Effective use of international cooperations and related grants to advance and develop academic research

by

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Many practical problems in science and engineering can be modeled by systems of ordinary differential equations (ODEs) and Volterra integral equations (VIEs). In this workshop, by presenting some recent advantages in the numerical solution of ODEs and VIEs, we will explain the importance of international scientific cooperation and attracting related grants in achieving the research goals.

This workshop includes two sessions:

- In the first session, we talk about some important and well-known European grants and some possible ways to be eligible for applying them.
- Second session is devoted to discuss some products of my personal international cooperations: two practical Matlab codes suitable for large system of non-stiff and stiff ODEs, and two Matlab codes for stiff VIEs.

The workshop is based on the results in the following publications:

1. A. Abdi, D. Conte, Implementation of general linear methods for Volterra integral equations, J. Comput. Appl. Math. 386 (2021) 113261.
2. A. Abdi, D. Conte, Implementation of second derivative general linear methods, Calcolo 57 (2020) 20:1–29.
3. A. Abdi, Z. Jackiewicz, Towards a code for nonstiff differential systems based on general linear methods with inherent Runge–Kutta stability, Appl. Numer. Math. 136 (2019) 103–121.
4. A. Abdi, G. Hojjati, Z. Jackiewicz, H. Mahdi, A new code for Volterra integral equations based on natural Runge–Kutta methods, Appl. Numer. Math. 143 (2019) 35–50.