

Prof. Dr. Elena Vedmedenko

University of Hamburg

1986 M.S: in Electrical Engineering with distinction from the Technical University of Luhansk, Ukraine

1994 PhD with distinction at the Institute of Physics of Academy of Sciences, Kiev, Ukraine

Topic "*Optical and electrical properties of micellar structures of biological origin* "

1996 Young Investigator Award, Soros Society

1997-1999 Postdoctoral position at the University Paris 7 and CNRS, France

2000 Researcher at the Max-Planck Institute Halle/Saale, Germany

2005 Hertha-Sponer Preis of German Physical Society

2006 Habilitation at the University Hamburg Germany, title of Privat-Docent

Topic "Magnetic Ordering at the Nanoscale "

2007 Sabbatical in TU Vienna,

2008 – continuesly Researcher and later Group Leader at the University of Hamburg

Research interests:

Analytical Methods

- Potential Theory (recent results)
- Local Mean-Field Theory (recent results)
- Exact Diagonalization (recent results)

Numerical Modelling

Monte-Carlo Simulations:

- Metropolis Schema (recent results)
- Heat-Bath Schema (recent results)
- Quantum Monte-Carlo

Micromagnetics:

- recent results

Spin Dynamics:

- Classical Systems (recent results)
- Quantum Systems
- Schrödinger Formalismus (recent results)
- Heisenberg und Algebraic Formalismus

DFT Calculations:

- Screened Koringa-Kohn-Rostocker Formalismus (recent results)

Multiscale Calculations