



14<sup>th</sup> ICMRM

# International Conference on Magnetic Resonance Microscopy

Materials, Molecular Processes and Engineering

Halifax, Nova Scotia, Canada

August 13 - 17, 2017

[icmrm2017.com](http://icmrm2017.com)

Dear Colleagues,

It is a pleasure to welcome you to the 14<sup>th</sup> International Conference on Magnetic Resonance Microscopy in Halifax, Nova Scotia, Canada. The conference is held under the auspices of the Spatially Resolved Magnetic Resonance (SRMRM) Division of the AMPERE (Atomes et Molécules Par Études Radio-Électriques) Society. The series of these conferences started in 1991 in Heidelberg, Germany and was continued as a biannual meeting (originally called “Heidelberg Conferences”). The last five meetings were held in Munich, Germany (2015), Cambridge, UK (2013), Beijing, China (2011), Montana, USA (2009), and Aachen, Germany (2007).

The aim of the conference is to showcase the most recent advances in the development and application of magnetic resonance microscopy. The 14<sup>th</sup> ICMRM in 2017 welcomes more than 160 attendees from around the world. The conference will include educational lectures on Sunday, August 13<sup>th</sup> with four tutorial lectures given by international experts. The ICMRM program includes 20 invited lectures and 52 oral presentations selected by a review committee from submitted abstracts. In addition 75 posters will be presented during two poster sessions and they will be available to view for the entire conference.

The ICMRM starts with a plenary lecture given by R. Scott Hinks from GE Healthcare on Sunday afternoon. New this year in the ICMRM will be the Erwin Hahn lecture, named in honour of one of the founders of magnetic resonance. The Erwin Hahn lecture will be given as a plenary lecture on Tuesday morning by Eiichi Fukushima. Eiichi has been a long time attendee of the ICMRM conferences and has made numerous contributions to the development of our field.

As in previous conferences, there will be a Paul Callaghan Young Investigator Award Competition. Five finalists have been chosen by a panel of international reviewers. The finalists will give oral presentations during a morning session on Tuesday, August 15<sup>th</sup>. The winner of this competition will receive the “Sir Paul Callaghan Young Investigator Award”, in memory of the scientific contributions of one of the leading scientists in the field of magnetic resonance.

Guided by the SRMR Executive committee and the Division committee, this year’s ICMRM will have a renewed emphasis on biomedical imaging. We have also sought to include complementary microscopy methods in presentations at the conference. This is most evident in the work to be presented by our invited lecturers. The 14th ICMRM includes the “Colloquium on Mobile NMR” as with previous

conferences. There will be two scientific sessions on “Mobile and Low field NMR”, on Monday and Thursday.

The book of abstracts will be available as a pdf file download from the conference website on Friday, August 11th.

The conference will be held in two adjacent buildings on the Dalhousie University Campus. Lectures and registration on Sunday will be held in the McCain building, which is location #4 on the campus map (next page). Exhibits, posters, coffee breaks, and lunches will be located in the Student Union Building across the street from the McCain Building. The Student Union Building, location #2 on the campus map, will also house the conference registration/information desk after Sunday, August 13<sup>th</sup>.

The opening reception will be held at Citadel Hill. The official conference dinner will be held in the Canadian Museum of Immigration at Pier 21 in Halifax, which is Canada's National Museum of Immigration. Bus transportation for both events will be provided for all attendees. If you prefer to walk, suggested routes are shown on your second map included in the program booklet.

Welcome to Halifax, Dalhousie University, and Canada. We hope that you enjoy the conference.

14th ICMRM Local Organizing Committee

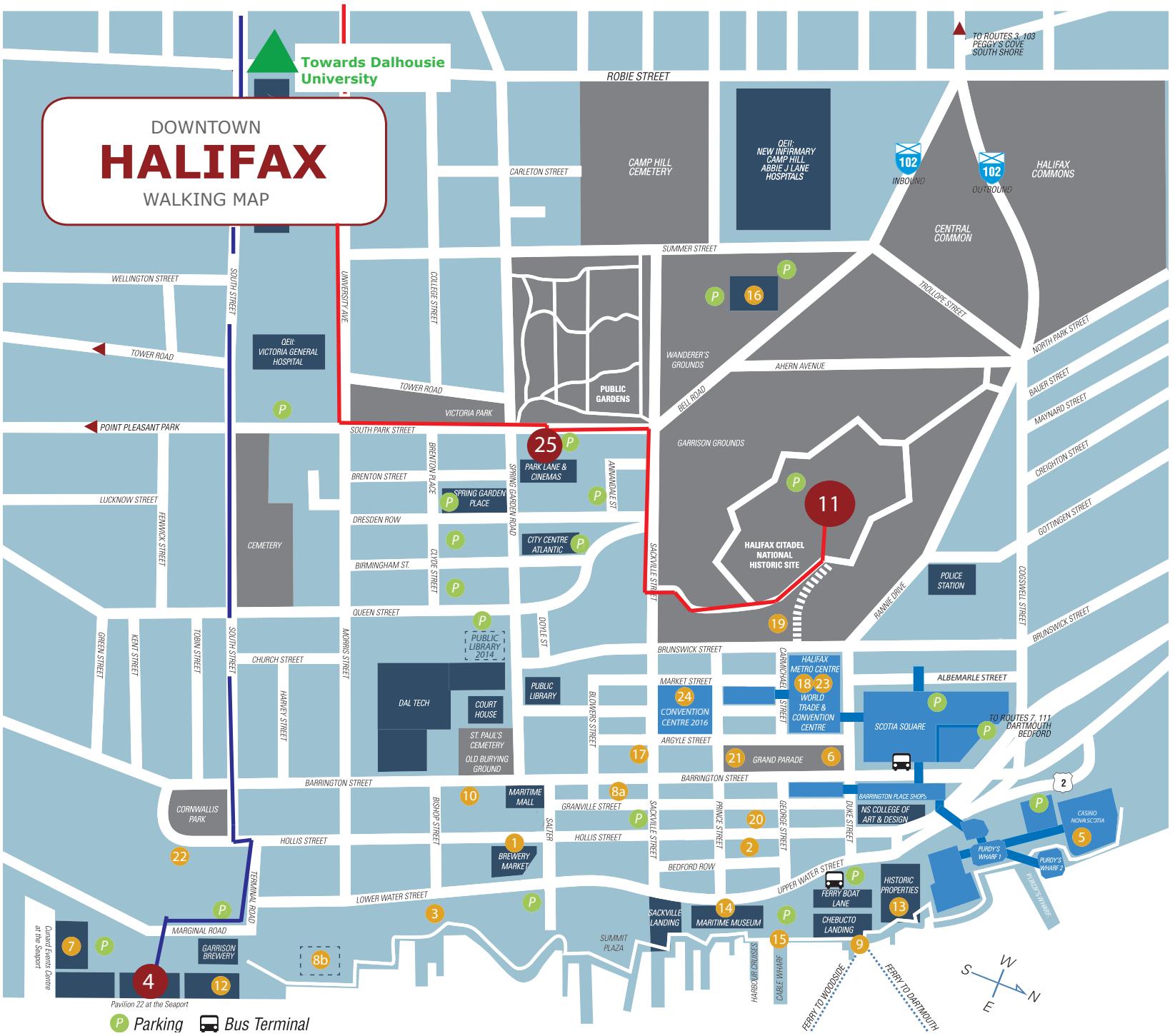


## DALHOUSIE UNIVERSITY: STUDLEY CAMPUS

- 1** Killam Memorial Library
- 2** Student Union Building (SUB) \_\_\_\_\_ Coffee breaks, lunch, posters, exhibitors  
\_\_\_\_\_  
Campus Bar, Grawood
- 3** LeMarchant Place \_\_\_\_\_ Conference Accommodation ●
- 4** Marion McCain Arts and Social Sciences Building \_\_\_\_\_ Lecture Hall  
\_\_\_\_\_  
Conference Registration, Sunday
- 5** Shirreff Hall \_\_\_\_\_ Conference Accommodation ●
- 6** Risley Hall \_\_\_\_\_ Conference Accommodation ●
- 7** Howe Hall \_\_\_\_\_ Breakfast for those staying in Dalhousie Residences

● Accommodation Registration for Risley Hall and LeMarchant Place is at Risley Hall.

● Accommodation Registration for Shirref Hall is at Shirref Hall.

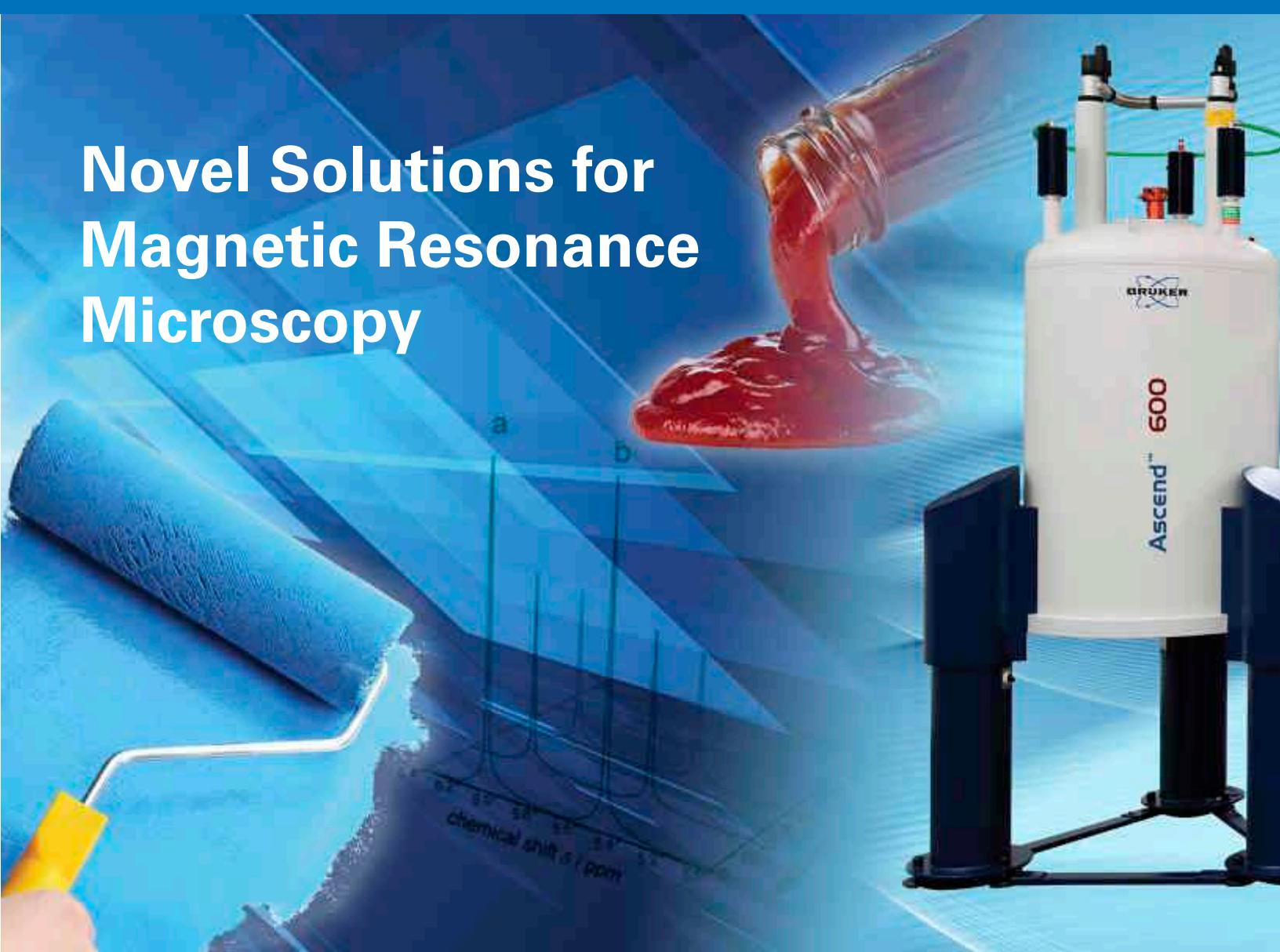


## ● ATTRACTIONS, ACCOMODATIONS, & UNIQUE VENUES

1. Alexander Keith's NS Brewery
2. Art Gallery of Nova Scotia
3. Bishop's Landing
- 4. Canadian Museum of Immigration at Pier 21**
5. Casino Nova Scotia
6. City Hall
7. Cunard Centre
- 8a. Discovery Centre
- 8b. Discovery Centre 2014
9. Ferry Terminal
10. Government House
- 11. Halifax Citadel National Historic Site**
12. Halifax Seaport Farmers' Market
13. Historic Properties
14. Maritime Museum of the Atlantic
15. Murphy's the Cable Wharf
16. Museum of Natural History, (Nova Scotia Museum)
17. Neptune Theatre
18. NS Sport Hall of Fame
19. Old Town Clock
20. Province House
21. St. Paul's Anglican Church
22. VIA Rail Station
23. World Trade & Convention Centre
24. Convention Centre 2016
- 25. The Lord Nelson Hotel & Suites**



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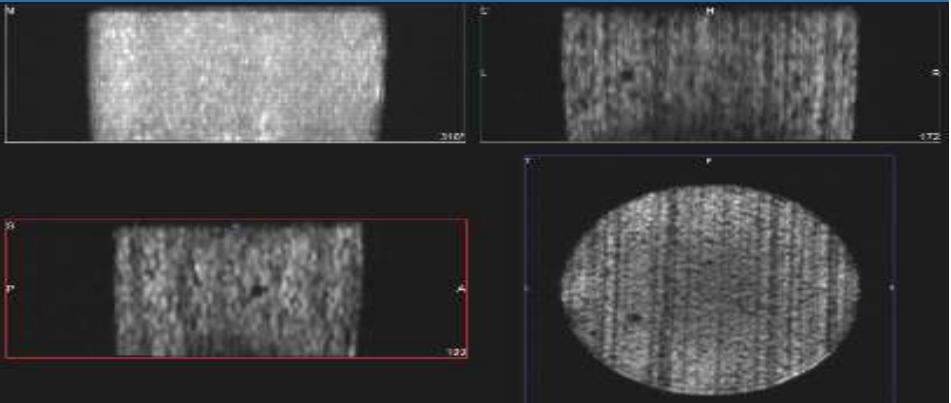
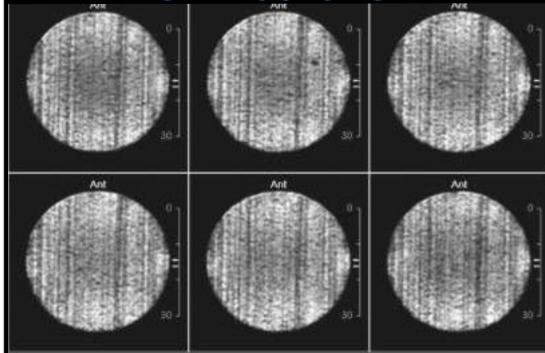
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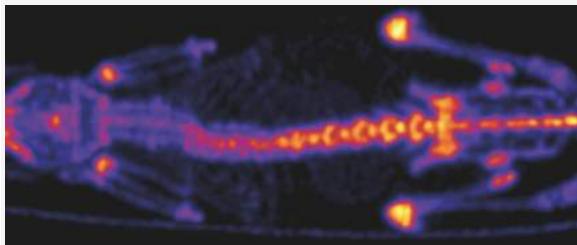
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# Conference Schedule: August 13th - 17th

(ADT)	Sunday	Monday	Tuesday	Wednesday	Thursday
	8:30 AM Arrivals and Registration				
9:00 AM	Lobby of McCain Hall (Open until 5 PM)	Peter Basser	9:15 AM Eiichi Fukushima (Plenary)	9:15 AM Methodology	Gisela Guthausen
10:00 AM		Biomedical	10:00 AM Paul Callaghan Award		9:45 AM Mobile/low-field (2)
11:AM		10:45 AM Refreshments	10:40 AM Refreshments	10:45 AM Refreshments	10:45 AM Refreshments
12:00 PM		Mark Does	11:15 AM Paul Callaghan Award	Gillian Goward	Paula Foster
	12:30 PM Flow and Diffusion	11:45 AM Mobile/low-field (1)	Yang Xia	11:45 AM Electrochemical	11:45 AM Cellular & Molecular
1:00 PM	Sarah Codd	12:45 PM Lunch	12:45 PM Lunch	12:45 PM Lunch	12:45 PM Lunch
	1:30 PM NMR Hardware				
2:00 PM	Andrew Webb	Edmund Fordham	Mitch Albert	2:00 PM Free Afternoon to Explore	Mick Mantle
	2:30 PM Refreshments	2:30 PM Porous Media (1)	2:30 PM Hyperpolarisation		2:30 PM Flow & Diffusion (1)
3:00 PM	3:00 PM Pre-Clinical MRI Jeff Dunn	3:30 PM Refreshments	3:15 PM Refreshments		3:30 PM Refreshments
4:00 PM	4:00 PM Compact MRI Dimitrios Sakellariou	4:00 PM Porous Media (2)	Materials		4:00 PM Flow & Diffusion (2)
5:00 PM	5:00 PM Scott Hinks (Plenary)	Peter Caravan	Louis Bouchard		Melanie Britton
6:00 PM		5:15 PM Posters (Odd #)	5:15 PM Posters (Even #)	5:30 PM Pre-Dinner Reception (Location: Pier 21)	General Meeting
7:00 PM	6:30 PM Opening Reception (Location: Citadel Hill)			6:30 PM Conference Dinner (Location: Pier 21)	
8:00 PM					

**Please note:** To view and download abstracts presented at ICMRM 2017, go to the "download" tab on the conference website: [WWW.ICMRM2017.com](http://WWW.ICMRM2017.com)

Time	Sunday, August 13th		Abstract ID
8:30 AM	<b>Arrivals and Registrations</b> <b>Location:</b> Lobby of McCain (Open until 5:00 PM)		
Speaker	Title	Session: Educational Chair: Igor Mastikhin	
12:30 PM	Sarah Codd	<b>NMR Basics, Imaging, Flow and Diffusion</b> <i>S.L. Codd</i>	<a href="#">E. 1</a>
1:30 PM	Andrew Webb	<b>MR/MRI Hardware</b> <i>A.G. Webb</i>	<a href="#">E. 2</a>
2:30 PM		<b>Refreshments</b>	
3:00 PM	Jeff Dunn	<b>A Hitchhikers Guide to Small Animal MRI/MRS</b> <i>J.F. Dunn</i>	<a href="#">E. 3</a>
4:00 PM	Dimitrios Sakellariou	<b>Compact Magnetic Resonance: Frontiers and Challenges</b> <i>D. Sakellariou</i>	<a href="#">E. 4</a>
Session: Conference Opening Chair: Steven Beyea			
5:00 PM	R. Scott Hinks	<b>Quantitative MR Evolution or Revolution?</b> <i>R.S. Hinks</i>	<a href="#">PL. 1</a>
6:30 PM		<b>Opening Reception</b> <b>Location:</b> Citadel Hill (Open until 8:30 PM) Bus transport from conference venue will be provided	

Monday, August 14th			
Time	Speaker	Title	
Session: Biomedical Chair: James Rioux			
9:15 AM	Peter Basser	<b>Microstructure and Microdynamic MRI</b> <i>P.J. Basser</i>	<u>I. 1</u>
<b>Relaxation and Diffusion NMR for Studying Cartilage and Naturally Occurring Osteoarthritis in Humans: Exchange Models</b> <i>S.E. Mailhot, J.E. Maneval, R.K. June, J.R. Brown, P. Galvosas, S.L. Codd, J.D. Seymour</i>			<u>O. 1</u>
10:00 AM	Luisa Ciobanu	<b>Diffusion MRI in the Aplysia Neuronal Network: Experiments and Numerical Simulations</b> <i>K. Nguyen, J-R. Li, D. Le Bihan , L. Ciobanu</i>	<u>O. 2</u>
10:15 AM	Nathan Murtha	<b>Objective Image Quality Metrics Predict Accuracy of Quantitative Parameters fit to Compressed Sensing Dynamic MRI</b> <i>N. Murtha, J. Rioux, C. Bowen, S. Clarke, S. Beyea</i>	<u>O. 3</u>
10:30 AM	Dean Kuethe	<b>Four Rat Lung Pathologies: Utility of T<sub>1</sub>, Contrast and Appearance in Ernst-Angle Images</b> <i>D. O. Kuethe, L. E. Fredenburgh, J. M. Hix</i>	<u>P. 17</u>
<b>Refreshments</b> Session: Biomedical and Mobile/low-field NMR (Part I) Chair: Yiqiao Song			
11:15 AM	Mark Does	<b>MRI Characterization of White Matter in Rodent Brain</b> <i>M.D. Does</i>	<u>I. 2</u>
11:45 AM	Christopher O'Grady	<b>An Application of Spectral Entropy to Functional MRI</b> <i>C.B. O'Grady, A. Omisade, J. Hashmi, S. Patterson, J. Rioux, S. Beyea</i>	<u>P. 10</u>
12:00 PM	Stephen Altobelli	<b>Helicopter borne detection of oil under ice</b> <i>S. A. Altobelli, M. S. Conradi, E. Fukushima, T. Nedwed, D. Palandro, H. Thomann</i>	<u>O. 6</u>
12:15 PM	Matthew Augustine	<b>NMR Studies of Small (1 liter) and Large (1,000 liter) Metal Containers in Low and High Pressure Factory Environments</b> <i>M. J. McCarthy, M. P. Augustine</i>	<u>O. 7</u>
12:30 PM	Sabina Haber-Pohlmeier	<b>Synergistic Combination of MRI and Neutron Imaging to Shed Light on the Root-Soil Interface</b> <i>S. Haber-Pohlmeier, C. Tötzke, S. Oswald, A. Pohlmeier, B. Blümich</i>	<u>O. 8</u>
<b>Lunch</b>			

Session: Porous Media (Part I)						
Chair: Siegfried Staf						
2:00 PM	Edmund Fordham	<b>Low-field MRI studies of Enhanced Oil Recovery processes</b> <i>E. J. Fordham, J. Mitchell</i>	<u>I. 3</u>			
2:30 PM	Jun Gao	<b>Unsteady relative permeability measurement considering capillary pressure and saturation profiles from magnetic resonance imaging</b> <i>J. Gao, H. Kwak, A. M. Harbi, B.J. Balcom</i>	<u>O. 9</u>			
2:45 PM	Luo Sihui	<b>Probe Performance of the New Downhole Three Dimensional Magnetic Resonance Imaging Tool</b> <i>Luo Sihui, Lizhi Xiao, Xin Li</i>	<u>O. 10</u>			
3:00 PM	João Martins	<b>Measuring rock pore shapes with diffusion NMR</b> <i>J. P. de Almeida Martins, D. Topgaard, Y.-Q. Song</i>	<u>O. 11</u>			
3:15 PM	Emma Thompson	<b>Magnetic Resonance Imaging (MRI) of Phase Separation in Vesicle-Polymer Mixtures</b> <i>E. Thompson, M.M. Britton, E. Robles, P. Saveyn, V. Guida, M. Declerq, C. Eads</i>	<u>O. 12</u>			
3:30 PM	<b>Refreshments</b>					
Session: Porous Media (Part II)						
Chair: Edmund Fordham						
4:00 PM	Jie Wang	<b>Theoretical investigation of wettability heterogeneity in porous media with NMR</b> <i>Jie Wang, Lizhi Xiao, Yan Zhang, Guangzhi Liao</i>	<u>O. 13</u>			
4:15 PM	John G. Seland	<b>Crude oil adsorbates on calcite and quartz surfaces investigated by NMR spectroscopy</b> <i>H.N. Sørgård, C. Totland, W. Nerdal, J.G. Seland</i>	<u>P. 14</u>			
4:30 PM	Dan Xiao	<b>Ultra-short Echo Time Imaging (UTE) with Multiple Echo Refocusing for Porous Media T<sub>2</sub> Mapping</b> <i>D. Xiao, B. J. Balcom</i>	<u>O. 15</u>			
4:45 PM	Peter Caravan	<b>MR and multi-modal contrast agent development</b> <i>P. Caravan</i>	<u>I. 4</u>			
5:15 PM	<b>Poster Presentations (Odd #)</b> <b>Location:</b> Student Union Building					

Tuesday, August 15th			
Time	Speaker	Title	Abstract ID
<b>Session: Erwin Hahn Lecture</b> <b>Chair: Bernhard Bluemich</b>			
<b>Uncommon Journey Through the Land of Spins</b>			
9:15 AM	Eiichi Fukushima	<i>E. Fukushima</i>	<u>PL. 2</u>
<b>Session: Paul Callaghan Award Finalists (Part I)</b> <b>Chair: Daniel Holland</b>			
<b>Spatially resolved and clinically feasible relaxation-diffusion correlation spectroscopy in the spinal cord</b>			
10:00 AM	Dan Benjamini	<i>D. Benjamini, P.J. Basser</i>	<u>PCYIA. 1</u>
<b>Oxygen Profile Characterization in Biofilm Systems Using <math>^{19}\text{F}</math> Nuclear Magnetic Resonance Oximetry</b>			
10:20 AM	Jeffrey Simkins	<i>J.W. Simkins, J.D. Seymour, K.E. Keepseagle, P.J. Stewart</i>	<u>PCYIA. 2</u>
<b>Refreshments</b>			
<b>Session: Paul Callaghan Award Finalists (Part II)</b> <b>Chair: Steven Beyea</b>			
<b>Application of an Earth's Field NMR Flow Meter to Multiphase Flow Measurements</b>			
11:15 AM	Keelan O'Neill	<i>K.T. O'Neill, P.L. Stanwix, E.O. Fridjonsson, M.L. Johns</i>	<u>PCYIA. 3</u>
<b>Measurement of rotational and translational motion in granular Couette flow using MRI</b>			
11:35 AM	Daniel Clarke	<i>D.A. Clarke, H.T. Fabich, T.I. Brox, J.R. Brown, S.L. Codd, J.D. Seymour, P. Galvosas, and D.J. Holland</i>	<u>PCYIA. 4</u>
<b>Local <math>T_1</math>-<math>T_2</math> Distribution Measurements in Porous Media</b>			
11:55 AM	Sarah Vashaee	<i>S. Vashaee, B. Newling, B. MacMillan, F. Marica, M. Li, B.J. Balcom, H.T. Kwak, J. Gao, A.M. AlHarbi</i>	<u>PCYIA. 5</u>
<b>Complementary Imaging of Cartilage by <math>\mu\text{MRI}</math>, <math>\mu\text{CT}</math>, and Optical Microscopies</b>			
12:15 PM	Yang Xia	<i>Y. Xia</i>	<u>I. 5</u>
<b>Lunch</b>			
<b>Session: Hyperpolarisation</b> <b>Chair: Nikolaus Nestle</b>			
<b>Magnetic Resonance Imaging with Hyperpolarized and Inert Gas Contrast Agents and Xenon Biosensor Molecular MRI</b>			
2:00 PM	Mitch Albert	<i>M.S. Albert</i>	<u>I. 6</u>

2:30 PM	Meghan Halse	<b>Hyperpolarized Benchtop NMR for Industrial Applications</b> <i>M. E. Halse, P. Richardson, O. Semenova, S. B. Duckett, A. Parrott, A. Nordon</i>	<u>O. 16</u>
2:45 PM	Warren Warren	<b>Field Switching Coherently Pumps Hyperpolarization to Enhance Signals</b> <i>W.S. Warren, T. Theis, S. Eriksson, Z. Zhou</i>	<u>O. 17</u>
3:00 PM	Igor Koptyug	<b>Parahydrogen and heterogeneous catalysis for enhanced MRI</b> <i>V.V. Zhivonitko, K.V. Kovtunov, I.V. Koptyug</i>	<u>O. 18</u>
3:15 PM		<b>Refreshments</b> <b>Session: Materials</b> <b>Chair: Igor Koptyug</b>	
3:45 PM	Jeffrey Reimer	<b>Relaxometry and Diffusometry of Small Molecules in MOFs</b> <i>J. Reimer, V. Witherspoon</i>	<u>O. 19</u>
4:00 PM	Nathan Williamson	<b>Scaling exponent and absolute molecular mass of polymers in solution by PGSE NMR</b> <i>N.H. Williamson, M. Röding, S.J. Miklavcic, M. Nydén</i>	<u>O. 20</u>
4:15 PM	Linn Thrane	<b>Nuclear Magnetic Resonance Relaxation and Diffusion Measurements to Monitor Phase Change</b> <i>L. W. Thrane, S. L. Codd, J. D. Seymour</i>	<u>O. 21</u>
4:30 PM	Maxime Yon	<b>Solid state multi-nuclei magic angle spinning micro-imaging of materials and hard tissues at very high field</b> <i>M. Yon, V. Sarou-Kanian, D. Massiot, F. Fayon</i>	<u>O. 22</u>
4:45 PM	Louis Bouchard	<b>Breakdown of Carr-Purcell-Meiboom-Gill spin echoes in inhomogeneous fields</b> <i>L-S. Bouchard, N.N. Jarenwattananon</i>	<u>I. 7</u>
5:15 PM		<b>Poster Presentations (Even #)</b> <b>Location:</b> Student Union Building	

Wednesday, August 16th			
Time	Speaker	Title	Abstract ID
<b>Session: Methodology</b> <b>Chair: Michael Johns</b>			
9:00 AM	Ravinath Kausik	<b>Novel solid state NMR sequences for shale rocks</b> <i>Ravinath Kausik, Yiqiao Song, Robert Blum, Greg Boutis</i>	<u>O. 14</u>
9:15 AM	Volker Herold	<b>Magnetic Resonance Probing Ensemble Dynamics in k-Space</b> <i>V. Herold, T. Kampf, P.M. Jakob</i>	<u>O. 23</u>
9:30 AM	Henk Van As	<b>Ultra-high field MRM and MRS of biological systems</b> <i>J.R. Krug, F.M. Vergeldt, E. Golovina, H. Van As</i>	<u>O. 24</u>
9:45 AM	Ville-Veikko Telkki	<b>Remote detection MRI of microfluidic flow, chemical reactions and adsorption</b> <i>V.-V. Telkki, A. Selent, V. V. Zhivonitko, I. Koptyug, S. Franssila</i>	<u>O. 25</u>
<b>MRI of High Pressure Carbon Dioxide Displacement: Fluid/Surface Interaction and Fluid Behavior</b>			
10:00 AM	Armin Afrough	<b>MRI of High Pressure Carbon Dioxide Displacement: Fluid/Surface Interaction and Fluid Behavior</b> <i>A. Afrough, M. Shakerian, M. S. Zamiri, B. MacMillan, F. Marica, B. Newling, L. Romero-Zerón, B.J. Balcom</i>	<u>O. 26</u>
10:15 AM	Frank Vergeldt	<b>Multi-component quantitative magnetic resonance imaging by phasor representation</b> <i>F.J. Vergeldt, A.N. Bader, H. van Amerongen, H. Van As, F. Fereidouni, T.W.J. Scheenen</i>	<u>O. 27</u>
10:30 AM	Yiqiao Song	<b>A machine-learning based adaptive method for multiparametric NMR experiments</b> <i>Y. Tang, Y. Song</i>	<u>O. 28</u>
<b>Refreshments</b>			
<b>Session: Electrochemical</b> <b>Chair: Melanie Britton</b>			
<b>In situ NMR Imaging of Ion Transport in Li-Ion Batteries</b>			
11:15 AM	Gillian Goward	<b>In situ NMR Imaging of Ion Transport in Li-Ion Batteries</b> <i>G.R. Goward, S.A. Krachkovskiy, J.D. Bazak, B.J. Balcom, I.C. Halalay</i>	<u>I. 8</u>
<b>Magnetic Resonance Imaging of Electric Field Distribution in Samples During Pulsed Electric Field Treatment</b>			
11:45 AM	Igor Sersa	<b>Magnetic Resonance Imaging of Electric Field Distribution in Samples During Pulsed Electric Field Treatment</b> <i>I. Sersa, F.Bajd, M. Kranjc, D. Miklavcic</i>	<u>O. 29</u>
<b>NMR Spectroscopic Imaging for the Study of Lithium-ion Batteries</b>			
12:00 PM	Vincent Sarou-Kanian	<b>NMR Spectroscopic Imaging for the Study of Lithium-ion Batteries</b> <i>V. Sarou-Kanian, M. Tang, C.E. Dutoit, M. Deschamps, E. Salager, M. Menetrier, J.M. Tarascon</i>	<u>O. 30</u>

12:15 PM	Sergey Krachkovskiy	<b><i>In Situ MRI Investigation of Ion Transport in Graphite Anodes of Li-Ion Batteries</i></b>	<b>O. 31</b>
		<i>S.A. Krachkovskiy, J.D. Bazak, C. Hewitt, G.R. Goward, J.M. Foster, B.J. Balcom</i>	
12:30 PM	Alexej Jerschow	<b>Indirect MRI detection of critical electrochemical device parameters</b>	<b>O. 32</b>
		<i>A. Jerschow</i>	
12:45 PM	<b>Lunch</b>		
2:00 PM	<b>Free Afternoon to Explore</b>		
5:30 PM	<b>Pre-dinner reception</b> <b>Location:</b> Pier 21 Bus transport from conference venue will be provided		
6:30 PM	<b>Conference Dinner</b> <b>Location:</b> Pier 21 (Open until 9:00 PM)		

Thursday, August 17th		
Time	Speaker	Title
<b>Session: Mobile/low-field NMR (Part II)</b> <b>Chair: Dimitrios Sakellariou</b>		
<b>I. 9</b>		
9:15 AM	Gisela Guthausen	<b>MRI of macromolecular filtration</b> <i>G. Guthausen, F. Arndt, N. Schork, S. Schuhmann, H. Nirschl</i>
9:45 AM	Siegfried Stadl	<b>Low-field NMR profiling and relaxation dispersion as new biomarkers for osteoarthritis in articular cartilage</b> <i>O.V. Petrov, E. Rossler, C. Mattea, S. Stadl</i>
10:00 AM	Nikolaus Nestle	<b>Relaxation under pressure and elevated temperatures sorting out some stumbling stones on the way to compact NMR in process analytics</b> <i>N. Nestle, S. Arenz, P. Buhl, Z.J. Lim, T. Böhringer, F. Leinweber</i>
10:15 AM	Martin Hurlimann	<b>Quantitative T<sub>1</sub> saturation - recovery measurements in inhomogeneous fields</b> <i>M. D. Hurlimann, C. Duana, S. Utsuzawa, Y. Q Song, C. Ryan</i>
10:30 AM	Andrew McDowell	<b>Passive shims for small, high-resolution dipole magnets</b> <i>A.F. McDowell</i>
10:45 AM	<b>Refreshments</b> <b>Session: Cellular &amp; Molecular</b> <b>Chair: Kimberly Brewer</b>	
11:15 AM	Paula Foster	<b>Cell Tracking with Magnetic Resonance Imaging</b> <i>P. Foster</i>
11:45 AM	Zoe O'Brien-Moran	<b>Towards quantification of SPIO-labelled cells with TurboSPI and bSSFP</b> <i>Z. O'Brien-Moran, J.A. Rioux, K.D. Brewer</i>
12:00 PM	Jeff Dunn	<b>Measuring atrophy in the experimental autoimmune encephalomyelitis mouse model of multiple sclerosis: a 9.4T MRI atlas-based regional brain volumetric study.</b> <i>Nils D. Forkert, James A. Rogers, V. Wee Yong, Jeff. F. Dunn</i>
12:15 PM	Alia Alia	<b>Optimization of ultrahigh field μMRI methods to monitor brain disorders in Zebrafish model of depression.</b> <i>Upasana Roy, Jörg Matysik, Marcel Schaaf, Alia Alia</i>
<b>O. 36</b>		
<b>O. 35</b>		
<b>O. 34</b>		
<b>O. 33</b>		
<b>I. 10</b>		
<b>O. 37</b>		
<b>O. 38</b>		
<b>O. 39</b>		

12:30 PM	Dion Thomas	<b>Measurement of transverse relaxation properties of whole blood at low magnetic fields</b>  <i>Y. C. Tzeng, D. G. Thomas, P. Galvosas, S. Obruchkov, P.D. Teal</i>	<b>O. 40</b>
12:45 PM		<b>Lunch</b> <b>Session: Flow &amp; Diffusion (Part I)</b> <b>Chair: Petrik Galvosas</b>	
2:00 PM	Mick Mantle	<b>Combining MRI with other imaging and measurement modalities: applications to pharmaceutical and catalysis research</b>  <i>M. D. Mantle</i>	<b>I. 11</b>
2:30 PM	Igor Mastikhin	<b>Short-time magnetization preparation for MRI of sprays</b>  <i>Igor Mastikhin, Shahla Ahmadi, K. Bade</i>	<b>O. 41</b>
2:45 PM	John van Duynhoven	<b>Quantitative assessment of mesoscale network structure in <math>\kappa</math>-carrageenan gels by means of magnetic resonance nanoprobe diffusometry</b>  <i>J. van Duynhoven, L. Zuidgeesta, H Van As, D. de Kort, J. Hohlbein, S. Han, M. Emondts, N. Loren, E. Schuste, H. Janssen</i>	<b>O. 42</b>
3:00 PM	Amy-Rae Gauthier	<b>The Application of Diffusion Tensor Imaging to a Turbulent Gas Flow System</b>  <i>A. Gauthier, B. Newling</i>	<b>O. 43</b>
3:15 PM	Andrew Sederman	<b>Monitoring carbonate dissolution using spatially resolved under-sampled propagators and MRI</b>  <i>A.J. Sederman, A.A. Colbourne, M.D. Mantle, L.F. Gladden</i>	<b>O. 44</b>
3:30 PM		<b>Refreshments</b> <b>Session: Flow &amp; Diffusion (Part II)</b> <b>Chair: Joseph Seymour</b>	
4:00 PM	Daniel Topgaard	<b>Diffusion tensor distribution imaging</b>  <i>D. Topgaard</i>	<b>O. 45</b>
4:15 PM	Daniel Holland	<b>Investigation of continuum mechanics models of granular flow by MRI</b>  <i>L.A. Fullard, C. Davies, P. Galvosas, D.J. Holland</i>	<b>O. 46</b>
4:30 PM	Hilary Fabich	<b>Jet dynamics in supercritical fluid flow</b>  <i>H.T. Fabich, M.S. Conradi, S.A. Altobelli, D.O. Kuethe, E. Fukushima</i>	<b>O. 47</b>
4:45 PM	Melanie Britton	<b>MRI of Electrochemical Systems: Batteries, Corrosion and Electroplating</b>  <i>M. M. Britton</i>	<b>I. 12</b>
5:15 PM		<b>General Meeting:</b> Spatially Resolved Magnetic Resonance Division of the Ampere Society	

# Benchtop NMR for Porous Media Research

## MQR



High performance TD-NMR research system for relaxation and diffusion experiments

## Pulsar



High resolution 60MHz benchtop NMR spectrometer

## GeoSpec



NMR rock core analyser for petrophysical measurements including: porosity, free/bound fluids, pore size distributions and  $T_2$  cutoff



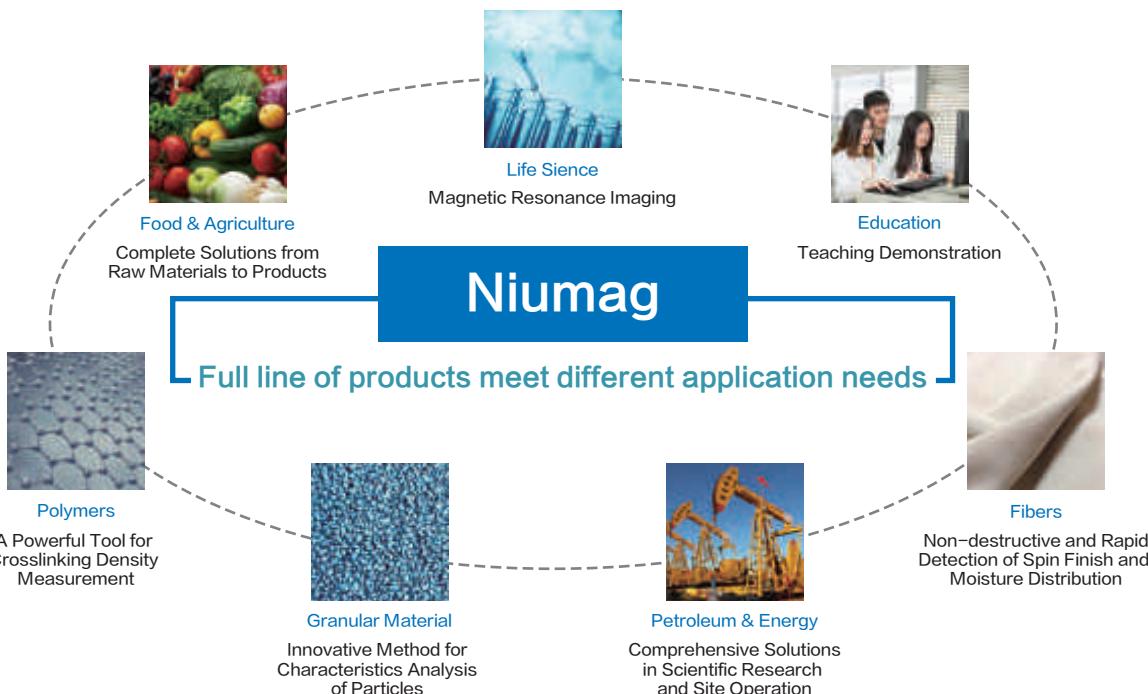
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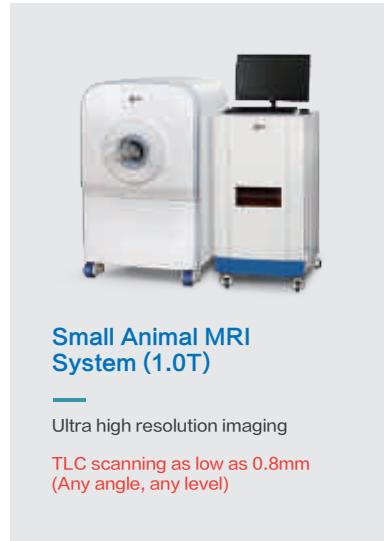
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Won Scientific and Technological Transformation Award of Jiangsu Province

2016  
Became NEEQ listed Company

2013  
Undertaken National Special Instrument Awards

2015  
Niumag North American Company Established



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# Poster-List by Abstract Number and Title

**Please note:** Poster Numbers may not appear in consecutive order due to withdrawals and cancellations.

Posters assigned an odd number will be presented on Monday, August 14th

Posters assigned an even number will be presented on Tuesday, August 15th

Number	Topic	Authors
P1	<b>Magnetic resonance angiography at 17.6T resolves blood flow defects and dynamics in AD mouse brain in vivo</b>	A. Alia, F. Kara, H.J.M. de Groot, S. Roßner, J. Matysik
P2	<b>A comparative study of site- and zonal-dependent osteoarthritic cartilage changes when using low- resolution and microscopic MRI</b>	F. Badar, Y. Xia
P3	<b>Diffusion NMR of Electrolyte Dynamics Confined to Carbon Based Gas Diffusion Electrode Frameworks</b>	S. Merz, P. Jakes, H. Tempel, S. Eurich, H. Kungl, and J. Granwehr
P4	<b><sup>7</sup>Li NMR imaging for aluminum-laminated rechargeable lithium ion battery at 4.7/9.4 Tesla</b>	T. Haishi, S. Fujiki, Y. Alhara
P5	<b>Rheo-NMR and Rheo-SALS using Large Amplitude Oscillatory Shear for the Study of Complex Fluids</b>	S. Kuczera, L. Gentile, U. Olsson, T. I. Brox, P. Galvosas, C. Schmidt
P6	<b>Planar Couette flow for magnetic resonance microscopy</b>	S. J. Stevenson, T. I. Brox, P. Galvosas
P7	<b>Release characteristics of extended release films elucidated using real-time 3D MRI</b>	D. Bernin, C. Boissier, J. Hjärtstam, M. Marucci, A. Abrahmsen-Alami
P8	<b>Fire behavior of wood as studied by NMR</b>	L. Pel, T. Arends
P9	<b>An adaptive sub-band decomposition approach for high-resolution NMR data analysis</b>	M. A. R. Anjum, P. D. Teal, P. A. Dmochowski

P10	An Application of Spectral Entropy to Functional MRI	C. B. O'Grady, A. Omisade, J. Hashmi, S. Patterson, J. Rioux, S. Beyea
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P11	A Model-based Method for Quantitative Analysis with Benchtop NMR	Y. Matviychuk, J. Yeo, D. J. Holland
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P12	A Broadband Nuclear Magnetic Resonance (NMR) System	M. Islam, Y-Q. Song, S. Utsuzawa, S. Mandal
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P13	An MR/MRI Compatible Core Holder with the RF Probe immersed in the Pressurized Confining Fluid	M. Shakerian, B. J. Balcom
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P14	Crude oil adsorbates on calcite and quartz surfaces investigated by NMR spectroscopy	H.N. Sørgård, C. Totland, W. Nerdal, J. G. Seland
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P16	Human brain in vivo BSD-DTI - a preliminary study	K. Kłodowski, A. T. Krzyzak
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P17	Four Rat Lung Pathologies: Utility of T <sub>1</sub> Contrast and Appearance in Ernst-Angle Images	D. O. Kuethe, L. E. Fredenburgh, J. M. Hix
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P18	Development Human Anatomy Atlas on MRI	Hongzhi Wang
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P19	Constructing local flow curves of complex yield stress fluids based on Rho-MRI velocity profiles	T. Nikolaeva, F. Vergeldt, H. Van As, J. van Duynhoven, P. Venema
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P20	Moisture-induced bending of panel paintings as studied by NMR	T. Arends, L. Pel
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P21	Structure and dynamics elucidation of ionic liquids by multidimensional Laplace NMR	M. A. Javed, S. Ahola, P. Håkansson, O. Mankinen, M. K. Aslam, V. -V. Telkki, A. Filippov, F. U. Shah, O.N. Antzutkin, S. Glavatskikh
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P22	Effect of motion on CPMG-like measurement in inhomogeneous magnetic field	S. Utsuzawa, S. Ryan, M.D. Hürlimann
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P23

**Preliminary studies on the signal from water sprays using MRI and unilateral NMR**

S. Iyengar, I. Mastikhin

P25

**Non-invasive Magnetic Resonance Imaging of Oils at Ultra High Field in Algae: Chemical Shift Selective and Diffusion Weighted Imaging**

R. van Schadewijk, K. B. Sai Sankar Guptra,  
H. J.M. de Groot, A. Alia, T. van den Berg,  
R. Croce, I. Ronen

P26

**Capillary Trapping Quantification in Sandstones using NMR Relaxometry**

P. R. J. Connolly, S. J. Vogt, E. F. May,  
M. L. Johns, S. Iglaue

P27

**Wet Front Penetration under Unsteady State Wicking and Evaporation in Mortar by Magnetic Resonance Imaging (MRI)**

R. Enjilela, R. Cano-Barrita, A. Komar,  
A. J. Boyd

P28

**"A Continuous Wave Magnetic Resonance Disruption (CW-MaRD) Technique for the Detection of Magnetic Nanoparticles"**

S.T. Parslow, M .I. Newton, R .H . Morris

P29

**GPU-optimized 3D fast MRI simulator for non-Cartesian sampling**

R. Kose, A. Setoi. K. Kose

P30

**Ultrashort echo-time imaging at 1.5 T using insertable gradient coil sets and 3D cones trajectory**

A. Setoi. K. Kose

P31

**A portable MRI scanner for human brain imaging using an optimized rotating Halbach magnet**

C. Z. Cooley, J. P. Stockmann,  
P. C. McDaniel, M. W. Haskell,  
S. F. Cauley, C. Sappo, C. G. Ha,  
T. Witzel, C. E. Vaughn, L. L. Wald

P32

**BLIPPED (BLipped Pure Phase EncoDing) High Resolution MRI**

D. Xiao, B. Balcom

P33

**Systematic Image Alteration due to Phase Accumulation during RF Pulse Excitation in Pure Phase Encode MRI**

T. McDonald, B. MacMillan, B. Newling,  
B. J. Balcom

P34

**Fast Spectroscopic Imaging with RARE-Type Acceleration**

S. Benders, B. Blümich

P35	<b>Ultra-short Echo (UTE) Imaging of T<sub>2</sub> in Calcified Cartilage at Microscopic Resolution</b>	F. Badar, Y. Xia, N. Wang
P36	<b>X-ray <math>\mu</math>-CT and MRI of moisture in treated and non-treated wood - imaging the visible and invisible</b>	N. Nestle, A. Sandor, M. Zlahtic Zupanc, M. Humar, I. Sersa, U. Mikac
P37	<b>Diffusion and relaxation profiling of skin layers in medical and skin care applications employing the low-field Fourier-MOUSE</b>	J. Flohr, C. Rehorn, D. Jaschitschuk, M. Küppers, B. Blümich, K. Borkowski, K. Momot, C. Kuppe, J. Floege
P38	<b>Highly efficient diffusion exchange spectroscopic imaging for biological applications</b>	D. Benjamini, M. E. Komlosh, P.J. Basser
P39	<b>Three-dimensional compressed sensing using two orthogonal readout gradients</b>	D. Tamada, U. Motosugi, H. Onishi
P40	<b>Imperfections of Ultra-Short Echo Time Imaging Sequence at Microscopic Resolution</b>	F. Badar, R. Mahar, S. Batool, Y. Xia
P41	<b>Diffusion and relaxation time mapping of mice/rats with magnetic resonance fingerprinting</b>	Y. Terada, T. Haishi
P42	<b>MRI of Water-Content Changes in Unconsolidated Natural Porous Media with Short T<sub>2</sub></b>	A. Görges, S. Haber-Pohlmeier, B. Blümlich, A. Polmeier
P43	<b>Using Molecular Imaging to Evaluate a Vaccine Immunotherapy in an Ovarian Cancer Model</b>	M. -L. Tremblay, V. Gonzales, C. Davis, K. D. Brewer, A. Mackay, A. West, G. Weir, M.M. Stanford
P44	<b>Imaging of <sup>23</sup>Na accumulation in the soil-root region due to root water uptake</b>	A. Pohlmeier, J. Vanderborght, A. Perelman, N. Lazarovich, S. Haber-Pohlmeier
P45	<b>Copper-binding polymer coatings for enhanced MRI contrast of prostate tumor radiotherapy seeds</b>	N. H. Williamson, A. A. Cavallaro, M. Larsson, M. Nydén

<u>P46</u>	<b>Towards <math>T_1\rho</math> Imaging of Porcine Intervertebral Discs Under Loading</b>	J. H. Walton, J. Zhou, F. Fathallah
<u>P47</u>	<b>Estimate of physical parameters of <math>\text{CO}_2</math>/ hydrocarbon mixture based on NMR relaxivity</b>	Y. Zhao, J. Chen, M. Yang, Y. Song
<u>P48</u>	<b>Flow Velocity Maps Measured by Nuclear Magnetic Resonance in Medical Needleless Catheter Connectors</b>	E. Nybo, J. D. Seymour, J. E. Maneval, S. L. Codd, M. A. Ryder, G. A. James, J. Woodbury
<u>P49</u>	<b>In situ observation of fouling layer formation in ceramic hollow fiber membranes using compressed sensing RARE MRI</b>	S. Schuhmann, F. Arndt, N. Schork, H. Nirschl, G. Guthausen
<u>P50</u>	<b>The High-field Field-Cycler: A high-resolution high-sensitivity NMR field-cycling device for full range <math>T_1</math> relaxation measurements</b>	C.-Y. Chou, A. Guiga, D. Sakellariou, M. Chu, T.-H. Huang, M. Abdesselem, C. Bouzigues, T. Gacoin, A. Alexandrou
<u>P51</u>	<b>Longitudinal flow measurement for a living tree using an outdoor MRI</b>	A. Nagata, K. Kose, Y. Terada
<u>P52</u>	<b>MRI contrast mechanisms and fouling layer formation during skim milk filtration</b>	N. Schork, F. Arndt, S. Schuhmann, G. Guthausen, H. Nirschl
<u>P53</u>	<b>Imaging of a Gas-Liquid Reaction in a Bubble Tail</b>	S. Benders, B. Fenger, M. Küppers, B. Blümich, F. Strassl, S. Herres-Pawlis
<u>P54</u>	<b>Analysis of Diffusion Effects on <math>T_1</math>-<math>T_2</math> Experiments in Multi-phase Systems</b>	J. Maneval, M. Nelson, A. Mailhot, L. Thrane, S. Codd, J. Seymour
<u>P55</u>	<b>NMR investigation of the microphysical structure of ice-regolith mixtures</b>	S. L. Codd, L. W. Thrane, P. Lei, J.R. Brown, J. D. Seymour, D. E. Stillman
<u>P56</u>	<b>Hyperpolarized and Inert Gas MRI Physics and Medical Applications</b>	M. S. Albert
<u>P57</u>	<b>Moisture Content Measurement of Black Spruce Sapwood and Heartwood with Low Field Magnetic Resonance</b>	C. Lamason, B. MacMillan, B. J. Balcom, B. Leblon, Z. Pirouz

P58	<b>Localized propagator measurements of metabolites by STEAM-PFG</b>	H. Van As, S. van Kesteren, F. J. Vergeldt
P59	<b>Experimental Evidence of Both Fast and Slow Diffusion Regimes in a Sandstone Core Plug by 2D NMR Relaxometry and Diffusometry Correlation</b>	A. Afrough, L. Romero-Zerón, B. J. Balcom
P60	<b>MRI measurement of flowing and stationary water in a spray setup</b>	S. Ahmadi, I. V. Mastikhin
P61	<b>Comparison of the Gas and Liquid Phase Flow of Foam using PFG-Readout Velocity Mapping</b>	A. Adair, B. Newling
P64	<b>Assessing the feasibility of measuring the diffusion exchange of water in nerve tissue using diffusion exchange spectroscopy (DEXSY)</b>	J. O. Breen-Norris, B. Siow, T.A. Roberts, A. Ianus, S. Walker-Samuel, B. Hipwell, I. Hill, M.F. Lythgoe, D. Alexander
P65	<b>Magnetic resonance imaging with variable field magnet, Variation of <math>B_0</math> to control sensitivity and susceptibility mismatch effects</b>	R. Enjilela, B. MacMillan, S. Vashaee, B. J. Balcom
P66	<b>A Magnetic Resonance Study of Low Salinity Waterflooding for Enhanced Oil Recovery</b>	M. Li, S. Vashaee, F. Marcia, B. J. Balcom, L. Romero-Zerón
P67	<b>Development of a field camera system for a 1.5T/280 mm superconducting magnet system</b>	Y. Kobayashi, K. Kose, Y. Terada
P68	<b>An Open PXIe Platform for MRI Instrumentation Development</b>	R. Dykstra, A. Ang, M. Bourne, S. Obruchkov
P69	<b>An MRI System for Cerebral Stroke Monitoring</b>	Y. He, W. He, Z. Xu, J. Wu, L. Zhang
P70	<b>Magnetic Resonance Imaging with a Variable Field Superconducting Magnet that can be rotated for Vertical or Horizontal Operation</b>	S. Vashaee, B. MacMillan, M. Li, R. Enjilela, F. Marica, B. J. Balcom, D.P. Green
P71	<b>Enhancements for Low-field NMR systems</b>	J. Z. Zhen, P. L. Stanwix, M. W. Legg, K. T. O'Neil, E. O. Fridjonsoon, M. L. Johns

<u>P72</u>	<b>Recognition for Comparison of NMR Depth Profiles of Mortar from Wall-Pai</b>	C. Rehorn, W. Zia, B. Blümich, C. Kehlet, E. Del Federico, T. Meldrum
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<u>P73</u>	<b>Development of portable MRI for early detection of baseball elbow</b>	K. Tanabe, K. Katsumi, Y. Terada, Y. Okamoto
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<u>P74</u>	<b>ILT analysis of porous soft matter</b>	D. Jaschitschuk, C. Rehorn, B. Blümich
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<u>P75</u>	<b>Developing magnetic resonance imaging (MRI) by studying batteries</b>	Y. AlZahrani, J. Bray, M. Britton
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<u>P76</u>	<b>Plasma Viscosity measurements in Sickle Cell Disease and Multiple Myeloma employing NMR</b>	M. A. Lores Guevara, J. C. Garcia Naranjo, Y. M. Torres, N. Rodrigues Suárez, L. C. Suárez Beyrio, M. A. Marichal Felue, T. Simón brada, I. C. Rodriguez Reyes, J. Phillipé
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<u>P77</u>	<b>Multi-Temperature In Situ Magnetic Resonance Imaging of Polarization and Salt Precipitation in Li-Ion Battery Electrolytes</b>	J. D. Bazak, S. A. Krachkovskiy, G. R. Goward
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<u>P78</u>	<b>Carbonation front in cement paste and mortar detected by low-field unilateral NMR</b>	F. Diaz Dia, P. F. de Cano-Barrita, B. J. Balcom
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<u>P79</u>	<b>Local Diffusion and Diffusion-T<sub>2</sub> Distribution Measurements in Porous Media</b>	S. Vashaee, B. Newling, B. MacMillan, F. Marica, M. Li, B. J. Balcom
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<u>P80</u>	<b>Optimization of a Parallel Plate Resonator for High Resolution Thin Film Imaging in Lithium Ion Batteries.</b>	A. Ramirez Aguilera, B. MacMillan, B. J. Balcom, G. Goward
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<u>P81</u>	<b>Characterizing heterogeneous water populations by Overhauser DNP enhanced relaxometry and diffusometry</b>	T. Überrück, B. Blümich, O. Neudert, S. Staf, J. Granwehr, S. Han
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## **DIVISION OF SPATIALLY RESOLVED MAGNETIC RESONANCE OF THE AMPERE SOCIETY**

The Division was founded in 1995 during the 3rd meeting of the Magnetic Resonance Microscopy Conference. The purpose of the Division is to advance the subject of Spatially Resolved Magnetic Resonance by means of International Conferences organized biannually across the world. The governing organization of the Division consists of the Executive Committee, the Division Committee and the General Membership composed of conference attendees who are automatically members of the AMPERE Society.

### **Executive Committee**

The Executive Committee is responsible for the management, administration and finances of the SRMR Division. It has the following members:

**Chair:** Mike Johns

**Vice Chair:** Igor Koptyug

**Treasurer:** Melanie Britton

**Secretary General:** Sarah Codd

**Vice Secretary General:** Volker Behr

**Past Conference Chair:** Axel Haase

**Conference Co-chairs:** Bruce Balcom & Steven Beyea

**Past Chair:** Bruce Balcom

**Advisors:** Eiichi Fukushima, Bernhard Blümich, Lizhi Xiao

### **Division Committee**

The Division Committee is responsible for carrying out the business of the Division, including the scientific organization of the conference. The members are:

Jennifer Brown, Paul Glover, Jürgen Hennig, Daniel Holland, Mark Hunter, Sigi Stafp, Yi-Qiao Song, Ranhong Xie, Peiqiang Yang, Tomoyuki Haishi, Yasuhiko Tereda, Yang Xia, Petrik Galvosas, Nikolaus Nestle, Daniel Alexander, Thomas Meersman, Peter Blumler, Dean Kuethe, Igor Mastikhin, Andy Sederman, Matthias Appel, Carel Windt, Warren Warren, Jeffrey Reimer, Lawrence Wald, Dieter Gross, Alexej Jerschow, Kazuyuki Takeda, Galina Pavlovskaya, Uri Nevo, Daniel Topgaard

**Scientific Committee:**

All members of the Executive Committee and the Division Committee are members of the Scientific Committee. They are asked by the Conference Chair to propose scientific topics and invited speakers for the ICMRM conferences. The Scientific Committee reviews the submitted abstracts and proposes poster and oral contributions. In addition, this committee makes decisions regarding the Paul Callaghan Young Investigator Award Finalists, and a subcommittee will rank the PCYIA presentations for the selection of the award.

**General Meeting:**

All conference attendees are automatically members of the SRMR Division of Ampere. All conference attendees are encouraged to attend the General Meeting at the end of the conference. The Division membership has final authority over the affairs of the division. The general meeting will take place in the McCain Auditorium at the conclusion of the conference.

**Organizing Committee**

Steven Beyea, James Rioux, Kimberly Brewer from Dalhousie University

Bruce Balcom, Igor Mastikhin, Ben Newling from the University of New Brunswick

**Staff**

Jessica Luedi from Dalhousie University

Kiana Mozaffari, Jennie McPhail from the University of New Brunswick

## **Conference General Information**

### **Venue** :

The conference will be held at the Dalhousie University, Studley Campus. The McCain lecture hall in the Marion McCain Arts and Social Sciences Building will be the site of all lectures (Location #4 on campus map). Coffee breaks, lunch, posters, and exhibitors will be immediately across the street in the Student Union Building (Location #2).

### **Registration and help desk:**

The registration and help desk will be located within the McCain building (Location #4 on campus map) on **Sunday, August 13th**. The registration desk will be moved to the Student Union Building (#2) starting **Monday, August 14th**. The registration and help desk will be open during the conference hours for the duration of the conference.

### **Internet access:**

**Option 1:** All conference attendees will receive a dedicated login ID and password to access the Dalhousie network. These will be provided with your registration package.

**Option 2:** For those of you who have “eduroam” through your home institutions, Wifi access throughout the Dalhousie Campus should be automatic and hopefully seamless.

### **Excursions:**

As outlined on the conference website, Halifax is a very compact city with a large variety of easily accessible attractions. We are not organizing specific excursions, but the conference website outlines many suggestions. Hardcopies of these suggestions will be available, with other literature, on a Tourism desk in the exhibit area.

### **Opening Reception:**

The opening reception will be held on Sunday evening at Halifax's historic Citadel Hill. Bus transport to and from the opening reception will be provided. Alternatively, walking routes are marked on the Halifax map provided in this program booklet.

### **Conference Dinner:**

The conference dinner will be held on Wednesday, August 16th at The Canadian Museum of Immigration at Pier 21. The conference dinner will be preceded by a reception in the museum. All attendees will receive their dinner tickets upon registration. Please bring your tickets to the conference dinner. As with the opening reception, transport to and from the opening reception will be provided. Alternatively, walking routes are marked on the Halifax map provided in this program book.

## **Guidelines for Oral and Poster Presentations**

### **Oral presentations:**

A lapel microphone will be provided to speakers, and other microphones will be available in the lecture hall for those asking questions.

The auditorium has a built in computer and projection system. The computer is a PC with a Windows 7 operating system. Microsoft Office 2016 will be installed on the PC with Powerpoint 2016 therefore the standard projection program. A late model version of Acrobat Reader will also be provided on the PC.

The projection slide format is wide screen at 16:9. Conventional 4:3 slides will project as well but with black on either side of the screen.

Presentations cannot be uploaded remotely, **please bring your presentations on a USB drive to load directly on the presentation computer**. Please load your presentation in the appropriate folder on the presentation computer desktop before the beginning of each day's session.

A duplicate 'ready room' computer will be provided for speakers to check their presentations in advance. Given the strict timetable, and nature of the lecture theatre, there will be no possibility of speakers using their own computers. Please ensure your presentations are compatible with Powerpoint 2016 running on a PC. As a backup, or an alternative, ensure your presentation will work as a pdf displayed by Acrobat Reader.

### **Presentations Chosen from Submitted Abstracts**

Presentations in this category have **15 minutes** allocated for each presentation. This includes time for questions. It is suggested that you prepare your presentation for a duration of 13 minutes in order to allow 2 minutes for questions. Session chairs will be instructed to be ruthless and cut-off speakers who go over time.

### **Presentations by Invited Speakers**

Presentations in this category have **30 minutes** allocated for each presentation. This includes time for questions. It is suggested that you prepare your presentation for a duration of 25 minutes in order to allow 5 minutes for questions.

### **Presentations by Paul Callaghan Young Investigator Competition Finalists:**

These presentations will take place Tuesday morning and will have **20 minutes** allocated for each presentation. This includes time to respond to questions which will be a significant component of judging. It is suggested that you prepare your presentation for a duration of 15 minutes in order to allow 5 minutes for questions.

### **Presentations by Educational Speakers**

These presentations will take place Sunday and will have **1 hour** allocated for each presentation. This includes time for questions. It is suggested that you prepare your presentation for a duration of 50 minutes in order to allow 10 minutes for questions.

### **Presentations by Plenary Speakers**

Presentations in this category have **45 minutes** allocated for each presentation. This includes time for questions. It is suggested that you prepare your presentation for a duration of 35 - 40 minutes in order to allow 5 - 10 minutes for questions.

### **Poster Presentations:**

Posters should be mounted and maintained available for viewing throughout the meeting. The auditorium in the Student Union Building where posters are presented will also host industrial exhibits, coffee breaks, and lunches.

Poster boards will be numbered, with odd numbered posters being presented by their authors in the Monday poster session. Even numbered posters will be presented by their authors in the Tuesday poster session.

Individual poster boards will accommodate one poster on each side (front and back). The poster boards are 4 feet by 4 feet in size. Posters are to be mounted with push pins that will be provided. Since poster boards hold individual posters (they are not double width) there will be limited ability to mount posters that exceed these dimensions in either width or height.

## **Competitions**

### **Sir Paul Callaghan Young Investigator Award Competition (PCYIA):**

Five authors have been selected by the reviewers to present their work as an oral contribution during the PCYIA session on Tuesday morning. The award winner will be chosen by an expert panel from among the presentations in this special session. The winner will receive a monetary prize of \$2500 CAD. All presenters in this special session receive free conference registration and free accommodation in the Dalhousie Residences.

### **Image beauty competition:**

As in previous years, we are having an Image Beauty Competition. Please bring along your entries, which can be submitted as printouts at the conference registration desk. Anything will be accepted: artistic, beautiful, artefact, perfect or ugly. Feel free to submit multiple entries. The winners will be announced during the conference dinner and will receive a prize. A list of previous winners can be found on the “competition” tab on the conference website.

### **Poster Competition:**

The posters of young scientists will be judged by a jury. The best presenter/poster will be announced and receive an award at the conference dinner.

## **Food and Drinks:**

In addition to food provided during lunches and coffee breaks, light hors d'oeuvres will be available during the reception and both poster sessions. Drink tickets will also be given out to attendees during registration.

The Dalhousie Campus and Halifax provide a wide variety of places to eat and drink. Additional restaurant information and brochures will be included in the conference bags. Below are a list of recommended drink (and food) options. Several are close to the conference hotel, the Lord Nelson.

- ❖ **Stillwell Beer Garden:** 5688 Spring Garden Rd
- ❖ **Father's Moustache:** 5686 Spring Garden Rd
- ❖ **Old Triangle:** 5136 Prince St
- ❖ **Obladee Wine Bar:** 1600 Barrington St
- ❖ **2 Doors Down:** 1533 Barrington St

## **Transportation:**

### **Taxis:**

**Please note:** Uber does not operate in Halifax.

Yellow Cab: (902) 420-0000

Casino Taxi: (902) 429-6666

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### **Halifax City Buses:**

Cost: \$2.50. Exact change required.

Suggested Bus routes: See the Dalhousie campus map to identify stops

- ❖ Route 1 (Spring Garden): You can catch this bus on Coburg Road, it will take you to Downtown Halifax via Spring Garden Road (and vice versa). Runs every 10 minutes on weekdays and every 15 minutes on weekends. This bus operates from 6am to midnight.
- ❖ Route 2 (Lacewood-Dalhouse): Catch in front of Risley Hall. Takes you to Clayton Park through the North End. Starts: 7:22am, 8:43 then every 20 minutes until 6:20pm. Only runs Monday-Friday.

The Halifax TRANSIT Rider's Guide can be viewed at:

[https://www.halifax.ca/sites/default/files/documents/transportation/halifax-transit/Riders\\_Guide.pdf](https://www.halifax.ca/sites/default/files/documents/transportation/halifax-transit/Riders_Guide.pdf)



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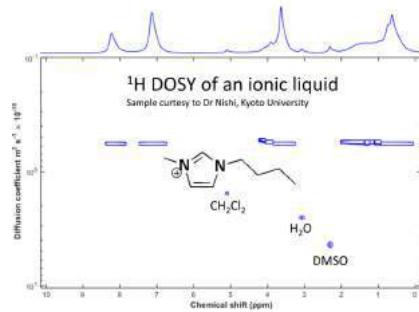
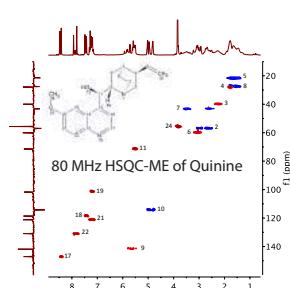


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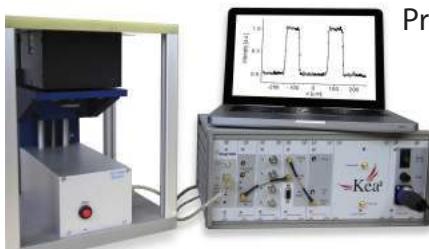
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