous problem.

Za organizátory semináře srdečně zve

RNDr. Václav Finěk, Ph.D.