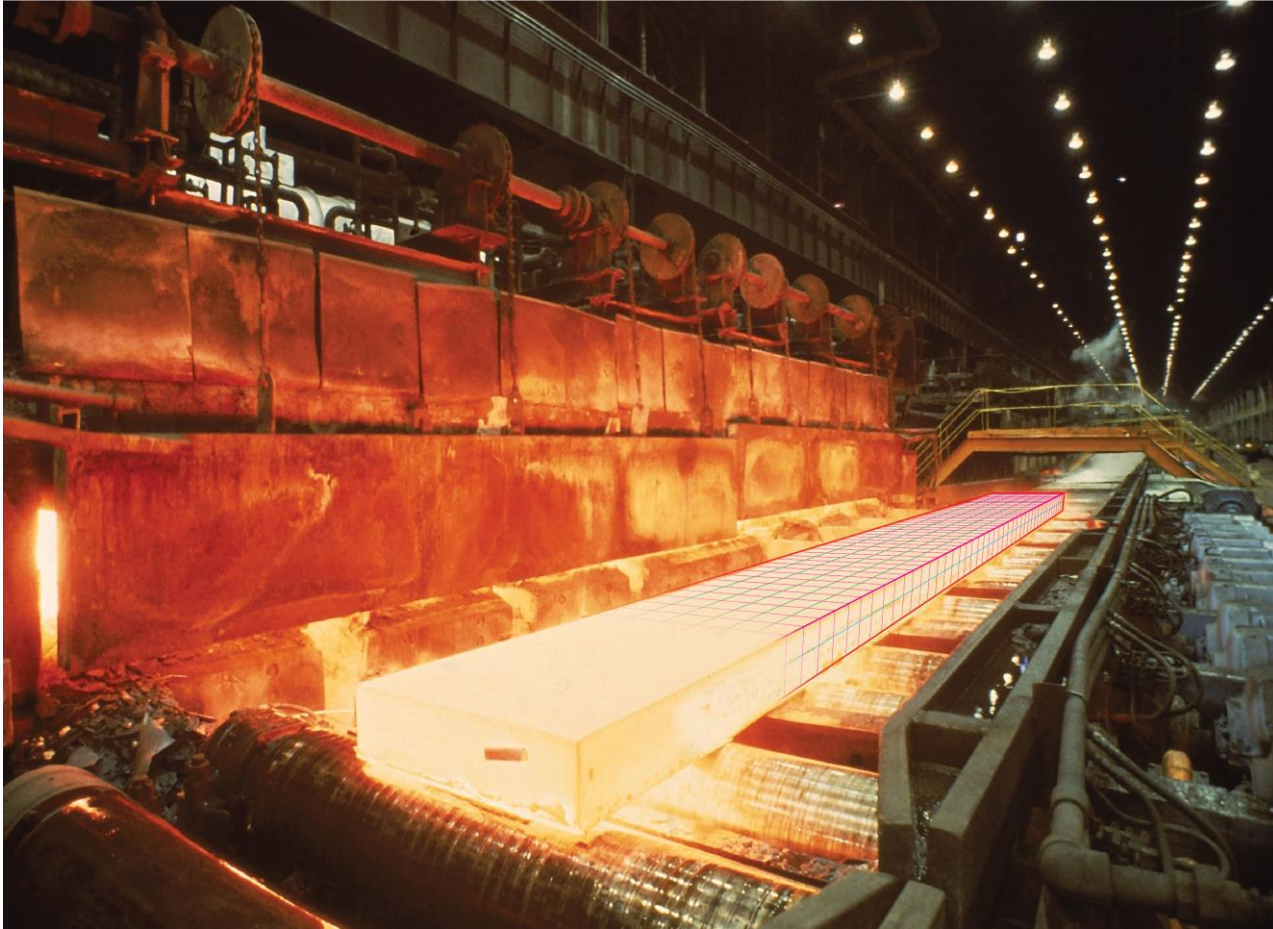


# Simulation/Visualization Contest



# Simulation and Visualization Contest Winners!

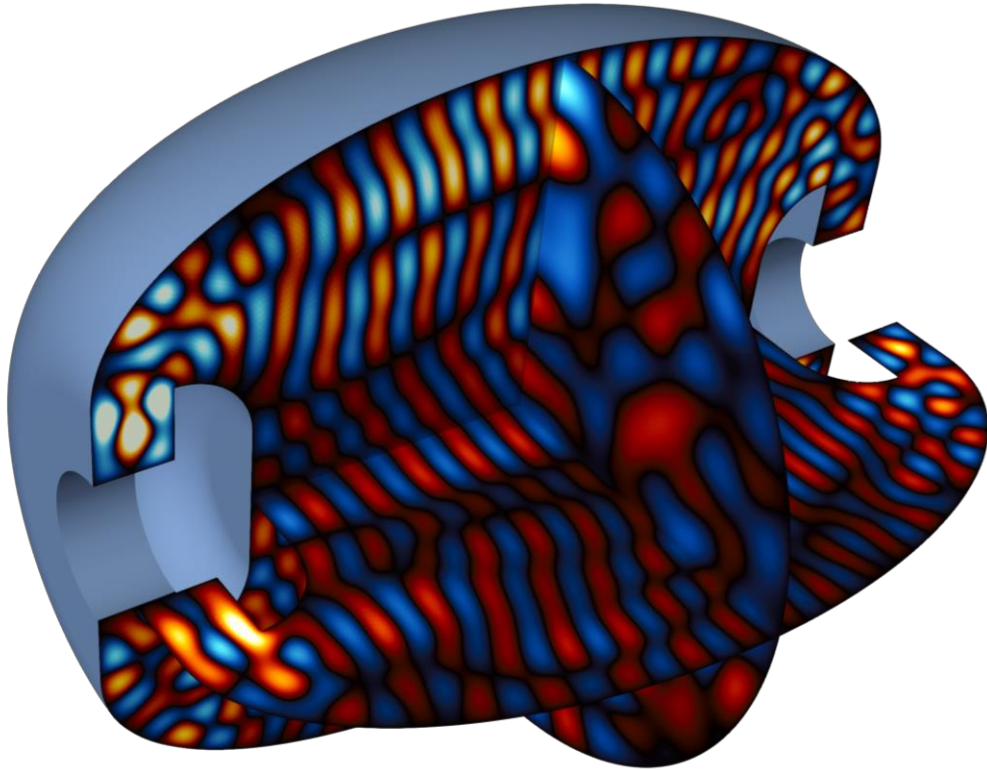


- We held a contest for the most interesting simulations and visualizations.
- So many good entries that we broke it into 2 categories, still images and animations.
- Entries were judged on aesthetic qualities, novelty of the approaches, and the notability of the application.
- Results will be featured on the MFEM webpage, and the winners will receive MFEM T-Shirts.

# Runner up for Still Images



# Runner up for Still Images



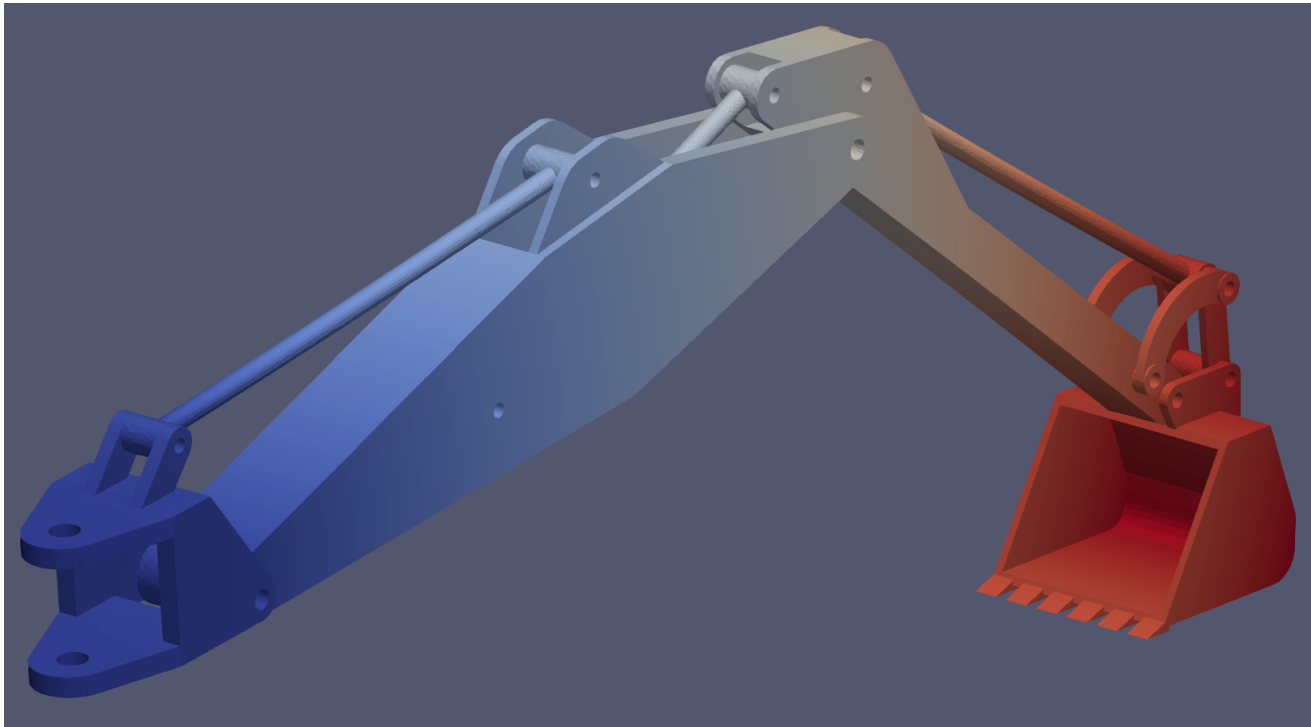
Penrose unilluminable room appears rather illuminable in 3D. Solution to Helmholtz equation computed using the WaveHoltz iterative algorithm with the symmetric interior penalty DG discretization accelerated on GPU.

Amit Rotem  
Virginia Tech

# Winner for Still Images



# Winner for Still Images



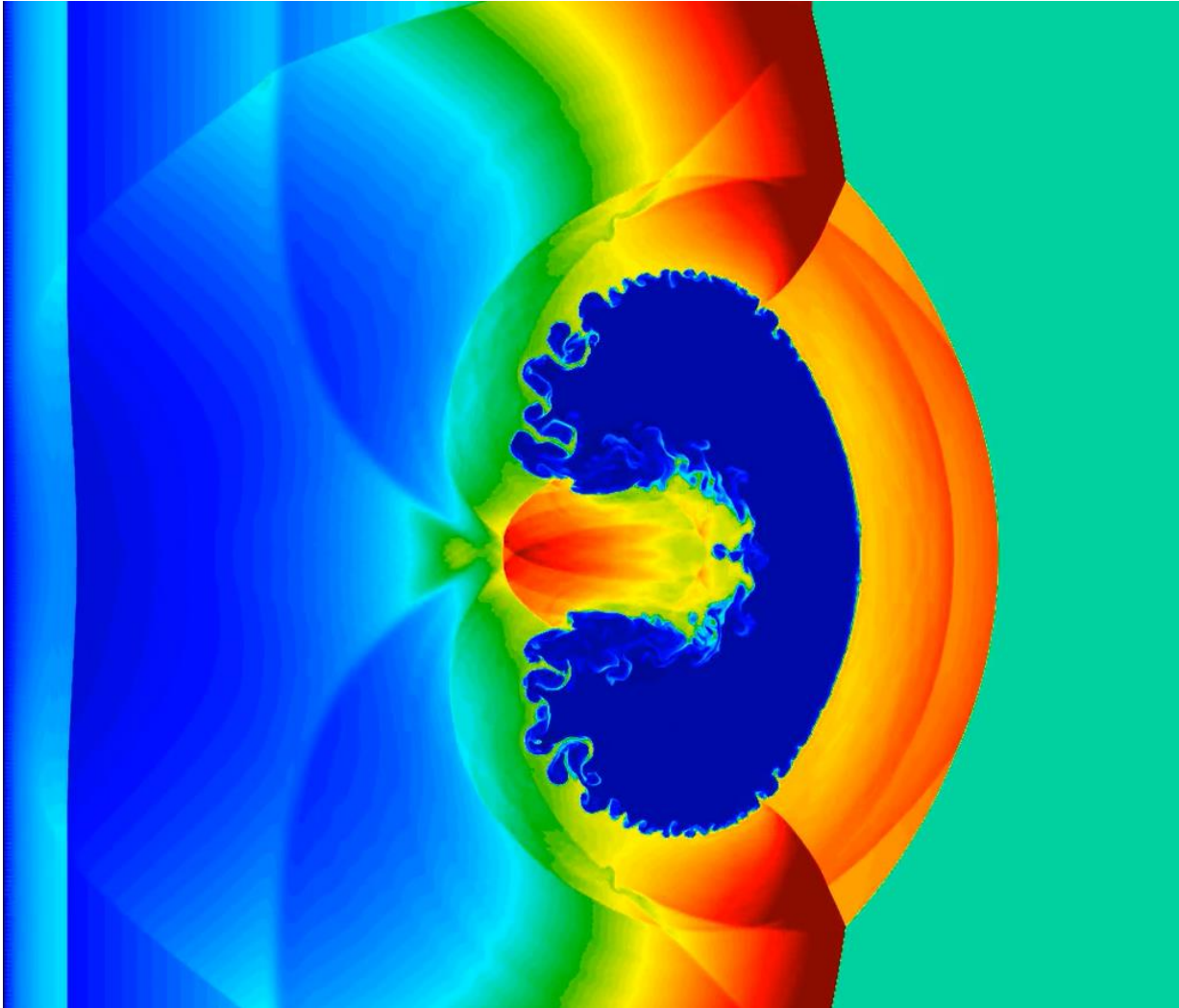
Displacement distribution of a loaded excavator arm under static equilibrium. Using MFEM, a library has been developed for simulating deformable articulated mechanical assemblies, consisting of elastic bodies interconnected via various joint types.

Mehran Ebrahimi  
Autodesk Research

# Runner up for Animations



# Runner up for Animations



Shock-bubble-interaction utilizing  
a property-preserving  
discontinuous Galerkin scheme.

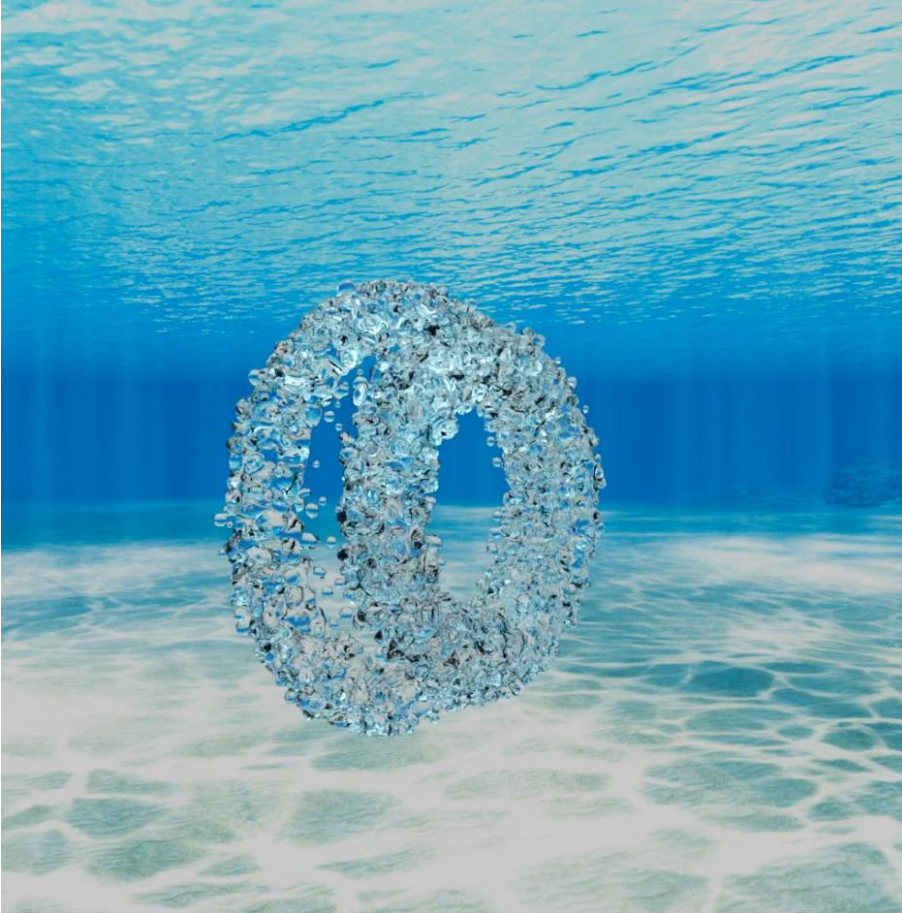
Hennes Hajduk  
University of Oslo



# Winner for Animations



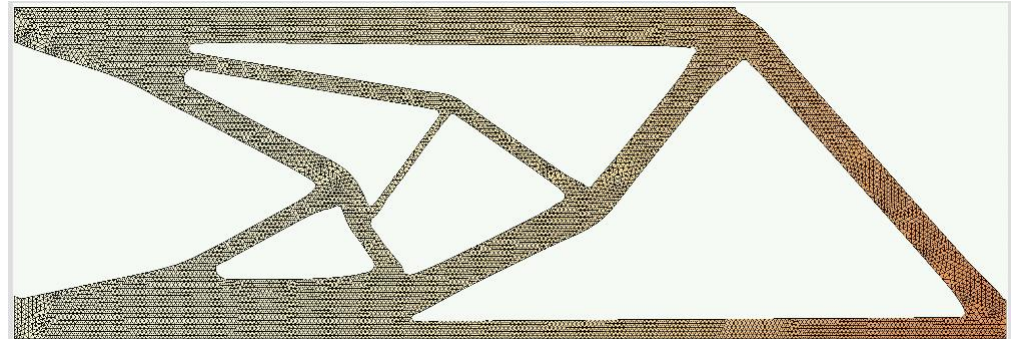
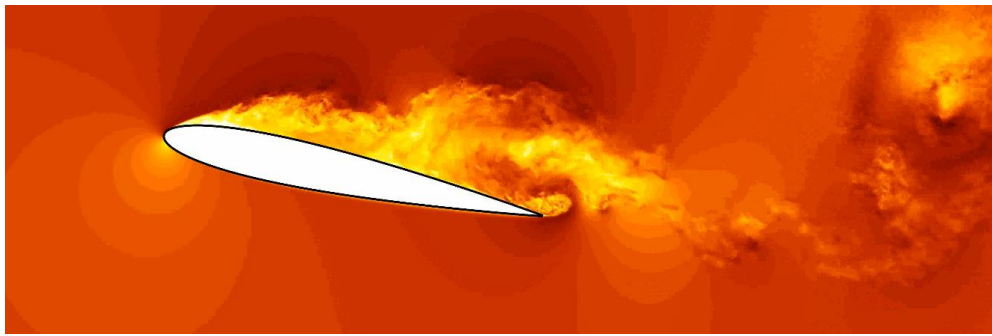
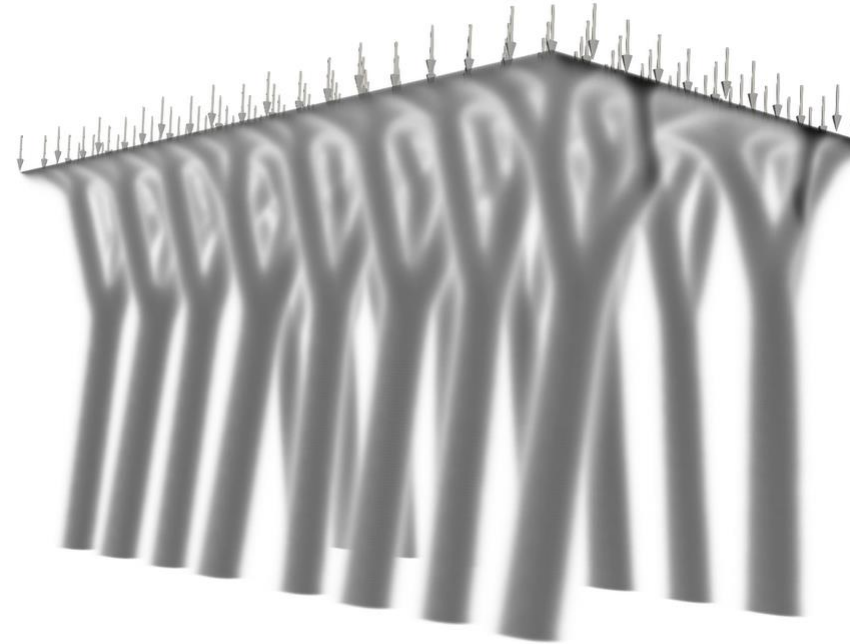
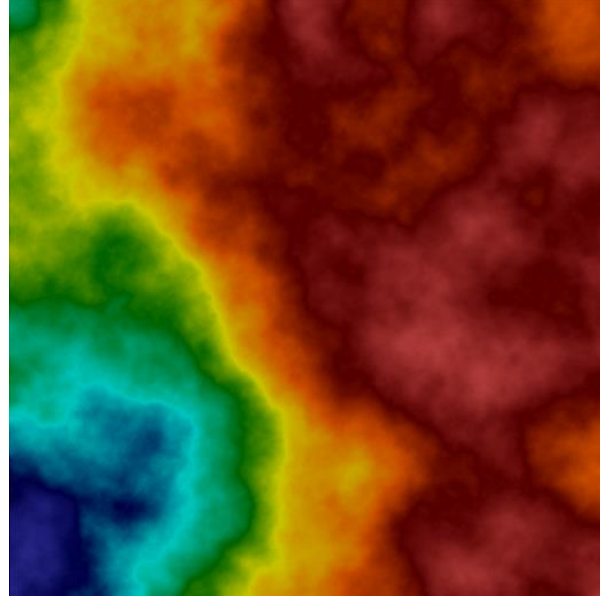
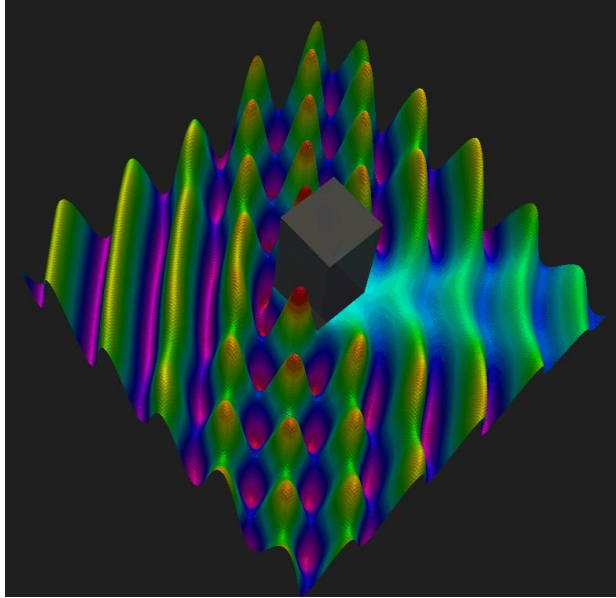
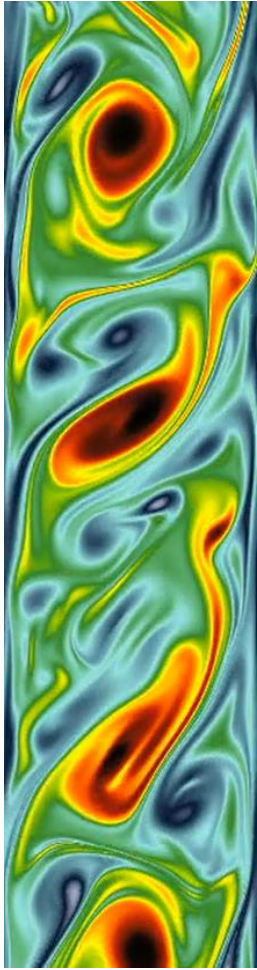
# Winner for Animations



Leapfrogging vortex rings based on an MFEM incompressible Schrödinger fluid solver, which captures thin vortex dynamics without advection and non-linear terms.

John Camier  
LLNL

# Tons of great entries this year!



# Wrapup



# MFEM Resources



- Github:
  - Repo - <https://github.com/mfem/mfem>
  - Issues - <https://github.com/mfem/mfem/issues>
  - Group - <https://github.com/orgs/mfem/teams/everyone>
- mfem.org:
  - Front page – <https://mfem.org>
  - Workshops – <https://mfem.org/workshop>
- Publications:
  - MFEM: A Modular Finite Elements Library, Computers and Mathematics with Applications, June 2020
  - <https://mfem.org/publications>
- Contact us:
  - Slack - <https://mfemworkshop.slack.com>
  - Github issues - <https://github.com/mfem/mfem/issues>

See you all next year!

# Gratitude



- Applause for the speakers
- Special thanks to the workshop planning committee: Tzanio Kolev, Will Pazner, Socratis Petrides, Ketan Mittal, Milan Holec, Vladimir Tomov, and Holly Auten.
- Thank you all for attending.

