

CURRICULUM VITAE

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Dr. Hendrik Ohldag
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Education:

Diplom Physiker (M. Sc.), 1997
Institute for Applied Physics, University of Düsseldorf, Germany, “Magneto and Electron Optical Hysteresis Measurements”

Doktor rer. nat. (Ph.D.), 2002
Institute for Applied Physics, University of Düsseldorf, Germany, “Exchange Coupling between Co or Fe and Antiferromagnetic NiO Investigated by Dichroism X-Ray Absorption Spectroscopy”

Employment

9/2017 – today:	Adjunct Professor, Department of Physics, UC Santa Cruz
9/2014 – today:	Visiting Scholar, Department of Physics, New York University
6/2005 – today:	Staff Scientist at the Stanford Synchrotron Radiation Lightsource in the division for material sciences, soft x-ray group.
10/2002 – 6/2005:	Postdoctoral Research Associate in the group of Prof. Dr. Joachim Stöhr, Stanford Synchrotron Radiation Lightsource, Stanford University.
10/1999 – 09/2005:	Visiting Scientist in the group of Dr. Howard Padmore, Experimental Systems Group, Advanced Light Source, Berkeley.
10/1999 – 09/2001	Research Associate at the Stanford Synchrotron Radiation Laboratory
07/1998 - 09/1998:	Visiting Scientist in the group of Dr. Jeffrey B. Kortright, Material Science Division, Lawrence Berkeley National Lab.
10/1997 – 09/1999	Research Associate at the Institut für Angewandte Physik, Heinrich-Heine Universität Düsseldorf
07/1996 – 09/1997	Research Assistant at the Institut für Angewandte Physik, Heinrich-Heine Universität Düsseldorf

Expertise:

In my research I use x-ray microscopy to address chemical, electronic and magnetic structures at surfaces and buried interfaces with about 20 nm spatial as well as 50 ps temporal resolution. X-ray microscopes at soft x-ray sources like synchrotron use the energy and polarization dependence of the soft x-ray absorption coefficient to obtain element specific magnetic and chemical contrast. I typically use two different types of microscopes. Photoemission microscopes image the electron yield distribution from a surface layer that is excited due to absorbed x-rays. X-ray transmission microscopes use soft x-ray lenses (Fresnel zoneplates) to obtain images from layers buried deep within complex structures.

Over the past 20 years we have identified chemical processes at metal-oxide interfaces that play a crucial role for the effective magnetic coupling between these two materials. We also used the fact that synchrotrons are pulsed x-ray sources to obtain images of spin waves induced into a ferromagnet by spin polarized currents and we were able to understand the physical processes that govern the transport from a spin polarized current from a ferromagnet to a paramagnet.

In my work I have focused on pushing the capabilities of soft x-ray microscopy beyond the currently accepted limits. This has allowed us to detect small amounts of magnetization at interfaces, or chemical changes at interfaces, or unexpected dynamics behavior at the nanoscale. In each case the knowledge obtained in our measurements provided a disruptive approach to explain observed macroscopic behavior.

Short Summary of Accomplishments:

- 64 publications of peer reviewed or invited articles.
- 3200 citations, H-index is 22, i10 index is 35 (source Google Scholar)
- 2700 citations H-index is 21 (source Web of Science)
- 41 invited talks at conferences, 78 invited lectures and colloquia at various institutions, 49 contributed presentations
- 4 international awards, including IEEE Distinguished Lecturer in 2017
- Visiting or adjunct appointments at New York University and UC Santa Cruz
- Organization of 28 international conferences and workshops
- Numerous international review appointments funding agencies and user facilities.
- Editorial and review services for several international journals
- Elected Member of the executive committee of the Far West Section of the American Physical Society and the Division of Magnetic Interfaces and Nanostructures of the American Vacuum Society
- Chair of the Users Executive Committee at the Advanced Light Source (2008)
- Chair of the Division of Magnetic Interfaces at the American Vacuum Society (2016/2018)
- Chair of the Far West Section of the American Physical Society (2018)

Appointments and professional services:

Service as a reviewer of proposals for funding and beamtime applications

2018	Chair, review committee of the Magnetism program at the Advanced Light Source
2015-2017	Member, Proposal Study Panel, Advanced Light Source
2013	Member BES triennial review committee for CMN (Argonne National Laboratory)
2012 – today	Mentor, Summer Undergraduate Laboratory Internship (SULI), sponsored by the Department of Energy
2011	Member, review committee of the spectromicroscopy program at the Canadian Light Source, Saskatoon, Canada
2010	Chair, review committee on PEEM3 instrument upgrade options at the Advanced Light Source, Berkeley, USA
2008 – today	Reviewer for funding proposals submitted to the Department of Energy, Office of Basic Energy Science as well as the National Science Foundation
2008 – today	Member of the beam time proposal review group at the Canadian Light Source
2007 – 2015	Member of the beam time proposal review group at the Advanced Light Source
2006 – today	Reviewer for the National Science Foundation, Israel Science Foundation and Korean Science Foundation

Service as a member on executive committees

1/2016 – 12/2019	Officer (chair in 2018), Far West Section of the American Physical Society
1/2015 – 12/2019	Officer (chair in 2016/2018, Vice Chair 2015/2017) Executive Committee on Magnetic Interfaces and Nanoscience, American Vacuum Society
1/2013 – 12/2015	Member Executive Committee, California/Nevada/Hawaii Section of American Physical Society
1/2012 – 12/2013	Member Executive Committee on Magnetic Interface and Nano-science Division, American Vacuum Society
1/2006 – 12/2009	Member Users' Executive Committee at the Advanced Light Source Berkeley
1/2008 – 12/2008	Chair of the Users' Executive Committee at the Advanced Light Source, Lawrence Berkeley National Laboratory
1/2008 – 12/2008	Ex-officio member of the Scientific Advisory Committee of the Advanced Light Source

Service on other professional committees

2011 – 2012	Member, Subcouncil on Communication, SLAC
2011 – 2012	Member (volunteer), Government Affairs Committee, MRS
2007 – 2012	Member, Congressional Visits Group, Material Research Society
2008 – 2012	Advocate, Synchrotron and Neutron User Group

Service as a member on appointment committees:

2010 Beamline staff scientist, Advanced Light Source
2008 Scientific Director, Advanced Light Source

Service as referee or guest editor for the following journals/publishers:

Physical Review Letters, Physical Review B, Nature Materials, Proceedings of the National Academy of Science, Applied Physics Letters, Journal of Applied Physics, Review of Scientific Instruments, Journal of Magnetism and Magnetic Materials, Surface Science, Journal of Microscopy, New Journal of Physics, Journal of Physics C, Journal of Physics D and Journal of Vacuum Science and Technology, Wiley VCH

- 1.) Guest editor conference proceedings MML 2010
- 2.) Guest editor Material Research Innovation 2013
- 3.) Member editorial board of Frontiers in Physics (Condensed Matter Physics), since 2012
- 4.) Associate Editor for topical reviews in Frontiers magazine entitled “Magnetism and light, using photons to visualize dynamics” and “X-ray spectro-microscopy of quantum materials”, (2015)

Conference and Workshop Organization

- 1.) Member, Organizing Committee (Co-Chair) VUV in San Francisco, CA (2019)
- 2.) Member Organizing Committee and Vice-Chair Program committee, ICMFS in Santa Cruz, CA (2018)
- 3.) Member, Organizing Committee, LEEM-PEEM 10 in Monterey, CA (2016)
- 4.) Member, Program Committee 61st MMM conference, coordinator for Magnetization Dynamics and Ultrafast Switching 2016 in New Orleans, LA
- 5.) Member, Program Committee 60th MM Conference
- 6.) Workshop on Career Opportunities for Physics Students at SLAC National Accelerator Laboratory, July 2017
- 7.) Member, Program Committee 61st MMM conference, coordinator for Magnetization Dynamics and Ultrafast Switching 2017 in Pittsburgh, PA
- 8.) Special Symposium on “X-rays and Magnetism”, ICMFS 2015 in Cracow Poland.
- 9.) Member Program Committee Symposium of the American Vacuum Society, 2015-2019
- 10.) Member Technical Program Committee, 2nd Global Conference on Material Science and Engineering, Xianning, China (2013)
- 11.) Member, Program Committee APS Far West Section annual meeting 2012-2019
- 12.) Member Program Committee, 2012-18 Symposium of the American Vacuum Society
- 13.) Symposium on “X-Rays and Magnetism”, 58th Conference on Magnetism and Magnetic Materials, Denver Colorado USA, (2013)
- 14.) Member Program Committee, 58th Conference on Magnetism and Magnetic Materials, Denver Colorado USA (2013)
- 15.) Symposium organizer for Joint European Magnetism Symposium 2012 in Parma, Italy

- 16.) Member Program Committee, 2012 Symposium of the American Vacuum Society
- 17.) Workshop on “Opportunities for Nanoscale Spectromicroscopy” at the 2012 SSRL/LCLS Users’ Meeting
- 18.) Local organizing committee, International Workshop on X-Ray spectroscopy of Magnetic Solids, SLAC, October 2011
- 19.) Local organizing committee, Annual meeting of the California/Nevada section of the APS, SLAC November 2011
- 20.) Symposium on “Ultrafast Magnetization Dynamics: Where are we now”, APS March Meeting 2011, Dallas, TX (sponsored by GMAG)
- 21.) Member program committee, Conference on Metallic Multilayer, Berkeley, CA, 2010
- 22.) Imaging on the nanoscale, Workshop during the 2009 SSRL Users’ Meeting
- 23.) Chair, Advanced Light Source Users Meeting 2007
- 24.) Scanning transmission x-ray microscopy and environmental science, July 2007, Stanford Synchrotron Radiation Laboratory, CA USA.
- 25.) Advanced Light Source Users Meeting 2006 – Program co-chair
- 26.) 3rd Workshop on X-rays and Magnetism, Stateline NV, USA, April 2005
- 27.) 2nd Workshop on X-rays and Magnetism, Squaw Valley CA, USA, April 2004
- 28.) 1st Workshop on X-rays and Magnetism, Squaw Valley CA, USA, April 2003

Awards:

2017 IEEE Magnetics Society Distinguished Lecturer 2017

2006 David A. Shirley Award awarded for “Outstanding contribution in using photoemission electron microscopy for the study of magnetic materials”.

2002 Gold Award recipient at the MRS Spring meeting in San Francisco for the conduct of outstanding graduate research in the field of materials sciences, USA.

2001 Outstanding graduate research performed at the Advanced Light Source. ALS Users Meeting October 2001, Berkeley CA, USA

Principal Investigator on successful proposals for funding

- ***“A pilot collaboration to apply advanced computing capabilities to high resolution coherent imaging of energy materials at light source facilities.”***, David Vine (ANL), David Shapiro (LBNL), Kerstin Kleese van Dam (PNNL), Hendrik Ohldag (SLAC), Yong Chu (BNL), Funded by Department of Energy, Program of Advanced Scientific Computing Research 2013 (1 postdoc for 2 years)
- ***“Spatial and Time Resolved Pixel Detector –TIXEL”***, by C. Bostedt, H. Ohldag and C. Kenney. Funded through the SLAC LDRD program 2013-2014 (245k\$)
- ***“Cross-Platform, multiple length scale imaging system for energy storage materials”***, J. Nelson, W. Chueh, H. Ohldag and M. Toney, Funded through the SLAC LDRD program 2014-2015 (300k\$)

Publications:

- 1.) **“Transverse magneto-optical Kerr effect of Fe at the Fe 3p threshold”**, M. Pretorius, J. Friedrich, A. Ranck, M. Schroeder, J. Voss, V. Wedemeier, D. Spanke, D. Knabben, I. Rozhko, H. Ohldag, F.U. Hillebrecht and E. Kisker, Phys.Rev B 55(21), 1997, p.14133ff
- 2.) **“Magnetization imaging using scanning transmission x-ray microscopy”**, J.B. Kortright, S. Kim, H. Ohldag, G. Meigs, and T. Warwick, X-ray Microscopy: Proceedings of 6th International Conference of the X-ray Microscopy, August 2-6,1999, Berkeley USA.
- 3.) **“Imaging of Antiferromagnetic Domains by Linear Magnetic Dichroism in Photoemission Microscopy of NiO(100)”**, H. Ohldag, N.B. Weber, C. Bethke, U. Mick, F. U. Hillebrecht, M Weiss and J. Bahrtd Synchrotron Radiation News 13(6), 2000, pp 25-32
- 4.) **“Signal-like phase and nanoscale segregation in polycrystalline Fe_xCr_{1-x} films: an element-resolved magnetic and structural study”**, J.B. Kortright, S. Kim, and H. Ohldag, Phys. Rev. B 61(1), 2000, pp. 64-67.
- 5.) **“Magnetic moment of Mn in the ferromagnetic semiconductor (Ga_{0.98}Mn_{0.02})As”**, H. Ohldag, V.Solinus, F.U. Hillebrecht, J.B. Goedkoop, M. Finazzi, F. Matsukura, H. Ohno, Appl. Phys. Lett 76(20), 2000, pp.2928-30
- 6.) **“Studies of the magnetic structure at the ferromagnet-antiferromagnet interface”**, A. Scholl, F. Nolting, J. Stohr, J. Luning, J.W. Seo, J.P. Locquet, J. Fompeyrine, S. Anders, H. Ohldag and H.A. Padmore. Proceedings of the Eleventh International Conference on X-Ray Absorption Fine Structure. XAFS XI, 26-31 July 2000, Ako, Japan Journ. Synch. Rad., 8(2), 2001, pp.101.
- 7.) **“Magnetic Moments at the Surface of Antiferromagnetic NiO(100)”**, F. U. Hillebrecht, H. Ohldag, N.B. Weber, C. Bethke, U. Mick, M Weiss and J. Bahrtd, Phys. Rev Lett. 86(15), 2001, pp. 3419-3422
- 8.) **“Chemical Effects at Metal/Oxide Interfaces Studied By X-ray Absorption Spectroscopy”**, T.J. Regan, H. Ohldag, C. Stamm, F.Nolting, J. Luning, J. Stöhr and R.L White, Phys. Rev. B. 64(21), 2001, pp 4422.
- 9.) **“Exploring the microscopic origin of exchange bias with photoelectron emission microscopy”**, A. Scholl, F. Nolting, J. Stohr, T.J. Reganm J. Luning, J.W. Seo, J.P. Loquet, J. Fompeyrine, S. Anders, H. Ohldag and H.A. Padmore. Proceedings of the Eighth Joint Magnetism and Magnetic Materials Intermag Conference, 7-11 Jan. 2001, San Antonio, TX, USA, Jour. Appl. Phys. 89(11), pp 7266 (2001) .
- 10.) **“Spin Reorientation at the Antiferromagnetic NiO(001) Surface in Response to an Adjacent Ferromagnet”**, H. Ohldag, A. Scholl, F. Nolting, S. Anders, F.U. Hillebrecht and J. Stohr, Phys. Rev. Lett. 86(13), 2001, pp 2878-2881.

- 11.) **“Surface antiferromagnetism of NiO studied by photoemission microscopy”**, H. Ohldag, N.B. Weber, C. Bethke and F.U. Hillebrecht, Jour. Elec. Spec., 114-116, 2001, pp. 765.
- 12.) **“Spectroscopic Identification and Direct Imaging of Interfacial Magnetic Spins”** H. Ohldag, T.J. Regan, J. Stöhr, A. Scholl, F. Nolting, J. Lüning, C. Stamm, S. Anders and R.L. White, Phys. Rev Lett 87(24), 2001, pp. 7201.
- 13.) **“Observation of In-Plane Magnetization Reversal Using Polarization Dependent Magneto-Optical Kerr Effect”**, H. Ohldag, N.B. Weber, F.U. Hillebrecht and E. Kisker, Journal of Applied Physics, 91(4) p. 2228 (2001).
- 14.) **“Imaging of Antiferromagnetic Domains at surfaces and interfaces using dichroism XPEEM”**, H. Ohldag, A. Scholl, J. Stöhr, T.J. Regan, N.B. Weber, F. Nolting, R.L. White and F.U. Hillebrecht. Magnetics Conference, 2002. INTERMAG Europe 2002. Digest of Technical Papers. 2002 IEEE International, p EB2 (2002).
- 15.) **“X-Ray photoemission electron microscopy, a tool for the investigation of complex magnetic structures”**, A. Scholl, H. Ohldag, F. Nolting, J. Stöhr and H.A. Padmore, Rev. Sci. Inst. 73(3), pp. 1362 (2002).
- 16.) **“Measurement of local magnetic fields in photoelectron emission microscopy by restriction of the electron beam”**, S.A Nepijko, N.N. Sedov, H. Ohldag and E. Kisker, Rev. Sci. Inst. 73(3), pp 1224 (2002)
- 17.) **“Determination of the antiferromagnetic spin axis in epitaxial LaFeO₃ films by x-ray magnetic linear dichroism spectroscopy”**, J. Lüning, F. Nolting, A. Scholl, H. Ohldag, J.W. Seo, J. Fompeyrine, J.P. Locquet, J. Stöhr, Phys. Rev B, vol.67, no.21, p.214433 (2003)
- 18.) **“Correlation between exchange bias and pinned interfacial spins”**, H. Ohldag, A. Scholl, F. Nolting, E. Arenholz, S. Maat, A.T. Young, M. Carey, J Stöhr, Phys. Rev. Lett. vol.91, no.1, p.017203/1-4 (2003)
- 19.) **“Magnetostrictive domain walls in antiferromagnetic NiO”**, N.B. Weber, H. Ohldag, H. Gomonaj, F.U. Hillebrecht, Phys. Rev. Lett. vol. 91, no.23, p.237205/1-4 (2003)
- 20.) **“Domain-size-dependent exchange bias in Co/LaFeO₃”**, A. Scholl, F. Nolting, J.W. Seo, H. Ohldag, J Stöhr, S. Raoux, J.P. Locquet, J. Fompeyrine, Appl. Phys. Lett., vol.85, no.18, p.4085-7 (2004)
- 21.) **“Creation of an antiferromagnetic exchange spring”**, A. Scholl, M. Liberati, E. Arenholz, H. Ohldag, J. Stöhr, Phys. Rev. Lett., vol. 92, no.24, p.247201/1-4 (2004)

- 22.) **“Magnetic Structure and Coupling at Ferromagnet-Antiferromagnet Interfaces: Studies with Polarization Dependent PEEM”**, A. Scholl, H. Ohldag, F. Nolting, S. Anders, and J. Stöhr in *Magnetic Microscopies of Nanostructures* edited by H. Hopster, H P Oepen, Springer (2005)
- 23.) **“Direct Imaging of Asymmetric Magnetization Reversal in Exchange-Biased Fe/MnPd Bilayers by X-Ray Photoemission Electron Microscopy”**, P. Blomqvist, K. Krishnan and H. Ohldag, *Phys. Rev. Lett.*, vol 90, no 10. P 107203 (2005)
- 24.) **“Observation and resonant x-ray optical interpretation of multi-atom resonant photoemission effects in O 1s emission from NiO”**, N. Mannella, S.-H. Yang, B. S. Mun, F. J. Garcia de Abajo, A. W. Kay, B. C. Sell, M. Watanabe, H. Ohldag, E. Arenholz, A. T. Young, Z. Hussain, M. A. Van Hove and C. S. Fadley, *Phys. Rev. B*, vol. 74, no 16 ,p 165106-1-11 (2006)
- 25.) **“Mn L₃₂ x-ray absorption and magnetic circular dichroism in ferromagnetic Ga_{1-x}Mn_xP”**, P. R. Stone, M. A. Scarpulla, R. Farshchi, I. D. Sharp, E. E. Haller, O. D. Dubon, K. M. Yu, J. W. Beeman, E. Arenholz, J. D. Denlinger and H. Ohldag, *Appl. Phys. Lett.*, vol. 89, no 1. p. 12504-1-3 (2006).
- 26.) **“Parallel versus Antiparallel Interfacial Coupling in Exchange Biased Co/FeF₂”**, H. Ohldag, H. Shi, E. Arenholz, J. Stöhr and D. Lederman, *Phys. Rev. Lett.*, vol. 96 p. 027203 (2006)
- 27.) **“X-ray magnetic circular dichroism of Heusler Alloy Co₂Cr_{1-x}Fe_xAl”**, R. D. Kelekar, H. Ohldag and B.M. Clemens, *Phys. Rev B*, 75, 014429 (2007)
- 28.) **“π-Electron Ferromagnetism in Metal-Free Carbon Probed by Soft X-Ray Dichroism”**, H. Ohldag, T. Tyliczszak, R. Höhne, D. Spemann, P. Esquinazi, M. Ungureanu and T. Butz, *Phys. Rev. Lett.*, vol 98 p. 187204 (2007)
- 29.) **“Spin reorientation transitions in perpendicularly exchange-coupled thin films studied using element specific imaging”**, Y. S. Chun, H. Ohldag and K.M. Krishnan, *IEEE TRANSACTIONS ON MAGNETICS*, vol. 43, p. 3004 (2007)
- 30.) **“Insulating behavior of magnetic spots in proton-bombarded graphite”** K. Schindler, N. Garcia, P. Esquinazi and H. Ohldag, *Physical Review B*, vol 74, art. no. 045433 (2008)).
- 31.) **“Correlation of crystallographic and magnetic domains at Co/NiO(001) interfaces”**, H. Ohldag, G. v. d. Laan, E. Arenholz, *Physical Review B.*, vol 79, art. No 052403 (2009).
- 32.) **Magnetic order in graphite: Experimental evidence, intrinsic and extrinsic difficulties**, P. Esquinazi, J. Barzola-Quiquia, D. Spemann, M. Rothermel, H. Ohldag, N. Garcia, A. Setzer and T. Butz. *JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS*, vol 322, p. 1156 (2010)

- 33.) **“Enhanced exchange anisotropy in IrMn/Co/FeB systems and its correlation with uncompensated interfacial spins”**, Y. Du, G. Pan, R. Moate, H. Ohldag, A. Kovacs and A. Kohn, Applied Physics Letters vol 96, p 222503 (2010)
- 34.) **“Micromagnetic Structure – Imaging Antiferromagnetic Domains using Soft X-ray Microscopy”**, H. Ohldag in Magnetic Properties of Antiferromagnetic Oxide Materials – Surfaces, Interfaces and Thin Films, edited by L. Duo, M. Finazzi and F. Ciccaci, Wiley, Berlin (2010)
- 35.) **“X-ray spectromicroscopy of mineral intergrowths in the Santa Catharina meteorite”**, P. Schofield, A. Smith, F. Mosselmanns, H. Ohldag, A. Scholl, S. Raoux, G. Cressey, B. Cressey, P. Quinn, C. Kirk and S. Hogg, Geostandards and Geoanalytical Research (2010).
- 36.) **“The role of hydrogen in room-temperature ferromagnetism at graphite surfaces”**, H. Ohldag, P. Esquinazi, E. Arenholz, D. Spemann, M. Rothermel, A. Setzer, T. Butz, New Journal of Physics 12, p.123012 (2010)
- 37.) **“Ferromagnetism of Mn doped epitaxially grown GeC on Si(001)”**, S. Guchhait, M. Jamil, H. Ohldag, A. Mehta, E. Arenholz, G. Lian, A. LiFatou, DA Ferrer, JT Markert, L. Colombo, SK Banerjee, Physical Review B, vol 82, art no.024432 (2011).
- 38.) **“Uncompensated magnetization and exchange-bias field in La(0.7)Sr(0.3)MnO(3)/YMnO(3) bilayers: The influence of the ferromagnetic layer”**, Journal of Magnetism and Magnetic Materials, C Zandalazini, P Esquinazi, G Bridoux, J Barzola-Quiquia, H Ohldag, E Arenholz, vol 323, pp 2892 (2011).
- 39.) **Comment on "Revealing common artifacts due to ferromagnetic inclusions in highly oriented pyrolytic graphite" by Sepioni M. et al**, D. Spemann, M. Rothermel, P. Esquinazi, European Physics Letters, vol. 98(5), art no. 57006 (2012).
- 40.) **“Interplay between intrinsic and stacking-fault magnetic domains in bi-layered manganites”**, M. A. Hossain, Mark H. Burkhardt, S. Sarkar, H. Ohldag, Y.-D. Chuang, A. Scholl, A. T. Young, A. Doran, D. S. Dessau, H. Zheng, J. F. Mitchell, H. A. Dürr, and J. Stöhr, Appl. Phys. Lett. **101**, 132402 (2012)
- 41.) **“Diamondoid coating enables disruptive approach for chemical and magnetic imaging with 10 nm spatial resolution”**, H. Ishiwata, Y. Acremann, A. Scholl, E. Rotenberg, O. Hellwig, E. Dobisz, A. Doran, B. A. Tkachenko, A. A. Fokin, P. R. Schreiner, J. E. P. Dahl, R. M. K. Carlson, N. Melosh, Z.-X. Shen, and H. Ohldag, Appl. Phys. Lett. **101**, 163101 (2012)
- 42.) **“Control of the metal insulator transition in vanadium dioxide by modifying orbital occupancy”**, N. Aetukuri, A.X. Gray, M. Drouard, L. Gao, A.H. Reid, R. Kukreja, H. Ohldag, C.A. Jenkins, E. Arenholz, K.P. Roche, H.A. Duerr, M.G. Samant and S.S.P Parkin, Nature Physics (9), pages 661-666 (2013).
- 43.) **“Magnetic ordering of Mn implanted in HOPG”**, S. Guchhait, H. Ohldag, E. Arenholz, D.A Ferrer, A. Mehta and S.K. Banerjee, Phys. Rev. B **88**, 174425 (2013)

- 44.) **“Chemical and oxidation state imaging of mineralogical intergrowths: The application of XPEEM”**, P.F. Schofield, A.D. Smith, A. Scholl, A. Doran, S.J. Covey-Crump, A.T. Young and H. Ohldag. *Coordination Chemistry Reviews*, (2014).
- 45.) **“Advances in methods to obtain and characterize room temperature magnetic ZnO”**, Lorite I, Straube B, Ohldag H, Kumar P, Villafuerte M, Esquinazi P. Torres CER, de Heluani SP, Antonov VN, Bekenov LV, Ernst A, Hoffmann M, Nayak SK, Adeagbo WA, Fischer G, Hergert, W, *Appl. Phys. Lett*, art no 082406, vol 106 (2015)
- 46.) **“Study of negative magneto-resistance of single proton-implanted lithium-doped ZnO microwires”**, Lorite I, Zandalazini C, Esquinazi P, Spemann D, Friedlander S, Poppl A, Michalsky T, Grundmann M, Vogt J, Meijer J, Heluani SP, Ohldag, H, Adeagbo,WA, Nayak S, Hergert W, Ernst A, Hoffmann, M. *Journ. Phys. Cond. Matt*, art. No 256002, vol. 27 (2015)
- 47.) **“Defect band mediated ferromagnetism in Gd-doped ZnO thin films”**, Venkatesh S, Franklin JB, Ryan MP, Lee JS, Ohldag H, McLachlan MA, Alford MN, Roqan IS, *Jour. Appl. Phys. Art. No 013913*, vol 117 (2015)
- 48.) **“X-ray Detection of Transient Magnetic Moments Induced by a Spin Current in Cu”**, R. Kukreja, S. Bonetti, Z. Chen, D. Backes, Y. Acremann, J. Katine, A. D. Kent, H. A. Dürr, H. Ohldag and J. Stöhr, *Phys. Rev. Lett* (2015)
- 49.) **“X-rays and Magnetism”**, P. Fischer and H. Ohldag, *Rep. Prog. Phys. Art 095401*, vol. 78 (2015).
- 50.) **“Microwave Soft X-ray Microscopy for Nanoscale Magnetization Dynamics in the 5-10 GHz Range”**, S. Bonetti, R. Kukreja, Z. Chen, D. Spoddig, K. Ollefs, C. Schoeppner, R. Meckenstock, A. Ney, J. Pinto, R. Houanche, J. Frisch, J. Stoehr, H. Duerr and H. Ohldag, *Rev. Sci. Instr. Art no. 093703*, vol 86 (2015).
- 51.) **“Direct Observation of a Localized Magnetic Soliton in a Spin-Transfer Nanocontact”**, D. Backes, F Macia, S. Bonetti, R. Kukreja, H. Ohldag and A.D. Kent, *Phys. Rev. Lett. Art no 127205*, vol 115 (2015)
- 52.) **“Direct observation and imaging of a spin-wave soliton with p-like symmetry”**, S. Bonetti, R. Kukreja, Z. Chen, F. Macia, J.M. Hernandez, A. Eklund, D. Backes, J. Frisch, J. Katine, G. Malm, S. Urazhdin, A.D. Kent, J. Stöhr, H. Ohldag and H.A. Duerr. *Nat. Comm. vol. 6, p 8889*, (2015).
- 53.) **“Soft X-ray Dichroism Studies in Graphite”**, H. Ohldag in *Basic Physics of functionalized Graphite*, edited by P. Esquinazi and Y. Kopelevich, Springer, Berlin (2016)

- 54.) **“Correlation-Driven Insulator-Metal Transition in Near Ideal Vanadium Dioxide Films”**, A.X. Gray, J. Jeong, N.P. Aetukuri, P. Granitzka, Z. Chen, R. Kukreja, D. Higley, T. Chase, A.H. Reid, H. Ohldag, M.A. Marcus, A. Scholl, A.T. Young, A. Doran, C.A. Jenkins, P. Schaefer, E. Arenholz, M.G. Samant, S.S.P. Parkin, H.A. Duerr, *Phys. Rev Lett.*, 116(11), art no. 116403 (2016)
- 55.) **“Femtosecond X-ray Magnetic Circular Dichroism Absorption Spectroscopy at an X-ray Free Electron Laser”**, D.J. Higley, K. Hirsch, G.L. Dakovski, E. Jal, E. Yuan, T.M. Liu, A.A. Lutman, J.P. MacArthur, E. Arenholz, Z. Chen, G. Coslovich, P. Denes, P.W. Granitzka, P.Hart, M.C. Hoffmann, J. Joseph, L. LeGuyader, A. Mitra, S. Moeller, H. Ohldag, M. Seaberg, P. Schaefer, J. Stöhr, A. Tsukamoto, H.D. Nuhn, A.H. Reid, H.A. Duerr and W. Schlotter, *Appl. Phys. Lett.*, Vol 87(3), art no 033110 (2016).
- 56.) **“Site-mixing effect on the XMCD spectrum in double perovskite Bi₂FeMnO₆”**, T. Ahmed et al., *Appl. Phys. Lett.*, **108**, 242907 (2016).
- 57.) **“Magnetic coupling in Ni/Gd/Ni trilayers studied using magnetic circular dichroism”**, T.D.C Higgs et al., *Scientific Advances* 6, (2016).
- 58.) **“Ultrafast and Very Small – Discover Nanoscale Magnetism with Picosecond Time Resolution”**, H. Ohldag, *IEEE Transaction on Magnetics*, vol 52(12), (2016).
- 59.) **Electric field induced spin disorder to order transition near a multiferroic triple point**, B.K. Jang et al., *Nature Physics* 13, p.189-196, (2017)
- 60.) **“Magnetic switching in granular FePt layers promoted by near-field laser enhancement”**, E. Jal et al., accepted for publication *Nano Letters* (2017)
- 61.) **“Spin transport in antiferromagnetic NiO and magnetoresistance in Y₃Fe₅O₁₂/NiO/Pt structures”**, with A.D. Kent *AIP Advances* 7, 055903 (2017)
- 62.) **“Emitter- site selective photoelectron circular dichroism of triuoromethyloxirane”**, with M. Ilchen (*Phys. Rev. A.*) (2017)
- 63.) **“Electrically-Tunable Compact Thin-Film Magnetoelectric Resonators”** with S.X Wang (*Advanced Mat.*)
- 64.) **“The combination of micro-resonators with spatially resolved ferromagnetic resonance”**, with A. Ney (*Rev. Sci. Instr*)

Currently submitted and in preparation:

- 1.) **“Beyond A Phenomenological Description of Magnetostriction”**, with A. Reid, SLAC (under consideration with *Nature Communication*)
- 2.) **“Ultrafast THz Field Control of Electronic and Structural Interactions in Vanadium Dioxide”** with A.X. Gray, Temple Univ. (Under consideration with *Science Adv.*)

- 3.) **“Electronic Structure Investigation of Co/Cu alloys using XAS and XMCD”**, with Z. Chen and H.A. Duerr, SLAC, (submitted to Phys. Rev. B)
- 4.) **“Spatially and elementally resolved x-ray ferromagnetic resonance at 10 GHz in Co/Py layered structures”**, with R. Meckenstock and A. Ney U. Duisburg (in preparation for a combined Phys Rev. B / Phys Rev Lett).
- 5.) **“Magnetization Dynamics”**, J. Sun (IBM), A.D. Kent (NYU) and H. Ohldag in “Handbook of Magnetism”, edited by S.S.P Parking et al. (submitted to Springer)
- 6.) **“Free-standing magnetic nano-membranes for electron spin filtering applications”**, with O. Tjernberg, U. Stockholm, (under consideration at Phys. Rev. Lett)

Presentations:

Invited Talks at Conferences and Workshops:

- 1.) “Magnetic Coupling In Antiferromagnetic/Ferromagnetic Sandwiches – A Spectromicroscopy Study”**
CRISM Review Meeting, Stanford CA, USA, February 2001
- 2.) “Interface magnetic structure of Co/NiO”**
Highlights of young researchers, ALS Users Meeting, October 2001, Berkeley USA
- 3.) “Magnetic Coupling At Antiferromagnetic/Ferromagnetic Interfaces – A Spectromicroscopy Study”**
XRMS01 Workshop, December 2001, Halle, Germany.
- 4.) “Imaging Antiferromagnetic Domains at Surfaces and Interfaces using Dichroism XPEEM”**
Intermag Europe 2002, Amsterdam The Netherlands, April 2002
- 5.) “Understanding Magnetic Coupling At Antiferromagnetic/Ferromagnetic Interfaces – A Spectromicroscopy Study”**
Spring Meeting of the Materials Research Society, San Francisco CA USA, April 2001
- 6.) “Interfaces and Exchange Bias – A Spectromicroscopy Study”**
Workshop on prospects in magnetic oxide thin films and hetero-structures, Versailles, France, May 2002
- 7.) “Spectromicroscopy of Magnetic Interfaces using XPEEM”**
7th International Conference on X-Ray Microscopy, Grenoble France, July/August 2002
- 8.) “Polarized X-rays and Magnetic Interfaces”,**
49th AVS International Symposium, November 2002, Denver CO, USA.
- 9.) “Imaging Compensated and Uncompensated Magnetic Order Using Polarized X-Rays“**
7th International Symposium on Synchrotron Radiation, Hiroshima Japan, March 2003
- 10.) “Nanomagnetism and Polarized X-rays”**
Workshop on Future Directions of the Advanced Photon Source, September 2004, Lake Geneva, WI USA
- 11.) “Exchange Bias and X-rays”**
1st International Workshop on Exchange Bias, September 2004 Anglet France
- 12.) “XPEEM Imaging of exchange coupled Antiferromagnets”**
3rd International Workshop on Nanoscale Spectroscopy and Nanotechnology, University of Maryland, College Park MD USA, December 2004.
- 13.) “X-Ray Studies of the Dynamic Magnetic Nanoworld“**
MRS Fall Meeting, Boston, MA USA, November 2005

14.) “Soft X-ray Microscopy at the SSRL”

Stanford Synchrotron Radiation Laboratory 2006 Users’ Meeting, Stanford, USA, October 2006

15.) “How X-rays helped to solve the mystery of Exchange Bias”

Advanced Light Source, 2006 Users’ Meeting, Berkeley, USA October 2006

16.) “X-ray Imaging of Magnetic Nanomagnets”

Annual workshop of the Center for Magnetic Nanotechnology, Stanford USA, December 2006

17.) “A Soft X-ray STXM for the study of magnetic and correlated Materials at the SSRL”,

Workshop for the development of next generation STXM, December 2006, Bodega Bay, USA

18.) “X-rays and Magnetism – A Perfect Match”,

1st International Symposium on Advanced Magnetic Materials and Applications, May 2007, Cheju Island, South Korea

19.) Magnetic Carbon Made Visible Using X-Rays

European Meeting on Magnetic Carbon, Madrid, Spain September 2007

20.) Overview of X-ray Microscopy at SSRL

SSRL Users’ Meeting, October 2007

21.) X-rays and Magnetism – A Perfect Match

XRMS conference, Hamburg DESY Germany 2008

22.) A quick look at Magnetism using time resolved soft x-ray microscopy

APS workshop on future possibilities of the APS, IL, 2008,

23.) X-ray Microscopy of magnetic surfaces and interfaces

Workshop on future application of x-ray microscopy at the Canadian Light Source 2009, Banff Canada

24.) Synchrotron Studies using Magnetic Oxide Interfaces

Workshop, Focused Research Collaboration on Magnetic Oxides, German Physics Society, Irsee, Germany 2010

25.) Can Carbon Be Ferromagnetic?

Spring Meeting of the German Physics Society (DPG), Dresden Germany 2011

26.) A How To for Magnetic Carbon

CECAM Workshop on “Spin and charge transport in chemically modified graphite”, Barcelona, Spain 2011

27.) Diamonds are a scientist best friend

2nd World Congress on Advanced Materials, Suzhou China, 2013

28.) “Time resolved Imaging at 10GHz and beyond using the SSRL STXM”

ALS Users’ Meeting 2014, Berkeley, October 2014

- 29.) **X-ray Imaging of Spin Wave Dynamics at the Nanoscale**, APS March Meeting, San Antonio TX, 2015
- 30.) **X-ray Imaging of Spin Wave Dynamics at the Nanoscale**, InterMag, Beijing 2015.
- 31.) **Imaging Spin Current Driven Dynamics using X-ray Microscopy**, Satellite workshop on spin currents to InterMag 2015, Beijing 2015
- 32.) **Time Resolved Magnetic Microscopy to Study Spin Current Induced Magnetization Dynamics**, French – US Workshop at New York University, September 2015
- 32.) **The SSRL STXM Microscope**, InterMag San Diego CA, (2016)
- 33.) **Finding Magnetic Needles in a Haystack using Microscopy**, Workshop on chirality induced spin selectivity, Telluride CO, (2016)
- 34.) **X-PEEM Tutorial**, PEEM-LEEM conference, Monterey CA, (2016)
- 35.) **Ultrasensitive Magnetic STXM**, ALS Users' Meeting (2016)
- 36.) **Ultrafast and Very Small**, UK-Thailand workshop on Industrial Academic Partnership Programs, Bangkok Thailand (2017)
- 37.) **Ultrasensitive Magnetic STXM**, NSLS2 Users' Meeting (2017)
- 38.) **Ultrafast and Very Small**, Magnetism 2017, York UK (2017)
- 39.) **Ultrafast and Very Small**, IEEE summer school on magnetism, Santander, Spain (2017)
- 40.) **Ultrafast and Very Small**, SolSkyMag 2017, San Sebastian Spain, (2017)
- 41.) **Tutorial: X-rays and Magnetism**, MORIS 2018, New York City, US (2018)

Invited Seminars at various institutions

- 1.) **“Imaging Coupled Antiferromagnetic/Ferromagnetic Domain Structure Using Photoemission Electron Microscopy”**
Department of Material Science and Engineering, Stanford University, June 2000
- 2.) **“A Close Look At Antiferromagnetic/Ferromagnetic Interfaces – A Spectromicroscopy Study”**
Swiss Light Source, Switzerland, December 2001.
- 3.) **“Shining Light on Magnetic Interfaces - X-Ray Photoemission Electron Spectromicroscopy”**,
Monthly seminar of the Santa Clara Valley IEEE Magnetism Society, Milpitas CA USA, September 2002.
- 4.) **“Magnetische Grenzflächen ins Licht gerueckt”**
Seminar BESSY2 Synchrotron, Berlin Germany. January 2003

5.) “Imaging Compensated and Uncompensated Magnetic Order Using Polarized X-Rays“
Seminar at National Synchrotron Radiation Research Center, Hsintchu, Taiwan, March 2003.

6.) “Science and Fun with Polarized X-rays”
University of Duisburg, Duisburg, Germany, October 2003.

7.) “Things you always wanted to do with polarized X-rays”
University of Utrecht, October 2003, Utrecht, The Netherlands, October 2003.

8.) “Things you always wanted to do with polarized X-rays”
Condensed Matter Physics Seminar, Physics Department at the University of Texas in Austin, USA, April 2005

9.) “Got X-rays?”
Chemical and Material Sciences Seminar, Stanford Synchrotron Radiation Laboratory, Stanford USA, April 2005

10.) “Got X-rays?”
National Synchrotron Light Source, Brookhaven National Laboratory, Brookhaven NY, USA, December 2005.

11.) “X-rays and Magnetism – A Perfect Match”
SPRING-8 Synchrotron, Hyogo, Japan, June 2007

12.) ”X-rays and Magnetism – A Perfect Match”
Advanced Photon Source, February 2008

13.) ”X-rays and Magnetism – A Perfect Match”
West Virginia University, May 2008

14.) ”X-rays and Magnetism – A Perfect Match”
North Carolina State University, March 2008

15.) ”Synchrotron Based Soft X-ray Dichroism Absorption Spectromicroscopy”
Advanced Light Source, April 2009

16.) ”X-rays and Magnetism – A Perfect Match”
University of Leipzig, Leipzig, Germany, October 2009

17.) ”X-rays and Magnetism – A Perfect Match”
Polytechnico de Milano, Milan, Italy, October 2009

18.) ”Applications of X-ray Dichroism”
Advanced Light Source, March 2010

19.) ”X-rays and Magnetism – A Perfect Match”
Canadian Light Source, September 2010

20.) ”Looking Deep into Magnetism with X-rays”
Hitachi Global Storage Technologies, November 2010

- 21.) "X-rays and Magnetism a Perfect Match"**
Lawrence Livermore National Laboratory, November 2010
- 22.) "Introducing Carbon – Always good for a surprise"**
SLAC Photon Science Seminar, April 2011
- 23.) "Doesn't A Magnetic Pencil Sounds Like A Great Idea?"**
ALS Science Cafe, October 2011
- 24.) "Looking Deep into Magnetism with X-rays"**
Condensed Matter Physics New York University, December 2011
- 25.) "X-ray Microscopy: A different Approach to Magnetism"**
Physics Colloquium, New York University, December 2012
- 26.) "Pushing the Limits of Full Field and Scanning Microscopy"**
Advanced Photon Source, Argonne, January 2013
- 27.) "X-ray Microscopy – A unique tool to study nanodevices"**
Hewlett Packard Research Laboratories, Mountain View, January 2013
- 28.) "X-ray Microscopy at a Synchrotron – Large Machines and Small Devices"**
Physics Colloquium, Cal State Long Beach, March 2013
- 29.) "X-ray Microscopy at a Synchrotron – Large Machines and Small Devices"**
University of Hamburg, Sonderforschungsbereich 668, September 2013
- 30.) "Big Instruments and Tiny Devices – Science at a Synchrotron"**
Sonoma State University, February 2014
- 31.) "X-rays and Magnetism"** – Two part lecture series
New York University, March 2014
- 32.) "X-ray Microscopy of Complex Magnetic Devices"**
IBM Research Center Yorktown, April 2014
- 33.) "Big Instruments and Tiny Magnets"**, Physics Colloquium CSU Fresno January 2015
- 34.) "The SSRL STXM Microscope – Gigahertz and Nanometer"**, Colloquium Physical Review Editorial Offices, September 2015
- 35.) "Going Fast Small and Dilute with Soft X-ray Microscopy"**, Condensed Matter Seminar, UC Davis, May 2016
- 36.) "Going Fast Small and Dilute with Soft X-ray Microscopy"**, Photon Science Seminar, SLAC National Accelerator Laboratory, April 2016
- 37.) "Ultrasensitive X-ray Microscopy of Magnetization Dynamics"**, ALS Seminar, Berkeley CA, 2016

- 38.) "Ultrafast and Very Small", IEEE Lecture, Western Digital (IEEE SCV), San Jose CA, 2017
- 39.) "Ultrafast and Very Small", IEEE Lecture, UC Santa Cruz CA, 2017
- 40.) "Ultrafast and Very Small", IEEE Lecture, UC San Diego CA, 2017
- 41.) "Ultrafast and Very Small", IEEE Lecture, UC Riverside CA, 2017
- 42.) "Ultrafast and Very Small", IEEE Lecture, Advanced Light Source CA, 2017
- 43.) "Ultrafast and Very Small", IEEE Lecture, UC Irvine CA, 2017
- 44.) "Ultrafast and Very Small", IEEE Lecture, Cal State Dominguez Hills CA, 2017
- 45.) "Ultrafast and Very Small", IEEE Lecture, UC Los Angeles CA, 2017
- 46.) "Ultrafast and Very Small", IEEE Lecture, National University of Singapore, 2017
- 47.) "Ultrafast and Very Small", IEEE Lecture, Nanyang Technical University Singapore, 2017
- 48.) "Ultrafast and Very Small", IEEE Lecture, KMITL Bangkok Thailand, 2017
- 49.) "Ultrafast and Very Small", IEEE Lecture, Hong Kung University of Science and Technology, Hong Kong 2017
- 50.) "Ultrafast and Very Small", IEEE Lecture, University of Durham, 2017
- 51.) "Ultrafast and Very Small", IEEE Lecture, University of Leeds, 2017
- 52.) "Ultrafast and Very Small", IEEE Lecture, University of Manchester, 2017
- 53.) "Ultrafast and Very Small", IEEE Lecture, Harvey Mudd College, 2017
- 54.) "Ultrafast and Very Small", IEEE Lecture, New York University, 2017
- 55.) "Ultrafast and Very Small", IEEE Lecture, Columbia University, 2017
- 56.) "Ultrafast and Very Small", IEEE Lecture, IBM Yorktown, 2017
- 57.) "Ultrafast and Very Small", IEEE Lecture, University of Bialystok, Poland, 2017
- 58.) "Ultrafast and Very Small", IEEE Lecture, Polish Institute of Physics, 2017
- 59.) "Ultrafast and Very Small", IEEE Lecture, University of Poznan, Poland, 2017
- 60.) "Ultrafast and Very Small", IEEE Lecture, University of Cracow, Poland, 2017
- 61.) "Ultrafast and Very Small", IEEE Lecture, NanoGuNe, San Sebastian, Spain, 2017
- 62.) "Ultrafast and Very Small", IEEE Lecture, University of Barcelona, Spain, 2017

- 63.) "Ultrafast and Very Small", IEEE Lecture, ALBA Synchrotron, Spain 2017
- 64.) "Ultrafast and Very Small", IEEE Lecture, ICMAB, Barcelona Spain 2017
- 65.) "Ultrafast and Very Small", IEEE Lecture, NSRRC Synchrotron, Taiwan 2017
- 66.) "Ultrafast and Very Small", IEEE Lecture, NCH University, Taiwan 2017
- 67.) "Ultrafast and Very Small", IEEE Lecture, University of Western Australia, Australia 2017
- 68.) "Ultrafast and Very Small", IEEE Lecture, University of Melbourne, Australia 2017
- 69.) "Ultrafast and Very Small", IEEE Lecture, Australian Light Source, 2017
- 69.) "Ultrafast and Very Small", IEEE Lecture, La Trobe University, Australia 2017
- 70.) "Ultrafast and Very Small", IEEE Lecture, Colorado State University, Fort Collins 2017
- 71.) "Ultrafast and Very Small", IEEE Lecture, University of Colorado, Denver 2017
- 72.) "Ultrafast and Very Small", IEEE Lecture, NIST Boulder, Colorado 2017
- 73.) "Ultrafast and Very Small", IEEE Lecture, University of Colorado, Colorado Springs 2017
- 74.) "Ultrafast and Very Small", IEEE Lecture, Tsinghua University, China 2017
- 75.) "Ultrafast and Very Small", IEEE Lecture, Beijing University, China 2017
- 76.) "Ultrafast and Very Small", IEEE Lecture, Chinese Institute of Physics, Beijing 2017
- 77.) "Ultrafast and Very Small", IEEE Lecture, Fudan University, Shanghai 2017
- 78.) "Ultrafast and Very Small", IEEE Lecture, Shanghai Light Source 2017

Contributed Presentations at Conferences:

1.) "Element specific investigation of magnetic domains on Fe and Fe/Co thin film systems using Scanning Transmission X-Ray Microscope"

Spring Meeting of the German Physical Society, Munster Germany, March 1999

2.) "Imaging magnetic domains on microstructured Fe and Co stripes using PEEM"

Spring Meeting of the German Physical Society, Munster Germany, March 1999

3.) "Magnetic Moments of Mn in $(\text{Ga}_{1-x}\text{Mn}_x)\text{As}$ "

44th Annual Conference on Magnetism and Magnetic Materials, San Jose CA, USA August 1999

4.) "Magnetic Moments of Mn in $(\text{Ga}_{1-x}\text{Mn}_x)\text{As}$ "

Spring Meeting of the German Physical Society, Munster Germany, March 2000

- 5.) “Imaging antiferromagnetic domains on NiO(001) using PEEM”**
Spring Meeting of the German Physics Society (DPG), Munster Germany, March 2000
- 6.) “Investigating Exchange coupling in Co/NiO(001) using XPEEM”**
2nd PEEM/LEEM Workshop, Paris France, October 2000
- 7.) “Direct observation of parallel magnetic coupling in Co/NiO(001)”**
8th joint MMM-Intermag Conference, San Antonio TXUSA, January 2001
- 8.) “Magnetic Coupling In Antiferromagnetic/Ferromagnetic Sandwiches – A Spectromicroscopy Study”**
Inaugural Spring Meeting of the California Section of the APS, Irvine CA USA, March 2001
- 9.) “Chemical and Magnetic Characterization of Buried Antiferromagnet-Ferromagnet Interfaces Using Polarization Dependent Photoemission Electron Spectromicroscopy.”**
61st Physical Electronics Conference, June 2001, Taos NM, USA.
(Contribution to the Nottingham Competition)
- 10.) “Unordinary X-ray Dichroism”**
4th International PEEM/LEEM workshop in Enschede, The Netherlands, May 2003
- 11.) “P-sec Magnetization Dynamics of Vortices Probed at High Spatial Resolution”**
4th International PEEM/LEEM workshop in Enschede, The Netherlands, May 2003
- 12.) “Interfacial Magnetism in Co/FeF₂ Thin Films”**
9th Joint MMM/INTERMAG Conference, Anaheim CA, USA, January 2004
- 13.) “Parallel Versus Antiparallel Interfacial Coupling In Exchange-biased Co/FeF₂”**
American Physical Society March Meeting, Los Angeles CA, USA, March 2005
- 14.) “Dichroism Soft X-ray Absorption Spectromicroscopy and Antiferromagnetic Surface and Interfaces”**
X-Ray Microscopy XRM05, Himeji Japan, July 2005
- 15.) “Parallel versus Antiparallel Coupling in Exchange Biased Co/FeF₂”**
MMM Conference, San Jose USA, October 2005.
- 16.) “Dichroism Soft X-ray Absorption Spectromicroscopy and Antiferromagnetic Surfaces and Interfaces”**
SRMS-5 Conference, Chicago IL, USA, July 2006
- 17.) “Dichroism Soft X-ray Absorption Spectromicroscopy and Antiferromagnetic Surfaces and Interfaces”**
XAFS-13 Conference, Stanford CA, USA, July 2006
- 18.) “Dichroism Soft X-ray Absorption Spectromicroscopy and Antiferromagnetic Surfaces and Interfaces”**
10th Joint MMM/Intermag Conference Baltimore MD, USA, January 2007
- 19.) “Ferromagnetic Order in Metal Free Carbon at Room Temperature”**
10th Joint MMM/Intermag Conference Baltimore MD, USA, January 2007

20.) “Dichroism Soft X-ray Absorption Spectromicroscopy and Antiferromagnetic Surfaces and Interfaces”

2007 APS March Meeting, Denver CO, USA, March 2007

21.) “Ferromagnetic Order in Metal Free Carbon at Room Temperature”

2007 APS March Meeting, Denver CO, USA, March 2007

22.) “Observation of in plane magnetization reversal using polarization dependent magneto optical Kerr effect”,

MMM conference 2008, Austin TX, USA

23.) “X-Rays and Magnetism – A Perfect Match”,

MMM conference 2008, Austin TX, USA

24.) “Observation of in plane magnetization reversal using polarization dependent magneto optical Kerr effect”,

APS March Meeting 2009 Pittsburg PA, USA

25.) “Can Carbon Be Ferromagnetic? – X-rays and Protons Can give the Answer”,

APS March Meeting 2009 Pittsburg PA, USA

26.) “Spins and Twins – Correlation between Crystallographic and Magnetic Domains at Co/NiO(001) Interfaces”,

APS March Meeting 2009 Pittsburg PA, USA

27.) “High Temperature Magnetic Order in Graphite – A Magnetoresistance and X-ray Dichroism Study”,

ICMFS conference, Berlin Germany, 2009

28.) “Can Carbon Be Ferromagnetic? – X-rays and Protons Can give the Answer”,

MMM conference 2010, Washington DC, USA

29.) “Spins and Twins – Correlation between Crystallographic and Magnetic Domains at Co/NiO(001) Interfaces”,

MMM conference 2010 Washington DC, USA

30.) “Can Carbon Be Ferromagnetic? – X-rays and Protons Can give the Answer”,

XRM 2010, Chicago IL USA

31.) “Spins and Twins – Correlation between Crystallographic and Magnetic Domains at Co/NiO(001) Interfaces”,

XRM 2010, Chicago IL, USA

32.) “The role of hydrogen in defect induced ferromagnetic at Carbon surfaces”,

JEMS 2010 conference Krakow Poland.

33.) “Can Carbon Be Ferromagnetic, X-rays and Protons Can Give The Answer”,

MML 2010 Conference, Berkeley CA, 2010

- 34.) “X-rays and Magnetism – A Perfect Match”,**
2010 Meeting of the California-Nevada Section of the APS, Pasadena, CA
- 35.) “Can Carbon Be Ferromagnetic?”,**
2011 APS March Meeting Dallas, TX
- 36.) “10nm spatial resolution in X-ray PEEM using simple diamondoid coating“,**
11th Conference on X-ray Microscopy, Shanghai, China, 2012
- 37.) “A How To for Magnetic Carbon”**
12th Joint MMM/Intermag Conference Chicago, IL, January 2013
- 38.) “Interplay between intrinsic and stacking-fault magnetic domains in bi-layered manganites”**
12th Joint MMM/Intermag Conference Chicago, IL, January 2013
- 39.) “Disruptive Approach Towards 10nm Spatial Resolution In X-PEEM Using Diamondoids”**
2013 APS March Meeting, Baltimore MD, March 2013
- 40.) “10nm resolution in X-PEEM using simple diamondoid coating”**
LEEM-PEEM 9, Berlin, September 2014
- 41.) “The mystery of two transitions in LSMO”**
LEEM-PEEM 9, Berlin, September 2014
- 42.) “Time resolved Imaging at 10GHz and beyond using the SSRL STXM”**
XRM 2014, Melbourne, October 2014
- 43.) “Time resolved Imaging at 10GHz and beyond using the SSRL STXM”**
MMM 2014, Honolulu, November 2014
- 44.) “X-ray Ferromagnetic Resonance on the nanoscale”**
MMM 2014, Honolulu, November 2014
- 45.) “Time resolved Imaging at 10GHz and beyond using the SSRL STXM”**
AVS Symposium 2014, Baltimore, November 2014
- 46.) “Time resolved Imaging at 10GHz and beyond using the SSRL STXM”,** APS March Meeting San Antonio, TX 2015
- 47.) “Pushing the limits of Soft X-ray Microscopy”,** APS March Meeting, Baltimore MD (2016).
- 48.) “Time resolved Microscopy of Spin-Current Driven Magnetization Dynamics”,** X-ray Microscopy (XRM) August 2016, Oxford UK.
- 49.) “Emerging Magnetic Order in Cu Induced by Proximity and Spin Injection from Co”,** MMM conference 2017, New Orleans , USA