



SEMINAR
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Czech Society for Mechanics
and Institute of Theoretical and Applied Mechanics, CAS

invite you to a lecture and discussion within
the lecture series **ITAM Seminar**

Solution of the multi-dimensional Fokker-Planck equation by means of Finite Element Method

given by

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Fokker–Planck equation is one of the most important tools for investigation of dynamic systems under random excitation. Finite Element Method represents very effective solution possibility particularly when transition processes are investigated or more detailed solution is needed. However, a number of specific problems must be overcome. They follow predominantly from the large multi-dimensionality of the Fokker–Planck equation, shape of the definition domain and usual requirements on the nature of the solution which are out of a conventional practice of the Finite Element employment. Unlike earlier studies it is coming to light that multi-dimensional simplex elements are the most suitable to be deployed. Moreover, new original algorithms for the multi-dimensional mesh generating were developed as well as original procedure of the governing differential and algebraic systems assembling and subsequent analysis. Finally, an illustrative example is presented together with aspects typical for the problem with large multi-dimensionality.

**The lecture will be held on Wednesday, December 12, 2018 at 10:00AM in the building
of the Institute of Theoretical and Applied Mechanics, Prosecká 76, 190 00, Prague 9**