

Curriculum Vitae



Personal Data

Last Name: Aichhorn
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Education and Career

06/2015 – Today Assistant Professor (Laufbahnstelle), Institute of Theoretical and Computational Physics, TU Graz, Austria

10/2010 – 05/2015 University Assistant, Institute of Theoretical and Computational Physics, TU Graz, Austria

09/2008 – 08/2010 PostDoc at Ecole Polytechnique, Paris, with Prof. Antoine Georges. Funded by the *Schrödinger* program of the Austrian Science Fund (FWF)

10/2005 – 12/2007 PostDoc at the Institute of Theoretical Physics I, University of Würzburg, with Prof. Werner Hanke

10/2004 – 09/2005 Community service, Caritas Graz

03/2002 – 10/2004 PhD program at the University of Technology Graz, Rigorosum 22nd Oct 2004 with distinction (“sub auspiciis Praesidentis“)¹ Thesis under supervision of Wolfgang von der Linden (« *Ordering Phenomena in Strongly-Correlated Systems : Cluster Perturbation Theory Approaches* »)

10/1996 – 02/2002 Undergraduate studies of Physics, University of Technology Graz
Final exam 1st Feb 2002 with distinction
Diploma thesis under supervision of Peter Horsch (MPI-Stuttgart) and Wolfgang von der Linden (« *Charge Order and Optical Conductivity of NaV₂O₅* »)

Main Research Areas

- Theoretical studies of materials with strong electron correlations. Unconventional superconductors (cuprate and iron-based).
- Correlation effects in transition metal oxides such as vanadates and ruthenates, interplay of Coulomb, Hund, and Spin-Orbit interactions.
- Development and application of new numerical techniques for *ab-initio* as well as model studies : Variational Cluster Approach, LDA+DMFT.

Publication Record :

50 publications, 1524 citations, h-index 22 (ISI Web of Science, 23 Nov 2016)
9 invited talks to international conference, 3 invited contributions to summer schools, 25 invited talks in seminars and workshops, approx. 20 other contributions to conferences (talks and posters)

¹ Highest possible honor for PhD degree in Austria

Career-related activities

- Teaching record: Exercise classes: electrodynamics, electromagnetic fields, advanced quantum mechanics, elementary quantum mechanics, computational physics
Lectures: many-body physics, advanced numerical methods
- Conference organisation: Co-organisation of the Symposium « *Electronic and magnetic structure of ferropnictide high-Tc superconductors and related compounds* » at the EMRS Fall Meeting 2011, Warsaw, Poland
- Co-organisation of the Symposium « Novel Correlated Materials », PsiK Conference, Sep 2015, San Sebastian, Spain.
- Organisation of the CECAM/PsiK Workshop « Computational methods towards engineering novel correlated materials », Oct 2016, Lausanne.
- Peer review activities: Reviewer for Physical Review B, Physical Review Letters, Journal of Physics, National Science Foundation (NSF)

Grants, Awards, Prices

- 2014 START prize of the Austrian Science Fund (FWF)
- 2007 Erwin-Schrödinger stipend of the Austrian Science Fund (FWF)
- 2005 Promotion “sub auspiciis Praesidentis“
Erwin-Wenzl-Preis, Bildungshaus St. Magdalena Linz
Würdigungspreis, Austrian Ministry of Education, Science and Culture
- 2004 “Leistungsstipendium“, University of Technology Graz
- 2002 “Leistungsstipendium“, University of Technology Graz
DOC stipend, Austrian Academy of Sciences, (2 years PhD program)
- 2001 “Förderungsstipendium“, University of Technology Graz

Funded Projects (past and ongoing) :

START research project (Austrian Science Fund FWF) : « *Topological Materials from first principles* », Granted June 2014, project volume 1 Mio Euro

Research project (Austrian Science Fund, FWF) : « *Thermoelectricity in Manganese Arsenides* », Granted Oct. 2013, project volume 117054 Euro

Contribution to Special Research Area (SFB) « *Vienna Computational Materials Center* », as part of project P03 « *Dynamical mean field Theory and beyond* »

Erwin-Schrödinger stipend of the Austrian Science Fund (FWF):
Title: « *Strong Correlations in Surfaces and Interfaces* »,
Funding period: Sept. 2008 until Aug. 2010, Project volume: 56400 Euro

DOC-stipend of the Austrian Academy of Sciences
Title: « *Cluster Perturbation Theory and Application to Transition Metal Oxides* »,
Funding period: Okt. 2002 until Sept. 2004, Project volume appr.: 26400 Euro

Additional Qualifications :

Managment Development program: Trainee program of TU Graz for future team leaders

Graz, November 2016

