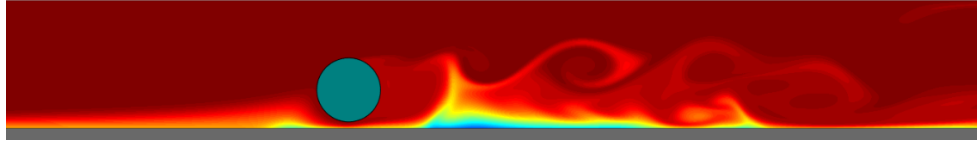


## Post Doctoral Position at the Colorado School of Mines

*Direct numerical simulations of fluid mixing and mass transport in membrane filtration systems*



Dr. Nils Tilton in the Department of Mechanical Engineering at the Colorado School of Mines (CSM) is seeking a post-doctoral researcher for a project focused on simulating fluid mixing and solute transport in reverse osmosis (RO) and nanofiltration (NF) devices. RO and NF play a central role in the global water-energy-climate nexus. They also have complicated hydrodynamic instabilities, geometries, and mass transport phenomena that go to the core of theoretical and computational fluid mechanics. **This is an excellent field for a junior researcher looking to work hard and position themselves for a successful academic or industrial career.**

The project is funded by the Department of Energy and focuses on continuing the development and application of in-house codes that use a combination of finite-volume methods, projection methods, and novel immersed boundary methods to simulate complicated surfaces in unsteady flows with heat and mass transport. The Post Doc would lead efforts to parallelize these codes for applications to more complicated 3D flows. The ideal candidate would be experienced in **incompressible CFD** and **High Performance Computing with either Fortran or C**. Additional experience in either finite volumes, projection methods, and immersed boundary methods would be helpful. The researcher would write articles and collaborate in grant applications and supervising a graduate student. They would also collaborate with partners at the Lawrence Berkeley National Laboratory and CSM's AQWATEC center ([aqwatec.mines.edu](http://aqwatec.mines.edu)).

**The project start date is July 1, 2020, but a position start date as late as September 1, 2020 can be negotiated**, based on the candidate's timeline. The position is for 12 months (there is a possibility to extend), with a 12-month salary of \$55,000. Interested parties should send an email to Dr. Nils Tilton ([ntilton@mines.edu](mailto:ntilton@mines.edu)). Please include a brief cover letter expressing your interest and qualifications, as well as a CV/resume. Due to COVID-19, we are open to the candidate working remotely.