

Marco Guidetti

Curriculum Vitæ et Studiorum

Biodata

Born in Bologna, Feb. 1st, 1978

Citizenship Italian

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phone mobile: +39 349 4213238

email marco@marcoguidetti.org

Education

2011 **PhD, Physics**, *University of Ferrara*, Thesis' title: *Critical Properties of the Potts Glass with many states.*

supervisor: prof. R. Tripiccion

2007 **Degree in Physics (Tesi di Laurea)**, *University of Ferrara*, Thesis' title: *Monte Carlo Simulations for the Coloring Problem of Random Graphs.*

supervisor: prof. R. Tripiccion

Positions

Since March 2016 **Manager, European Operations**, *Wolfram Solutions - Wolfram Research Inc.*

Since September 2012 **Consultant**, *Wolfram Solutions - Wolfram Research Inc.*

12/2012-4/2013 **Research Grant**, *University of Ferrara*, Department of Physics.
supervisor: Dr. P. Natoli

08-10/2012 **Collaboration Grant**, *University of Ferrara*, Department of Physics.
supervisor: prof. R. Tripiccion

05/2011-06/2012 **PostDoc**, *University of Zaragoza*, Institute for BioComputation and Physics of Complex Systems (BiFi).
supervisor: prof. Alfonso Tarancón Lafita

03-04/2011 **Research Grant**, *University of Ferrara*, Department of Physics.
supervisor: prof. R. Tripiccion

04-09/2010 **Junior Specialist**, *University of California at Santa Cruz*, Department of Physics.
supervisor: prof. A. P. Young

08-09/2009 **Junior Specialist**, *University of California at Santa Cruz*, Department of Physics.
supervisor: prof. A. P. Young

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05-07/2008

Visiting Student, *University of Zaragoza*, Institute for BioComputation and Physics of Complex Systems (BiFi).
supervisor: prof. Alfonso Tarancón Lafita

Languages

Italian Native
English Fluent
Spanish Basic

Teaching

2016

University of Ferrara, *Department of Mathematics and Computer Science*, Teaching Assistant for the course "Operating Systems" at the University of Ferrara, Department of Computer Science.

2015

University of Ferrara, *Department of Mathematics and Computer Science*, Teaching Assistant for the course "Operating Systems" at the University of Ferrara, Department of Computer Science.

2014

University of Ferrara, *Department of Mathematics and Computer Science*, Teaching Assistant for the course "Operating Systems" at the University of Ferrara, Department of Computer Science.

2009 and 2010

University of Ferrara, *Department of Mathematics and Computer Science*, Lessons on Monte Carlo/Metropolis Algorithm for the course "Computational Simulation".

2009

University of Ferrara, *Department of Engineering*, Tutor for the course "Physics 1" at the University of Ferrara, Department of Engineering.

Peer Reviewed Publications

o 14. **An FPGA-based supercomputer for statistical physics: the weird case of Janus**

M. Baity-Jesi, R. A. Banos, A. Cruz, L. A. Fernandez, J. M. Gil-Narvion, A. Gordillo-Guerrero, M. Guidetti, D. Iniguez, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, D. Navarro, G. Parisi, M. Pivanti, S. Perez-Gavero, F. Ricci-Tersenghi, J. J. Ruiz-Lorenzo, S. F. Schifano, B. Seoane, A. Tarancon, P. Tellez, R. Tripicciono and D. Yllanes in the book *High-Performance Computing using FPGAs*, Vanderbauwhede, Wim; Benkrid, Khaled, Springer, 2013

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- 13. **Reconfigurable computing for Monte Carlo simulations: results and prospects of the Janus project**
M. Baity-Jesi, R. A. Banos, A. Cruz, L. A. Fernandez, J. M. Gil-Narvion, A. Gordillo-Guerrero, M. Guidetti, D. Iniguez, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, A. Munoz Sudupe, D. Navarro, G. Parisi, M. Pivanti, S. Perez-Gaviro, F. Ricci-Tersenghi, J. J. Ruiz-Lorenzo, S. F. Schifano, B. Seoane, A. Tarancon, P. Tellez, R. Tripiccionone and D. Yllanes
in *Computer Simulations on Graphics Processing Units*, in *The European Physical Journal - Special Topics*, Volume 210, Number 1, 33-51, 2012
- 12. **Thermodynamic glass transition in a spin glass without time-reversal symmetry**
Janus Collaboration: R. A. Banos, A. Cruz, L.A. Fernandez, J. M. Gil-Narvion, A. Gordillo-Guerrero, M. Guidetti, D. Iniguez, A. Maiorano, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, A. Munoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J. J. Ruiz-Lorenzo, S.F. Schifano, B. Seoane, A. Tarancon, P. Tellez, R. Tripiccionone, D. Yllanes
Proc. Natl. Acad. Sci. USA, 109, 6452-6456, 2012
- 11. **Efficient Assignment of the Temperature Set for Parallel Tempering**
M. Guidetti, V. Rolando, R. Tripiccionone
J. Comp. Phys., 231, 1524-1532 (2012)
- 10. **Sample-to-sample fluctuations of the overlap distributions in the three-dimensional Edwards-Anderson spin glass**
R. Alvarez Banos, A. Cruz, L.A. Fernandez, J.M. Gil-Narvion, A. Gordillo-Guerrero, M. Guidetti, D. Iniguez, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, A. Munoz-Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, F. Ricci-Tersenghi, J. J. Ruiz-Lorenzo, S.F. Schifano, B. Seoane, A. Tarancón, R. Tripiccionone, and D. Yllanes
Phys. Rev. B 84, 174209 (2011)
- 9. **Complexity of several constraint satisfaction problems using the heuristic, classical, algorithm, WalkSAT**
M. Guidetti, A.P. Young
Phys. Rev. E 84, 011102 (2011)
- 8. **Static versus dynamic heterogeneities in the D=3 Edwards-Anderson Ising spin glass**
R. Alvarez Banos, A. Cruz, L.A. Fernandez, J. M. Gil-Narvion, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J. J. Ruiz-Lorenzo, S.F. Schifano, B. Seoane, A. Tarancón, R. Tripiccionone, D. Yllanes
Phys. Rev. Lett. 105, 177202 (2010)
- 7. **Nature of the spin-glass phase at experimental length scales**
Janus Collaboration: R. Alvarez Banos, A. Cruz, L.A. Fernandez, J. M. Gil-Narvion, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J. J. Ruiz-Lorenzo, S.F. Schifano, B. Seoane, A. Tarancón, R. Tripiccionone, D. Yllanes
J. Stat. Mech. P06026 (2010)

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- 6. **Critical Behavior of Three-Dimensional Disordered Potts Models with Many States**
R. Alvarez Banos, A. Cruz, L. A. Fernandez, A. Gordillo-Guerrero, J.M. Gil-Narvion, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte-Garcia, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J. J. Ruiz-Lorenzo, B. Seoane, S. F. Schifano, A. Tarancón, R. Tripicciono, D. Yllanes
J. Stat. Mech. P05002 (2010)
- 5. **The Spin Glass Phase in the Four-State, Three-Dimensional Potts Model**
A. Cruz, L.A. Fernandez, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J.J. Ruiz-Lorenzo, S.F. Schifano, D. Sciretti, A. Tarancón, R. Tripicciono, J.L. Velasco, D. Yllanes, A.P. Young
Phys. Rev. B 79, 184408 (2009)
- 4. **An in-depth view of the microscopic dynamics of Ising spin glasses at fixed temperature**
Janus Collaboration: F. Belletti, A. Cruz, L.A. Fernandez, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, J. Monforte, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J.J. Ruiz-Lorenzo, S.F. Schifano, D. Sciretti, A. Tarancón, R. Tripicciono, D. Yllanes
J. Stat. Phys. 135, 1121-1158 (2009)
- 3. **Monte Carlo Simulations for Statistical Physics: Janus**
F. Belletti, M. Cotallo, A. Cruz, L. A. Fernandez, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, M. Rossi, J. J. Ruiz-Lorenzo, J. F. Saenz-Lorenzo, S. F. Schifano, D. Sciretti, A. Tarancón, R. Tripicciono, J. L. Velasco, D. Yllanes and G. Zanier: The Janus Collaboration
Il Nuovo Cimento B vol. 123, Issue 6, p. 972-974, (2008)
- 2. **Nonequilibrium Spin-Glass Dynamics from Picoseconds to a Tenth of a Second**
F. Belletti, M. Cotallo, A. Cruz, L.A. Fernandez, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J.J. Ruiz-Lorenzo, S.F. Schifano, D. Sciretti, A. Tarancón, R. Tripicciono, J.L. Velasco, D. Yllanes (the Janus collaboration),
Phys. Rev. Lett. 101, 157201 (2008)
- 1. **Janus: an FPGA-based System for High Performance Scientific Computing**
F. Belletti, M. Cotallo, A. Cruz, L. A. Fernandez, A. Gordillo, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, A. Muñoz-Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, M. Rossi, J. J. Ruiz-Lorenzo, S. F. Schifano, D. Sciretti, A. Tarancón, R. Tripicciono, J. L. Velasco
Computing In Science and Engineering, vol. 11, n. 1 (2009) p. 48-58

Published Proceedings

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- 5. **Monte Carlo Simulations of Spin Systems on Multi-core Processors**
M. Guidetti, A. Maiorano, F. Mantovani, M. Pivanti, S. F. Schifano, R. Tripiccone
in Jonasson, K. (ed.), *PARA 2010, Part I*, LNCS 7133, pp. 220-230, Springer, Heidelberg (2012)
- 4. **Monte Carlo Simulations of Spin Glass on the Cell Broadband Engine**
M. Guidetti, A. Maiorano, F. Mantovani, S. F. Schifano, R. Tripiccone
Proceedings of PPAM09 Workshop, September 13-16 2009, Wroclaw (Poland) LNCS Vol. 6067, pp. 467-476, (2010)
- 3. **Simulating Potts Models on Janus**
M. Guidetti for the Janus Collaboration
AIP Proceedings of Modeling and Simulation of New Materials: Tenth Granada Lectures, Volume 1091, pp. 225-227, (2009)
- 2. **Nonequilibrium spin glass dynamics with Janus**
F. Belletti, A. Cruz, L. A. Fernandez, A. Gordillo-Guerrero, M. Guidetti, A. Maiorano, F. Mantovani, E. Marinari, V. Martin-Mayor, A. Muñoz Sudupe, D. Navarro, G. Parisi, S. Perez-Gaviro, J. J. Ruiz-Lorenzo, S. F. Schifano, D. Sciretti, A. Tarancón, R. Tripiccone, and D. Yllanes
AIP Proceedings of Modeling and Simulation of New Materials: Tenth Granada Lectures, Volume 1091, pp. 228-230, (2009)
- 1. **Graph Coloring on IANUS, an FPGA Based System**
JANUS Collaboration
poster presented at the *International Supercomputing Conference 2007 (ISC07)* in Dresden (Germany), (2007)

Castel Maggiore, May 3, 2016

Marco Guidetti

Il sottoscritto acconsente, ai sensi del D.Lgs 30/06/2003 n. 196, al trattamento dei propri dati personali.

Il sottoscritto acconsente alla pubblicazione del presente curriculum vitae sul sito dell'Università di Ferrara.

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