IMPORTANT REMINDER: If you have an accepted contribution to the conference, please check the appropriate list of oral and/or poster presentations to be sure that your paper has been included in the schedule. If your paper is missing, please contact David Ailion (nmr@physics.utah.edu) immediately.

The ICMRM program of poster presentations can be found by scrolling down to the next page. Oral presentations can be found here.

POSTER SESSION I
MONDAY SEPTEMBER 22, 2003 6:00 – 8:00 PM
(Snacks will be served during the poster sessions.)

Saša Baumgartner, Gojmir Lahajnar, Ana Sepe, Igor Serša , Julijana Kristl *Investigation of the State and Dynamics of Water in Hydrogels of Cellulose Ethers by MR Microscopy*

Kuniyasu Ogawa, Shinichiro Naruse *Local heat flux measurements using MRI : Non-uniformity of heat transfer in an ice thermal storage capsule pack*

Bianca Hogers, Madelon L. Fekkes, Cees Erkelens, Robert E Poelmann, *Imaging of Embryonic Development*

James C. Mabry, Sarah L. Codd, Scott C. Busse, and Joseph D. Seymour, *MR microscopy of water distribution and dynamics in Polymer Electrolyte Membranes (PEMs)*

Erica L. Gjersing, Sarah L. Codd, Phil S. Stewart, and Joseph D. Seymour, *NMR Microscopy of Biofilm Structure and Bioreactor Fluid Dynamics*

Kaz Nagashima, Hironobu Saitoh,Takahiro Sugano, *Magnetic Resonance Imaging of Water-Sealing Clays used for Waste Disposal Sites*

Kazuya Ikoma, Yoshiteru Seo, Yasuo Mikami, Yoshiaki Kusaka, Daisaku Tokunaga, Yoshinori Marunaka, Toshikazu Kubo, *Evaluation of the Internal Structure Change of Articular Cartilage with Weight-bearing in terms of 1H-NMR Relaxation Behavior*

T. N. Rudakov, V. T. Mikhaltsevitch, *Transient effects in nitrogen-14 quadrupolar spin-systems*

Kai Kremer, Nicolae Goga, Bernhard Blümich, *On-Line Monitoring with the NMR-MOUSE® during Tire Production*
Jennifer R. Brown, Joseph D. Seymour and Sarah L. Codd, *Microfluidics of Colloidal Particles by NMR PGSE Measurements*

Mark W, Hunter, Paul T.Callaghan, Robin Dykstra, and Craig D. Eccles, *Design and Construction of a Portable One-Sided Access NMR Probe*

Robin Dykstra, Paul T. Callaghan, Craig D. Eccles, & Mark W. Hunter, *A Portable NMR System for Remote Measurements*

Xiaohong Ren, Siegfried Stapf, Bernhard Blümich, *NMR Study of Changing Morphology of Porous Al_2O_3 during Deactivation and Regeneration*

Andrew McDowell, S. Jill Glass, and Steven D. Beyea, *Imaging Gases in Ceramics: Application of Techniques for Microstructural Characterization*

Marcos A. d'Avila, Nina C. Shapley, Jeffrey H. Walton, Stephanie R. Dungan, Ronald J. Phillip, and Robert L. Powell, *Mapping a Flow Pattern Transition via Velocity Imaging*

Kevin R. Minard, Don S. Daly, Gary R. Holtom, Loel E. Kathmann, Paul D. Majors, Brian D. Thrall and Robert A. Wind, *A Combined Confocal/^{1}H-NMR Microscopy Study of Water Dynamics and Compartmentalization in Apoptotic CHO Cells*

Kevin R. Minard, Rick A. Corley, Chuck Timchalk, Harold E. Trease, Charles G. Plopper, and Jack R. Harkema, *^{1}H-NMR Microscopy of Respiratory Airway Architecture in Laboratory Animals*

C. B. Nelson, T. Su, W. A. Harrison, and P. C. Taylor, *Structural And Photostructural Properties Of Chalcogenide Glasses*

Justin P. Gage, Sarah L. Codd, Robin Gerlach, and Joseph D. Seymour, *NMR Imaging of Microbial Transport in Porous Media*

Joshua J. Young, Bruce J. Balcom, Theodore W. Bremner, Pavol Szomolanyi, *Crack Detection in Porous Materials*

Gregory Stoch, Fred Goora, Bruce C. Colpitts, Bruce J. Balcom, *Electron Paramagnetic Resonance Imaging using a pure phase encoding technique*

Makoto Yamaguchi, Takahiro Ohkubo, Kazuo Kobori, Kazunori Suzuki, Yasuhisa Ikeda, Koji Saito, and Stephen Altobelli, *Detection of Fractures and Pores in Granite by Magnetic Resonance Microimaging and T_2 Measurement*

K. Münnemann, S. Han, F.W. Häsing, B. Blümich, S. Appelt, *Xenon NMR at very high concentrations*

Igor L. Moudrakovski, G.E. McLaurin, John A. Ripmeester, *High Pressure NMR Microimaging Studies of Gas Hydrate Formation*

C. Blümich, S. Anferova, V. Anferov, A.L. Segre, C. Federici, and B. Blümich, *Investigation of artificial paper aging by the NMR-MOUSE*

L.Grunin, M.Bruder, B.Blümich, D.Karasev, I.Ivanov, I.Nikolaev, *Imaging of Materials with Multiple NMR-MOUSE Sensors and Caterpillar*

G. Maddinelli, and N. Mancini, *NMR flow measurements as an aid to the simulation of fluid dynamics in oil production technology*

Wenlin Huang, Lynn C. Francesconi, Tatyana Polenova, *^{51}V Magic Angle Spinning Solid State NMR Spectroscopy of Vanadium Substituted Polyoxometalates: A Sensitive Probe for Geometric and Electronic Environment*

Neela Pooransingh, Ekaterina Pomerantseva, Martin Ebel, Sven Jantzen, Dieter Rehder, Tatyana Polenova, *^{51}V Solid-State Magic Angle Spinning Spectroscopy and DFT Studies of Oxovanadium (V) Complexes Mimicking the Active Site of Vanadium Haloperoxidases*

Xiaohong Ren, Siegfried Stapf, Bernhard Blümich, *Dynamic microscopy of flow in model fixed-bed reactors*

Kimberly Pierce, Song-I Han, Alex Pines, *Visualization of complex gas dynamics by laser-polarized Xe-129 NMR*

L. Backhouse, M. Dias, J.P. Gorce, J. Hadgraft, P.J. McDonald, J.W. Wiechers, *GARField Magnetic Resonance Profiling of Skin Hydration*

Vasiliki Demas, Jeffrey Reimer, Carlos Meriles, Dimitris Sakellariou, Songi Han, Alex Pines, *An Approach to MR Spectroscopy and Imaging in Permanently Inhomogeneous Magnetic Fields*

Maxim Terekhov, Dieter Höpfel, *MRI investigation of porous media using thermally polarized fluorinated gases.*

Bertram Manz, Frank Volke, Daniel Goll, Harald Horn, *MRI Measurements of Local Flow Velocities and Structure in Biofilm Systems*

Silke Sheppard, Andy J. Sederman, Dimitris A. Verganelakis, Mike L. Johns, Mick D. Mantle, Lynn F. Gladden, *Probing Pore-Scale Velocity Fields During Fluid Flow in Porous Media: Displacement Propagators of Non-Newtonian Fluids in Sedimentary Rocks*

Takahiro Ohkubo, Ryou Tanaka, Koji Saito, Yasuhisa Ikeda, *Nuclear Magnetic Resonance of Hyperpolarized ^{129}Xe in aqueous Na-montmorillonite emulsions*

T. Weber, T. Neuberger, N. Weidner, M. Vroemen, A. Müller, G. Giegerich, U. Bogdahn, A. Haase, A. Steinbrecher, and C. Faber, *Imaging of Spinal Cord Disease Models in the Rat Post Mortem at 17.6 T*

Dean O. Kuethe, Robert E. Botto, Jeana Quintana, Natalie Adolphi, Steven Beyea, *Coal is Impermeable*

Federico Casanova, Juan Perlo, and Bernhard Blümich, *Flow Characterization Using a Single-Sided NMR Probe*

S.C. Grant, N.E. Simpson, S.J. Blackband, & Ioannis Constantinidis, *MR Microscopy and Spectroscopy of in vitro Alginate Constructs: The Engineering of a Bioartificial Pancreas*

S.C. Grant, L. Zhang, A. Siram, P.R. Hof, P.K. Thanos, N.D. Volkow, D. Grandy,S.J. Blackband, and H. Benveniste, *Mapping the Mouse Brain: MR Microscopy, Structural Verifications & Volumetrics on Excised Normal & Mutant C57BL6/J Brains at 17.6 T*

James E. Maneval, Braunen E. Smith, Eiichi Fukushima, *NMR Study of the Flowing Layer in a Granular Media in a Rotating Drum*

Antoine Lutti and Paul T. Callaghan, *Study of the Behaviour of an L_3-Phase under Shear using Rheo-NMR*

Mineyuki Hattori, Norio Ohtake, Ryo Tanaka, Morio Murayama, Kazuhiro Homma, Moyoko Saito, Toshiharu Nakai, and Takashi Hiraga, *Automated Hyperpolarized ^{129}Xe Gas Generator for Biomedical MRI/S Applications*

POSTER SESSION II
WEDNESDAY SEPTEMBER 24, 2003 6:00 – 8:00 PM
(Snacks will be served during the poster sessions.)

Cornelius Faber, Thomas Hörnschemeyer, Axel Haase, *Non-invasive investigation of insect morphology with NMR microscopy*

Igor Serša, Slobodan Macura, *Spectral Resolution Enhancement by Spectroscopic MR Microscopy*

M. Rosario López-González, William M. Holmes and Paul T. Callaghan, *Evidence of shear banding and velocity fluctuations in wormlike micelles using NMR*

Stephen Altobelli, Tang-Tat Ng, *Tri-Axial Testing combined with MRI*

Kimberlee Potter, Paul Anderson, Noritaka Isogai, William Landis, *Magnetic Resonance Microscopy of Tissue Engineered Phalanges*

T.A.J. Hopper, R. Meder and J.M. Pope, *Comparison of High-resolution MRI, Optical Microscopy and SEM in Quantitation of Trabecular Architecture in the Rat Femur*

A.G.Webb, L.Ciobanu, A.Purea, T.Neuberger, and C.Pennington, *Relative signal-to-noise efficiencies of phase- and frequency-encoding methods in NMR microimaging*

T. Kurimoto, T. Shirai, Y. Matsunaga, Y. Matsuda, T. Haishi, S. Utsuzawa,K. Kose, H. Yoshioka, *Development of Compact MRI Systems for Sports Injuries*

Stephen J. Dodd, John Roby, Peter T. Fox, *A simple cooled copper radio frequency coil*

Igor Mastikhin, *Rapid Measurement of RF Flip Angles and T_1 for samples with long T_1 and short T_2**

Igor Mastikhin, B.J. Balcom, D. Goodyear, P. Szomolanyi, N.J. Shah, *Spiral SPRITE MRI of Compact Bone*

Paul D Majors, Jian Z Hu, Fred J Brockman, James K Fredrickson, Yuri A Gorby, Eric A Hill, William P Kovacik, Jeffrey S McLean, and Robert A Wind, *In-situ MR microscopy and spectroscopy of microbial communities*

Artem Goloshevsky, Jeffrey H. Walton, Mikhail V. Shutov, Scott D. Collins, Jeffrey S. de Ropp, Michael J. McCarthy, *Development of Low Field NMR Microcoils*

Yuesheng Cheng, Bryce MacMillan, Rod P. MacGregor, Bruce J. Balcom, *Direct Detection of Hydrocarbon Displacement in a Model Porous Soil with Magnetic Resonance Imaging*

Stephen J. Dodd, Trevor J. Andrews, Jack L. Lancaster, Peter T. Fox, *T_2 relaxometry in the mouse brain*

Alexei V. Ouriadov, Rodney P. MacGregor, Bruce J. Balcom, *Thin Film MRI – High Resolution Depth Imaging with a Local Surface Coil and Spin Echo SPI*

Frank J. Vergeldt, Carel W. Windt, P. Adrie de Jager, Henk Van As, *Advanced MRI microscopy at low magnetic field strength*

Kumud Deka, Bruce J. Balcom, Igor V. Mastikhin, Rod P.MacGregor, *Density Profiling, ^1H and Heteronuclei, with a Half-K-Space SPRITE Technique*

T. Shirai, Y. Matsuda, T. Haishi, S. Utsuzawa, K. Kose, *A Mouse MRI using a Yokeless Permanent Magnet*

Jeeva Munasinghe, Garry Zhang, Sandra L. Hofmann, Alan Koretsky and, Anil B. Mukherjee, *Evaluation of Brain Atrophy in PPT Gene-Targeted Mice by MRI*

Toshihiro Ozeki, Katsumi Kose, Tomoyuki Haishi[3], Shunichi Nakatsubo, Yoshiyuki Matsuda, *NMR Imaging of Drainage Channels in Sea Spray Icing*

J.C. Tsai, T. Weber, T. Neuburger, A. Purea, V. Behr, A. Hasse, A. Webb, *High Field Magnetic Resonance Microscopy of Pig Cartilage*

I. Martin-Vicente, M. J. D. Mallett, P. Blümler, *NMR Imaging of pico-Tesla fields?*

H.-B. Ko, P. Blümler, H. W. Spiess, *Characterization of Mechanical Induced Changes in Polyoxymethylene by NMR/MRI*

Sue C Stark & John H Strange, *The study of solid – liquid interactions using T1rho spectroscopy*

Ilja Kaufmann, Axel Haase, *Contour averaging*

Jian Zhi Hu, and Robert A. Wind, *High Resolution ^{1}H NMR Spectroscopy in Intact Biological Objects Using Slow Magic Angle Spinning*

Christoph H. Arns, Arthur Sakellariou, Tim Senden, Adrian P. Sheppard, Rob M. Sok, Mark A. Knackstedt, *Numerical simulations of NMR responses on micro-tomographic images*

Dieter Höpfel, Maxim Terekhov, *High Resolution MRI of Limbs using a Low Cost/ Low Field Resistive Magnetic System*

Ben Newling, Bruce J. Balcom, Christopher Poirier, Dale Roach, Yang Zhi, *Single-Point MRI of Fast, Turbulent Gas Flow*

D. Haddad, A. Purea, M. Schmidt, M. Haas-Rioth, H.H.A. Oelschläger, A. Haase, *MR-Histology: Embryonal and Fetal Brain Development in Bovines*

Shohji Tsushima, Kazuhiro Teranishi, Shuichiro Hirai, *NMR Microscopy for Measurement of Water Distribution in a Polymer Electrolyte Membrane under Fuel Cell Operation*

Shuichiro Hirai, Shohji Tsushima, Kazuhiro Teranishi, *Time-series NMR Microscopy to Measure Dehydration Process of a Polymer Electrolyte Membrane in Fuel Cell Startup*

Thomas Neuberger, H. Schneider, D. Haddad, A. Purea, M. Westhoff, A. Haase, U. Zimmermann,C. Faber, A. Webb, *NMR microscopy of the lipid distribution in air-dry branches of the resurrection plant* Myrothamnus flabellifolia

Armin Purea, Daniel Haddad, Thomas Neuberger, Axel Haase, Andrew G. Webb, *The effects of chemical fixation on intracellular NMR relaxation times*

Volker C. Behr, I. Wieland, M. Oechsner, D. Gareis, T. Weber, T. Neuberger, A. Haase, C. Faber, *An improved Probebase and Resonator Setup for in-vivo body MR Imaging of small mammals at 17.6 T*

Volker C. Behr, I. Wieland, M. Oechsner, D. Gareis, T. Neuberger, D. Haddad, A. Haase, C. Faber, *Resonator Designs and Results for Microscopic in-vivo and ex-vivo MRI at Highest Field Strengths up to 17.6 T*

F. W. Hersman, M. I. Hrovat, R. W. Mair, I. Muradyan, J. Ng, S. Patz, M. S. Rosen, I. C. Ruset, L. L.Tsai and R. L. Walsworth, *A Human Scale, Open-Access Low Field MRI System*

Prem N. Gambhir, Young J. Choi, Michael J. McCarthy, *NMR Relaxation Time of Navel Oranges – A Screening Parameter for Identifying Freeze-Damage*

Carel Windt, Frank Vergeldt, Adrie de Jager, Henk Van As, *Playing with propagators: investigating water transport and tissue properties in plants using flow imaging and combined flow-T_2 imaging*

J. Constantin Széles, Jana Kainerstorfer, Bence Csapo, Csilla Balássy, Raschid Hoda, Markus Klarhöfer, Peter Polterauer, *Examples for clinical application of NMR Microscopy*

Ilja Kaufmann, Lars Wegner, Ulrich Zimmermann, Axel Haase, *Diffusion barriers for macromolecules in intact plant roots*

Jian Zhi Hu, Hanne C. Bertram, Donald N. Rommereim, and Robert A. Wind, *High Sensitivity, High Resolution ^{1}H NMR Spectroscopy of Excised Muscle Tissues Using Slow MAS*

Sascha Köhler, Jens Maier, Karl-Heinz Hiller, Axel Haase, Peter M. Jakob, *NMR-microscopy with TrueFISP at 11.75 T*

Yang Xia, Hisham Alhadlaq, *Early Detection of Osteoarthritis in Cartilage by μMRI and PLM*

Catherine Jones and Jim Pope, *Mapping the refractive index distribution through the crystalline lens using magnetic resonance micro-imaging (μMRI)*

Catherine Jones and Jim Pope, *Measuring the optical properties of the eye lens using magnetic resonance micro-imaging (μMRI)*

Jörg Felder, *Efficient and Linear RF Power Amplifier for Unilateral NMR Apparatus*

Natalia Hernández-Sánchez, Pilar Barreiro, Margarita Ruiz-Altisent, Jesús Ruiz-Cabello, Xavier Gimeno, Sebastián Idelsohn, Sandra Aguilar, *Detection of freeze injury in oranges by Magnetic Resonance Imaging*

Anatoly A. Khripov, V. I. Chizhik, K. Nishinari, *Applications of surfactant micelles as a sensitive NMR probe in physics of biopolymer systems*

Davide Santoro, Walter Köckenberger, *Quantification of the attenuation in the polarisation transfer efficiency induced by diffusion through magnetic field gradients: Simulations and experiments*

Trevor J. Andrews, Jack L. Lancaster, Carmen Contreres-Sesvold, Stephen J. Dodd, *Low SNR Performance of a 3-Pool Model for Myelinated Tissue*
