FEniCS Project

The FEniCS Project is a popular open-source (LGPLv3 or MIT) computing platform for solving partial differential equations (PDEs). FEniCS enables users to quickly translate scientific models into efficient finite element code.

With the high-level Python and C++ interfaces to FEniCS, it is easy to get started, but FEniCS also offers powerful capabilities for more experienced programmers. FEniCS runs on a multitude of platforms ranging from laptops to supercomputers.

APPLICATIONS

FEniCS has been used to solve PDEs in applications across engineering and the physical sciences; geophysics, bioengineering, solid mechanics, fluid dynamics, heat transfer, environmental sciences and many more. It also has been used in industrial contexts including Rolls Royce and Mitsubishi Heavy Industries.

PLANNED FEATURES

+ Full support for the 'periodic table of finite elements'.

+ Support for heterogeneous compute platforms (CPU/GPU).

+ Mixed geometry meshes (e.g. quadrilaterals/ triangles and hexahedrons/prisms/pyramids/ tetrahedrons).

+ Support for ADIOS2 I/O.

PROJECT NEEDS

Support for travel awards for the annual FEniCS Conference for students for institutions who do not have the resources for international travel.	$2,000-$10,000
Support for staff members to work on fundamental advances, or long-term sustainability and maintenance issues.	$120,000 per person per year
Support for non-standard build machines (ARM64) and larger CI instances for regular testing	$3,000-$5,000 annually

For more information on FEniCS, including our governance structure and project roadmap, please visit

https://fenicsproject.org/

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