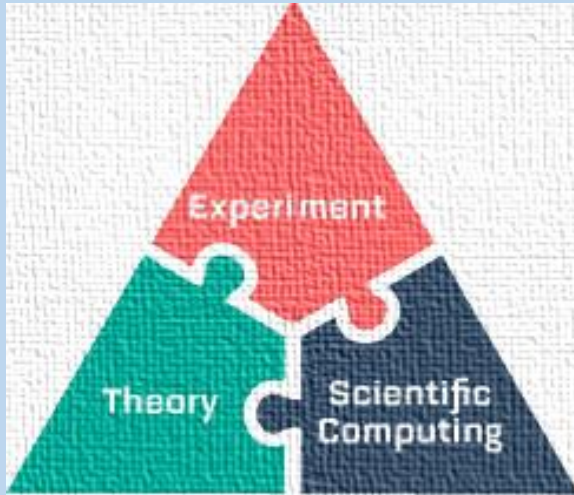


What is Scientific Computing?

Scientific Computing (SC) is a broad, multidisciplinary area that encompasses applications in science, engineering, mathematics, and computer science. As modern scientists increasingly rely on computational modelling and data analysis to explore and understand the natural world, SC is nowadays regarded as a "third pillar" of science, along with theory and experiment in the advancement of scientific knowledge and engineering practice.



Career Prospects and Scientific Computing Program

With knowledge of theory and application, a Scientific Computing graduate has an edge over non-interdisciplinary people in today's world.

Institute of Applied Mathematics (IAM) is offering M.Sc. and Ph.D. programs in Scientific Computing. The programs are mainly based on the following topics:

- ❖ Least Squares, Eigenvalue Problems, Nonlinear Equations, Interpolation, and Numerical Integration
- ❖ ODEs, PDEs, Iterative Methods for Sparse Linear System
- ❖ Numerical Optimization,
- ❖ Finite Element Methods.

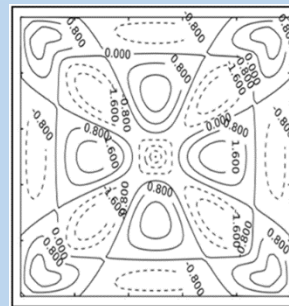
For curriculum information please visit

<https://iam.metu.edu.tr/en/curricula>

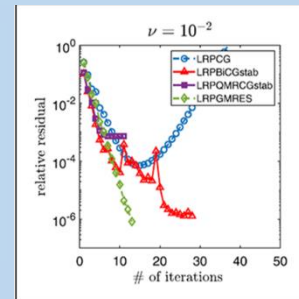
Research Areas

The research areas range from foundation of mathematics and fundamental numerical algorithms to such practical topics in dynamical systems, computational fluid dynamics, PDE-constrained optimization, model order reduction, machine/deep learning algorithms, high performance computing, computational electromagnetics, uncertainty quantification, and computational finance.

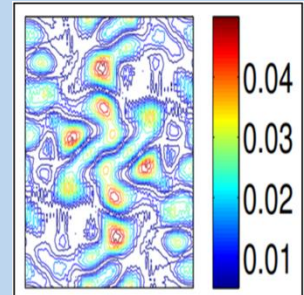
Stochastic Discontinuous Galerkin Methods with Low-Rank Solvers for Convection Diffusion Equations. P.Çiloğlu, H. Yücel, Applied Numerical Mathematics, 172, 157-185, 212122.



Reduced-Order Modelling of Shallow Water Equations by S. Yıldız, Ph.D. Thesis, 2021 advised by Prof. Dr. B. Karasözen.



Optimal Control in Fluid Flow Problems with POD Applications to FEM Solution by C. Evcin. Ph.D. thesis, 2018 advised by Prof. Dr. Ö. Uğur.



Admission Requirements and Application

For admission requirement please visit

<https://iam.metu.edu.tr/en/application-and-admission>

Contact

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