

# Parallel and Distributed Computing

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**Dr. Guy Tel-Zur**

**Home assignment #2**

**Subject: Grid Computing with UNICORE**

## **Instructions**

1. Download and install UNICORE *Rich Client* or *Live DVD* [1].
2. Create a workflow DAG of the following 3 computations: 1a) compute an estimate of pi using Monte-Carlo integration as discussed in reference [2] and 1b) compute an estimate of e using reference [3] ("Salt shaker method") then 2) finally compute  $e^{\pi} - \pi^e$  based on the results of 1a and 1b which can be computed independently.
3. Execute the script on the UNICORE *testbed*.
4. Optional (advanced): Install the UNICORE server and repeat 1-3 to be computed locally. (Needs an administrator/root access).

## **What to submit:**

Make a zipped tar file of: screen captures, log files, programs, results and any other documentation you would like to add. Send your assignment to [guycomputing@gmail.com](mailto:guycomputing@gmail.com)

## **Due:**

Three weeks

## **References**

[1] <http://www.unicore.eu>

[2] Module for the Pi Monte Carlo:  
<http://math.fullerton.edu/mathews/n2003/montecarlopimod.html>

[3] Monte Carlo estimations of e by Pirooz Mohazzabi,  
[http://caos.fs.usb.ve/~srojas/Teaching/USB/MC\\_Intro/MC\\_readings\\_a/MC\\_a1\\_computing\\_e.pdf](http://caos.fs.usb.ve/~srojas/Teaching/USB/MC_Intro/MC_readings_a/MC_a1_computing_e.pdf)

