

Curriculum Vitae

Prof. Suzanne A. McEnroe

Present Position: Senior Research Scientist at NGU/
Professor II, Dept. of Chemistry, Center for Material Science and
Nanotechnology, University of Oslo, Norway

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Home Address: Kaptein Kaalds vei 9A, 7041 Trondheim, Norway
Married, one daughter, born 1992.

Academic History

- 1993 Ph.D. Dept. of Geosciences (Paleomagnetism and Rock Magnetism) University of Massachusetts, Amherst, USA
- 1989 M.S. Dept. of Geology (Geophysics and Geochemistry) University of Massachusetts, Amherst, USA
- 1985 B.S. Dept. of Geology and Geography, (Geology) University of Massachusetts, Amherst, USA

Employment/Research Positions

- 2009-2010 Marie Curie Senior IE Fellow, Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik, Universität Bayreuth, Germany
- 2009- Professor II, Dept. of Chemistry, Center for Material Science and Nanotechnology, University of Oslo, Norway
- 2004- Professor Rank (1183) Geological Survey of Norway,
- 2002-03 Visiting Senior Scientist, Advance Magnetics Group, Commonwealth Scientific and Industrial Research Organization, North Ryde, Australia
- 1996-2004 Senior Geophysicist, Norwegian Geological Survey, Trondheim, Norway
- 1995-98 Research Assistant Professor, Dept. of Geosciences, University of Massachusetts, Amherst, Massachusetts, USA
- 1994-95 U. S. National Science Foundation Post-doctoral Fellowship at NGU, Trondheim, Norway
- 1993-94 Adjunct Assistant Professor, Dept. of Geosciences, University of Massachusetts, Amherst, USA
- 1993 Post-Doctoral Fellow, Institute for Mineralogy and Petrology, Lund University, Sweden.
- 1988-91 Teaching Assistant, Dept. of Geosciences, University of Massachusetts, Amherst, USA.

Science Awards – Fellowships

- 2010 Award for Best Poster ASEG/PESA International Geophysical Conference
Sydney, Australia (with Phillip Schmidt)
- 2010 Member of the Royal Norwegian Society of Sciences and Letters
- 2009 The Bullard Lecture AGU Fall Meeting
- 2009-11 Marie Curie Senior IE Fellowship for Research at Bayerisches Geoinstitut
Bayreuth, Germany
- 2009 Visiting Fellowship, Institute for Rock Magnetism, University of Minnesota, USA
- 2007 Award for Best Scientific Article at Geological Survey of Norway
- 2007 Visiting Fellowship, Institute for Rock Magnetism, Univ. of Minnesota, USA
- 2004 Visiting Fellowship, Institute for Rock Magnetism, University of Minnesota, USA
- 2004 Award for Best Scientific Article at Geological Survey of Norway
- 2001 Visiting Fellowship, Institute for Rock Magnetism, Univ. of Minnesota, USA.
- 1994 National Science Foundation International Post-doctoral Fellowship. NSF
program for candidates from all the Sciences and Engineering (evaluated top
candidate in the competition for the program year 1994-95).
- 1994 Visiting Fellowship, Institute for Rock Magnetism, Univ. of Minnesota, USA
- 1993 American-Scandinavian Foundation Post-doctoral Fellowship, Institute for
Mineralogy and Petrology, Lund University, Sweden.

2010-2012: Advisory Board for the Institute of Rock Magnetism, University of Minnesota,
Minneapolis, MN USA

Memberships

American Geophysical Union, International Union of Geodesy and Geophysics,
Geological Society of America, Mineralogical Society of America, European Geophysical
Society, Norsk Geologisk Forening, International Association of Geomagnetism and Aeronomy,
and International Union of Geodesy and Geophysics.

Convener for Special Sessions at International Conferences on Geomagnetism, Rock- magnetism, Magnetic Anomalies, Nanogeoscience and Nanomagnetism

American Geophysical Union, Goldschmidt Conference, International Association of
Geomagnetism and Aeronomy, International Geological Congress, International Union of
Geodesy and Geophysics, Geological Society of America, European Geosciences Union and
European Geophysical Society

Reviewer

U.S. National Science Foundation; U. S. National Institute of Standards (Neutron proposals),
Villum Kann Rasmussen Foundation, Humboldt Foundation, European Science Foundation,
Dutch National Science Foundation and the Czech National Foundation

Reviewer for Journals

American Mineralogist, Economic Geology, Earth and Planetary Science Letters, Geophysical
Journal International, Geophysical Research Letters, Journal of Geophysical Research, Physics of
Earth and Planetary Interiors, South African Journal of Geology, Tectonophysics

Research Grants – Fellowships-Cooperative Proposals (2001-)

- Science and Technology Facilities Council, United Kingdom (pending) Spin orientation in natural nanoscale intergrowths and the origin of giant exchange bias. Richard Harrison, **Suzanne McEnroe** and Peter Robinson (Neutron beam proposal at ISIS Oxford, UK)
- Institut Laue-Langevin, France: (2011) Spin orientation in natural nanoscale intergrowths and the origin of giant exchange bias (Richard Harrison and **Suzanne McEnroe**).
- Institute of Rock Magnetism, University of Minnesota Visiting Fellowship (2009) funded by NSF: Bridging the Gap: Mineral mapping at the microscale.
- EU 7th Framework Marie Curie Senior Researcher, IE Program (2009-2011): From the Planetary to the Nanoscale: Magnetism at the Interface. (230,000 Euros)
- MATERA ERA-Net EU 7th Framework: Novel Nanomagnetic Oxide Composites: Giant-exchange-bias storage devices (2009-2011). **Coordinator- Suzanne McEnroe** (NGU): with Helmer Fjellvåg (UiO) and Andrew Putnis (Uni-Munster) Total budget 905,000 Euros. (Norwegian partners funded by NFR- Nanomat Program).
- Norwegian Research Council-Nanomat Program: (2009-2011) Novel Nanomagnetic Oxide Composites: Giant-exchange-bias storage devices (5.8 million NOK, **Coordinator- Suzanne McEnroe** (NGU).
- Science and Technology Facilities Council, United Kingdom (Neutron beam proposal at ISIS Oxford, UK) The origin of giant magnetic exchange bias in a natural nanoscale intergrowth, Dr. Harrison (Cambridge), **Dr. Suzanne McEnroe** (NGU), Dr. Lavender (NIST), Prof. Lynn (NIST) and Prof. Robinson (NGU).
- Institute of Rock Magnetism, University of Minnesota Visiting Fellowship (2007) funded by NSF: Exchange Coupling in Natural Nanoscale Materials (**Suzanne McEnroe**).
- National Institute of Standards and Technology U.S.A. (2007) Magnetism of exchange bias materials: Insights through neutrons (neutron beam proposal) **S. McEnroe** in cooperation with Prof. Jeff Lynn: Center for Nanophysics and Advanced Materials at the University of Maryland and a Team leader at the National Institute of Standards and Technology (U.S.A) Center for Neutron Research.
- EU Access to Infrastructures Program Universität Bayreuth, BGI, Germany and NGU Network Grant (2006-2008). Exchange bias in synthetic samples from the ilmenite-hematite solid solution: magnetic properties, exsolution and chemical ordering **S. McEnroe and K. Fabian** (Drs. Tiziania Boffa-Ballaran, Nobuyoshi Miyajima and Catherine McCammon).
- National Institute of Standards and Technology U.S.A. (2006) Magnetism of exchange bias materials: Insights through neutrons (neutron beam proposal) **S. McEnroe** with Prof. Jeff Lynn, Center for Neutron Research.
- European Science Foundation, EUROCORES Mineral Sciences Program. Magnetism and Microstructure: From the nanometre to the planetary scale (2006 to 2008). Project Leader - Richard Harrison, Cambridge University with **Suzanne McEnroe**, NGU; Ulf Halenius, Uppsala, Sweden; R. Dunin-Borkowski, Cambridge University; R.Pentcheva, Munich, Germany.
- Norwegian Research Council Petromaks Program and NGU (2005-2009) Developing exploration tools: Microstructural controls on magnetic minerals and magnetic anomalies on the Norwegian continental margin. 2.6 million NOK (**S. McEnroe**).
- NGU Network Grant (2005-2007) with National Institute Standards and Technology. Magnetic imaging of nanoscale exsolution and magnetic computations of the structures; Benjamin Burton, Center for Theoretical and Computational Materials Science and John Unguris, Center for Nanoscale Science and Technology (**S. McEnroe**).

Research Grants – Fellowships-Cooperative Proposals (2001-)

- Norwegian Research Council Nanomat Program and NGU (2004-2006): The nature and origin of natural magnetic nanoscale materials. 1.8 million NOK (**S. McEnroe**).
- EU Access to Infrastructures Program to Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik, Universität Bayreuth, Germany (2005) Influence of pressure on the magnetic properties of the ilmenite-hematite solid solution (**S. McEnroe** with Prof. Langenhorst, Dr. Heidelbach and Dr. Terry).
- Institute of Rock Magnetism Visiting Fellowship – funded by Univ. of Minnesota and NSF (2004) Nanomagnetism in the Hematite-Ilmenite Solid Solution (**S. McEnroe**).
- NGU Network Grant with Bayerisches Geoinstitut, Universität Bayreuth, Germany (Prof. Falko Langenhorst) and Cambridge University, England (Dr. Richard Harrison) Magnetic anomalies and nanoscale structures (**S. McEnroe**).
- NGU Network Grant (2003) with Advanced Magnetism Group, CSIRO, Sydney Australia (Dave Clark and Phil Schmidt) Magnetic anomalies and nanoscale structures: Magnetic response of ancient rocks on Earth (**S. McEnroe**).
- EU Access to Infrastructures Program- Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität Bayreuth, Germany (Falko Langenhorst) and NGU network grant (2002-2003) **S. McEnroe** with Richard Harrison, Cambridge University; Robert Hargraves, Princeton University; Andrew Putnis, Munster University. Nanoscale interaction in the hematite-ilmenite and magnetite-ulvöspinel solid solutions with implications for planetary magnetic anomalies.
- Network Grant from NGU (2001) **S. McEnroe**, Peter Robinson, NGU; Richard Harrison, Cambridge University, UK; Robert Hargraves, Dept. of Geosciences, Princeton University, USA and the Magnetic Properties Team, Niels Bohr Institute, Denmark. Rock-magnetism and magnetic nanostructure of exsolved ilmenite-hematite: Development and testing of a realistic atomic hypothesis with implications for magnetic anomaly interpretation on Earth and Mars.
- EU-Access to infrastructures program to Bavarian Research Institute of Experimental Geochemistry and Geophysics, Universität Bayreuth, Germany (2001) Remanence in crustal magnetism: Effects of pressure, temperature, and slow cooling on the ilmenite-hematite solid solution, and oxide exsolution in pyroxenes (**McEnroe**).
- Invited Participant to Mars Lander Workshop: Magnetic Anomalies on Mars, how can these be understood? What can we do during the 2003 Mars Exploration Missions? Niels Bohr Institute, University of Copenhagen, Denmark
- Prof. Andrew Putnis, Institut für Mineralogie, University of Münster, Münster, Germany.
- Prof. Helmer Fjellvåg, Dept. of Chemistry and Director of Materials Science and Nanotechnology at University of Oslo, Norway.
- Dr. Benjamin Burton, Center for Theoretical and Computational Materials Science, National Institute of Standards and Technology, Gaithersburg, MD, U.S.A.

Cooperations (2008-)

Dr. John Unguris, Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD, U.S.A.
Dr. Kumar Hemant, PGL, Goddard Space Flight Center, NASA, U.S.A.
Dr. Nobuyoshi Miyajima (TEM specialist) BGI, Universität Bayreuth, Germany.
Dr. Catherine McCammon (Mössbauer Specialist) BGI, Universität Bayreuth, Germany.
Dr. Tiziana Boffa-Ballaran BGI, Universität Bayreuth, Germany.
Dr. Florian Heidlbach, BGI, Universität Bayreuth, Germany.
Prof. Falko Langenhorst (TEM specialist) BGI, Universität Bayreuth, Germany.
Dr. Cathrine Frandsen Dept. of Physics, Technical University of Denmark, Lyngby, DK.
Prof. Richard Harrison (TEM specialist) Dept. Earth Sciences, Cambridge University, UK.
Dr. Takeshi Kasama (TEM specialist) Materials Science Dept., Cambridge University, UK.
Prof. Laurie Brown, Head, Dept. of Geosciences, University of Massachusetts, USA.
Dr. Ann Hirt, Institute of Geophysics, ETH-Hönggerberg, Zurich, Switzerland.
Dr. Silvana Geuna, Universidad de Buenos Aires, Argentina.
Prof. Phillip Schmidt, Advanced Magnetism Group, CSIRO, NSW Australia.
Prof. Tiku Ravat, Earth & Environmental Sciences, University of Kentucky, USA.

Invited Lectures (2001-)

Japan Geoscience Union, Chiba, Japan 2011.
American Geophysical Union Fall Meeting, San Francisco, USA, 2010
Institut für Mineralogie, Münster, Germany, 2010
Bullard Lecture, American Geophysical Union Fall Meeting,
San Francisco, USA, 2009
Frontiers in Earth Sciences, Ludwig-Maximilians-Universität München, Germany, 2009
University of Oslo, Center for Material Science and Nanotechnology, 2009
International Rock Magnetic Conference, Corsica, France, 2008
Geological Society of Norway, Stavanger, Norway 2007
International Union of Geodesy and Geophysics, Perugia Italy, 2007
Bavarian Research Institute of Experimental Geochemistry and Geophysics,
Universität Bayreuth, Germany, EU workshop and 20th anniversary of BGI, 2006
SWARM International Workshop (ESA), Nantes, France, 2006,
Department of Geology and Geophysics, University of Minnesota, USA 2005
Department of Mineralogy, Universität Heidelberg, Germany, 2005
Department of Earth Sciences, Cambridge University, UK, 2005
American Geophysical Union Fall Meeting, San Francisco, USA, 2004
International Conf. Fine Particle Magnetism, Nanotechnology Centre London, UK, 2004
32nd International Geological Congress, Florence, Italy, 2004
Department of Physics, NTNU, Trondheim, Norway, 2004
Department of Earth & Planetary Sciences, Macquarie University, NSW, Australia, 2003
Department of Geology and Geophysics, Uppsala University and Swedish Geological Survey,
Uppsala, Sweden, 2002
Institute for Mineralogy, Münster University, Germany, 2001
Bavarian Research Institute of Experimental Geochemistry and Geophysics, Universität
Bayreuth, Germany, 2001
Niels Bohr Institute, University of Copenhagen, Denmark, 2001.

Articles

- Fabian, K., Miyajima, N., Peter Robinson, **McEnroe, S.A.**, Tiziana Boffa Ballaran and Benjamin P. Burton (*accepted*) Chemical and magnetic properties of rapidly cooled metastable ferri-ilmenite solid solutions – implications for magnetic self-reversal and exchange bias: I. Fe-Ti order transition in quenched synthetic Ilm 61, *Geophysical Journal International*.
- Fabian, K., Reimann, C., **McEnroe, S. A.**, Willemoes-Wissing, B. (2011) Magnetic properties of terrestrial moss (*Hylocomium splendens*) along a north-south profile crossing the city of Oslo, Norway, *Science of the Total Environment*. v.409, 2252-2260.
- Brown, L. B. and **S. A. McEnroe** (2011) Remanent Magnetism in *Encyclopedia of Solid Earth Geophysics*, H. Gupta (ed) Springer-Verlag 1600p.
- Fabian, K., Robinson, P., **McEnroe, S. A.**, Heidelbach, F. and A. Hirt (2011) Experimental study of the magnetic signature of basal-plane anisotropy in hematite, in Petrovský et al. (eds) *The Earth's Magnetic Interior*, IAGA Special Sopron Book Series 1, Springer-Verlag. 280p. doi:10.1007/978-94-007-0323-0-22.
- Brown, L. B., **McEnroe, S. A.**, Peck, W. H. and Nilsson, L. P. (2011) Anorthosites as sources of magnetic anomalies, in Petrovský et al. (eds) *The Earth's Magnetic Interior*, IAGA Special Sopron Book Series 1, Springer-Verlag. doi 10.1007/978-94-007-0323-0-23.
- Frandsen, C, B.P. Burton, H.K. Rasmussen, **S.A. McEnroe** and S. Mørup (2010) Magnetic clusters in ilmenite-hematite solid solutions, *Physical Review B*. 81.224423. doi/10.1103/PhysRevB.81.224423.
- Harrison, R. H., **McEnroe, S. A.**, Robinson, P. and C. Howard (2010) Spin orientation in a natural Ti-bearing hematite: Evidence for an out-of plane component, *American Mineralogist*, 95, 974–979.
- Robinson, P., K. Fabian and **S. A. McEnroe** (2010) The geometry of ionic arrangements and magnetic interactions in ordered ferri-ilmenite solid solutions and its effect on low-temperature magnetic behavior, *Geochemistry, Geophysics, Geosystems*. 11, Q05Z17 doi:10.1029/2009GC002858.
- Shcherbakov, V. P., Fabian, K. and **S. A. McEnroe** (2009) A mechanism of exchange bias for nanoparticles embedded in an antiferromagnetic matrix, *Physical Rev. B* 80, 174419, 1-10.
- McCammon, C., **McEnroe, S. A.**, P. Robinson and B. P. Burton (2009) Mössbauer spectroscopy used to quantify natural lamellar remanent magnetization in single-grains of ilmeno-hematite, *Earth and Planetary Science Letters*, 288, 268-278.
- Hankard, F., Gattacceca J., Fermon, C., Pannetier-Lecoœur, M., Langlais, B., Quesnel, Y., Rochette, P., and **McEnroe, S. A.** (2009) Magnetic field microscopy of rock samples using a Giant magneto resistance-based scanning magnetometer, *Geochemistry, Geophysics, Geosystems*, doi:10.1029/2009GC002750.
- McEnroe, S. A.**, Fabian, K. Robinson, P. and L. L. Brown (2009) Remanent magnetization in crustal rocks, *Proceedings from the 2nd International SWARM Meeting* (European Space Agency) Potsdam, Germany.
- McEnroe, S. A.**, Fabian, K. Robinson, P., Giana, C. and L. L. Brown (2009) Crustal magnetism, lamellar magnetism and rocks that remember, *Elements* (invited article) 5, 241-246.
- Kasama, T., R. E. Dunin-Borkowski, T. Asaka, R. J. Harrison, R.K. Chong, **S.A. McEnroe**, E.T. Simpson, Y. Matsui and A. Putnis (2009) The application of Lorentz transmission electron microscopy to the study of lamellar magnetism in hematite-ilmenite, *American Mineralogist* 94, 262-269.
- McEnroe, S. A.**, Brown, L. L. and Robinson, P. (2008) Remanent and induced magnetic anomalies over a layered intrusion: Effects from crystal fractionation and recharge events, *Tectonophysics*, 478 119–134. doi: 10.1016/j.tecto.2008.11.021.

Articles

- Geuna, S. E., **McEnroe, S.A.**, Robinson, P. and Escosteguy, L. D. (2008) Magnetic petrology of the Devonian Achala Batholith, Argentina: titanohematite as an indicator of highly oxidized magma during crystallization, *Geophysical Journal International*, 175, 925-941.
- Brown, L. L. and **McEnroe, S. A.** (2008) Magnetic properties of anorthosites: A forgotten source for planetary magnetic anomalies? *Geophysical Research Letters* 35, L02305, doi:10.1029/2007GL032522.
- Fabian, K., **McEnroe, S. A.**, Robinson, P. and Shcherbakov, V. P. (2008) Exchange bias identifies lamellar magnetism as the origin of the natural remanent magnetization in ilmenohematite from Modum, Norway, *Earth Planet. Science Letters*, doi:10.1016/j.epsl.2008.01.034.
- Burton, B. P., Robinson, P., **McEnroe, S. A.**, Fabian, K. and T. Boffa Ballaran (2008) A low-temperature phase diagram for ilmenite-rich compositions in the system $\text{Fe}_2\text{O}_3\text{-FeTiO}_3$ *American Mineralogist*, 1260– 1272.
- McEnroe, S. A.**, Carter-Stiglitz, B., Harrison, R. H. Robinson, P. Fabian, K. and C. McCammon (2007) Correction to magnetic exchange bias of more than 1 Tesla in a natural mineral intergrowth, *Nature Nanotechnology*, doi:10.1038/nnano.2007.436, Corrigendum.
- McEnroe, S. A.**, Carter-Stiglitz, B., Harrison, R. H. Robinson, P. Fabian, K. and C. McCammon, (2007) Magnetic exchange bias of more than 1 Tesla in a natural mineral intergrowth, *Nature Nanotechnology*, 2, 631 - 634 (2007) doi:10.1038/nnano.2007.292
- Schmidt, P. W., **McEnroe, S. A.**, Clark, D. A. and Peter Robinson (2007) Magnetic properties and potential field modeling of the Peculiar Knob metamorphosed iron formation, South Australia: an analog for the source of the intense Martian magnetic anomalies? *Journal of Geophysical Research*, 112, B03102, doi:10.1029/2006JB004495.
- McEnroe, S. A.**, Robinson, P. Langenhorst, F. Frandsen, C., Terry, M. P. and T. Boffa Ballaran (2007) Magnetization of exsolution intergrowths of hematite and ilmenite: Mineral chemistry, phase relations, and magnetic properties of hemo-ilmenite ores with micron- to nanometer-scale lamellae from Allard Lake, Quebec, *Journal of Geophysical Research*, 112, B10103, doi:10.1029/2007JB004973
- Harrison, R. H., **McEnroe, S. A.**, Robinson, P., Palin, E. J., and T. Kasama (2007) The mechanism of giant exchange bias (>1 T) in a natural intergrowth of $\text{Fe}_2\text{O}_3\text{-FeTiO}_3$. *Physical Review B* 76, 174436_1-10.
- McEnroe, S. A.** and R. J. Harrison (2007) Harrison Receives 2006 William Gilbert Award, *Eos Trans. AGU*, 88(16), 184.
- Frandsen, C., Mørup, S., **McEnroe, S. A.**, Robinson, P., and Langenhorst, F. (2007) Correction to “Magnetic phases in hemo-ilmenite: Insight from low-velocity and high-field Mössbauer spectroscopy”, *Geophysical Research Letters* 34, L09317, doi:10.1029/2007GL030387.
- Frandsen, C., Mørup, S., **McEnroe, S. A.**, Robinson, P., and Langenhorst, F. (2007) Magnetic phases in hemo-ilmenite: Insight from low-velocity and high-field Mossbauer spectroscopy, *Geophysical Research Letters* doi:10.1029/2006GL029063.
- McEnroe, S. A.**, K. Hemant and J. R. Skilbrei, (2006) Magnetic contributions of minerals at the surface and at depth in the crust: comparing anomaly maps from aeromagnetic and satellite data from Scandinavia, *Proceeding from 1st International SWARM Meeting*, 3-5 May, 2006 Nantes, France. ESA WPP-261 European Space Agency Publications, Noordwijk.
- Robinson, P., Harrison R. J. and **McEnroe, S. A.** (2006) $\text{Fe}^{2+} / \text{Fe}^{3+}$ charge ordering in contact layers of lamellar magnetism: bond valence arguments, *American Mineralogist* 91, 67-72.

Articles

- Robinson, P., Heidelbach, F., Hirt, A. M., **McEnroe, S. A.** and Brown, L. L. (2006) Correction Crystallographic-magnetic correlations in single crystal haemo-ilmenite: New evidence for lamellar magnetism, *Geophysical Journal International*. **165**, 431 doi: 10.1111/j.1365-246X.2006.02999.
- Robinson, P., Heidelbach, F., Hirt, A. M., **McEnroe, S. A.** and Brown, L. L. (2006) Crystallographic-magnetic correlations in single crystal haemo-ilmenite: New evidence for lamellar magnetism, *Geophysical Journal International*, *165*, 17-31.
- McEnroe, S. A.**, Harrison R. J., Jackson M., Hirt, A. M., Robinson P., Langenhorst, F., Kasama, T., Putnis, A., Brown L. L. and U. Golla-Schindler (2005) Lamellar magnetism: Effects of interface versus exchange interactions of nanoscale exsolutions in the ilmenite-hematite system, International Conference on Fine Particle Magnetism Proceedings, *Journal of Physics: Conference Series*, *17*, 154-167.
- Hounslow, M., **McEnroe, S. A.**, Hirt, A. M. and Evans, T. (2004) Multidisciplinary applications of nanoscale magnetic behavior, particulates, and structures, *EOS, Transactions, American Geophysical Union*, *85*, 555-556.
- McEnroe, S. A.**, Brown L. L. and Robinson, Peter (2004) Earth analog for Martian magnetic anomalies: Remanence properties of hemo-ilmenite norites in the Bjerkreim-Sokndal Intrusion, Rogaland, Norway, *Journal of Applied Geophysics*, *56/3* 195-212.
- McEnroe, S. A.** Langenhorst, F., Robinson, P., Bromiley, G. and Shaw, C. (2004) What is magnetic in the lower Crust? *Earth and Planetary Science Letters* *226*, 175-192.
- McEnroe, S. A.**, Skilbrei, J. R., Robinson, P., Heidelbach, F., Langenhorst, F., and Brown, L. L. (2004) Magnetic anomalies, layered intrusions and Mars, *Geophysical Research Letters*, *31*, L19601, doi:10.1029/2004GL020640.
- Brown, L.L. and **McEnroe, S. A.** (2004) Paleomagnetism of the Egersund-Ogna Anorthosite, Rogaland, Norway, and the position of Fennoscandia in the Tonian, Neoproterozoic, *Geophysical Journal International*, *158*, 479-488.
- Dyar, D. M., **McEnroe, S. A.**, Murad, E., Brown, L. L. and Schiellerup, H. (2004) The relationship between exsolution and magnetic properties in hemo-ilmenite: Insights from Mössbauer spectroscopy, *Geophysical Research Letters*, *31*, 4, L04608. doi:10.1029/2003GL019076.
- Frandsen, C., Stipp, S.L.S., **McEnroe, S.A.**, Madsen, M.B. and Knudsen, J.M. (2004) Magnetic force microscopy (MFM) reveals magnetic domain structure and stray field of individual elongated magnetite grains. *Physics of Earth and Planetary Interiors*, *141*, 121-124.
- Kasama, T., **McEnroe, S.A.**, Ozaki, N., Kogure, T. and A. Putnis (2004) Effects of nanoscale exsolution in hematite-ilmenite on the acquisition of stable natural remanent magnetization. *Earth and Planetary Science Letters*, *224*, 461-475.
- Robinson, P., Harrison, R. J., **McEnroe, S. A.** and R. Hargraves (2004) Nature and origin of lamellar magnetism in the hematite-ilmenite series. *American Mineralogist*, *89*, 725-747.
- Smethurst, M. A. and **McEnroe, S. A.** (2003) The palaeolatitude controversy in the Silurian of Newfoundland resolved: new palaeomagnetic results from the central mobile belt, *Tectonophysics*. *362*, 83-104.
- Brown, L. L., **McEnroe, S. A.** and Smethurst, M. (2003) Tectonic setting of the Egersund-Ogna anorthosite, Rogaland, Norway, and the position of Fennoscandia in the Late Proterozoic, in *J-C Duchesne and A. Korneliussen*, editors, *Ilmenite deposits and their geological environments*, *Norwegian Geological Survey Bulletin, Special Publication*, *9*.
- McEnroe, S. A.**, Age and tectonic setting of emplacement of Mesozoic diabase dikes and sills in west-central Massachusetts (*in revision*), *American Journal of Science*.

Articles

- Robinson, P., Kullerud, K., Tegner, C., Robins, B. and **McEnroe, S. A.** (2003) Could the Tellnes ilmenite deposit have been produced by in-situ magma mixing? in *J-C Duchesne and A. Korneliussen*, editors, *Ilmenite deposits and their geological environments, Norwegian Geological Survey Bulletin, Special Publication*, 9, 74-76.
- McEnroe, S. A.**, Harrison, R. J., Robinson Peter and Langenhorst, F. (2002) Nanoscale haematite-ilmenite lamellae in massive ilmenite rock: an example of 'lamellar magnetism' with implications for planetary magnetic anomalies. *Geophysical Journal International* 151, 890-912.
- McEnroe, S. A.**, Dyar, M. D. and Brown, L. L. (2002) Magnetic signatures on planets without magnetic fields. *Lunar and Planetary Science Proceedings*, XXXIII, 1287-1288.
- Mørk, M.E., **McEnroe, S. A.** and Olesen, O., (2002) Magnetic susceptibility of Mesozoic sediments off Mid Norway and the role of siderite: Implications for interpretation of high resolution aeromagnetic anomalies. *Journal Marine and Petroleum Geology*, 19, 115-126.
- Robinson, P., Harrison, R. J., **McEnroe, S. A.** and Hargraves, R. (2002) Lamellar magnetism in the hematite-ilmenite series as an explanation for strong remanent magnetization, *Nature*, 418, 517-520.
- Robinson, P., Panish, P. T. and **McEnroe, S. A.** (2002) Errata and comment: Minor element chemistry of hemo-ilmenite- and magnetite-rich cumulates from the Sokndal Region, South Rogaland, Norway, *American Mineralogist*, 87, 372.
- McEnroe, S. A.**, Robinson, P. and Panish, P. (2001) Aeromagnetic anomalies, magnetic petrology and rock magnetism of hemo-ilmenite- and magnetite-rich cumulates from the Sokndal Region, South Rogaland, Norway, *American Mineralogist*, 86, 1447-1468.
- Robinson, P., Panish, P. and **McEnroe, S. A.** (2001) Minor element chemistry of hemo-ilmenite- and magnetite-rich cumulates from the Sokndal Region, South Rogaland, Norway, *American Mineralogist*, 86, 1469-1476.
- McEnroe, S. A.**, Harrison, R., Robinson, P. Golla, U. and Jercinovic, M. J., (2001) The effect of fine-scale microstructures in titanohematite on the acquisition and stability of NRM in granulite facies metamorphic rocks from southwest Sweden: Implications for crustal magnetism, *Journal of Geophysical Research*, 106, 30523-30546.
- McEnroe, S. A.**, and Brown, L.L. (2000) A closer look at remanence-dominated anomalies: Rock-magnetic properties and magnetic mineralogy of the Russell Belt microcline-sillmanite gneisses, Northwest Adirondacks Mountains, New York. *Journal of Geophysical Research*, 105, 16,437-16,456.
- McEnroe, S. A.**, and Brown, L.L. (2000) Jurassic paleomagnetism: A view from New England, USA. *Geophysical Journal International*, 143, 22-38.
- McEnroe, S. A.**, Robinson, P. and Panish, P. (2000) Chemical and petrographic characterization of ilmenite-and magnetic-rich cumulates of the Sokndal region, Rogaland, Norway. *Norwegian Geological Survey Bulletin*, 436, 49-56.
- Korneliussen, A., **McEnroe, S. A.**, Nilsson, L. P., Schiellerup, H., Gautneb, Meyer, G. B. and Størseth, R. H. (2000). An overview of titanium deposits in Norway, *Norwegian Geological Survey Bulletin*, 436, 27-38.
- Korneliussen, A., Nilsson, L. P., Schiellerup, H., Gautneb, H. and **McEnroe, S. A.** (1999) Titanium deposits in Norway, in Stanley et al., editors, *Mineral Deposits: Processes to Processing*, Rotterdam, 1137-1140.
- Harrison. R. J., Golla, U., **McEnroe, S.** and Putnis, A. (1998) The effect of ultra-fine exsolution lamellae on magnetic properties of the ilmenite-hematite solid solution: Microstructural and chemical investigation using energy filtered TEM. *Electron Microscopy*, 1, 233-234.

Articles

- McEnroe, S. A.**, Robinson, P., Rønning, S., and Panish, P. T. (1998) Significance of high-coercivity rhombohedral oxides and fine-grained magnetite for the origin of strong remanence dominated aeromagnetic anomalies, South Rogaland, Norway. *Geologica Carpathica*, 49, 223-224.
- McEnroe, S. A.** (1997) Ilmenite mineral magnetism: Implications for geophysical exploration for ilmenite deposits. Proceedings from Research in Progress at NGU. *Norwegian Geological Survey Bulletin* 433, 36-37.
- McEnroe, S. A.** (1996) North America during the lower Cretaceous: new paleomagnetic constraints from intrusions in New England. *Geophysical Journal International*, 126, 477-494.
- McEnroe, S. A.** (1996) A Barremian - Aptian (Early Cretaceous) paleomagnetic reference pole for North America. *Journal of Geophysical Research*, 101, 15,819-15,835.
- McEnroe, S. A.** (1995) Paleomagnetic evidence for a late Triassic age for transitional to alkalic diabase dikes from central Rhode Island. *American Journal of Science*, 295, 98-123.

Proceedings

- Fabian, K. and **McEnroe, S. A.** (2010) 12th Castle Meeting on Paleo, Rock and Environmental Magnetism, Nove Hradky, Czech Republic, *The IRM Quarterly* v. 20, 3, 2-3.
- Fabian, K., Robinson, P., **McEnroe, S. A.** and F. Heidelbach (2009) The magnetic signature of basal plane anisotropy in hematite *Bayerisches Geoinstitut Jahresbericht*, 111-114, *Universität Bayreuth, Germany*.
- Fabian, K., **McEnroe, S. A.**, Robinson, P. Miyajima, N., Burton, B. P. and Boffa Ballaran, T. (2008) Fe-Ti order transition in quenched synthetic ilm 60: magnetic properties and high-resolution TEM, Annual Report, *Bayerisches Geoinstitut, Universität Bayreuth, Germany*.
- McEnroe, S. A.**, Robinson, P., Miyajima, N., Langenhorst, F. and Terry, M. (2008) Comparative TEM study of exsolution lamellae in hemo-ilmenite in igneous rock emplaced at 5 kbar and gabbro rapidly uplifted after eclogite facies metamorphism: key to contrasting magnetizations. Annual Report, *Bayerisches Geoinstitut, Universität Bayreuth, Germany*.
- McEnroe, S. A.**, Miyajima, N. Robinson, P. Fabian, K. Burton, B. P. and Boffa Ballaran, T. (2007) Cryptic intergrowth of magnetite-like phase in synthetic titanohematite, Annual Report, *Bayerisches Geoinstitut, Universität Bayreuth, Germany*.
- Fabian, K., **McEnroe, S. A.**, and Robinson, P. (2008) Paths through the exchange jungle, *The IRM Quarterly*, 17, 11-13.
- McEnroe S.A.**, Boffa Ballaran, T., Robinson, P. and Burton, B. P. (2007) High-resolution X-ray diffraction study of synthetic hematite-ilmenite solid solutions for confirmation of phase composition and detection of impurities Annual Report, *Bayerisches Geoinstitut, Universität Bayreuth, Germany*.
- Robinson, P. Langenhorst, F., **McEnroe, S. A.**, Fabian, K., Jercinovic, M. J. and Boffa Ballaran, T. (2007) Geikielite and coupled spinel-rutile exsolution from coarse-grained titanohematite found in Mesoproterozoic granulite-facies rocks, south Norway, Annual Report, *Bayerisches Geoinstitut, Universität Bayreuth, Germany*.
- McCammon, C. A., **McEnroe, S.A.** and Robinson, P. (2006) The nature of iron in contact layers hematite-ilmenite: New insights into lamellar magnetism. *Annual Report, Bayerisches Geoinstitut, Universität Bayreuth, Germany*.

Proceedings

- McEnroe, S. A.**, Robinson, P., Heidelberg, F. and Hirt, A. M. (2006) Combined crystallographic, magnetic, and polishing techniques prepares natural hemo-ilmenite for magnetic experiment. *Annual Report 2005, Bayerisches Geoinstitut, Universität Bayreuth, Germany.*
- Hirt, A. M., Schmidt, V., **McEnroe, S. A.**, Heidelberg, F. and Robinson, P. (2006) Magnetic fabric in ilmenite rich norites of the Bjerkreimer-Sokndal Layered Intrusion, Norway, *11th symposium on Tectonics, structural geology and crystallography*, Göttingen, Germany, 91-93.
- McEnroe, S. A.**, Harrison, R. J., Robinson, Peter, Langenhorst, F., Kasama, T., Putnis, Andrew, Jackson, M., Hirt, A. and Brown L., (2004) Lamellar magnetism: effects of interface versus exchange interactions in the ilmenite-hematite system, *International Conference on Fine particle magnetism, London Center for Nanotechnology, Conference Guide, p. 4-5, UCL, London.*
- Harrison, R. J., Dunin-Borkowski, R. E., Simpson, E. T., Kasama, T., **McEnroe, S. A.** (2004), Lamellar magnetism associated with nanoscale exsolution in the ilmenite-hematite solid solution, *International Conference on Fine particle magnetism, London Center for Nanotechnology, Conference Guide, p. 34-35, UCL, London.*
- McEnroe, S. A.** and Brown, L.L. (2003) Rock-magnetism and magnetic nanostructure of exsolved ilmenite-hematite: Developing and testing a realistic atomic hypothesis with implications for magnetic anomaly interpretation on Earth and Mars, *The IRM Quarterly, 13, 2-3.*
- Robinson, P., Heidelberg, F., **McEnroe, S. A.**, Brown, L. L. and Harrison R. (2003) A fundamental problem of lamellar magnetism in the ilmenite-hematite series, *Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität Bayreuth Annual Report, 3.2-3.3.*
- McEnroe, S.A.**, Robinson, P., Langenhorst, F. and Bromiley, G. (2002) Micrometer- and nanometer-scale mineral chemistry of hemo-ilmenite in relation to magnetism, *in Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität Bayreuth Annual Report.*
- McEnroe, S.A.**, Robinson, P., Langenhorst F. and Heidelberg, F. (2002) Magnetic remanence, oxide-silicate mineralogy, and lattice-preferred orientation in ilmenite norite of the Heskestad anomaly, Bjerkreim-Sokndal layered intrusion, Rogaland, Norway *in Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität Bayreuth Annual Report.*
- Robinson P., Kullerud K., Tegner C, Robins B. and **McEnroe, S. A.** (2001) Could the Tellnes ilmenite deposit have been produced by in-situ magma mixing? *in Korneliussen, A. (ed.), GEODE field workshop on ilmenite deposits in the Rogaland anorthosite province, S. Norway. NGU Report, 2001.042, 119-125.*
- McEnroe, S.**, P. Robinson, S. Shaw, G. Bromiley and Langenhorst, F. (2001) A high-temperature experimental approach to interpretation of crustal magnetism in the hematite-ilmenite system, *Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität Bayreuth Annual Report, in Physical properties of rocks and minerals.*

Proceedings

- McEnroe, S. A.**, Robinson, P., Langenhorst, F. and Shaw, G. (2001) Oriented blades and rods of ilmenite-hematite in pyroxenes: a possible source for strong remanent magnetization and an Earth analog for planetary magnetic anomalies, *Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität Bayreuth, Annual Report, in Physical properties of rocks and minerals.*
- McEnroe, S. A.**, and Brown, L.L. (2000) Rock-magnetic studies in support of aeromagnetic anomaly interpretation, *The IRM Quarterly*, 10, 6-7.
- McEnroe, S. A.**, (1994) Magnetic properties of intrusive igneous rocks from New England, *The IRM Quarterly*, v. 3, 5.
- McEnroe, S.A.** and Brown, L.L. (1992) Mesozoic paleomagnetism and diabase petrography and geochemistry in central Massachusetts, in Robinson, Peter and Brady, J.B., Editors, *Guidebook for Field Trips to the Connecticut Valley Region of Massachusetts and Adjacent States. New England Intercollegiate Geological Conference, 84th Annual Meeting*, Amherst, Massachusetts, 358-379.
- Robinson, Peter, Huntington, J. C., **McEnroe, S. A.** and Springston, G. E. (1988) Root zone of the Bernardston Nappe and the Brennan Hill thrust involuted by backfolds and gneiss domes in the Mount Grace area, north-central Massachusetts. in *Guidebook, New England Intercollegiate Geological Conference, 80th Annual Meeting*, Keene, N. H., 293-334.

Geological Survey of Norway Professional Reports

- Korneliussen, A., Gautneb, Nilsson, L. P., Furuhaug, L., Sjørdal, T. and **McEnroe, S. A.** (2001) Forekomster med ilmenitt, vanadiumhokdig magnetitt og apatitt I norittiske bergarter i Egersundfeltet, Rogaland, Norwegian Geological Survey Report 2001.014.
- McEnroe, S. A.** (1998) Magnetic susceptibility measurements of offshore carbonate samples, Norwegian Geological Survey Report 98.086.
- McEnroe, S. A.** (1998) Magnetic susceptibility measurements on concrete samples. Norwegian Geological Survey Report, 98.122.
- Mørk, M.E., **McEnroe, S. A.** and Olesen, O. (1998) Magnetic properties of sedimentary rocks cores from the northern North Sea, measurements and interpretation, Norwegian Geological Survey Report 98.005.
- McEnroe, S. A.** (1997) Magnetic mineralogy and related rock-magnetic properties of selected sedimentary and igneous samples: Implications for aeromagnetic interpretation in regions of hydrocarbon migration, Norwegian Geological Survey Report 97.177.
- Mørk, M.E., **McEnroe, S. A.**, and Olesen, O. (1997) OSRAM - Origin of sediment related aeromagnetism, Magnetic properties of Mesozoic and Cenozoic sediments the Northern North Sea and Norwegian Sea: measurements and interpretation revised version for Neste Petroleum, IKU Report 23.2570.00/02/97.
- Nordgulen, Ø., Paget, P., Robinson, P. and **McEnroe, S. A.** (1997) COPENA conference at NGU. August 18-22, 1997: Abstracts and Proceedings, Norwegian Geological Survey Report 97.131.
- McEnroe, S. A.**, Robinson, Peter, Panish, P.T. (1996) Rock magnetic properties, oxide mineralogy, and mineral chemistry in relation to aeromagnetic interpretation and search for ilmenite reserves, Norwegian Geological Survey Report 96.060.

Geological Survey of Norway Professional Reports

- Karlsen, T. A., Schiellerup, H., **McEnroe, S.**, Nilsson, L. P. and Korneliussen, A. (1996) Current Research on ilmenite in the Egersund Province, Norwegian Geological Survey Report 96.059, 38p.
- Mørk, M.E., **McEnroe, S. A.**, and Olesen, O. (1996) OSRAM - Origin of sediment related aeromagnetism, Magnetic properties of Mesozoic and Cenozoic sediments the Northern North Sea and Norwegian Sea: measurements and interpretation. IKU Report 23.2570.00/01/96.
- Skilbrei, Jan Reidar, Sindre, A., **McEnroe, S. A.**, Robinson, Peter, and Kihle, O. (1995) Combined interpretation of potential-field, petrophysical data and topography from Central Norway and the continental shelf between 62°N and 65°N, with a preliminary report on the paleomagnetic dating of faults near Molde, Norwegian Geological Survey Report 95.027.

MSc. Thesis

- McEnroe, Suzanne A.** (1989) Paleomagnetism and geochemistry of Mesozoic diabase dikes in west-central Massachusetts. Contribution No. 64, Department of Geology and Geography, University of Massachusetts, Amherst, 136 p.

Ph.D. Thesis

- McEnroe, Suzanne A.** (1993) Paleomagnetism of Mesozoic intrusions in New England; Implications for the North American apparent polar wander path. Department of Geology and Geography, University of Massachusetts, Amherst, 237 p.

Abstracts and Presentations

- McEnroe, S. A. (2011) Magnetic Memory in Rocks, NTNU, Trondheim, Norway
- McEnroe, S. A., P. Robinson, K. Fabian, R.J. Harrison, N. Miyajima, F. Langenhorst (2011) Interfaces and exchange coupling, Goldschmidt Conference, Prague, CZ.
- Sales, M., Brok, E., Lefmann, K., Kuhn, L., Harrison R. J., Schmidt W., Dewhurst C., Robinson, P. and McEnroe, S. A. (2011) Remanent magnetization in natural nano-structured hemo-ilmenite, ECNS 2011.
- Brown, L and S.A. McEnroe (2011) Paleomagnetism and Magnetic Mineralogy of Grenville Metamorphic and Igneous Rocks of the Adirondack Highlands, USA: Was Rodinia Stationary ~1 Ga? International Union Geodesy and Geophysics, 29.06-08.07.11, Melbourne, Australia.
- McEnroe, S. A., Robinson, P., Fabian, K. (2011) Understanding the mineral sources of remanent crustal magnetic anomalies, NGU-Dagen 07.-08.02 2011 Trondheim, Norway.
- McEnroe, S. A., Robinson, P., Fabian, K. (2011) Nano-oxides and thin films? Høvringen MATERA Seminar, 28.02-02.03.11 Høvringen, Norway
- Robinson, P., McEnroe, S. A. and Fabian, K. (2011) Høvringen MATERA Seminar, 28.02-02.03.11 Høvringen, Norway.
- McEnroe, S. A., Robinson, P. and K. Fabian (2011) Høvringen MATERA Seminar, 28.02-02.03.11 Høvringen, Norway.
- Fabian, K., Robinson, P. and S. A. McEnroe (2011) Høvringen MATERA Seminar, 28.02-02.03.11 Høvringen, Norway.
- Brown, L.L., McEnroe, S. A., Robinson, P., Fabian, K. (2011) Remanent magnetic anomalies and effects of exsolution lamellae on magnetic properties of crustal rocks, International Union Geodesy and Geophysics, 29.06-08.07.11, Melbourne, Australia.

- McEnroe, S. A. (2011) Remanent magnetic anomalies, NGU Mineral Resources Seminar 26-27.01.11, Brekstad, Norway.
- McEnroe, S. A. (2011) Rocks that Remember, NGU Kjellerup Seminar, NGU, 16.01.11, Trondheim, Norway
- McEnroe, S. A., Fabian, K., Robinson, P., Harrison, R. J. and L. Brown, (2011) Crustal Magnetism and effects of exsolution lamellae on magnetic properties: Importance of remanent magnetic anomalies (invited), Japan Geoscience Union, 22-27.05 Chiba, Japan.
- Fabian, K., Shcherbakov, V., McEnroe, S. A., and P. Robinson, (2011) Mean-field and micromagnetic models for exchange bias and nanostructure magnetism based on ilmenite-hematite solid solutions (invited). Japan Geoscience Union, 22-27.05 Chiba, Japan.
- McEnroe, S. A., Fabian, K., Robinson, P., Miyajima, N., Schmidt, P. W. And D. Clark (2011) Reduction-exsolution of magnetite in ilmenite: Phase interfaces and, exchange coupling, European Geosciences Union, 03.04.-08.11, Vienna, Austria.
- Fabian, K., Shcherbakov, V., Robinson, P. and S. A., McEnroe (2011) Geometric mean-field models for ilmenite-hematite solid solutions, European Geosciences Union, 03.04.-08.11, Vienna, Austria.
- Fabian, K., Brønner, M., Olesen, O. and S. A., McEnroe (2011) Separation of induced and remanent anomalies through analyses of multiple aeromagnetic surveys, European Geosciences Union, 03.04.-08.11, Vienna, Austria..
- Harries, D., Fabian, K., Pollock, K., and S. A. McEnroe (2011) Correlation of microstructures and exsolution lamellae in natural pyrrhotites and magnetic properties, European Geosciences Union, 03.04.-08.11, Vienna, Austria.
- Sales, M., Brok, E., Lefmann, K., Kuhn, L., Harrison R. J., Schmidt W., Dewhurst C., Robinson, P. and S. A. McEnroe (2011) Remanent magnetization in natural nano-structured hemo-ilmenite Nordic Physics Meeting, Helsinki, Finland.
- McEnroe, S. A., N. Miyajima, P. Robinson, P. Fabian, K. P. Schmidt, D. Clark, T. Boffa Ballarn and B. P. Burton (2010) Interfaces of magnetite with rhombohedral Fe-Ti oxides: Magnetite exsolved from syntehtetic titanohematite (ILM 40), and magnetite from natural ilmenite. 12th Castle Meeting on Paleo, Rock and Environmental Magnetism, Nove Hradý, Czech Republic.
- Fabian, K., S. A., McEnroe, P. Robinson (2010) Quantifying the magnetic effects of the Fe-Ti distribution geometry in the ilmenite-hemtite solid solutions. 12th Castle Meeting on Paleo, Rock and Environmental Magnetism, Nove Hradý, Czech Republic.
- Boschker, J. E., Monsen, Å.F. , Folkman, C. M., Folven E., McEnroe, S., Grepstad J.K., Eom, C. B., Wahlströ E. and T. Tybell (2010) Epitaxial control of periodic lattice distortions in La-based perovskite thin films, 17th International Workshop on Oxide Electronics, (19-22.09.2010) Awaji City, Hyogo 656-2306, Japan.
- Boschker, J. E., Monsen, Å.F., Folven E., McEnroe, S., Grepstad J.K., Wahlströ E. and T. Tybell (2010) Step-edge controlled strain in epitaxial perovskite thin films. 1st annual workshop on Nanotechnology for Microsystems, 31.05-02.06, Tønsberg Norway.
- Robinson, P., McEnroe, S. A., Fabian, K. and N. Miyajima (2010) Rhombohedral oxides, phase separation and magnetic properties. Seminar in 'Structure, Reactivity and Properties of Oxide Materials', *Bonnbrach, Germany* 30-31 January.
- McEnroe, S. A., Robinson, P., Fabian, K (2010) Magnetic and material properties of synthetic ilmenite samples: Templates for thin film? Høvringen Seminar 07.02- 10.02.2010.
- Fabian, K, Peter Robinson, McEnroe, S. A. (2010) Clusters and holes: Exchange networks in hematite-ilmenite solid solutions, Høvringen Seminar on magnetic and material properties of synthetic ilmenite samples 07.02- 10.02.2010.

- Robinson, P., McEnroe, S. A., Fabian, K (2010) TEM and magnetic properties of ilmenite 60. Magnetic and material properties of synthetic ilmenite samples, Høvringen Seminar 07.02-10.02.2010.
- McEnroe, S. A. (2009) Rocks That Remember, *Bullard Lecture*, AFU Fall Meeting, *San Fransico, USA Eos Trans. AGU, 90(52)*, Fall Meet. Suppl.
- Hankard, F., Gattacceca J., Fermon, C., Pannetier-Lecoœur, M., Langlais, B., Quesnel, Y., Rochette, P. and S. A., McEnroe (2009) Magnetic field microscopy of rock samples using a Giant Magneto Resistance-based scanning magnetometer AFU Fall Meeting, *San Fransico, USA*.
- McEnroe, S. A., Fabian, K., Peter Robinson, Giana, C. and Brown, L. B. (2009) Crustal Magnetism and Rocks that Remember, ESA 2nd SWARM Meeting, *Postdam, Germany*.
- Brown, L. B. and S. A. McEnroe (2009) Anorthosites as a Source of Magnetic Anomalies, *IAGA, Soporo Hungary*.
- Fabian, K., Peter Robinson and S. A. McEnroe (2009) The Magnetic Signature of Basal Plane Anisotropy in Hematite, *IAGA, Soporo Hungary*.
- Fabian, K., S. A. McEnroe and Peter Robinson (2009) Remanences of the Past, *IAGA, Soporo Hungary*.
- Fabian, K., McEnroe, S. A., and P. Robinson (2009) Nanodots and Exchange bias, Nanotechnology and NanoScience Meeting, *Lillhammer, Norway*
- McEnroe, S. A., Fabian, K., Robinson, P. Gattacceca J. and Langenhorst, F. (2009) Mineral sources of remanent crustal magnetic anomalies, NFR Petromaks Meeting, Statoil, *Trondheim, Norway*.
- Fabian, K., McEnroe, S. A., and P. Robinson (2009) Lamellar Magnetism (invited) *EGU, Vienna, Austria*.
- McEnroe, S. A., Fabian, K., Robinson, P. Gattacceca J. and Langenhorst, F. (2009) Understanding the mineral sources of remanent crustal magnetic anomalies, *EGU, Vienna, Austria*.
- Fabian, K., McEnroe, S. A., and P. Robinson (2009) Clusters and holes: Exchange networks in hematite-ilmenite solid solutions, *EGU, Vienna, Austria*.
- Brok, E., Lefmann K., Theil Kuhn L, McEnroe S. A., Robinson P, Roessli B., Harrison, R. (2009) Origin of remanent magnetization in hemo-ilmenite investigated with polarized neutron scattering, *International Conference on Neutron Scattering May 3-7, Knoxville, Tennessee, USA*.
- Brok, E., Lefmann K., Theil Kuhn L, McEnroe S. A., Robinson P, Roessli B., Harrison, R. (2009) Origin of remanent magnetization in hemo-ilmenite investigated with polarized neutron scattering, NEMS Summer School & Symposium 17.-21.8. *Höör, Sweden*.
- McEnroe, S. A. Fabian, K. and P. Robinson (2009) Rock Hard Memory Systems: Is your next Harddrive based on a Norwegian Oxide? *NGU Seminar 2009, Trondheim, Norway*.
- McEnroe, S. A., P. Robinson, K. Fabian, J. Gattacceca, F. Langenhorst and F. Heidelbach (2009) Mineral Exploration: Bridging the Gap from the Mineral-scale to the Airborne Survey, *NGU Seminar 2009, Trondheim, Norway*.
- Brown, L., McEnroe S. A., and K. Fabian (2008) Rock magnetic and paleomagnetic properties of oxide-rich samples from the El Laco iron ore deposit, High Andes, Chile, *International Rock Magnetism Meeting, Corsica, France, June 2008*.
- Fabian, K., S. A. McEnroe, P. Robinson, N. Miyajima, T. Boffa Ballaran and B. Burton (2008) Magnetic hysteresis shift and exchange bias in synthetic hematite-ilmenite solid solutions; The Structure and Properties of Materials at High Pressure" *EU RITA Workshop, Verbania, Italy*.

- Fabian, K., McEnroe, S. A. Robinson, P., Shcherbakov, V. P., and B. P. Burton (2008) Clusters and holes: Exchange networks in hematite-ilmenite solid solutions, in *Microstructure and Mineral Behavior, Final EuroMinSci Conference, Obernai, France, 24-26 November 2008.*
- Fabian K., McEnroe, S. A., Leonhardt, R. and D. I. Hofmann (2008) Which theories of remanence acquisition are necessary to improve paleointensity determinations (Invited) *International Rock Magnetism Meeting, Corsica, France, June 2008.*
- Fabian, K., McEnroe, S. A. and P. Robinson (2008) Natural lamellar remanent magnetization: Low-temperature properties and models of remanence acquisition, *EUG, Vienna, Austria.*
- McEnroe, S. A., P. Robinson and K. Fabian (2008) Effects of pressure on magnetic properties of oxide minerals: unanswered questions; *The Structure and Properties of Materials at High Pressure" EU RITA Workshop, Verbania, Italy.*
- McEnroe, S. A., Fabian, K. Robinson, P. and J. Gattacceca (2008) Understanding crustal magnetic anomalies by mapping magnetic interactions from nanometer to millimeter scale in *Microstructure and Mineral Behavior, Final EuroMinSci Conference, Obernai, France, 24-26 November 2008.*
- McEnroe, S. A., Robinson, P. and K. Fabian (2008) Mineral Magnetism, Opportunities, Challenges and Cooperation's (Invited) *International Rock Magnetism Meeting, Corsica, France, June 2008.*
- Robinson, P., McEnroe, S. A. and K. Fabian (2008) Geikielite and Coupled Spinel-Rutile Exsolution from Titanohematite in the Mesoproterozoic Granulite Facies, South Norway, *GSA, Houston, Texas, USA.*
- Reimann, C. Fabian, K., McEnroe, S. A. (2008) The magnetic signature of atmospheric dust influx along a transect through Oslo: terrestrial moss versus O-horizon soil samples, *EuroSoils, Vienna, Austria.*
- Robinson, P., S. A. McEnroe and K. Fabian (2008) Geikielite and coupled spinel-rutile exsolution from titanohematite in the mesoproterozoic granulite facies, south Norway: keys to remanence and lamellar magnetism in planetary crusts; *The Structure and Properties of Materials at High Pressure" EU RITA Workshop, Verbania, Italy.*
- McEnroe, S. A., K. Fabian, and P. Robinson (2008) Remanence control on planetary anomalies due to exchange-coupled nanoscale intergrowths in natural magnetic oxides in *Nanogeoscience Symposium International Geological Congress, Oslo Norway August 2008.*
- Fabian K., McEnroe, S. A., Robinson, P. and B. Burton (2008) An experimental survey of magnetic behavior of metastable ilmenite-hematite solid solutions (2008) *2nd EuroMinSci Conference, Giens, France, 2 pp.*
- McEnroe, S. A., Fabian, K., Harrison, R. J., Brown, L.L. and P. Robinson (2008) Extreme magnetic properties due to exchange coupling in hematite-maghemite intergrowths, *2nd EuroMinSci Conference, Giens, France, 1 pp.*
- Robinson, P., Fabian K., McEnroe, S. A, Ionic arrangements and magnetic interactions in ordered ferri-ilmenite solid solutions: Visual key to low-temperature behavior (2008) *2nd EuroMinSci Conference, Giens, France, 2 pp.*
- Fabian, K., McEnroe, S. A. and P. Robinson (2008) Natural lamellar remanent magnetization: Low-temperature properties and models of remanence acquisition, *EUG, Vienna, Austria.*
- Reimann, C. Fabian, K., McEnroe, S. A. (2008) The magnetic signature of atmospheric dust influx along a transect through Oslo: terrestrial moss versus O-horizon soil samples *IGC, OSLO, Norway.*
- McEnroe, S. A., Fabian, K., Robinson, Peter and B. P. Burton (2007) Low temperature magnetic properties of the ilmenite-hematite system, *Eos Trans. AGU., 88(52), Fall Meet. Suppl., Abstract GP21B-0506.*

- McEnroe, S. A., Robinson, P., Harrison, R. J., Langenhorst, F. & Carter-Stiglitz, B. (2007) Nature's engineering of nanoscale devices: From exchange bias in natural magnetic oxides to microstructural controls on crystal planetary anomalies (invited). *Abstracts and Proceedings, Geological Society of Norway, Stavanger 2007, Nr. 1, p. 60.*
- McEnroe, Suzanne A., Smelror, Morten and Stephanie C. Werner (2007) Mjølnir core 7329/03-U-01: What do we know? What can we do? *Mjølnir Workshop* (September 10th-13th), Svalbard, Norway.
- McEnroe, S. A., Boffa-Ballaran, T., Fabian, K., Robinson, P. and B. P. Burton (2007) Low temperature phase diagram for the ilmenite-rich side of the ilmenite-hematite solid solution, *EU workshop 2007, BGI, Bayreuth, Germany.*
- Kasama, T Asaka, R K K Chong, R E Dunin-Borkowski, E T Simpson, R J Harrison, U Golla-Schindler, S A McEnroe and A Putnis (2007) Transmission electron microscopy of exsolution lamellae in ilmenite-hematite: Implications for "lamellar magnetism" *Magnetic Interactions Meeting, Cambridge, 9-10 January 2007..*
- McEnroe, S. A., Robinson, Peter, Harrison, R. J. and Fabian, Karl (2007) Effects of microstructures and nanoscale exsolution lamellae on magnetic memory in oxidized igneous and metamorphic rocks and on resultant crustal magnetic anomalies, *Frontiers in Mineral Sciences, Cambridge, UK, p.179*
- Fabian, K., McEnroe, S. A., Robinson, Peter, Harrison, R. J., (2007) Natural remanent magnetization in ilmeno-hematite induces exchange bias at low temperatures: A proof of lamellar magnetism, *Frontiers in Mineral Sciences, Cambridge, UK, p.175*
- Robinson, Peter, Fabian, K., McEnroe, S. A., Burton, B. Insights at ionic level into Low-T magnetic behavior of ferrian ilmenite solid solutions, *Frontiers in Mineral Sciences, Cambridge, UK, p.175-176.*
- Kasama, T., Asaka, T., Dunni-Borkowski, Harrison, R., Simpson, E. T., McEnroe, S. A. and A. Putnis (2007) Lorentz electron microscopy of exsolution lamellae in ilmenite-hematite, *Frontiers in Mineral Sciences, Cambridge, UK, p.181.*
- Fabian, K., Shcherbakov, V. P., McEnroe, S. and P. Robinson (2007) A mean field model of the magnetic structure in hematite-ilmenite solid solutions and exsolved nanostructures of ilmenite and hematite, *EGU, Veinna, Geophysical Research Abstracts, Vol. 9, 04932, EGU2007-A-04932.*
- Fabian, K., Shcherbakov, V. P., McEnroe, S. and P. Robinson (2007) A mechanism of exchange bias in nanoscale lamellar exsolution systems of paramagnetic ilmenite in antiferromagnetic hematite, *EGU, Veinna, Geophysical Research Abstracts, Vol. 9, 04932 EGU2007-A-0493*
- Fabian, K., McEnroe, S. and P. Robinson, Lamellar magnetism carries the natural remanent magnetization in ilmenohematite from Modum, Norway, *EGU, Veinna Geophysical Research Abstracts, Vol. 9, 04927, EGU2007-A-04927*
- Fabian, K. Reimann, C., and S. McEnroe (2007) Magnetic properties of terrestrial moss samples (*Hylocomium splendens*) along a south-north profile crossing the city of Oslo, Norway *EGU, Veinna, Geophysical Research Abstracts., 9, 04531, EGU2007-A-04531.*
- Fabian Karl, Suzanne McEnroe and Peter Robinson, Natural remanence carried by lamellar magnetism (2007) *IUGG, Perugia, Italy.*
- Fabian Karl, Clemens Reimann and Suzanne McEnroe; Environmental magnetism of the terrestrial moss *Hylocomium splendens*: Results from a south-north profile crossing the city of Oslo, Norway (2007) *IUGG, Perugia, Italy*
- Fabian, Karl, Valera P. Shcherbakov, Suzanne McEnroe, Peter Robinson; Low temperature exchange bias of nanoscale lamellar exsolutions of ilmenite in hematite (2007) *IUGG, Perugia, Italy.*

- Shcherbakov, Valeriy, Fabian Karl, McEnroe Suzanne, Robinson Peter, A mean field model of the magnetic structure in hematite ilmenite solid solutions and exsolved nanostructures of ilmenite and hematite (2007) *IUGG, Perugia, Italy*.
- McEnroe Suzanne, Laurie Brown, Peter Robinson, and Richard Harrison, Tracing the origin of remanent crustal magnetic anomalies to oxidized igneous and metamorphic rocks: magnetic minerals and microstructures (2007) *IUGG, Perugia, Italy*.
- Fabian, K., Reimann, C. and S. A. McEnroe (2007) Magnetic properties of terrestrial moss samples (*Hylocomium splendens*) along a south-north profile crossing the city of Oslo, Norway. Det 16. nasjonale seminar om hydrogeology og miljøgeokjemi, NGU 7.-8. Feb. 2007. NGU Rapport 2007.003, p.62.
- Fabian, K., V. Shcherbakov, S. McEnroe, P. Robinson (2007) Possible mechanisms of exchange bias in nanoscale ilmeno-hematite exsolution structures, p. 58, 1st *EuroMinSci Conference (26-29th March), La Coplle sur Loup, France*.
- McEnroe, S. A., Fabian, K., P. Robinson (2007) Magnetic properties of oxides from a large remanence-dominated magnetic anomaly in South Australia: Importance of intergrowths and implications for planetary magnetization, 1st EuroMinSci Conference (26-29th March), La Coplle sur Loup, France.
- Fabian, K., S. McEnroe, P. Robinson (2007) Natural remanent magnetization in ilmenohematite from Modum, Norway: evidence for lamellar origin, p. 59, 1st *EuroMinSci Conference (26-29th March), La Coplle sur Loup, France*.
- McEnroe, Suzanne, Harrison, R. J., Robinson, P. T. Kasama, Schmidt, P. W., D. Clark and K. Fabian, (2007) Magnetic properties of oxides from a large remanence-dominated magnetic anomaly in south Australia: importance of intergrowths and implications for planetary magnetization, p. 33, 1st *EuroMinSci Conference (26-29th March), La Coplle sur Loup, France*.
- McEnroe, S. A., Robinson, P., Harrison, R. J., Langenhorst, F. & Carter-Stiglitz, B. (2007) Nature's engineering of nanoscale devices: From exchange bias in natural magnetic oxides to microstructural controls on crystal planetary anomalies. *Abstracts and Proceedings, Geological Society of Norway, Stavanger 2007, Nr. 1, p. 60*.
- Brown, L. B. and McEnroe, S. A., AGU (2006) Magnetic Properties of Anorthosites: Possible Source Rocks for Planetary Magnetic Anomalies, *Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract GP11B-0080*.
- Harrison, R. J. and S. A. McEnroe (2006) Giant exchange bias in nanoscale ilmenite-hematite intergrowths: new insights through the application of atomistic Monte Carlo simulations, *Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract GP31C-0099*.
- McEnroe, S. A., K. Hemant, and J. R. Skilbrei (2006) Magnetic contributions of minerals at the surface and at depth in the crust: Comparing anomaly maps from aeromagnetic and satellite data from Scandinavia (Invited). *1st SWARM International Meeting, Nantes, France, ESA workshop*.
- McEnroe, S. A., Harrison, R. J., Carter-Stilzer, P. Robinson (2006) Nature's engineering: Giant magnetic exchange bias > 1T in a natural mineral, *Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract GP31C-0098*.
- McEnroe, S. A., Robinson, P., S. A. McEnroe, F. Langenhorst, G. D. Bromiley and M. P. Terry (2006) Mineral chemistry, and high and low-T magnetic properties after experiments at deep crustal conditions on Allard Lake hemo-ilmenite persisting magnetic moments related to nanoscale interfaces, New trends in, Palaeo, rock and environmental magnetism, *10th Castle meeting, Valtice, Czech. p. 82, Travaux Geophysiques XXVII*.

- McEnroe, S. A and J. R. Skilbrei (2006) Magnetism in Proterozoic Crust: Rock Properties and Magnetic Response of Amphibolites and Pyroxene Granulites in Southwest Sweden *European Geosciences Union, Geophysical Research Abstracts*, Vol. 8, 06733. SRef-ID: 1607-7962/gra/EGU06-A-06733
- Robinson, P., S. A McEnroe, F. Langenhorst, M. P. Terry and C. Frandsen (2006) Chemistry, evolution and magnetic properties of hemo-ilmenite, Allard lake, Quebec: A case study for lamellar magnetism, New trends in, Palaeo, rock and environmental magnetism, *10th Castle meeting, Valtice, Czech.* p. 99, Travaux Geophysiques XXVII.
- Hirt, A. M., Schmidt, V., McEnroe, S. A., Heidelbach, F. and P. Robinson (2006) Magnetic fabric in ilmenite rich norites of the Bjerkreimer-Sokndal Layered Intrusion, Norway, *11th symposium on Tectonics, structural geology and crystallography, Göttingen, Germany.*
- Harrison, Dunin-Borkowski, R E, Simpson, E T, Kasama, T, McEnroe, S A., Brown, L. B. and Hirt, A.M., American Geophysical Union, Fall meeting, (2005) Quantitative imaging of magnetic nanoparticles using off-axis electron holography, *Eos Trans. AGU, 86 (52)*, Fall Meet. Suppl., Abstract, GP43B-01-invited.
- Brown, L. B., McEnroe, S. A. and Harrison, R. J. (2005) Rock-magnetic properties of samples from the El Laco magnetite “flow”, High Andes, Chile, *Eos Trans. AGU, 86 (52)*, Fall Meet. Suppl., Abstract, GP41A-0856.
- Schmidt, P. W., McEnroe, S. A., Robinson, P. and Clark, D., (2005) Intergrowths in Multidomain hematite: Source of High NRM Intensities and Coercivity? *Eos Trans. AGU, 86 (52)*, Fall Meet. Suppl., Abstract, GP41A-0865.
- Robinson, P., McEnroe, S. A., and Harrison, R. J., (2005) Lamellar magnetism: Ferrimagnetic effect of cation monolayers at interfaces of nanoscale exsolution lamellae, *Eos Trans. AGU, 86 (52)*, Fall Meet. Suppl., Abstract, GP41A-0860.
- McEnroe, S. A., Hirt, A. M., Robinson, P., Harrison, R. J. and Brown, L. B. (2005) The effects of nanoscale exsolution on magnetic properties: insights from Forc diagrams, *Eos Trans. AGU, 86 (52)*, Fall Meet. Suppl., Abstract, GP41A-0864.
- McCammon, C. A., McEnroe S. A. and Robinson, P. (2005) Applications of Mössbauer Spectroscopy to Lamellar Magnetism, *Eos Trans. AGU, 86 (52)*, Fall Meet. Suppl., Abstract, GP43B-02-invited.
- Carter-Stiglitz, B., McEnroe, S. A. and Harrison (2005) Large exchange bias (>1T) between hematite and ilmenite, *International Association of Geomagnetism and Aeronomy, Toulouse, France.*
- McEnroe, S. A., Schmidt, P. W., Clark, D., Harrison, R. J. and Robinson, P. (2005) Magnetic properties of massive high-grade hematite deposits in southern Australia and comparisons to hematite in BIFs – Are either good analogues as a source of Martian anomalies? *International Association of Geomagnetism and Aeronomy, Toulouse, France.*
- Brown, L. L., McEnroe, S. A., Robinson, Peter, (2005) Remanent and induced magnetic anomalies over a layered intrusion: Effects of crystal fractionation and magma mixing *International Association of Geomagnetism and Aeronomy, Toulouse, France.*
- McCammon, C. A., McEnroe, S. A. and Peter Robinson, (2005) The nature of iron in ferrimagnetic nanolayers, International Mössbauer conference (*ICAME*) France.
- Brown, L. L., McEnroe, S. A., Robinson, Peter (2005) The effects of crystal fractionation and magma mixing on remanent and induced magnetic anomalies over a layered intrusion *Eos Trans. AGU, 86 (18)*, Jt. Assem. Suppl., Abstract, GP12A-04.
- McEnroe, S. A., Carter-Stiglitz, B., Harrison, R. J., Hirt, A. M., Jackson M., and Robinson, P., (2005) Magnetic exchange bias in natural systems, *Nanomat-Birkeland Conference, Trondheim, Norway.*

- Robinson, P., McEnroe, S. A., Harrison, R. J., Langenhorst, F., Heidelberg F., and Hirt A. M., (2005) Lamellar magnetism: a ferrimagnetic interface substructure, *Nanomats-Birkeland Conference, Trondheim, Norway*.
- McCammon, C. A., McEnroe S.A., Robinson, P., The nature of iron in contact layers hematite-ilmenite: New insights into lamellar magnetism, 2005, *BGI, Germany*.
- McEnroe, S. A., Langenhorst, F., Robinson P. and Bromiley G., (2005) What is magnetic in the lower Crust? 100th Geological Society of Norway Meeting, Rorøs, Norway.
- McEnroe, S. A., J. R. Skilbrei, P. Robinson, F. Heidelberg, F. Langenhorst, and L. L. Brown (2005), Magnetic anomalies, layered intrusions and Mars, 100th Geological Society of Norway Meeting, Rorøs, Norway.
- McEnroe, S. A., Robinson P., Harrison, R. Langenhorst, F., (2004) Lamellar Magnetism: A New Magnetic Substructure? *Eos Trans. AGU*, 85 (47), Fall Meet. Suppl., Abstract, GP21C-02-invited
- Harrison, R. J. McEnroe, S. A. (2004) Magnetism and Microscopy: Applications to mineral magnetism at the nanometre scale, *Eos Trans. AGU*, 85 (47), Fall Meet. Suppl., Abstract, GP21C-01-invited.
- Hirt, A. M., Robinson, P. F. Heidelberg, McEnroe, S. A. (2004) Magnetic Anisotropy of Hematite-ilmenite Single Crystals: Testing the Lamellar Magnetism Hypothesis *Eos Trans. AGU*, 85 (47), Fall Meet. Suppl., Abstract, GP21A-0154.
- Morse, S. A., Ross, M. and McEnroe, S. A. (2004) Oriented exsolution of Fe-Ti oxides in augite from the Kiglapait Intrusion *Eos Trans. AGU*, 85 (47), Fall Meet. Suppl., Abstract, GP21B-0156-invited.
- McEnroe, S. A., Langenhorst, F., Harrison, R., Robinson P. and Bromiley G., (2004) Magnetic properties of the lower crust and upper mantle. Should remanence be considered? (Invited) *International Geologic Congress, Florence, Italy*.
- McEnroe, S. A., Harrison, R. Langenhorst, F., Jackson, M. Robinson P., Brown L. and K. Takeshi (2004) Exploring effects of nanoscale exsolution on magnetic properties in the hematite-ilmenite series, *Goldschmidt Conference, Copenhagen, Denmark*.
- Robinson, P., Harrison. R. J., McEnroe, S. A., Langenhorst, F. and Heidelberg, F., (2004) Phase relations in the hematite-ilmenite series: Crucial in acquiring and preserving crustal magnetism, *Goldschmidt Conference, Copenhagen, Denmark*.
- McEnroe, S. A. Langenhorst, F., Robinson P., Bromiley G., (2004) What is magnetic in the lower crust? *EGS, Nice, France*.
- McEnroe, S. A., From Rogaland to Mars: minerals that remember, (2004), Physics seminar, *NTNU, Trondheim, Norway*.
- McEnroe, S. A. (2004) Understanding magnetic remanence in ilmenite-bearing norites: The Heskestad magnetic anomaly of the Bjerkreim-Sokndal layered intrusion, *Nordic Geological Winter Meeting, Uppsala, Sweden*.
- Harrison, R. J., S. A. McEnroe, U. Golla and U. Becker (2004) The Origin of Stable Remanent Magnetization in Exsolved Titanohematite: Insights Through the Application of Neutron Diffraction, Transmission Electron Microscopy, Electron Energy Loss Spectroscopy, and Monte Carlo Simulations, *European Geosciences Union*.
- McEnroe, S. A., Langenhorst, F., and P. Robinson (2003) Back to Basics: Allard Lake to Mars, (A tribute to Robert Hargraves), *Eos Trans. AGU*, 84 (46) Fall Meet. Suppl., (2003) Abs. GP31C-0763.
- Robinson, P., McEnroe, S. A. and R. Harrison (2003) Robert Hargraves and the external force of lamellar magnetism: A tribute to Robert Hargraves *AGU, San Francisco Fall meeting*.

- Brown, L. L., McEnroe, S. A. and M. Jercinovic (2003) Paleomagnetism and monazite dating of Grenville Rocks, Adirondack Mountains, NY, *AGU, San Francisco Fall meeting*.
- McEnroe, S. A., Clark, D. and P. Schmidt (2003) Magnetic properties and magnetic signature of a massive hematite deposit, *European Geophysical Society, XXVIII General Assembly, Nice, France*, *Geophysical Res. Abs.*, v. 5, 01260.
- Harrison, R. J., McEnroe, S. A., and Robinson, P. (2002) Lamellar magnetism: A source of unusually strong and stable magnetization on the Earth and other planets? *AGU, Baltimore Spring meeting*.
- McEnroe, S. A. and Brown, L. (2002) Earth analog for Martian magnetic anomalies. *European Geophysical Society, XXVII General Assembly, Nice, France*.
- Harrison, R.J., McEnroe, S. A., Golla, U. and Becker, U. (2001) The origin of stable remanent magnetization in exsolved titanohematite: Insights through the application of neutron diffraction, transmission electron microscopy, electron energy loss spectroscopy, and monte carlo simulations. *European Union of Geosciences XI*, April 8th–12th, 2001, J. Conference Abstracts, 6, 701.
- McEnroe, S. A., Brown, L. B. and Robinson, P. (2001) Earth analog for Martian magnetic anomalies: Remanence properties of ilmenite norites, 264, *IAGA, Hanoi*.
- McEnroe, S. A., Harrison, R., Robinson, P., Dyar, D., and Brown, L. B. (2001) Effects of slow cooling on exsolution microtextures and consequent magnetic properties of the hematite-ilmenite series, *European Geophysical Society*.
- McEnroe, S. A., Harrison, R., Robinson, P. Dyar, D. (2001) Chemical and magnetic properties of hematite produced by phase separation from hematite-ilmenite solid solution during slow cooling. *European Union of Geosciences XI*, April 8th–12th, 2001, J. Conference Abstracts.
- Robinson, P. Robins, B., Kullerud, K., Tegner, C. and McEnroe, S. A. (2001) Formation of ilmenite-rich cumulates by magma mixing: Comparisons of the mineral chemistry of the layered series if the Bjerkreim-Sokndal intrusion and the Tellnes ilmenite norite, Norway. *European Union of Geosciences XI*, April 8th–12th, 2001, Conference Abs.
- McEnroe S. A., Robinson P and Panish P.T. (2001) Aeromagnetic anomalies, magnetic petrology and rock magnetism of hemo-ilmenite- and magnetite-rich cumulates from the Sokndal region, South Rogaland, Norway, in Korneliussen, A. (ed.) *GEODE field workshop on ilmenite deposits in the Rogaland anorthosite province, S. Norway*. NGU Report, 2001.042, 84.
- Brown, L. B., McEnroe, S. A. and Smethurst, M. A. (2001) Paleomagnetism of the Egersund-Ogna anorthosite, Rogaland, Norway, and the position of Fennoscandia in the late Proterozoic. *European Geophysical Society, Nice, France*
- Brown L, McEnroe S. A. and Smethurst M. (2001) Tectonic setting of the Egersund-Ogna anorthosite, Rogaland, Norway, and the position of Fennoscandia in the Late Proterozoic, in Korneliussen, A. (ed.), *GEODE field workshop on ilmenite deposits in the Rogaland anorthosite province, S. Norway*. NGU Report, 2001.042, 20-21.
- McEnroe, S. A., Peter Robinson, Cliff Shaw and Falko Langenhorst (2001) Exploration of Crustal Magnetism in the Ilmenite-Hematite System. *From Crust to Core, Verbania, Italy, T2-3 (Bayerisches Forschungsinstitut für Experimental Geochemie und Geophysik Universität*.
- Smethurst, M. A. and McEnroe, S. A. (2001) The palaeolatitude controversy in the Silurian of Newfoundland resolved: new palaeomagnetic results from the central mobile belt. *EGS*.
- McEnroe, S, Heldal, T., Beard, L., Tegner, C., Kjølle, I., Dyar, D., Delaney, J., and Sutton, S. (2000) Geophysical mapping and petrophysical-mineralogical interpretation of the Larvikite-lardalite complex, Oslo igneous province, Norway. *EGS, Nice, France*.

- McEnroe S.A. and Brown, L.L. (2000) Remanence-dominated anomalies: Mineralogical and rock-magnetic contributions. *Geonytt*, 1, 117-118.
- McEnroe, S. A. and Robinson, P. (2000) Magnetic petrology in ilmenite exploration, *Geonytt*. 1, 118.
- Olesen, O., Beard, L., McEnroe, S. A., Smethurst, M.A., Torsvik, T., Bidstrup, T., & Egeland B. (2000) A Sveconorwegian age for the 'Permian' Skagerrak and Silkeborg intrusions beneath the Norwegian-Danish Basin. *Geonytt*. 1, 130.
- Heldal, T., Tegner, C., McEnroe, S. A., Kjølle, I., and Beard, L. (2000) New geological and geophysical mapping of the Larvikite-Lardalite complex, Oslo igneous province, Norway. *Geonytt*, 1, 82.
- McEnroe, S. A. (1999) Interpreting the aeromagnetic signature of ilmenite deposits in Rogaland, Norway: The importance of petrophysical measurements and rock-magnetic properties. *IUGG*, 1, 388.
- McEnroe, S. A., Brown, L.L., and Panish, P. T. (1999) A matter of scale: From crystal chemistry to aeromagnetic anomalies: the Peter Robinson way. *AGU Spring Meeting*, EOS Transactions, 80, S363 (Invited).
- Brown, L. L., and McEnroe, S. A. (1999) Titanohematite as the carrier in Remanence-dominated magnetic anomalies: rock-magnetic and petrographic studies of the Russell belt sillimanite gneiss, Adirondacks, New York, USA. *IUGG*, 1, 387.
- Dyar, M., Polyak, D., Delaney, J., Sutton, S., McEnroe, S. A., Tegner, C. (1999) Microanalysis of ferric iron in feldspar. *GSA*, Annual Meeting, 31, A358.
- Mørk, M.E., McEnroe, S. A. and Olesen, O. (1999) Magnetic properties of Mesozoic sediments off Mid Norway - distribution and origin. *EAGE*, Helsinki.
- McEnroe, S. A. and Robinson, Peter (1998) Correlation between oxide mineralogy, rock-magnetic properties and aeromagnetic anomalies: Case study from the Sokndal region, South Norway. *AGU Meeting*, EOS, 79, 17.
- Brown, L., and McEnroe, S A. (1998) Balsley and Buddington Revisited: Rock magnetic and petrographic studies of microcline gneiss causing remanence-controlled negative aeromagnetic anomalies, Adirondack Mountains, USA. *AGU Meeting*, EOS, 79, 17.
- McEnroe, S. A., Robinson, P., Rønning S.R. and Panish P. T. (1997) The interplay between oxide mineralogy and remanence, and its effect on aeromagnetic anomalies, *International Association of Geomagnetism and Aeronomy, Uppsala, Sweden*, 79.
- McEnroe, S., Torsvik, T and Brown, L. (1997) New paleomagnetic data linking Laurentia and Baltica in the Mid-Proterozoic. in COPENA Proceedings. NGU Report 97.131.
- McEnroe, S. A. and Torsvik, T. (1997) Mesozoic North America: How can it help Europe? *Geonytt*, 24, 66.
- McEnroe, S. A. and Brown, L.L. (1997) Remanence-controlled negative magnetic anomalies in the Adirondack Mountains, USA: Balsey and Buddington revisited. Abstract, *International Association of Geomagnetism and Aeronomy, Uppsala, Sweden*, 80.
- McEnroe, S. A. and Brown L. L. (1997) Paleomagnetism and rock-magnetic behavior of Grenvillian granulite rocks, Adirondack Mountains, New York. EOS, Transactions of the *American Geophysical Union, San Francisco*.
- McEnroe, S. A. and Torsvik, T. (1997) Testing Grenvillian-Sveconorwegian links between Laurentia and Baltica. *Terra Nova*, 9, 356. EUG 9, Strasbourg, France.
- Skilbrei, J. R., Sindre, A., Kihle, O., McEnroe, S. A. (1996) Combined interpretation of potential field-, petrophysical data and topography from central Norway and the continental shelf, 58th EAGE conference, Amsterdam, Netherlands.

- McEnroe, S. A. (1995) Paleomagnetic signatures and rock magnetic properties from rapidly uplifted high-pressure metamorphic rocks and intrusive igneous rocks in Sveconorwegian Orogen, Sweden. *Geonytt*, 22, 48.
- McEnroe, S. A. (1995) Titanohematite-rich granulites and amphibolites from the Sveconorwegian Orogen, Sweden: Implications for aeromagnetic studies. *J. Applied Geophysics*, 34, 145.
- McEnroe, S. A. and Robinson, Peter (1995) Constraining uplift history and late tectonic rotations by paleomagnetism: studies from high-pressure metamorphic rocks, Sveconorwegian Orogen, Sweden and the Western Gneiss Region, Scandian Orogen, Norway. *Terra Nova. EUG, Strasbourg France.*
- McEnroe, S. A. (1994) Does the changing chemistry of Mesozoic mafic dikes from Connecticut to Maine reflect changing mantle conditions? *Geological Society of America, Abstracts with Programs, Northeastern Meeting.*
- McEnroe, S. A., Bylund, G., Johansson, L. and Moller, C. (1994) Acquisition of paleomagnetic signatures from rapidly uplifted, high-pressure metamorphic rocks and intrusive igneous rocks in the Sveconorwegian Orogen, Sweden: EOS, Transactions, *American Geophysical Union*, 75, 127 San Francisco, USA.
- McEnroe, S. A. and Brown, L.L. (1992) Implications for the Mesozoic APW for North America from intrusions and sedimentary rocks in New England. EOS, 73, 95.
- McEnroe, S. A. and Hermes, O. D. (1991) Paleomagnetic evidence for a Late Triassic - Early Jurassic age of dolerite dikes from western Rhode Island. *Geological Society of America Abstracts with Programs*, 23, 100.
- McEnroe, S. A. (1991) The Newark Trend I and II pole positions: Are they valid early Jurassic pole positions for North America? *Geological Society of America Abstracts*, 23, A317.
- McEnroe, S. A. (1991) Constructing a Mesozoic polar wander path for North America based on paleomagnetic data from intrusions in southern, New England (extended abstract): Northeast Paleomagnetic Workshop, 5th Annual Meeting, Toronto, Ontario.
- McEnroe, S. A. and Brown, L.L. (1990) Jurassic - Cretaceous Apparent Polar Wander Path for North America: A new configuration based on intrusions and sedimentary rocks from southern New England, *AGU, EOS*, 71, 489.
- McEnroe, S. A. (1989) Reevaluation of the Newark I and II pole positions for North America (extended abstract): Northeast Paleomagnetic Workshop, 3rd Annual Meeting, Amherst, MA.
- McEnroe, S. A. (1988) Diversity in paleomagnetism, geochemistry and age in Mesozoic diabase intrusions, central Massachusetts: *Geological Society of America Abs with Programs*, 20, 55.
- McEnroe, S. A. and Brown, L.L. (1988) Paleomagnetism of Mesozoic diabase intrusions and redbeds in central Massachusetts: Relations to the APWP for North America. *GSA*, 20, A351.
- McEnroe, S. A. and Brown, L.L. (1987) Paleomagnetism of diabase dikes and sills intruding pre-Mesozoic basement rocks near and east of the Connecticut Valley Mesozoic basins, west-central Massachusetts, *AGU, EOS*, 68, 295.
- McEnroe, S. A., Robinson, Peter, Brown, L.L. and Foland, K.A. (1987) Paleomagnetic discovery of Cretaceous diabase dikes in central Massachusetts. *Geological Society of America Abstracts*, 19, 765.

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