

**PHYS 511: Computational Modeling and Simulation - Fall 2018**  
**Assignment #4, due Friday November 30 at 11:00pm**

Random walks and MPI

In this assignment we will simulate the dispersion of aerosol particles in 2D, just like we did in the previous assignment. All the parameters of the simulation should be the same. To parallelize the code, however, we will use MPI. You can take your previous code as a starting point and remove all OpenMP clauses. Then modify it for MPI use accordingly. Test how your code scales when you run it with 1,2,4, and 8 MPI processes. Include timings in your report (`report.txt`) and submit it along with the source code (`as4.f90`) and the scatter plot of the final positions (`positions.png`) of the particles.

*Note: because this assignment is based on the previous one and requires fairly simple modification it will be worth 50 points only.*