

This special issue includes the Proceedings of the V Brazilian Meeting on Simulational Physics (BMSP), held in Ouro Preto, Minas Gerais, Brazil, from 31 July to 4 August, 2007. This is the fifth such meeting, and the third to have invited papers (as well as some selected contributions), published in the Brazilian Journal of Physics.

In addition to the previous meetings in the BMSP series (held in 1997 and 1999 in Belo Horizonte, and in Ouro Preto in 2003 and 2005), Minas Gerais hosted the International Conference on Computational Physics and Cellular Automata (Ouro Preto, 1989) and the Ising Centennial Colloquium celebrating the 100th year of the birth of Ernst Ising (Belo Horizonte, 2000). All of these meetings were well attended and scientifically valuable, and demonstrate the strength of the Brazilian physics community. We are now preparing for the Conference on Computational Physics (the only IUPAP sponsored conference on computational physics), to be held in Ouro Preto in August 2008.

The fifth BMSP brought together more than 80 researchers from all over the world for a pleasant and productive period. As in the previous meetings, the talks and posters highlighted recent advances in applications, algorithms, and implementations of computer simulation methods for the study of condensed matter, materials, and biological motivated systems. We are sure that this series will continue to represent an important venue for people working in simulational physics, to exchange ideas and discuss the state of art of this always expanding field.

The fifth BMSP included a special tribute to Prof. David Landau, of the University of Georgia, USA. Prof. Landau is director of the Center for Simulational Physics, a center created and developed by him, which is now a world reference in computational physics. Prof. Landau has been a very active and quite 's(t)imulational' of this field in Brazil over the past two decades. Among the many awards he has won are: Alexander von Humboldt Fellow (1975); Fellow, American Physical Society (1976); Creative Research Medal, University of Georgia (1981); Jesse W. Beams Award for Outstanding Research, American Physical Society S.E. Section, (1987); Alexander von Humboldt Senior U.S. Scientist Award, (1988); Senior Teaching Fellow, University of Georgia (1993); Fellow, Japan Society for the Promotion of Science (1999); Aneesur Rahman Prize for Computational Physics, American Physical Society (2002); Lamar Dodd Research Award (2003); Senior Guangbiao Distinguished Professor of Physics, Zhejiang University (2004); Fellow of the Institute of Science (London) (2004); and, more recently, the APS Nicholson Medal for Human Outreach (2007). All of us associated with the BMSP, as well as from universities all over Brazil, are thankful to Prof. David Landau for all he has done to support our community.

We are very glad to realize this special issue, and most grateful to Prof. Silvio Salinas, the former editor of the Brazilian Journal of Physics, and the current editor, Prof. Antonio Sergio Teixeira Pires, for making this publication possible. We thank Prof. Américo Tristão Bernardes and the Universidade Federal de Ouro Preto for their kind hospitality, CNPq, FAPEMIG, UFMG and UFOP for financial support, and all of the authors for their written contributions.

João Antonio Plascak
Ronald Dickman
Guest Editors



Prof. David Landau (left) and Prof. Bismarck Vaz da Costa (right).



Participants of the V Brazilian Meeting on Simulational Physics - Ouro Preto, MG, August, 2007