Skills and previous works

- Massively parallelizable ray-tracing in unstructured meshes
- Discrete-ordinates radiation transport in DGFEM
- First-collision source treatment in discrete-ordinates (S_N) radiation transport
- Shallow water (Saint-Venant) equations with artificial viscosity in CFEM
- Extruded meshing, primarily using Cubit
- Object oriented programming in C++, primarily in the MOOSE FEM framework

Current/upcoming works (dissertation)

- MOC (method of characteristics) radiation transport
- CMFD (course mesh finite-difference) diffusion acceleration for S_N and MOC transport

Other interests

- High performance multi-physics simulation (radiation transport, heat conduction, fluid flow)

Project thoughts

- 2D, one group, spherical-harmonic radiation transport code in DGFEM with diffusion synthetic acceleration

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