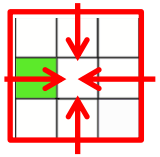
AGH University of Science and Technology

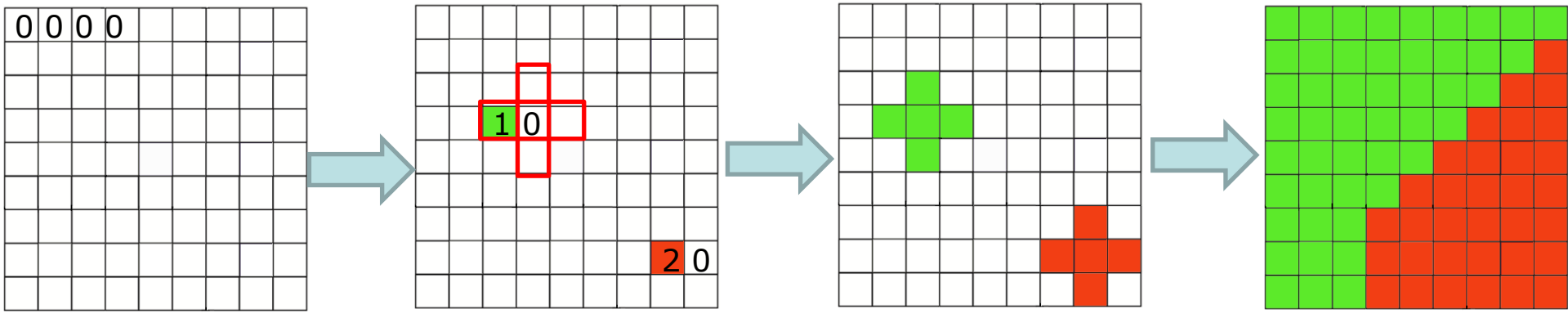
Multiscale Modelling

Faculty of Metals Engineering and Industrial Computer Science
Department of Applied Computer Science and Modelling

Simple grain growth algorithm (CA)

2 grains
Von Neumann neighborhood





Initial space

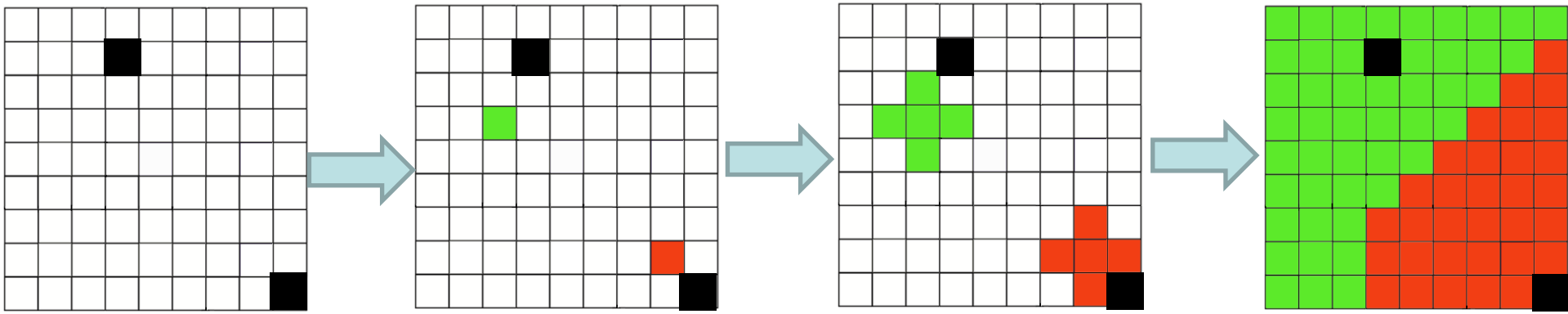
1st step

2nd step

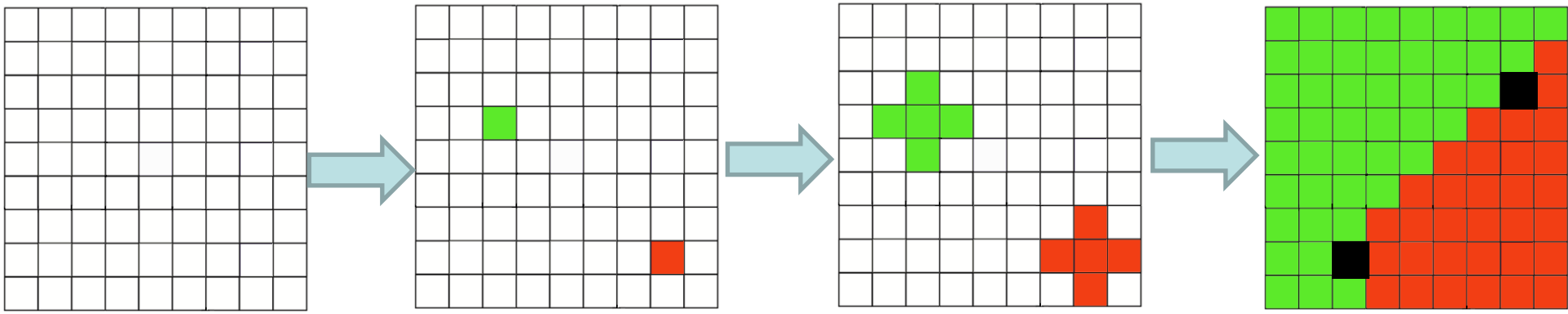
last step

Inclusions

1. At the beginning of simulation (square *diagonal d* and circle with *radius r*).

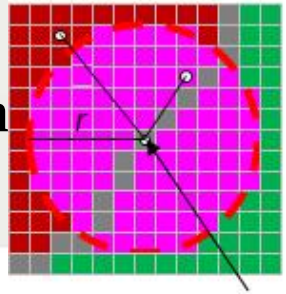


2. After simulation (square with *diagonal d* and circle with *radius r*).



Initial space | 1st step | 2nd step | last step

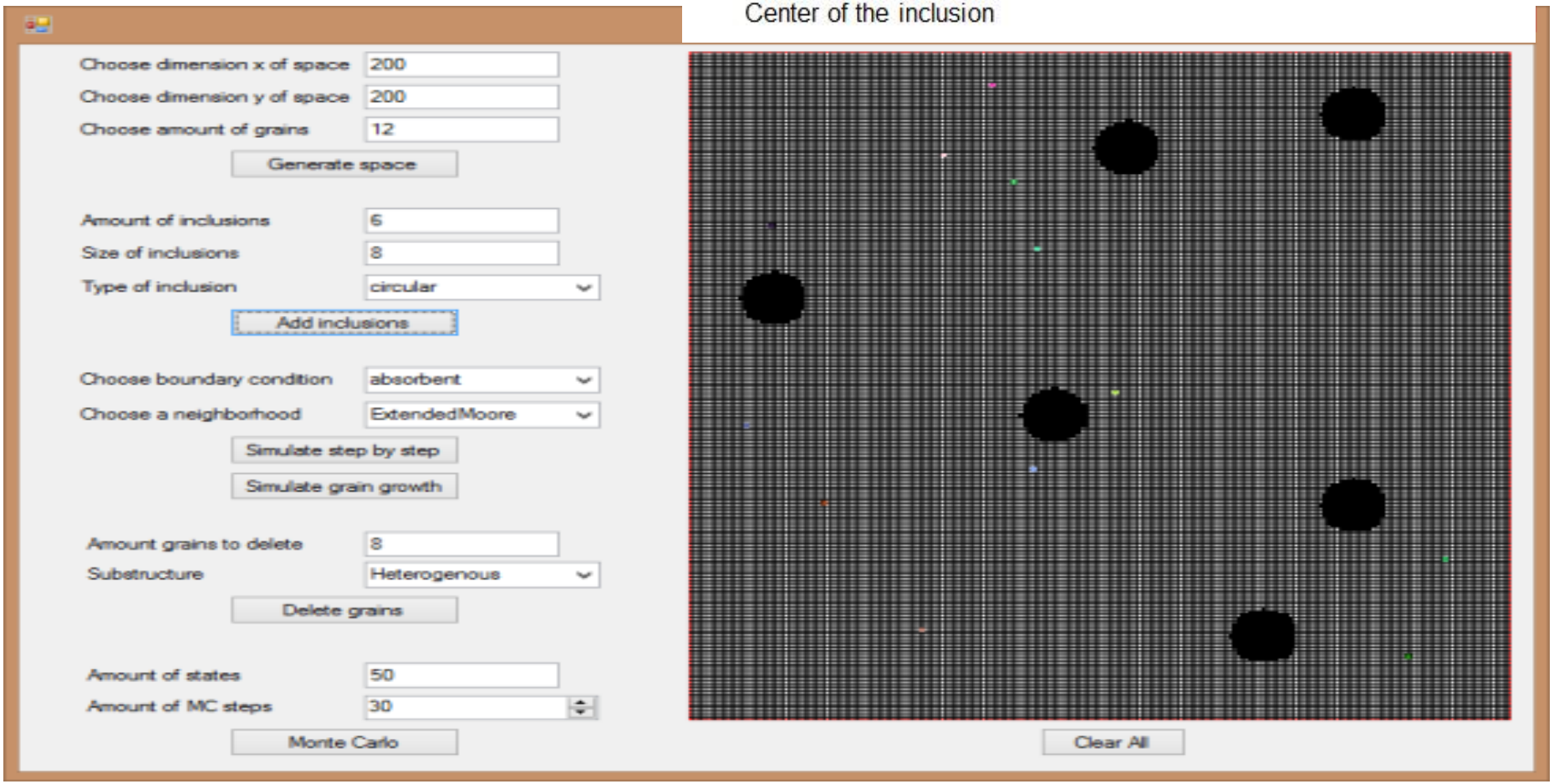
Before Grain Growth



CA cells in the radius, representing inclusion

CA cells outside the radius, representing grains

CA cells representing grain boundary



circle (*radius r)*

After Grain Growth