*High-Performance Computing*

## Laboratory 8:

Basic parallelization with OpenMP

**Steps:**

1. Create a working directory (eg. Lab_8) .
2. On the basis of the sample program test the various data-sharing clauses. Follow instructions in the provided code and try to understand behavior of each clause.
3. Modify a program that calculates the sum of five hundred squares of any number and parallelize it. In order to obtain good results, test reduction clause (#pragma omp parallel for reduction(op:var)), locks (omp_set_lock), atomic and critical directives.
4. Parallelize program for multiplying two matrices, test different division strategies and methods of parallelization (internal/external loop). Prepare a graph with the time of multiplication procedure with and without parallelization and compare the results with previous laboratories.