



Marco Buongiorno Nardelli



Professor Marco Buongiorno Nardelli received his PhD from the International School for Advanced Studies (SISSA/ISAS) in Trieste (Italy) in 1993 after graduating *summa cum laude* from the University of Rome “La Sapienza” in 1989. After a short tenure at the Laboratorio TASC in Trieste, in 1995 he joined the group of Prof. J. Bernholc at North Carolina State University as a post-doctoral associate. In 2001 he joined the faculty of the Department of Physics at NCSU as the first joint faculty appointment with the Oak Ridge National Laboratory. He was promoted Assistant Professor in 2005, Full Professor in 2009, and is joining the University of North Texas as Full Professor in the Department of Physics with a secondary appointment in the Department of Chemistry.

The main focus of his research effort is the design of novel materials for 21st century applications in energy, environment, nano-electronics and devices using high-performance simulations techniques. In the course of his career he has been a pioneer in a number of fields, among which: mechanical and electronic properties of nanotubes and nanostructures, functional oxides wide-band semiconductors and interface materials, nano-catalysis, materials for energy storage and advanced theoretical and computational techniques for molecular electronics applications. His work has been highlighted both in the professional and popular press, including focus or invited articles on *Nature News and Views*, *Science*, *Physical Review Letter Focus*, *Scientific American* and a number of materials-oriented web-zines (*ScienceDirect*, *EE Times*, *ScienceDaily News*, *Supercomputing Online*, *HPCwire*, etc.). Thanks to these successes, the binomial NCSU/ORNL is now associated with recognition of high-impact research and fundamental advances in the field of computational materials science. He has published more than 110 scholarly articles in prestigious international journals (among which: *Science* (2), *Nanoletters* (3), *Physical Review Letters* (15), *Physical Review B* (24)) and the impact of his research is measurable by the over 3200 citations received so far by his papers with an overall H-factor of 29. He has been invited to present the results of his research in more than 65 conferences and workshops and he has taught specialized lectures on the modeling of materials at international schools in the US, Italy, China, India and Viet Nam. He is often invited to organize and chair focus sessions at national and international conferences and he is an active member of various scientific committees, among which the Center for Nanophase Materials Sciences at ORNL and the CARIPLO Foundation in Milan, Italy. He is a Fellow of the American Physical Society since 2010 and a Fellow of the Institute of Physics since 2011. He is the director of the project WanT, a major software package for the calculation of electronic transport properties of nanostructures from first principles (<http://www.wannier-transport.org>). The package, now in its first stable release 2.0, is gaining great popularity in the scientific community at large. His research is intrinsically inter- and multi-disciplinary, combining

together solid state and molecular physics, chemistry, materials science and engineering, nanoscience, computer science and high-performance computing and it reflects with great clarity the highly synergistic role that computational materials science needs to play to address and resolve the great challenges of energy and environment for the 21st century.

Marco Buongiorno Nardelli is also an accomplished musician, composer and flutist, with broad musical interests that span from the baroque repertoire to jazz, contemporary and electronic music. He holds a BM in Music Theory and Composition from the Conservatorio "Luigi Cherubini" in Florence, Italy, studied flute with Oro and Gian-Luca Petrucci in Rome and Brooks deWetter-Smith at UNC-Chapel Hill and sung in the choir of the Accademia Filarmonica Romana with M. Pablo Colino, who introduced him to music at a very early age. He has studied composition with Riccardo Giagni (Rome), Lyda di Cuffa (Florence), Alan Shockley (California State Univ.-Long Beach) and Allen Anderson (UNC-Chapel Hill). Among his awards, the composition "Tzolk'in" for three marimbas has received a honorable mention at the Second Annual Louisiana State University Percussion Society's Percussion Ensemble Composition Contest in 2009 and is the winner of the 2010 Volta Trio Composition Competition. As a performer he has recorded for the Italian National Radio and Television (RAI) and has released various CD's with the world music group Kolaj, the Arabic-jazz-fusion ensemble Jaafar and he is one of the founders of EccoLaMusica, a composers collective that has been recently signed by PARMA Recordings Inc. for the release of their latest album "Morning Moon", slated for early Spring 2012.