



ABSTRACTS BOOK



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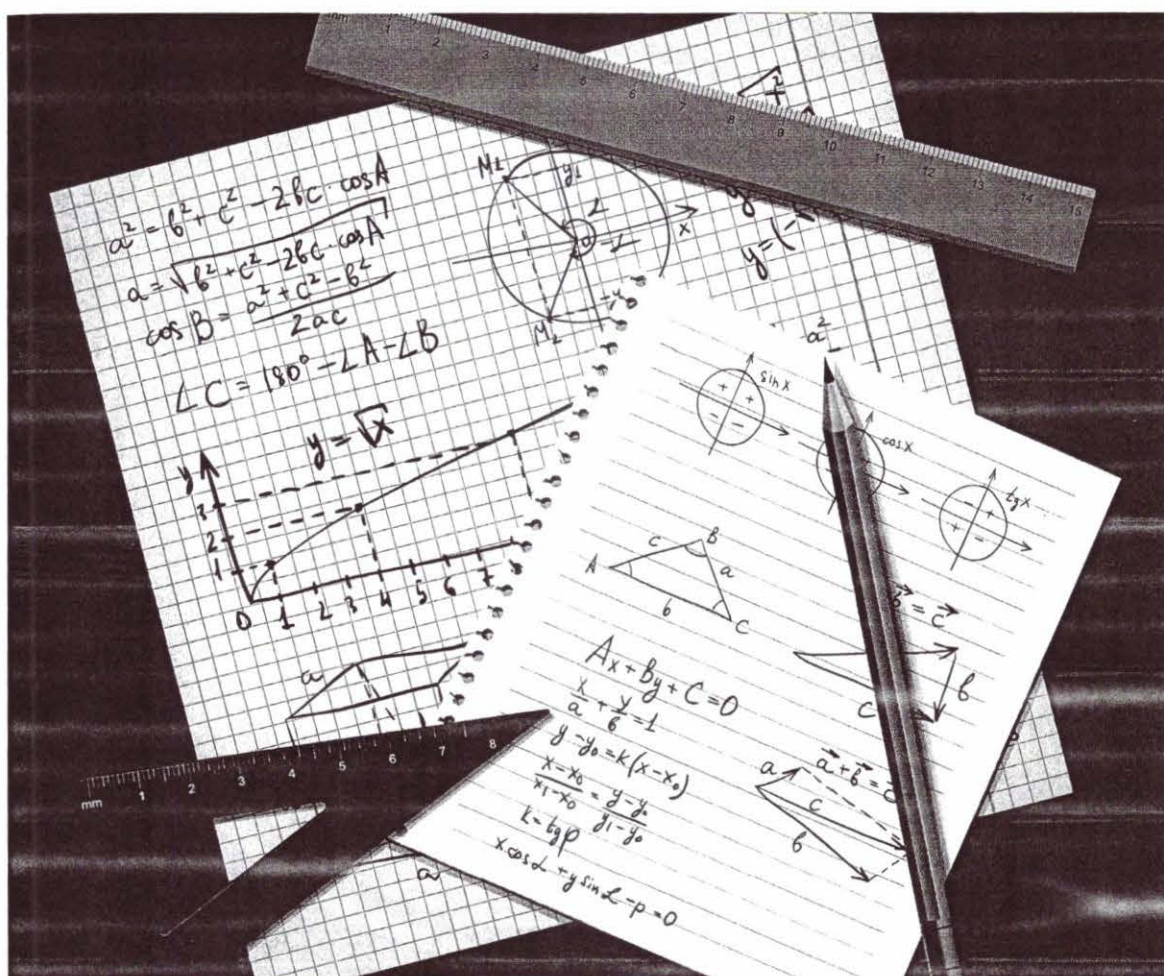
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Aims and Scope of the Conference:

The main aim of the conference is; to promote, encourage, cooperate, and bring together researchers in the fields of mathematical science and its applications. All areas of mathematical science will be represented with special emphasis on applications. Conference agenda formatted in such a way to be mathematically enriching and socially exciting. The interest areas of the conference include but are not limited to : Algebra(s) and Applications, Differential Equations, Approximation Theory, Calculus of Variations, Coding Theory, Combinatorics, Control Theory, Cryptology, Geometry, Difference and Functional Equations, Discrete Mathematics, Dynamical Systems and Ergodic Theory, Field Theory and Polynomials, Fluid Mechanics and Solid Mechanics, Fourier Analysis, Functional Analysis, Functions of a Complex Variable, Fuzzy Mathematics, Game Theory, Graph Theory, Group Theory and Generalizations, Integral Equations, Matrix Theory, Mathematical Biology, Mathematical Economics and Financial Mathematics, Mathematical Physics and Math Education.

**Abstract book arranged
and prepared by:**

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**Abu Dhabi University College of Arts and Sciences
Department of Applied Science and Mathematics**

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Express, Apache Hadoop and Apache Spark. MPJ Express part was implemented using Java 8 Streams library and MapReduce paradigm and without them. As a result we have speed and efficiency comparison between pure MPJ, MPJ + MapReduce, Apache Hadoop and Apache Spark implemented in Scala.

RDTM on Two-Dimensional and Fifth-Order Time-Fractional Partial Differential Equation

Muammer Ayata

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Konya, Turkey

Coauthors: **Omer Acan**, Yildray Keskin, Vineet K.Srivastava,
Murat Gubeş

In this presentation, the Reduced Differential Transform Method (RDTM) is applied to find an approximate analytical solution of two-dimensional and fifth-order time-fractional partial differential equation. The solutions obtained by this method are in the form of convergent power series. Since there is no need of discretization, linearization and small perturbations in RDTM, it significantly makes the numerical computations shorter. To illustrate the accuracy of the solutions, we compare the results obtained by RDTM with the exact solution by the aid of tables and graphics. The numerical results show that RDTM is very impressive, practical and quite accurate to fractional equations.

GMRES Method for Solving Discretized Incompressible Navier-Stokes Equations

Nabila Azzam

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A discretization technique to a partial differential equations leads to an algebraic system of equations, which are, in general, large and sparse. In