

Curriculum of Research

Personal Data

Name Prof. Dr. Andreas Schreyer
Place of Birth Kiel in 1963

Affiliation

Institution Helmholtz-Zentrum Geesthacht GmbH
Institute Institute of Materials Science
Address Max Planck Strasse 1, D-21501 Geesthacht, Germany
Phone / Fax +49 4152 87 1254/1338
e-mail andreas.schreyer@hzg.de

Education / Training

2000 Professorial Thesis at the Faculty of Physics and Astronomy of the Ruhr-Universität Bochum
1994 - 2000 Scientific Assistant at the Institute for Experimental Physics IV (Prof. Zabel) of the Ruhr-Universität Bochum
1994 Dissertation at the Faculty of Physics and Astronomy of the Ruhr-Universität Bochum
1989 Diploma in Physics at the Faculty of Physics and Astronomy of the Ruhr-Universität Bochum
1983 - 1989 Studies of Physics and Geophysics at the Ruhr-Universität Bochum

Research Experience / Academic Appointments

since 2006 Director at the Institute of Materials Research (W3) at the Helmholtz-Zentrum Geesthacht, formerly GKSS Research Centre
2001-2006 Head of Department "Materials Characterisation with Neutrons and Photons" (C3) at the Helmholtz-Zentrum Geesthacht
since 2001 Professor at the University of Hamburg (Institute of Applied Physics)
2001 Heisenberg Fellow of the Deutsche Forschungsgemeinschaft
2000 „Hochschuldozent“ (C2) at the Ruhr-Universität Bochum
1998-1999 Feodor-Lynen Fellow of the Alexander von Humboldt Foundation at the National Institute of Technology, Gaithersburg, MD, USA

Important Scientific Prizes / Functions

2011 Offer to become the Science Director of the Institute Laue Langevin (ILL) in Grenoble, France, declined
since 2008 Speaker of the Helmholtz Programme "Research with Photons, Neutrons and Ions" coordinating all large scale facilities in this field in Germany
2008 Call by the Technical University Berlin together with the Hahn Meitner Institute (now Helmholtz Zentrum Berlin), declined
2006 Organiser of the *Deutsche Tagung für die Forschung mit Synchrotronstrahlung, Neutronen, und Ionen an Großgeräten 2006 (SNI2006)* in Hamburg (4.-6.10.2006) with 569 participants from 120 institutions
since 2005 Elected Member of the German Komitee für Synchrotronstrahlung
since 2005 Member of the scientific committee of the international MECA SENS conference series (MECAⁿical Stress Evaluation with Neutron and Synchrotron radiation), organizer of the 2011 MECA SENS conference in Hamburg
2001 Heisenberg Fellowship of the Deutsche Forschungsgemeinschaft
1998 Feodor Lynen Fellowship of the Alexander von Humboldt Foundation
1995 Prize for the best Ph.D. Thesis of the year in the Faculty of Physics at the Ruhr-Universität Bochum, Germany

Key Indicators (only original work, only peer reviewed public grants)

No. of Papers ~ 110
No. of Patents -
Public Grants 16.481 Mio EUR (in Euro since 2000)

Current Projects

2006 - 2010 HEMS Beamline at PETRA III (Helmholtz major investment) 4.7 Mio EUR
2007 - 2010 IBL Beamline at PETRA III (Helmholtz major investment) 4.6 Mio EUR
2004 - 2010 NMI3 (European Union Integrated Infrastructure Initiative) 910 TEUR
2009 - 2011 Integrated Materials Systems (Landesexzellenzinitiative Hamburg) 213 TEUR
2009 - 2011 Nano-Spintronics (Landesexzellenzinitiative Hamburg) 213 TEUR
2009 - 2010 Engineering Materials Science Center (EMSC) at DESY
(Konjunkturprogramm 1 und Helmholtz major investment) 2.825 Mio EUR
2010 - 2014 Research with Photons, Neutrons and Ions (PNI, Helmholtz Research
Programme, Responsibility as programme speaker for the funding of all
Helmholtz large scale facilities in this field based on international review)
~1.400 Mio EUR (not included under "public grants" above)

Main Publications (only peer reviewed papers since 2000)

- [1] Haenke, T.; Krause, S.; Berbil-Bautista, L.; Bode, M.; Wiesendanger, R.; Wagner, V.; Lott, D.; Schreyer, A. 2005: Absence of the spin-flip transition on Cr(001); A combined spin-polarized scanning tunnelling microscopy and neutron scattering study, *Physical Review B*. 71, 184407-1 - -184407-11.
- [2] Liss, K.D.; Bartels, A.; Clemens, H.; Bystrzanowski, S.; Stark, A.; Buslaps, T.; Schimansky, F.P.; Gerling, R.; Schreyer, A. 2006: Recrystallization and phase transitions in a -TiAl based alloy as observed by ex- and in-situ high-energy X-ray diffraction, *Acta Mat.* 54, 3721-3735.
- [3] Beckmann, F.; Grupp, R.; Haibel, A.; Huppmann, M.; Nöthe, M.; Pyzalla, A.; Reimers, W.; Schreyer, A.; Zettler, R. 2007: In-situ synchrotron X-ray microtomography studies of microstructure and damage evolution in engineering materials, *Adv. Eng. Materials* 9, 939-950.
- [4] Staron, P.; Cihak, U.; Clemens, H.; Stockinger, M.; Bayraktar, F.S.; Kocak, M.; Schreyer, A. 2007: Diffraction-based residual stress analysis applied to problems in the aircraft industry, *Advanced Engineering Materials* 9, 627-638.
- [5] Pranzas, P.K.; Dornheim, M.; Bösenberg, U.; Ares Fernandez, J.R.; Goerigk, G.; Roth, S.V.; Gehrke, R.; Schreyer, A. (2007): Small-angle scattering investigations of magnesium hydride used as a hydrogen storage material, *J. Appl. Cryst.* 40, S 383 - S 387.
- [6] Grigoriev, S. V.; Chetverikov, Yu. O.; Lott, D.; Schreyer, A. 2008: Field Induced Chirality in the Helix Structure of Dy/Y Multilayer Films and Experimental Evidence for Dzyaloshinskii-Moriya Interaction on the Interfaces, *Physical Review Letters* 100, 197203/1-197203/4.
- [7] Lott, D.; Klose, F.; Ambaye, H.; Mankey, G. J.; Mani, P.; Wolff, M.; Schreyer, A.; Christen, H. M.; Sales, B. C.; Chemical-order-induced magnetic exchange bias in epitaxial FePt₃ films, *Physical Review B* 77, 132404/1-132404/4.
- [8] Reimers, W., Pyzalla, A., Schreyer, A., Clemens, H. (Eds.) 2008: "Neutrons and Synchrotron Radiation in Engineering Materials Science", Wiley VCH Verlag, Weinheim.
- [9] Clemens, H., Kaysser-Pyzalla, A., Kaysser, W., Schreyer A. (eds.), Application of Photons and Neutrons for the Innovation of Engineering Materials, Special Issue of *Advanced Engineering Materials*, and various articles therein, in print.
- [10] Kobs, A.; Heße, S.; Kreuzpaintner, W.; Winkler, G.; Lott, D.; Weinberger, P.; Schreyer, A.; Oepen, H.P.: Anisotropic interface magnetoresistance in Pt/Co/Pt sandwiches, *Physical Review Letters* 106, 217207 (2011).