

## STELLINGEN

bij het proefschrift

### **Simulation of Complex Flows and Multi-Physics with the Lattice-Boltzmann Method**

te verdedigen in de Agnietenkapel op 17 januari 2008 te 14.00 uur  
door

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1. The Navier-Stokes equation is not able to describe all possible kinds of flow, but the Lattice-Boltzmann method is *in principle* suitable to simulate all kinds of fluid flow which can be described by the Navier-Stokes equation.
2. Different micro-worlds can produce the same macroscopic behaviour. The conserved quantities of the macro-world are related to the symmetries of the micro-world.
3. There is no *best* method in CFD, but always one which is *best suitable* to solve a given problem.
4. The Lattice-Boltzmann equation can be properly applied without knowing about the Boltzmann equation, although a good understanding of the Kinetic Theory does not always result in its proper application.
5. No paper should be accepted for publication, which is stating the Lattice-Boltzmann method is 'easy to implement and parallelisation is simple and straightforward'.
6. It is no contribution to science when the information hidden in nature gets lost in the terabytes of data produced by numerical simulation.
7. It is easier to implement inefficient code with modern object-oriented languages, but it is not always a good idea to compensate a lack of thinking power by computing power.
8. When scientists get less productive with the years, this is not due to a biological aging process, but due to increasingly unproductive living- and working conditions.
9. Doing research in Medical Physics does not automatically improve ones own health.
10. It is not true that all Stellingen contain negative remarks about the Netherlands, although it is true that most German believe that most Dutch can't drive.