

AN INTRODUCTION TO LATTICE BOLTZMANN METHODS
FOR COMPLEX FLOW SIMULATIONS

Final Program

Day 1 – March, 3

Location: CNR P.le Aldo Moro

Aula Marconi

- 08.00 – 09.00** Registration
09.00 - 09.15 Addressing Speech – Di Giusto, N.
09.15 – 10.00 Opening Lecture – Orszag, S.
10.00 – 11.00 Background – Orszag, S.
11.00 – 11.30 Coffee break

Aula Seminari

- 11.30 – 13.30** Basic LB equations – Succi, S.
13.30 – 14.30 Lunch break
14.30 – 16.00 Boundary conditions – Boghosian, B.
16.00 – 16.30 Coffee break
16.30 – 18.00 Elementary examples – Succi, S.
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Day 2 – March, 4

Location: CNR P.le Aldo Moro - Aula Seminari

- 09.00 – 11.00** Advanced collisions and entropic LB – Karlin, I.
11.00 – 11.30 Coffee break
11.30 – 13.30 Turbulence modelling in LB – Orszag, S.
13.30 – 14.30 Lunch break
14.30 – 16.00 An introduction to lattice Boltzmann for multiphase flows –Yeomans, J.
16.00 – 16.30 Coffee break
16.30 – 18.00 Practical examples – Boghosian, B.
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Day 3 – March, 5

Location: CNR P.le Aldo Moro - Aula Seminari

- 09.00 – 10.00** Basics of grid refinement – Chopard, B.
10.00 – 11.00 Advanced grid refinement –Krafczyk, M.
11.00 – 11.30 Coffee break
11.30 – 13.30 Implementation issues and data structures – Krafczyk, M.
13.30 – 14.30 Lunch break
14.30 – 16.00 Irregular grids– Ubertini S.
16.00 – 16.30 Coffee break
16.30 – 18.00 Multi-species lattice Boltzmann models and practical examples – Asinari, P.
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Day 4 – March, 6

Location: CNR P.le Aldo Moro - Aula Seminari

- 09.00 – 11.00** Higher order methods beyond Navier-Stokes – Shan, X.
11.00 – 11.30 Coffee break
11.30 – 12.30 Advanced methods for multi-phase and multi-component flows in LB – Shan, X.
12.30 – 13.30 LB hierarchy for microflows – Karlin, I.
13.30 – 14.30 Lunch break
14.30 – 16.00 LB model for micro and nano fluid – Benzi, R./Biferale, L.
16.00 – 16.30 Coffee break
16.30 – 18.00 Applications and Practical examples – Benzi, R./ Biferale, L.
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Day 5 – March, 7

Location: CNR P.le Aldo Moro - Aula Seminari

- 09.00 – 11.00** LBCFD in automotive engineering – Bella, G.
11.00 – 11.30 Coffee break
11.30 – 13.30 LBM for industrial applications – Famibelle, S.
13.30 – 14.30 Lunch break
14.30 – 16.00 LBM software (PowerFLOW) for hands on applications– Famibelle, S.
16.00 – 16.30 Coffee break
16.30 – 18.00 LBM software (PowerFLOW) for hands on applications – Famibelle, S.
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Day 6 – March, 8

08.00 Meeting in front of the CNR building in P.le Aldo Moro (to take a private bus)

Location: Villa Mondragone

- 09.00 – 11.00** Performance issues for the Lattice Boltzmann Method – Amati, G.
11.00 – 11.30 Coffee break
11.30 – 13.15 LB and high performance computing – Chopard, B.
13.15 – 13.30 Conclusive remarks and diploma
13.30 – 15.00 Closing Banquet