



Message from the Chair

Dear Colleagues,

Advances in solid-state NMR spectroscopy continue apace, and indeed it is a great time in Canada for solid-state NMR. It is clear that ongoing improvements in probe technology, pulse sequence development, and ever-higher magnetic field strengths make it an exciting time to be doing solid-state NMR. We are particularly fortunate in Canada to have access to the highest-field NMR system dedicated exclusively to the study of solids! Continual theoretical advances, as many of you are aware, are also critically helpful in allowing us to interpret our NMR spectra with unprecedented levels of detail and understanding.

Many of these recent advances will no doubt be discussed and summarized during what promises to be a very stimulating "Advances in Solid-State NMR" symposium organized by Rod Wasylishen as part of the 91st Canadian Chemistry Conference, to be held in May in Edmonton. The 900 MHz Facility will also be hosting our third annual Solid-state NMR Workshop immediately preceding the conference. The aim is to address some of the practical aspects of current solid-state NMR developments. Outstanding speakers have been invited for both events, which I strongly encourage you to attend! Further details may be found on page 2 of this bulletin.

Cutting-edge international developments in NMR have also been highlighted recently in two special issues of journals. Be sure to check out the *Journal of Chemical Physics'* recent "New Developments in Magnetic Resonance" issue (volume 128, #5, 2008) as well as *Magnetic Resonance in Chemistry's* special issue dedicated to new techniques in solid-state NMR (volume 45, #S1, 2007).

The 900 MHz Facility strives to stay at the forefront of advances in solid-state NMR technology, and to make the most of our infrastructure we rely on our dedicated staff.

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We are delighted to welcome Jon Derouin to the 900 team. Jon is working as a probe technician in collaboration with Jamie Bennett (NRC SIMS) and with Bruker BioSpin to help keep our facility on the vanguard of probe design. We also say goodbye and thank you to NMR technician Shane Pawsey, who has moved on to a position with Bruker BioSpin.

I would also like to take this opportunity to express, on behalf of the Steering Committee, our gratitude to our Facility Manager, Dr. Victor Terskikh, who works tirelessly to maintain and manage the world-class National Ultrahigh-Field NMR Facility for Solids. Thanks Victor!

Sincerely,

David Bryce

Chair, the Steering Committee of the National Ultrahigh-Field NMR Facility for Solids

dbryce@uottawa.ca

Canadian NMR news

Forward us any news of interest to the Canadian NMR community.

Submitted by Rod Wasylishen (University of Alberta)

Symposium on "Advances in Solid-State NMR"

Dear NMR Colleagues:

The 91st Canadian Chemistry Conference and Exhibition will take place in Edmonton from May 24-28, 2008, and will feature a two-day symposium on "Advances in Solid-State NMR".

Confirmed invited speakers:

Jean-Paul Amoureux – U.S.T.L.

Darren Brouwer – NRC SIMS

David Bryce - University of Ottawa

Paul Ellis – PNNL

Zhehong Gan – CIMAR NHMFL

Hans Jakobsen - University of Aarhus

Alexej Jerschow - New York University

Scott Kroeker - University of Manitoba

Igor Moudrakovski – SIMS NRC

Glenn Penner - University of Guelph

Rob Schurko - University of Windsor

Mark Smith - University of Warwick

Gang Wu - Queen's University

Contributions for oral or poster presentations are welcome. The deadline for abstract submission is February 13, 2008. For abstract submission and general information about the conference, see:

<http://www.csc2008.ca>

Please also plan on attending the Third Solid-State NMR Workshop organized by the National Ultrahigh-Field NMR Facility for Solids (separate registration is required). For more information see:

http://nmr900.ca/events_e.html

I look forward seeing you in Edmonton !

Rod Wasylishen

<http://ramsey.chem.ualberta.ca/index.html>

Submitted by Chris Greenwood (University of Victoria)

VIVA II, the 2nd annual West Coast NMR minisymposium

VIVA II, the 2nd annual West Coast NMR minisymposium will take place at the University of Victoria on Friday and Saturday, June 20-21. This 1.5 day meeting, modeled after the MOOT meeting of Central Canada, is designed to bring together NMR users, researchers, managers, etc., from the area, to share topics of general NMR interest. Graduate students in particular are encouraged to present papers or posters.

Further information will be available shortly. Interested participants who have not received the preliminary email announcement can be put on the mailing list by contacting the principal organizer, Chris Greenwood, at cgreenwo@uvic.ca

Information about **VIVA I** (2007) can be found here <http://www.chem.ubc.ca/viva/>

Myrna and André Simpson: Scientists

Myrna and André Simpson (University of Toronto, Scarborough) made the "Ten to watch in 2008" list by Toronto Star. Myrna and André extensively use NMR in their work on various environmental problems, both in liquids and in the solid state. Read the full story here:

<http://www.thestar.com/News/article/289570>

André Simpson's Research Group:

<http://www.utoronto.ca/%7Easimpson/>

Do you use Gaussian to help interpret your SSNMR data?

Sam Adiga and Dom Aebi from David Bryce's group at the University of Ottawa have written a computer program called "EFGShield" which parses and summarizes Gaussian output files containing shielding and EFG data. The program provides results which are directly comparable to data extracted through simulations of experimental spectra using programs such as WSOLIDS (e.g., quadrupolar coupling constants, Euler angles, etc.). If you are interested, you can download the program here

<http://www.catalysis.uottawa.ca/EFGShield-download.php>

IUPAC Recommendations

IUPAC has published recommendations regarding the reporting of nuclear magnetic resonance (NMR) data, especially chemical shifts, under most routine experimental conditions and for quantifying effects of temperature and solvent variation, including the use of magnetic susceptibility corrections and of magic-angle spinning (MAS). This document also provides the first IUPAC recommendations for referencing and reporting chemical shifts in solids, based on high-resolution MAS studies. The notation and terminology used for describing chemical shift and shielding tensors in solids is reviewed in some detail, and recommendations are given for best practice.

R.K. Harris, E.D. Becker, S.M. C. de Menezes, P. Granger, R.E. Hoffman, and K.W. Zilm, "Further conventions for NMR shielding and chemical shifts", *Pure and Applied Chemistry* **80** (2008) 59-84.
<http://iupac.org/publications/pac/80/1/0059/>

Chris Ratcliffe is a Secretary of the Canadian National Committee for the International Union of Pure & Applied Chemistry (CNC-IUPAC). For more information about CNC-IUPAC please visit the web-site:

<http://www.cnc-iupac.ca/>

Canadian NMR blogs

Solid-State NMR Literature Blog (Rob Schurko's group)

<http://ssnmr.blogspot.com/>

University of Ottawa NMR Facility Blog (Glenn Facey)

<http://u-of-o-nmr-facility.blogspot.com/>

University of Toronto NMR Facility Blog

<http://www.chem.utoronto.ca/facilities/nmr/NMRBlog/>

Prizes and Awards

Christine Greenwood receives the 2007 Service Award



Christine Greenwood, a long-time NMR manager at the University of Victoria, was honoured with the 2007 UVic President's Distinguished Service Award.

Read the full story here:

<http://ring.uvic.ca/08jan10/pdsa.html>

A wonderful front-page article about Christine and her work has been published in "Elements", a Newsletter by the UVic Department of Chemistry. Download a PDF file here

<http://www.chemistry.uvic.ca/newsletter12.pdf>

You may congratulate Christine personally by attending the VIVA II NMR minisymposium at the University of Victoria on June 20-21, 2008 (see above).

Mike Fuerth receives the 2007 Service Award



Mike Fuerth, the NMR technician at the University of Windsor, recently received the 2007 Staff Meritorious Service Award at the Faculty of Science Celebration of Success. Mike has been working at the University of Windsor for the past 33 years, and most of that time has been spent keeping the spectrometers operating in

prime condition.

For more on this story follow this link

<http://www.uwindsor.ca/units/pac/nvdailvnews/nvdn.nsf/forAlumni/6771FC99CCAAE85C8525739C006D39D5/>

Photo from: www.uwindsor.ca

Robert Schurko receives the 2007 Faculty Performance Award

Robert Schurko (University of Windsor) has received the 2007 Faculty Performance Award for contributions in research, teaching and service. Well done, Rob!

NMR Theses Recently Defended

Congratulate your students here!

Xiaohu Peng (University of Guelph, Vladimir Ladizhansky), 2007

M.Sc. thesis, "Development of new ^{13}C - ^{13}C distance measurement techniques for applications to proteins in the solid state"

Ligang Zhong (University of Guelph, Vladimir Ladizhansky), 2007

M.Sc. thesis, "Solid-state NMR studies of membrane associated form of myelin basic protein"

Jing Zhang (Department of Physics and Astronomy, University of Manitoba, Ronald Y. Dong), June 2007

Ph.D. thesis, "Dynamic NMR studies of molecular motions and order in calamitic and discotic liquid crystals"

Marise Ouellet (Université Laval, Michèle Auger), 2007

Ph.D. thesis, "Étude des mécanismes de perturbation membranaire de peptides amphiphiles par spectroscopies de RMN à l'état solide et infrarouge"

Audrey Saint-Laurent (Université Laval, Michèle Auger), 2007

Ph.D. thesis: "Caractérisation spectroscopique de systèmes membranaires: lipides-agents anticancéreux et nanoérythrocytes"

On the move

Ronald Dong, formerly with the University of Manitoba (Winnipeg) and the Brandon University (Brandon), has recently accepted a Honorary Professor position in the Physics and Astronomy Department at the University of British Columbia (Vancouver). At UBC Prof. Dong continues his research in solid state NMR of soft matter physics, focusing on liquid crystals dynamics and order, as well as biomaterials. You will find his new contact information following the link below.

<http://www.physics.ubc.ca/php/directory/research/fac-1p.phtml?entnum=463>

Shane Pawsey, after almost two years with the 900 NMR Facility, has joined Bruker BioSpin as an NMR application specialist. We wish Shane the best in this new and challenging undertaking.

Cory Widdifield has joined David Bryce's group (University of Ottawa) as a Ph.D. student in January 2008. Cory has a M.Sc. in solid-state NMR from Rob Schurko's group (University of Windsor).

<http://www.science.uottawa.ca/~dbryc159/>

Pedro Aguiar, after finishing his Ph.D. in Scott Kroeker's group (University of Manitoba), is now a postdoctoral fellow with Dimitrios Sakellariou in the Laboratory of Structure and Dynamics using Magnetic Resonance (LSDRM) of the French Atomic Energy Commission (CEA in Saclay) in Paris.

Shelley Forgeron moved to Saskatoon in September 2007. Shelley completed her Ph.D. in solid-state NMR with Rod Wasylishen's group in Edmonton (University of Alberta), and is now a manager of the NMR lab at NRC's Plant Biotechnology Institute. On behalf of all Canadian NMR managers we extend our warmest congratulations to Shelley on accepting this position.

<http://www.pbi.nrc.ca/en/research/nmr.htm>

Upcoming NMR Events

Let everyone know about upcoming NMR-related events at your University or Lab. NMR conference announcements are also welcome.

49th ENC

March 9-14, 2008
Asilomar, Pacific Grove, California
<http://www.enc-conference.org/>

Symposium "Advances in Solid-State NMR" at the 91st Canadian Chemistry Conference and Exhibition

May 24-28, 2008
Edmonton, Alberta
http://www.csc2008.ca/index.cfm/ci_id/4884/

Symposium "Protein NMR Spectroscopy"
at the 91st Canadian Chemistry Conference and
Exhibition

May 24–28, 2008
Edmonton, Alberta
http://www.csc2008.ca/index.cfm/ci_id/4876/

**VIVA II, the 2nd annual West Coast NMR
minisymposium**

June 20-21, 2008
University of Victoria
cgreenwo@uvic.ca

EUROMAR-2008

July 6-11, 2008
St. Petersburg, Russia
<http://www.euromar2008.com>

2008 Rocky Mountain Conference

July 27-31, 2008
Breckenridge, Colorado
<http://www.rockychem.com/ssnmr/>

the 900 NMR Facility News

3rd Annual Solid-State NMR Workshop at
the 91st Canadian Chemistry Conference and
Exhibition

May 24, 2008, Edmonton, Alberta
http://nmr900.ca/events_e.html

The National Ultrahigh-Field NMR Facility for
Solids and Bruker Canada will be presenting
the Third Annual Solid-State NMR Workshop on
Saturday, May 24, 2008.

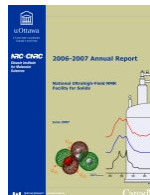
Becoming an annual Canadian Solid-State NMR
event, this workshop focuses on the latest
developments in solid-state NMR spectroscopy
with emphasis on practical aspects and
applications in material and life sciences. The
workshop will be of interest not only to NMR
spectroscopists, but also to students and other
researchers interested in using modern SSNMR
techniques in their research practice.

The Workshop will precede the Symposium on
Advances in Solid-State NMR.

Registration for the NMR Workshop is free but
space is limited. To register please forward
your name and affiliation to the Facility's
manager.

Note, that the NMR Workshop registration is
separate and independent of the CSC2008
conference registration.

2006-2007 Annual Report



The 2006-2007 Annual Report for
the National Ultrahigh-Field NMR
Facility for Solids is now available
in print and for download at
http://nmr900.ca/annual_e.html

If you have not received a printed copy of this
report and would like to receive one, please
forward your mailing address to the Facility
manager.

**Travel support program for students and
young scientists**

Students and young scientists from Canadian
Universities are welcome to apply for a travel
stipend towards full or partial reimbursement
of their travel expenses incurred while visiting
the 900 Facility. All requests should be
submitted by a supervisor in advance of the
trip and include a cost estimate. Requests
should be forwarded to the Facility manager for
review and approval by the Steering
Committee.

http://nmr900.ca/policies_e.html

Remote access to the 900 NMR instrument

Thanks to efforts by Andre Charbonneau (NRC
Information Management Service Brunch) the
900 NMR instrument can now be accessed
remotely for data acquisition and processing
from anywhere in Canada. Please enquire with
the Facility manager.

http://nmr900.ca/contact_e.html

New NMR books

Disclaimer: For your information only. In this bulletin we are not endorsing any products or services.

Modern Magnetic Resonance (in 3 volumes)

Part 1: Applications in Chemistry, Biological and Marine Sciences (961 p)

Part 2: Applications in Medical and Pharmaceutical Sciences (453 p)

Part 3: Applications in Materials Science and Food Science (510 p)

Webb, Graham A. (Ed.)
Publisher: Springer, 2008
ISBN: 978-1402038945

See details here:
<http://www.amazon.com/dp/1402038941/>

This book is now available at the 900 Facility.

NMR Jobs and Vacancies

You are welcome to post here your vacancies, openings, and related announcements. We may also post short "job wanted" requests.

Canadian NMR Jobs
http://nmr900.ca/ssnmr_jobs.html

NMR jobs on the NMR Information Server
<http://www.spincore.com/nmrjobs/>

List of NMR jobs and Post-Doc positions maintained by Dror Warschawski (www.ibpc.fr)
<http://www.drorlist.com/nmr.html>

NMR jobs on SpectroscopyNow.com
<http://www.spectroscopynow.com/coi/cda/list.cda?type=Job&chId=0>

Positions at Protein NMR Research Group, University of Guelph

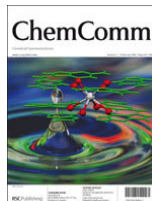
M. Sc. and Ph. D. student positions available.
Enquire with Vladimir Ladizhansky

<http://www.physics.uoguelph.ca/%7Evladimir/>

Canadian NMR Research Highlights

Research highlights and most recent NMR publications by Canadian research teams

Cover article in *Chemical Communications*



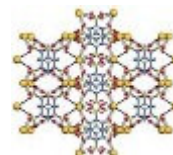
Results of collaboration between two NMR research teams, from the Queen's University, Canada (Gang Wu's group) and the University of Warwick, U.K. (Mark Smith's group), are featured on the cover of a recent issue of *Chemical Communications*.

Irene C. M. Kwan, Alan Wong, Yi-Min She, Mark E. Smith and Gang Wu, "Direct NMR evidence for Ca²⁺ ion binding to G-quartets" *Chemical Communications* (2008) 682-684. **(cover article)**

<http://dx.doi.org/10.1039/b714803h>

Research paper in *Nature Materials*

Congratulations are due to our colleagues from the University of Calgary and NRC's Steacie Institute for Molecular Sciences on publishing a paper in *Nature Materials*. Among other techniques, the authors have used NMR of hyperpolarized ¹²⁹Xe to probe voids in metal-organic frameworks.



Brett D. Chandler, Gary D. Enright, Konstantin A. Udachin, Shane Pawsey, John A. Ripmeester, David T. Cramb and George K.H. Shimizu, "Mechanical gas capture and release in a network solid via multiple single-crystalline transformations," *Nature Materials* (2008).

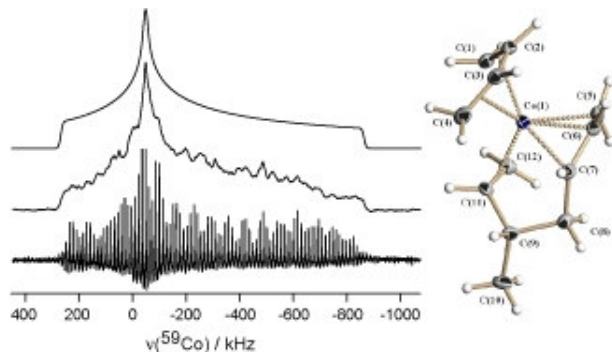
<http://dx.doi.org/10.1038/nmat2101>

Research paper in *Angewandte Chemie*

We are celebrating together with **David Bryce** and his colleagues the first publication in *Angewandte Chemie* featuring results from the 900 instrument. Well done, Dave!

Patrick Crewdson, David L. Bryce, Frank Rominger, and Peter Hofmann, "Application of ⁵⁹Co Solid-State NMR in the First Spectroscopic Investigations of the [Co(C₈H₁₃)(C₄H₆)]"

1,2-Polybutadiene Catalyst," *Angewandte Chemie Int. Ed.* (2008) accepted for publication.



David Bryce's group (University of Ottawa)
<http://www.science.uottawa.ca/~dbryc159/>

Magnetic Resonance in Chemistry
special issue, volume 45(S1), 2007
"New techniques in solid-state NMR"

<http://www3.interscience.wiley.com/journal/117870944/issue>

Featuring

C.M. Widdifield, J.A. Tang, C.L.B. Macdonald, R.W. Schurko, "Investigation of structure and dynamics in the sodium metallocenes CpNa and CpNa·THF via solid-state NMR, X-ray diffraction and computational modelling," *Magnetic Resonance in Chemistry* **45** (2007) S116-S128.
<http://dx.doi.org/10.1002/mrc.2124>

J.W. Traer, G.R. Goward, "Solid-state NMR studies of hydrogen bonding networks and proton transport pathways based on anion and cation dynamics," *Magnetic Resonance in Chemistry* **45** (2007) S135-S143.
<http://dx.doi.org/10.1002/mrc.2127>

Journal of Chemical Physics
special topic, volume 128(5), 2008
"New Developments in Magnetic Resonance"

<http://scitation.aip.org/dbt/dbt.jsp?KEY=JCPA6&Volume=128&Issue=5>

Featuring

C.A. Michal, S.P. Hastings, and L.H. Lee, "Two-photon Lee-Goldburg nuclear magnetic resonance: Simultaneous homonuclear decoupling and signal acquisition," *Journal of Chemical Physics* **128** (2008) 052301.
<http://dx.doi.org/10.1063/1.2825593>

M. Jochum, U. Werner-Zwanziger, and J.W. Zwanziger, "Observable effects of mechanical stress induced by sample spinning in solid state nuclear magnetic resonance" *Journal of Chemical Physics* **128** (2008) 052304.

<http://dx.doi.org/10.1063/1.2823130>



Progress in Nuclear Magnetic Resonance Spectroscopy

<http://www.sciencedirect.com/science/journal/00796565>

recent reviews

G.H. Penner and X. Liu, "Silver NMR spectroscopy," *Progress in Nuclear Magnetic Resonance Spectroscopy* **49** (2006) 151-167.
<http://dx.doi.org/10.1016/j.pnmrs.2006.06.004>

R. Böhmer, K.R. Jeffrey and M. Vogel, "Solid-state Li NMR with applications to the translational dynamics in ion conductors," *Progress in Nuclear Magnetic Resonance Spectroscopy* **50** (2007) 87-174.
<http://dx.doi.org/10.1016/j.pnmrs.2006.12.001>

G. Wu, "Solid-State ¹⁷O NMR Studies of Organic and Biological Molecules," *Progress in Nuclear Magnetic Resonance Spectroscopy* **52** (2008) 118-169.
<http://dx.doi.org/10.1016/j.pnmrs.2007.07.004>

O.B. Lapina, D.F. Khabibulin, A.A. Shubin, and V.V. Terskikh, "Practical Aspects of ⁵¹V and ⁹³Nb Solid-State NMR Spectroscopy and Applications to Oxide Materials," *Progress in Nuclear Magnetic Resonance Spectroscopy* **52** (2008) in press.
<http://dx.doi.org/10.1016/j.pnmrs.2007.12.001>

Recent NMR Publications

You are welcome to submit here your recent publications.

Université de Moncton

J.-D. Mao, L. Tremblay, J.-P. Gagné, S. Kohl, J. Rice and K. Schmidt-Rohr, "Humic acids from particulate organic matter in the Saguenay Fjord and the St. Lawrence Estuary investigated by advanced solid-state NMR," *Geochimica et Cosmochimica Acta* **71** (2007) 5483-5499.
<http://dx.doi.org/10.1016/j.gca.2007.09.022>

Dalhousie University

M. Jochum, U. Werner-Zwanziger, and J.W. Zwanziger, "Observable effects of mechanical stress induced by sample spinning in solid state nuclear magnetic resonance" *Journal of Chemical Physics* **128** (2008) 052304.
<http://dx.doi.org/10.1063/1.2823130>

M. Guignard, U. Werner-Zwanziger and J.W. Zwanziger, "Glass-former/glass-modifier interactions and the stress-optic response," *Journal of Non-Crystalline Solids* **354** (2008) 79-83.
<http://dx.doi.org/10.1016/j.jnoncrsol.2007.07.096>

McMaster University

C.K. Anand, A.D. Bain, Z.H. Nie, "Simulation of steady-state NMR of coupled systems using Liouville space and computer algebra methods," *Journal of Magnetic Resonance* **189** (2007) 200-208.
<http://dx.doi.org/10.1016/j.jmr.2007.09.012>

J.W. Traer, G.R. Goward, "Solid-state NMR studies of hydrogen bonding networks and proton transport pathways based on anion and cation dynamics," *Magnetic Resonance in Chemistry* **45** (2007) S135-S143.
<http://dx.doi.org/10.1002/mrc.2127>

G. Ye, B. Fortier-McGill, J.W. Traer, A. Czardybon, G.R. Goward, "Probing proton mobility in polyvinazene and its sulfonated derivatives using ^1H solid-state NMR," *Macromolecular Chemistry and Physics* **208** (2007) 2076-2084.
<http://dx.doi.org/10.1002/macp.200700203>

B. Li, L. Xu, Q. Wu, T. Chen, P. Sun, Q. Jin, D. Ding, X. Wang, G. Xue, A.C. Shi, "Various types of hydrogen bonds, their temperature dependence and water-polymer interaction in hydrated poly(acrylic acid) as revealed by ^1H solid-state NMR spectroscopy," *Macromolecules* **40** (2007) 5776-5786.
<http://dx.doi.org/10.1021/ma070485c>

National Research Council Canada

B.D. Chandler, G.D. Enright, K.A. Udachin, S. Pawsey, J.A. Ripmeester, D.T. Cramb and G.K.H. Shimizu, "Mechanical gas capture and release in a network solid via multiple single-crystalline transformations," *Nature Materials* (2008).
<http://dx.doi.org/10.1038/nmat2101>

G. Wu, P. Mason, X. Mo, and V. Terskikh, "Experimental and computational characterization of the ^{17}O quadrupole coupling tensor and chemical shift tensor for p-nitrobenzaldehyde and formaldehyde," *Journal of Physical Chemistry A* **112** (2008) 1024-1032.
<http://dx.doi.org/10.1021/jp077558e>

O.B. Lapina, D.F. Khabibulin, A.A. Shubin, and V.V. Terskikh, "Practical Aspects of ^{51}V and ^{93}Nb Solid-State NMR Spectroscopy and Applications to Oxide Materials," *Progress in Nuclear Magnetic Resonance Spectroscopy* **52** (2008) in press.
<http://dx.doi.org/10.1016/j.pnmrs.2007.12.001>

G.W. Buchanan and I. Moudrakovski, " ^{19}F Magnetic Resonance Imaging Using Vesicles of Sucrose Octaoleate-F104" *Journal of Fluorine Chemistry* 129 (2008) 137-138.
<http://dx.doi.org/10.1016/j.jfluchem.2007.10.008>

T. Okuchi, I.L. Moudrakovski and J.A. Ripmeester, "Efficient storage of hydrogen fuel into leaky cages of clathrate hydrate," *Appl. Phys. Lett.* **91** (2007) 171903.
<http://dx.doi.org/10.1063/1.2802041>

Queen's University

I.C. M. Kwan, A. Wong, Yi-Min She, M. E. Smith and G. Wu, "Direct NMR evidence for Ca^{2+} ion binding to G-quartets" *Chemical Communications* (2008) 682-684. **(cover article)**
<http://dx.doi.org/10.1039/b714803h>

G. Wu, P. Mason, X. Mo, and V. Terskikh, "Experimental and computational characterization of the ^{17}O quadrupole coupling tensor and chemical shift tensor for p-nitrobenzaldehyde and formaldehyde," *Journal*

of *Physical Chemistry A* **112** (2008) 1024-1032.

<http://dx.doi.org/10.1021/jp077558e>

G. Wu, "Solid-State ^{17}O NMR Studies of Organic and Biological Molecules," *Progress in Nuclear Magnetic Resonance Spectroscopy* **52** (2008) 118-169.

<http://dx.doi.org/10.1016/j.pnmrs.2007.07.004>

I.C.M. Kwan, Y.-M. She, and G. Wu, "Trivalent Lanthanide Metal Ions Promote Formation of Stacking G-Quartets," *Chemical Communications* (2007) 4286-4288.

<http://dx.doi.org/10.1039/b710299b>

C. Zhong, J. Wang, N. Wu, G. Wu, P.Y. Zavalij and X. Shi, "Anion bridged nanosheet from self-assembled G-quadruplexes," *Chemical Communications* (2007) 3148-3150.

<http://dx.doi.org/10.1039/b704756h>

University of Guelph

X. Peng, D. Libich, R. Janik, G. Harauz, and V. Ladizhansky, "Dipolar Chemical Shift Correlation Spectroscopy for Homonuclear Carbon Distance Measurements in Proteins in the Solid State: Application to Structure Determination and Refinement," *Journal of the American Chemical Society* **130** (2008) 359-369.

<http://dx.doi.org/10.1021/ja076658v>

M.A. Ahmed, V.V. Bamm, G. Harauz, V. Ladizhansky, "The BG21 isoform of Golgi myelin basic protein is intrinsically disordered with a highly flexible amino-terminal domain," *Biochemistry* **46** (2007) 9700-9712.

<http://dx.doi.org/10.1021/bi700632x>

L. Zhong, V. V. Bamm, M.A.M. Ahmed, G. Harauz and V. Ladizhansky, "Solid-state NMR spectroscopy of 18.5 kDa myelin basic protein reconstituted with lipid vesicles: Spectroscopic characterisation and spectral assignments of solvent-exposed protein fragments," *Biochimica et Biophysica Acta (BBA) Biomembranes* **1768** (2007) 3193-3205.

<http://dx.doi.org/10.1016/j.bbamem.2007.08.013>

R. Janik, X.H. Peng, V. Ladizhansky, " ^{13}C - ^{13}C distance measurements in U-(CN)- ^{13}C - ^{15}N -labeled peptides using rotational resonance width experiment with a homogeneously broadened matching condition," *Journal of Magnetic Resonance* **188** (2007) 129-140.

<http://dx.doi.org/10.1016/j.jmr.2007.06.005>

University of Ottawa

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