

dr. rer. nat. Laura-Roxana Stingaciu, Ph.D.

Instrument Scientist @ The Neutron Spin Echo Spectrometer
Spallation Neutron Source, SNS-NSE, BL-15
Neutron Scattering Division
Oak Ridge National Laboratory
1 Bethel Valley Road, Mail Stop 6473
Oak Ridge, TN 37831-6473, USA

<https://www.ornl.gov/staff-profile/laura-r-stingaciu>
<https://orcid.org/0000-0003-2696-5233>

e-mail: stingaciulr@ornl.gov

Education

- **PhD**
2007-2010: PhD in Natural Sciences (*doctor rerum naturalium*) at RWTH Aachen University, Macromolecular Chemistry Department, Aachen - Germany, graduated May 2010

2004-2007: PhD in Materials Science at Technical University Cluj-Napoca, Romania (study not graduated)
- **Master**
2003-2004: Master in Materials Physics, Technology and Engineering, at Technical University of Cluj-Napoca Romania, graduated with master's degree in Materials Sciences
- **University**
1998-2003: Applied Physics Engineering at Technical University of Cluj-Napoca Romania, graduated with Diploma & Licentiate Engineering Degree

Present Professional Appointment

Staff Scientist/Instrument Responsible Scientist at the Neutron Spin Echo Spectrometer (SNS-NSE, BL15), NSD, Oak Ridge National Laboratory, <https://neutrons.ornl.gov/nse/team>

- **Previous Positions and Appointments**
09/2017-12/2019: Neutron Scattering Researcher / Instrument Responsible Scientist at the Neutron Spin Echo Spectrometer (SNS-NSE, BL15), Neutron Scattering Division, Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, TN

04/2017-09/2017: Instrument Responsible Scientist @ Spectrometer for High Energy Resolution (SPHERES), JCNS1 outstation to FRM2, Heinz Maier-Leibnitz Zentrum, Garching, Germany

03/2012-04/2017: Instrument Responsible Scientist @ Neutron Spin Echo Spectrometer (SNS-NSE), JCNS1 outstation to SNS, Forschungszentrum Jülich GmbH, 52425, Jülich, Germany

03/2012-04/2017: Exchange Visitor Research Scientist @ ORNL, Biology and Soft Matter Division (employer JCNS1-FZJ, 52425, Jülich, Germany)

2010-2012: Post-doc fellow in Jülich Forschungszentrum, Germany, IBG3 - Institute of Bio and Geosciences working on modeling and simulations of fluid uptake and flow processes in natural porous media and plants

2007-2010: Research PhD-fellow in RWTH Aachen University, Germany, working on Nuclear Magnetic Resonance and Magnetic Resonance Imaging techniques with application to porous media and plants bio-physiology

2004-2007: Research PhD-fellow at Technical University Cluj-Napoca, Romania, working on physical, chemical, and mechanical characterization of high ceramics and wear resistant materials

2003-2004: Research Assistant at Technical University Cluj-Napoca, Romania, Department of Applied Physics, working on physical and chemical deposition and characterization of superconducting thin films, high ceramics and wear resistant materials

Research Interests and Areas of Expertise

- Application of Scattering Methods (neutrons, X-ray, light) in Biophysics and structural biology to study structure and dynamics of proteins with relevant importance to human health, of bio-membranes, photosynthetic membranes, and other microbiological assemblies
- Investigations of structure-dynamics relations of microbiological assemblies in native and denatured environmental conditions, and the related kinetics-dynamics interactions that govern their functionality
- Comparison with numerical simulations to validate neutrons experimental results and correlate complex structure-dynamics interactions of macromolecules with their biological functionality
- Development of neutron scattering techniques for investigation of soft condensed matter
- Nuclear Magnetic Resonance and Magnetic Resonance Imaging on artificial and natural porous media, roots, and plant cells
- Modeling of fluid transport and hydrological processes in natural porous media, estimation of hydraulic properties of natural porous media by numerical simulations using NMR-MRI experimental data
- Simulations of fluid uptake and transport properties in porous media based on Magnetic Resonance Imaging input data

- Influence of porous structure and its hydro-geo-physical behavior on the NMR measurable parameters for developing new NMR investigation techniques and measurement sequences

Personal Skills, Trainings and Competences

- **Language skills**

Romanian - Native

English - Fluent, excellent

French - Reading and Writing, Basic Conversational, fair working proficiency

German - Basic Conversational, limited proficiency

- **Computer skills**

Professional user of multiple Neutron Scattering, X-ray and NMR instrumentation operation software on Windows, Linux and OSX operation systems; data acquisition, data reduction and data analysis software, Python, Origin, Mantid, Igor, SasView, Scatter, ATSAS, Echodet, DrSpine, MS Office, LaTeX; in the past IDL, Matlab, Fortran, LabVIEW, CAD, SolidWorks, and Pro/Engineer (CREO); basic knowledge of McStas

- **Professional trainings**

Professionally trained in operation, instrumentation, technical support and users support of:

Neutron Spin Echo Spectrometer @ Spallation Neutron Source Oak Ridge

Neutron Spin Echo Spectrometer @ FRMII-Garching neutron facility

Backscattering spectrometer @ FRMII-Garching neutron facility

Small Angle Scattering diffractometers @ FRMII-Garching reactor, Spallation Neutron Source, High Flux Isotope Reactor

Static and Dynamic Light Scattering, CD spectroscopy, Small Angle X-ray Scattering

Trained *as needed* on other inelastic, time-of-flight, polarized and reflectometry neutron scattering techniques

Trained on working daily within chemistry and biology labs

Trained in operating high and low field NMR and MRI spectrometers under Varian, Bruker, KEA or GE spec operation software

- **Additional professional development trainings and courses**

Neutron Instrument Building School, ORNL 2020

Tutorial on modern modeling methods in neutron spectroscopy, ORNL 2019

7 Habits of highly effective people course, ORNL 2019

Resilience in the workplace course, ORNL 2019

The 5 choices of extraordinary productivity course, ORNL 2019

McStas Tutorial Course, ORNL, 2018

Clear Communication for Technical Professionals Course, ORNL, 2018

Writing Federal Proposals training course, ORNL, 2018

Python programming & Mantid training course, ORNL, 2018

Professional Grant Development training, University of TN-Chattanooga, 2018

Python programming training course, ORNL, 2016

Python programming training course, Jülich Research Center, 2009

In vivo Nuclear Magnetic Resonance course, Wageningen NMR Centre, The Netherlands, 2008

Hydrology and geo-statistics course, Bonn University Germany, March 2008
Modeling water flow and contaminant transport in natural porous media by Hydrus 2D-3D course, Prague Czech Republic, 2008
IDL programming training course, Jülich Research Center, 2007

Professional Memberships

- Member of the American Association for the Advancement of Science, AAAS
- Member of the Biophysical Society, BPS
- Member of the Neutron Scattering Society of America, NSSA
- Member of the American Physical Society, APS
- Member of the Humane Society of the United States

Service to Research and Scientific Community

- **Reviewer Activities**
Reviewer for journal articles in: *Pedosphere*, *SolidEarth*, *Water Resources Research*, *TAL*, *Soil Science*, *Macromolecules*, *PeerJ*
Reviewer for instrument beamtime proposals for neutron facilities
Advisor for review of NSF proposal 2019
- **Workshops and Teaching activities**
Workshop Organizer “*Soft Matter Dynamics at the Nano- to Meso-Scale*”, ORNL 2018
Workshop Co-organizer: “*Intrinsically Disordered protein regions in the Context of Polymer Physics*”, ORNL 2019
Session Chair @ HANDS workshop, ORNL 2019
Co-organizer of Focus Session: “*Polymer Dynamics at the Nano- to Meso-scale Revealed by X-ray and Neutron Spectroscopy*”, DPOLY-DSOFT, APS March Meeting 2020
Co-organizer of Focus Session: “*Dynamics of Polymers and Electrolytes in Bulk and in Confinement*”, DPOLY-GERA, APS March Meeting 2021
Teaching theoretical and practical courses for students @ National School on Neutron and X-Ray Scattering
Teaching theoretical and practical course for students @ Neutron Scattering Applications in Structural Biology school

List of Publications

- Chen Y., Yumnam G., Guo J., **Stingaciu L.**, Zolnierczuk P.A., Lauter V.V., Singh D.K., "Magnetic charge's relaxation propelled electricity in two-dimensional magnetic honeycomb lattice", *iScience*, 24, 3, 102206 (2021).
- Mel J.U., Gupta S., Willner L., Allgaier J., **Stingaciu L.**, Bleuel M., Schneider G.J., "Manipulating Phospholipid Vesicles at the Nanoscale: A Transformation from Unilamellar to Multilamellar by an n-Alkyl-poly(ethylene oxide)", *Langmuir*, 37, 7, 2362–2375 (2021).

- **Stingaciu L.**, Biehl R., Do C., Richter D., Stadler A.M., "Reduced Internal Friction by Osmolyte Interaction in Intrinsically Disordered Myelin Basic Protein", *Journal of Physical Chemistry Letters*, 11, 292-296 (2020).
- Chakraborty S., Doktorova M., Molugu T.R., Heberle F.A., Scott H.L., Dzikovski B., Nagao M., **Stingaciu L.**, Standaert R.F., Barrera F.N., Katsaras J., Khelashvili G., Brown M.F., Ashkar R., "How cholesterol stiffens unsaturated lipid membranes", *Proceedings of the National Academy of Sciences of the United States of America*, 117, 21896-21905 (2020).
- Krugmann B., Radulescu A., Appavou M.S., Koutsioubas A., **Stingaciu L.**, Dulle M., Forster S., Stadler A.M., "Membrane stiffness and myelin basic protein binding strength as molecular origin of multiple sclerosis", *Scientific Reports*, 10, 16691 (2020).
- Xie C., Chang S., Mamontov E., **Stingaciu L.**, Chen Y., "Uncoupling between the lipid membrane dynamics of differing hierarchical levels", *Physical Review E*, 101, 012416 (2020).
- Pasini S., Maccarrone S., Szekely N.K., **Stingaciu L.**, Gelissen A.P., Richtering W., Monkenbusch M., Holderer O., "Fluctuation suppression in microgels by polymer electrolytes", *Structural Dynamics*, 7, 034302 (2020).
- **Stingaciu L.**, O'Neill H.M., Liberton M., Pakrasi H.B., Urban V.S., "Influence of Chemically Disrupted Photosynthesis on Cyanobacterial Thylakoid Dynamics in *Synechocystis* sp. PCC 6803", *Scientific Reports*, 9, 5711 (2019).
- Holderer O., Zolnierczuk P.A., Pasini S., **Stingaciu L.**, Monkenbusch M., "A better view through new glasses: Developments at the Jülich neutron spin echo spectrometers", *Physica B: Condensed Matter*, 562, 9-12 (2019).
- Witte J., Kyrey T., Lutzki J., Dahl A.M., Houston J., Radulescu A., Pipich V., **Stingaciu L.**, Kuhnhammer M., Witt M.U., von Klitzing R., Holderer O., Wellert S., "A comparison of the network structure and inner dynamics of homogeneously and heterogeneously crosslinked PNIPAM microgels with high crosslinker content", *Soft Matter*, 15, 5, 1053-1064 (2019).
- Zolnierczuk P.A., Holderer O., Pasini S., Kozielski T., **Stingaciu L.**, Monkenbusch M., "Efficient data extraction from neutron time-of-flight spin-echo raw data", *Journal of Applied Crystallography*, 52, 1022-1034 (2019).
- Poling-Skutvik R., Olafson K.N., Narayanan S., **Stingaciu L.**, Faraone A., Conrad J.C., Krishnamoorti R., "Confined Dynamics of Grafted Polymer Chains in Solutions of Linear Polymer", *Macromolecules*, 50, 18, 7372-7379 (2017).
- Longeville S., **Stingaciu L.**, "Hemoglobin diffusion and the dynamics of oxygen capture by red blood cells", *Scientific Reports*, 7, 10448 (2017).

- Callaway D.J., Matsui T., Weiss T.M., **Stingaciu L.**, Stanley C.B., Heller W.T., Bu Z., "Controllable Activation of Nanoscale Dynamics in a Disordered Protein Alters Binding Kinetics", *Journal of Molecular Biology*, 429, 7, 987–998 (2017).
- **Stingaciu L.R.**, Ivanova O., Ohl M., Biehl R., Richter D., Fast antibody fragment motion: flexible linkers act as entropic spring (2016), *Scientific Reports* (npg member) 6:22148 | DOI: 10.1038/srep22148.
- **Stingaciu L.**, O'Neill H.M., Liberton M., Urban V.S., Pakrasi H.B., Ohl M., "Revealing the Dynamics of Thylakoid Membranes in Living Cyanobacterial Cells", *Scientific Reports*, 6, 19627 (2016).
- Gupta S., Mamontov E., Jalarvo N., **Stingaciu L.**, Ohl M., "Characteristic length scales of the secondary relaxations in glass-forming glycerol", *European Physical Journal E*, 39, 3, 40 (2016).
- Gupta S., Arend N., Lunkenheimer P., Loidl A., **Stingaciu L.**, Jalarvo N., Mamontov E., Ohl M., "Excess wing in glass-forming glycerol and LiCl-glycerol mixtures detected by neutron scattering", *European Physical Journal E*, 38, 1, 1-9 (2015).
- Stadler A., **Stingaciu L.**, Radulescu A., Holderer O., Monkenbusch M., Biehl R., Richter D., Internal Nanosecond Dynamics in the Intrinsically Disordered Myelin Basic Protein, *Journal of the American Chemical Society*, 136(19), 6987-6994 (2014) [10.1021/ja502343b].
- Jalarvo N., **Stingaciu L.**, Gout D., Bi Z., Paranthaman M.P., Ohl M., Proton dynamics in La_{0.8}Ba_{1.2}GaO_{3.9}nH₂O studied by quasielastic incoherent neutron scattering, *Solid State Ionics*, 252, 12-18 (2013).
- **Stingaciu L.**, Schulz H., Pohlmeier A., Behnke S., Zilken H., Javaux M., Vereecken H., In Situ Root System Architecture Extraction from Magnetic Resonance Imaging for Water Uptake Modeling, *Vadose Zone Journal*, 12(1), doi:10.2136/vzj2012.0019 (2012).
- **Stingaciu L.R.**, Weihermüller L., Pohlmeier A., Stapf S., Vereecken H., Determination of soil hydraulic properties using magnetic resonance techniques and classical soil physics measurements, *AIP Conf. Proc.* 1330, 77, doi.org/10.1063/1.3562237 (2011).
- **Stingaciu L.R.**, Characterization of natural porous media by NMR and MRI techniques: High and low magnetic field studies for estimation of hydraulic properties, ISBN978-3-89336-645-3, RWTH Aachen, <http://darwin.bth.rwth-aachen.de/opus3/volltexte/2010/3392/> (2010).
- **Stingaciu L.R.**, L. Weihermüller, S. Haber-Pohlmeier, S. Stapf, H. Vereecken, Pohlmeier A., Determination of pore size distribution and hydraulic properties using nuclear magnetic resonance relaxometry: A comparative study of laboratory methods, *Water Resources Research*, 46, W11510, doi:10.1029/2009WR008686 (2010).

- **Stingaciu L.R.**, Pohlmeier A., Blümner P., Weihermüller L., van Dusschoten D., Stapf S., Vereecken H., Characterization of unsaturated porous media by high-field and low-field NMR relaxometry, *Water Resources Research*, 45, W08412, doi:10.1029/2008WR007459 (2009).

Invited Talks, Lectures, Presentations and Posters

- Invited lecture: *The NSE Spectrometer at SNS and its Biophysics Applications @ Biochemistry Seminar via Zoom at ASRC - City College of New York*, 2020.
- Invited lecture: *Introduction to Neutron Spin Echo Spectroscopy @ Virtual NXS School*, ORNL 2020.
- Invited lecture: *Dynamics of soft matter and biomolecules probed by Neutron Scattering*, @ Virtual HANDS School, ORNL 2020.
- Oral presentation: *NSE beam line review @ Spectroscopy Suite Review*, ORNL 2020.
- Oral and poster presentation: *Dynamics of Biomaterials at the Nano- to Meso-Scale... @ European BPS Congress*, Madrid 2019.
- Invited lecture and practical course: *Introduction to Neutron Spin Echo Spectroscopy @ NXS 21st School*, ORNL 2019.
- Invited lecture and practical course: *Dynamics of soft matter and biomolecules probed by Neutron Scattering @ HANDS School*, ORNL 2019.
- Invited lecture and practical course: *Dynamics by NSE, practical course for students @ HFIR/SANS Advance Neutron Diffraction and Scattering workshop*, ORNL 2019.
- Workshop organizer and oral presentation: *Intrinsically Disordered protein regions in the Context of Polymer Physics*, DoubleTree Hotel -215 S Illinois Ave. Oak Ridge, <https://conference.sns.gov/event/126/>.
- Poster presentation: *Dynamics of Biomaterials at the Nano- to Meso-Scale*, BPS Annual Meeting, Baltimore 2019.
- Poster presentation: *Neutron Spin Echo on Living Bacterial Cells*, NAB Meeting, ORNL 2019.
- Poster presentation: *The Neutron Spin Echo Spectrometer at SNS (SNS-NSE)*, SHUG Meeting, ORNL 2019.
- Poster presentation: *NSE and Biophysics*, CSMB-BER program manager visit @SNS, ORNL 2019.
- Contribution to presentation: *Effect of Interfacial Tethering on Segmental Dynamics in Selectively Deuterated Block Copolymers*, APS March Meeting 2019, Boston, Massachusetts.
- Workshop organizer and oral presentation: *Soft Matter Dynamics at the Nano- to Meso-Scale*, 18-19 September 2018 ORNL, <https://conference.sns.gov/event/101/>. (contribution to *Monthly Highlights of the SNS/HFIR Neutron Scattering User Facilities*, conference call with DOE program managers, September 26, 2018, page 8 of DOE_Call_September2018).
- Lecture: *Dynamics in Biomaterials probed by neutron scattering*, Neutron Scattering Applications in Structural Biology school, ORNL 2018.
- Oral presentation: *NSE and Cyanobacteria*, Mini-Workshop Neutrons and Cyanos, ORNL 2018.
- Oral presentation @ Marti Head visit seminar, ORNL 2018.
- Practical course for students: *Slow dynamics of colloids and micelles*, National School on Neutron and X-Ray Scattering, ORNL 2018.
- Poster presentation: *The Neutron Spin Echo Spectrometer @ SNS (SNS-NSE)*, QENS conference, Hong Kong 2018.

- Contribution to oral presentation: *Neutron Spin Echo Spectroscopy at the Spallation Neutron Source*, SESAPS conference 2018.
- Contribution to oral presentation: *Neutron Spin Echo Spectroscopy at the Spallation Neutron Source*, at the International Workshop on Neutron Spin-Echo Spectroscopy 2018 – 40 years of NSE user operation.
- Contribution to poster presentation: *A better view through new glasses: Developments at the Julich Neutron Spin Echo spectrometers*, QENS conference, Hong Kong 2018.
- Contribution to poster presentation: *Neutron Spin Echo Spectroscopy at the Spallation Neutron Source*, PNCMI conference, London - UK 2018.
- Poster presentation: *The Neutron Spin Echo Spectrometer @ SNS (NSE-SNS)*, Neutrons for Health Conference, Bad Reichenhall - Germany 2017.
- Oral Presentation: *The SNS-NSE Instrument Review*, for the Inelastic Scattering Review ORNL 2017.
- Invited lecture: *Basics and Applications of Neutron Spin Echo Technique*, Neutrons in Science and Industry Seminar Series, Heinz Maier-Leibnitz Zentrum - Germany 2017.
- Invited scientific highlight contribution: *Motion pattern of large molecules*, Joint Annual Report of the MLZ and FRM II, https://mlz-garching.de/files/jahresbericht_2016_kl.pdf.
- Invited talk: *Exploring the dynamics of proteins and living cell membranes by neutron spin-echo*, Symposium of Neutron Scattering Application in Structural Biology, ORNL 2016.
- Contribution to invited talk: *Dynamics of thylakoid membranes in living cyanobacterial cells by neutron scattering*, ACNS conference, Long Beach - USA 2016.
- Contribution to: *Neutron Scattering Division Science Highlights*, Basic Energy Science highlights, March 2016 (page 4 of the pdf ORNL-BES_Highlights_March_2016).
- Contribution to: *Recent PARC Publications, PARC (Photosynthetic Antenna Research Center) 2016 EFRC Mid-Term Review*, PARC Periodical | Volume 7, Issue 3, <https://parc.wustl.edu/parc-periodical/articles/699>.
- Contribution to: *Monthly Highlights of the SNS/HFIR Neutron Scattering User Facilities*, conference call with DOE program managers, February 24, 2016 (page 6 of the pdf DOE_Call_Feb2016).
- Contribution to poster presentation: *Slow Domain Motions of an Oligomeric Protein from Deep-Sea Hyperthermophile probed by Neutron Spin Echo*, APS March Meeting 2016, <http://adsabs.harvard.edu/abs/2016APS..MAR.M1258B>.
- Contribution to oral presentation: *Neutron Scattering Studies of Photosynthetic Antenna Systems*, Energy Frontier Research Centers Principal Investigators' Meeting, October 2015, Washington DC, <https://www.energyfrontier.us/content/2015-efrc-principal-investigators-meeting>.
- Contribution to plenary lecture: *Mechanics of single protein molecules / Dynamics and flexibility of human IgG1 antibody by neutron spin echo spectroscopy*, in European Biophysics J. with Biophysics Letters, (Vol. 44, pp. S51-S51), 10th EBSA European Biophysics Congress – Dresden, Germany, 2015.
- Contribution to oral presentation: *Dynamics in the intrinsically disordered myelin basic protein*, in European Biophysics J. with Biophysics Letters, (Vol. 44, pp. S231-S231), 10th EBSA European Biophysics Congress – Dresden, Germany, 2015.
- Poster presentation: *High Resolution Neutron Scattering Reveals the Dynamics of Thylakoid Membranes in Living Cyanobacterial Cells*, ECNS conference, Zaragoza - Spain 2015.
- Contribution to poster presentation: *Probing the Domain Motions of an Oligomeric Protein from Deep-Sea Hyperthermophile by Neutron Spin Echo*, Annual meeting of the Biophysical Society Maryland - USA 2015, <https://doi.org/10.1016/j.bpj.2014.11.355>.

- Poster presentation: *Internal Dynamics of Immunoglobulin G - Influence of Blocking Agent*, ACNS conference, Knoxville - USA 2014.
- Poster presentation: *Dynamics of intrinsically disordered proteins probed by neutron spin-echo spectroscopy*, ICNS conference, Edinburg - UK 2013.
- Poster presentation: *Influence of blocking agent on the structure and dynamics of Immunoglobulin G*, ICNS conference, Edinburg - UK 2013.
- Contribution to oral presentation: *Water uptake patterns and reconstruction of root system architectures from MRI images*, 4th International Congress EUROSOL, - Italy 2012.
- Contribution to oral presentation: *3-D root water uptake modelling at the field scale*, 4th International Congress EUROSOL, - Italy 2012.
- Poster presentation: *Modeling root water uptake with R-SWMS using magnetic resonance imaging experiments*, EGU conference, Vienna - Austria 2011.
- Poster presentation: *Determination of hydraulic properties of model soil column using combined magnetic resonance imaging and multi-step-outflow experiments*, EGU conference, Vienna - Austria 2011.
- Oral presentation: *Determination of hydraulic properties of model soil column using combined magnetic resonance imaging and multi-step-outflow experiments*, The 10th Bologna Conference on Magnetic Resonance in Porous media, Leipzig - Germany 2010.
- Oral presentation: *Détermination des propriétés hydrauliques du modèle colonne de sol par résonance magnétique, combinée avec multi-step-outflow*, GFHN conference, Louvain-la-Neuve - Belgium 2010 / Bulletin du GFHN, 2011.
- Oral presentation: *Determination of hydraulic properties of model soil column using magnetic resonance imaging and multi-step-outflow experiments*, International symposium on recent advances in NMR applications to materials, Koln - Germany 2010.
- Poster presentation: *Determination of hydraulic properties of model soil column using combined magnetic resonance imaging and multi-step-outflow experiments*, Joint EUROMAR-17th ISMAR conference, Florence - Italy 2010.
- Poster presentation: *Determination of the pore size distribution and hydraulic properties from Nuclear Magnetic Resonance relaxometry*, EGU conference, Vienna - Austria 2010.
- Contribution to poster presentation: *Soils, Pores and NMR*, EGU conference, Vienna - Austria 2010.
- Poster presentation: *Relaxation measurements and water imaging in porous media*, Near Surface Geophysics european meeting, Dublin - Ireland 2009.
- Poster presentation: *High- and low-field NMR relaxometry in homogenized model soils*, EGU conference, Vienna - Austria 2008.
- Poster presentation: *Relaxation measurements and water flux imaging in sand clay phantoms*, ICMRM 9 conference, Aachen - Germany 2007.