

Solid State NMR I

Room Tower Room,
Thursday, June 27
8:30AM - 10:30AM

39. 8:30 STRUCTURE DETERMINATION FROM THE SOLID-STATE NMR SPECTRA OF ORIENTED PROTEINS. **Francesca M Marassi Ph.D.**¹, ¹Burnham Institute, 10901 North Torrey Pines Road, La Jolla, California 92037
40. 9:00 SOLID STATE NMR STUDIES OF FUSION PEPTIDES AND PHOSPHOCHALCOGENIDE MATERIALS. **David P. Weliky**¹, ¹College of Natural Science, Michigan State University, Department of Chemistry, East Lansing, Michigan 48824-1322
41. 9:30 NOVEL TECHNIQUES TO OBTAIN STRUCTURAL INFORMATION FROM SOLID BIOMOLECULES. **Yufeng Wei**¹, Dong-Kuk Lee¹, Lucy Waskell¹, A. Ramamoorthy¹, ¹University of Michigan, Department of Chemistry and Biophysics Research Division, Ann Arbor, MI 48109

Solid State NMR II

Room Tower Room,
Thursday, June 27
10:30AM - 12:30PM

42. 10:30 COMPARISON OF MIXTURES OF CHOLESTEROL WITH PHOSPHATIDYL-CHOLINE AND WITH PHOSPHATIDYLSERINE USING 13C CP-MAS NMR. **Richard M. Epand**¹, Alex Bain², ¹Health Sciences, McMaster University, McMaster University, Hamilton, Ontario L8N 3Z5; ²Faculty of Science, McMaster University, McMaster University, Hamilton, Ontario L8N 3Z5
43. 11:00 THE PROPERTIES OF LIPIDS WITH POLYUNSATURATED HYDROCARBON CHAINS. **Klaus Gawrisch**¹, Nadukkudy V. Eldho¹, Ivan V. Polozov¹, Joby S. Mathews¹, ¹National Institutes of Health, 12420 Parklawn Dr, Rm. 150, Rockville, MD 20852
44. 11:30 POLYELECTROLYTES AT LIPID BILAYER SURFACES: CONFORMATION AND CONSEQUENCE. **Peter M. MacDonald**¹, ¹University of Toronto at Mississauga, 3359 Mississauga Road, Mississauga, Ontario L5L 1C6

Solid State NMR III

Room Tower Room,
Thursday, June 27
1:00PM - 3:30PM

45. 1:00 STRUCTURE AND MEMBRANE ORIENTATION OF SARCOLIPIN AND PHOSPHOLAMBAN: NEW INSIGHTS INTO IN CARDIAC AND SKELETAL MUSCLE. **Gianluigi Veglia**¹, ¹University of Minnesota, 207 Pleasant St. SE, Minneapolis, MN 55455
46. 1:30 ANTIMICROBIAL AND FUSOGENIC PEPTIDES IN MEMBRANES STUDIED BY SOLID STATE ¹⁹F-NMR. **Anne S. Ulrich**¹, Sergeii Afonin², Ralf W. Glaser¹, Ulrich Durr¹, Marina Berditchevskaia¹, Parvesh Wadhvani¹, Jesus Salgado², Stephan L. Grage³, ¹Friedrich-Schiller-University of Jena, Institute of Molecular Biology, Winzerlaer Str. 10, Jena, Jena 07745; ²Universitat de Valencia, Dr. Moliner, 50, 46100 Burjassot, Valencia ; ³University of Oxford, Biomembrane Structure Unit, South Parks Road, Oxford

47. 2:00 PROBING INTEGRAL MEMBRANE PROTEIN SYSTEMS WITH SOLID-STATE NMR SPECTROSCOPY. **Gary A. Lorigan**¹, ¹College of Arts and Science, Miami University, Department of Chemistry and Biochemistry, Oxford, Ohio 45056
48. 2:30 MECHANISM OF MEMBRANE-DISRUPTION BY AN ANTIMICROBIAL PEPTIDE MSI-78. **Kevin J. Hallock**¹, ¹Literature, Science & the Arts, University of Michigan, Chemistry, Ann Arbor, Michigan 48109-3004

Solid State NMR IV

Room Tower Room,
Thursday, June 27
3:30PM - 6:00PM

55. 3:30 OBTAINING QUANTITATIVE AND QUALITATIVE NMR INFORMATION FROM QUADRUPOLES IN REAL SYSTEMS. **Larry W. Beck**¹, Kathryn J. Hughes¹, Mark V. Wilson¹, ¹Literature, Science & the Arts, University of Michigan, Chemistry, Ann Arbor, Michigan 48109-1055
56. 4:00 STRUCTURAL CHARACTERIZATION OF MOLECULAR SIEVES AND RELATED MATERIALS USING MQ-MAS AND REDOR NMR. **S Ganapathy**¹, ¹Central Leather Research Institute, Adyar, Chennai, India 1111
57. 4:30 HIGH-RESOLUTION ¹H AND ¹⁵N SOLID-STATE NMR STUDIES OF IMIDAZOLE-BASED PROTON CONDUCTORS. **Gillian R. Goward**¹, Ingo Schnell², Daniel Sebastiani², ¹McMaster University, Department of Chemistry, Hamilton, ON L8S 4M1; ²Max Planck Institute for Polymer Research, Ackermannweg 10, Mainz, 55128
58. 5:00 SOLID-STATE OXYGEN-17 NMR: A NEW PROBE TO HYDROGEN BONDING INTERACTIONS. **G. Wu**¹, ¹Queen's University at Kingston, Frost Wing, Rm316, Kingston, Ontario K7L 3N6

Solid State NMR V

Room Salon,
Friday, June 28
8:30AM - 10:30AM

49. 8:30 NMR STUDIES OF SOLIDS AT HIGH MAGNETIC FIELDS: NON-INTEGER QUADRUPOLEAR NUCLEI. David L. Bryce¹, **Roderick E. Wasylshen**¹, Myrlene Gee¹, Michelle Forgeron¹, ¹University of Alberta, Room E3-32 Chemistry Centre, Edmonton, Alberta T6G 2G2
50. 9:00 N-14 MAGNETIC RESONANCE IN THE SOLID STATE. **Bryan H. Suits**¹, ¹College of Sciences and Arts, Michigan Technological University, Physics Dept, Houghton, Michigan 49931-1295
51. 9:30 SOLID-STATE NMR OF UNRECEPTIVE QUADRUPOLEAR NUCLEI. **Robert W. Schurko**¹, Ivan Hung¹, Andy Y.H. Lo¹, Mathew J. Willans¹, ¹University of Windsor, 401 Sunset Ave., Windsor, Ontario N9B 3P4

Solid State NMR VI

Room Salon,
Friday, June 28

10:30AM - 12:00PM

52. 10:30 ^{13}C - ^1H DIPOLAR-ASSISTED ^{13}C - ^{13}C ROTATIONAL RESONANCE UNDER MAS AND ITS APPLICATIONS. **K. Takegoshi**¹, ¹Graduate School of Science, Kyoto University, Kitashirakawa Oiwakechou, Kyoto, Kyoto 606-8502
53. 11:00 POLYPEPTIDE SHIELDING TENSORS: COMPARISON OF THEORY WITH EXPERIMENT. **Richard J. Wittebort**¹, Eduard Y. Chekmenev¹, ¹University of Louisville, Department of Chemistry, Louisville, KY 40292
54. 11:30 STRUCTURAL ANALYSIS OF A LIGAND BOUND TO A LARGE PROTEIN. **Hideo Akutsu**¹, Yoshiyuki Miyasaka¹, Masatsune Kainosho², Toshimichi Fujiwara¹, ¹Institute for Protein Research, Osaka University, 3-2 Yamadaoka, Suita, Osaka 565-0871; ²Tokyo Metropolitan University, Minamiohsawa, Hachioji, Tokyo 192-0397

Solid State NMR Posters

Room Guild Hall,
Friday, June 28

1:00PM - 3:00PM

59. CONFORMATIONAL AND DYNAMIC STUDIES OF THE AMINO-PROXIMATE TRANSMEMBRANE PEPTIDE FROM CREP-1, A DIVERGED MICROSOMAL DELTA-12 DESATURASE. William J. Gibbons Jr.¹, **Robert E. Minto**¹, Nick Cellar¹, Gary A. Lorigan¹, ¹College of Arts and Science, Miami University, Department of Chemistry and Biochemistry, Oxford, Ohio 45056
60. INVESTIGATIONS OF QUADRUPOLAR PARAMETERS IN ZEOLITES BY NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY. Mark V. Wilson¹, **Larry W. Beck**¹, ¹Literature, Science & the Arts, University of Michigan, Chemistry, Ann Arbor, Michigan 48109-1055
61. APPLICATIONS OF LEE-GOLDBURG TECHNIQUES TO PROBE INTERMOLECULAR DISTANCE AND GEOMETRY. Erin E. Wimmers¹, **Larry W. Beck**¹, ¹Literature, Science & the Arts, University of Michigan, Chemistry, Ann Arbor, Michigan 48109-1055
62. QUANTITATIVE MEASUREMENTS OF QUADRUPOLAR NUCLEI. Kathryn J. Hughes¹, **Larry W. Beck**¹, ¹Literature, Science & the Arts, University of Michigan, Chemistry, Ann Arbor, Michigan 48109-1055
63. INVESTIGATION OF THE DYNAMIC ACIDITY OF BORON ZEOLITES USING SOLID-STATE NMR. Brett S. Duersch¹, **Larry W. Beck**¹, ¹Literature, Science & the Arts, University of Michigan, Chemistry, Ann Arbor, Michigan 48109-1055
64. CADMIUM-113 CHEMICAL SHIFT ANISOTROPY TENSORS DETERMINED USING SOLID STATE NMR EXPERIMENTS AND QUANTUM CHEMICAL CALCULATIONS. **Srikanth Srinivasan Kidambi**¹, Dong Kuk Lee¹, Ramamoorthy Ayyalusamy¹, ¹University of Michigan, 930 N.University St. #1500, Ann Arbor, MI 48109
65. SUBLIMABLE SOLIDS CAN BE USED TO MECHANICALLY ALIGN LIPID BILAYERS FOR SOLID-STATE NMR STUDIES. **Kevin Hallock**¹, Katherine Henzler Wildman¹, Dong-Kuk Lee¹, A. Ramamoorthy¹, ¹University of Michigan, 930 North University, Ann Arbor, Michigan 48109

66. EFFICIENT ACQUISITION OF WIDELINE ^{91}Zr NMR SPECTRA IN THE SOLID STATE. Ivan Hung¹, **Robert W. Schurko**¹, ¹University of Windsor, 401 Sunset Ave., Windsor, Ontario N9B 3P4
67. SOLID-STATE NMR STUDIES OF LL37 PEPTIDE-LIPID INTERACTIONS IN MEMBRANES. **Katherine A. Henzler Wildman**¹, Gary V. Martinez², Michael F. Brown², A. Ramamoorthy¹, ¹University of Michigan, 930 N. University Ave., Ann Arbor, MI 48109; ²University of Arizona, 1306 E. University, Tucson, AZ 85721
68. PARDAXIN'S MECHANISM IS DEPENDENT ON MEMBRANE COMPOSITION. **Kevin Hallock**¹, Dong-Kuk Lee¹, John Omnaas², Henry I. Mosberg², A. Ramamoorthy¹, ¹University of Michigan, 930 North University, Ann Arbor, Michigan 48109; ²Pharmacy, University of Michigan, Pharmacy, Ann Arbor, Michigan 48109-1065
69. THEORETICAL PREDICTION OF ^{51}V QUADRUPOLEAR PARAMETERS IN VANADATES. Andy Y.H. Lo¹, **Robert W. Schurko**¹, ¹University of Windsor, 401 Sunset Ave., Windsor, Ontario N9B 3P4
70. SOLID-STATE NMR STUDIES OF CA²⁺-ATPASE REGULATOR PROTEIN PHOSPHOLAMBAN. **Elvis Tiburu Mr.**¹, Paresh C Dave Dr.¹, Thomas Cardon¹, Gary A. Lorigan², Baowei Chen³, Diana Jean Bigelow⁴, ¹Miami University, Dept. of Biochemistry & chemistry, Oxford, OH 45056; ²College of Arts and Science, Miami University, Department of Chemistry and Biochemistry, Oxford, Ohio 45056; ³University of Kansas, Lawrence, Kansas 66045; ⁴College of Liberal Arts and Sciences, University of Kansas, University of Kansas, Lawrence, Kansas 66045
71. PROBING THE STRUCTURE AND DYNAMICS OF ALKALI-METAL METALLOCENES BY SOLID-STATE NMR. Mathew J. Willans¹, Ivan Hung¹, **Robert W. Schurko**¹, ¹University of Windsor, 401 Sunset Ave., Windsor, Ontario N9B 3P4
72. STRUCTURAL INVESTIGATION OF THE MEMBRANE-BOUND HIV-1 FUSION PEPTIDE BY SOLID STATE NMR REDOR MEASUREMENTS. Jun Yang¹, Rong Yang¹, **David P. Weliky**¹, ¹Michigan State University, Department of Chemistry, East Lansing, MI 48824
73. DETERMINATION OF N-15, C-13 CHEMICAL SHIELDING TENSORS IN ZINC COMPLEXES USING EXPERIMENTAL AND THEORETICAL METHODS. **Srikanth Kidambi**¹, Ramamoorthy Ayyaluswamy¹, ¹University of Michigan, 930 N. University St, #1500, Ann Arbor, Michigan 48109
74. MEASUREMENTS OF THE ORIENTATION OF HIV-1 FUSION PEPTIDE IN LIPID BILAYERS. **Christopher Wasniewski**¹, David P. Weliky², ¹College of Natural Science, Michigan State University, Department of Physics, East Lansing, MI 48824; ²College of Natural Science, Michigan State University, Department of Chemistry, East Lansing, Michigan 48824-1322
143. INVESTIGATION OF THE ACTIVATOR SITE IN L-ASPARTASE : A SOLID STATE NMR STUDY. **Somali Ghosh**¹, Jennifer McMillan¹, Matthew P. Espe¹, ¹University of Akron, Department of Chemistry, Akron, OH 44325

Solid State NMR VII

Room Salon,

Friday, June 28

3:30PM - 5:30PM

75. 3:30 CHARACTERISTICS OF ARTICULAR CARTILAGE BY NMR MICROSCOPY, POLARIZED LIGHT MICROSCOPY AND TRANSMISSION ELECTRON MICROSCOPY. **Yang Xia**¹,
¹Oakland University, Department of Physics, Rochester, Michigan 48309
76. 4:00 MAGNETIZATION TRANSFER IN VIVO: SOLIDS THROUGH THE WATER LOOKING GLASS. **Scott Swanson**¹, ¹University of Michigan, Radiology, Ann Arbor, Michigan 48109
77. 4:30 STRUCTURAL STUDIES OF INTEGRAL AND PERIPHERAL MEMBRANE PEPTIDES IN MAGNETICALLY ALIGNED PHASES BY SOLID STATE NMR. **Philip Williamson Dr**¹, Giorgia Zandomeneghi², Aswin Verhoeven², Marco Tomaselli Dr², Beat Meier Prof², ¹ETH-Zurich, ETH-Zurich, Zurich, ZH 8093; ²ETH-Zurich, ETH-Zurich, Zurich, 8093
78. 5:00 SENSITIVITY ENHANCEMENT, C_q MEASUREMENT, AND SELECTIVE EXCITATION OR SUPPRESSION OF QUADRUPOLEAR NUCLEI RESONANCES USING RAPT. **Philip J Grandinetti**¹, Hyung T Kwak¹, S Prasad¹, Ted M Clark¹, ¹The Ohio State University, Department of Chemistry, Columbus, OH 44325