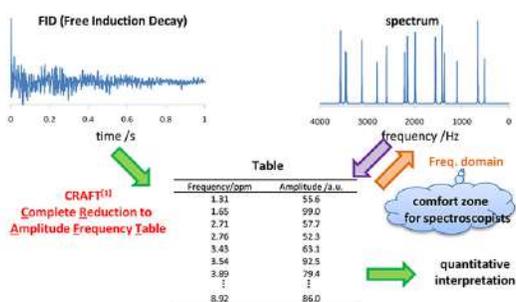




Welcome to the 1st JEOL NMR Newsletter

If you are reading this, thank you for taking the time to see what JEOL has to say about NMR. Our plan is to email a newsletter four times a year with a roundup of the latest information. Meanwhile, we hope you'll follow us on social media for current updates, click through to more in depth information, and see us at the upcoming NMR conferences. Let us know if we can answer your NMR questions. ~ Dr. Mike Frey, Analytical Instruments Product Manager.

CRAFT for NMR: challenging conventions to achieve faster, more accurate analysis



NMR data contains a trove of useful information for answering a wide variety of chemical and biological problems. However, with this broad utility comes complexity. We have collaborated with Krish Krishnamurthy to offer a solution: CRAFT (Complete Reduction to Amplitude Frequency Table) takes the free-induction decay (FID) time-domain data and analyzes what comes out of it in a completely objective way. [Download our interview](#) with Krish and learn more about CRAFT.

A Visit to the NMR Spectroscopy Facility at the University of Massachusetts Lowell



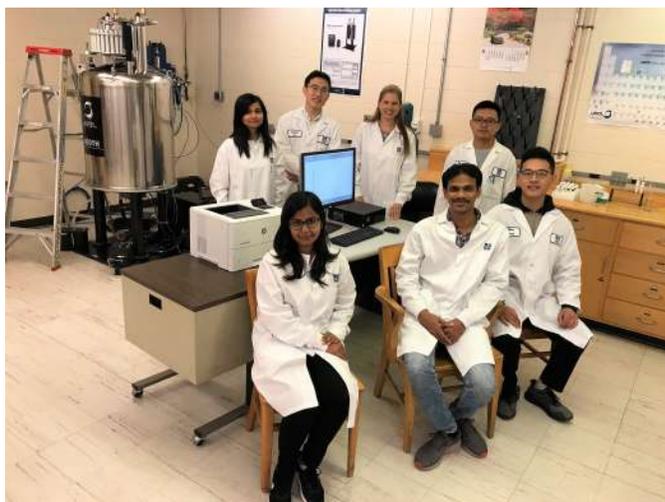
With over 13 years spent working in industry, 11 in a large pharmaceutical company, it is safe to say that Wendy Gavin knows the secret to successful NMR. Wendy has worked at the university for over six years and, as well as being the NMR Core Research Facility Manager, she also manages the University's Analytical Chemistry lab. Her experience working in industry has provided unique insights into a customer's requirements and enables her to ensure that the NMR facility at the University of Massachusetts Lowell is providing high quality data.

As part of the core research facilities at the University, the NMR facility has a solution state JEOL 400 MHz NMR and a JEOL ROYAL Probe.

"NMR is one of the most reliable techniques available, it doesn't give false data and provides definitive proof of synthesis for a paper or patent," Gavin says.

"Our training covers ¹H and ¹³C NMR techniques, but we are also able to provide guidance for advanced NMR experiments including kinetic studies, 2D techniques, and variable temperature studies."

Read more about UMass Lowell's NMR facility in our [REALab customer case story](#).



REALab

Webinar: Solving the Structures of Small Molecules Using Fluorine's Unique NMR Properties



JEOL NMR Applications Chemist Tim Bergeron presented a webinar hosted by C&E News in October. This webinar explores the way NMR probes have evolved over time, showcase a recent breakthrough in probe technology, and discuss additional experimental methods that have the potential to be useful to anyone who is trying to use NMR to confirm structures where fluorine is present. The webinar is still available as a recording. [Click here to access.](#)

Ultrahigh Sensitivity Autotune Probes using Cryogenic Probe Technology

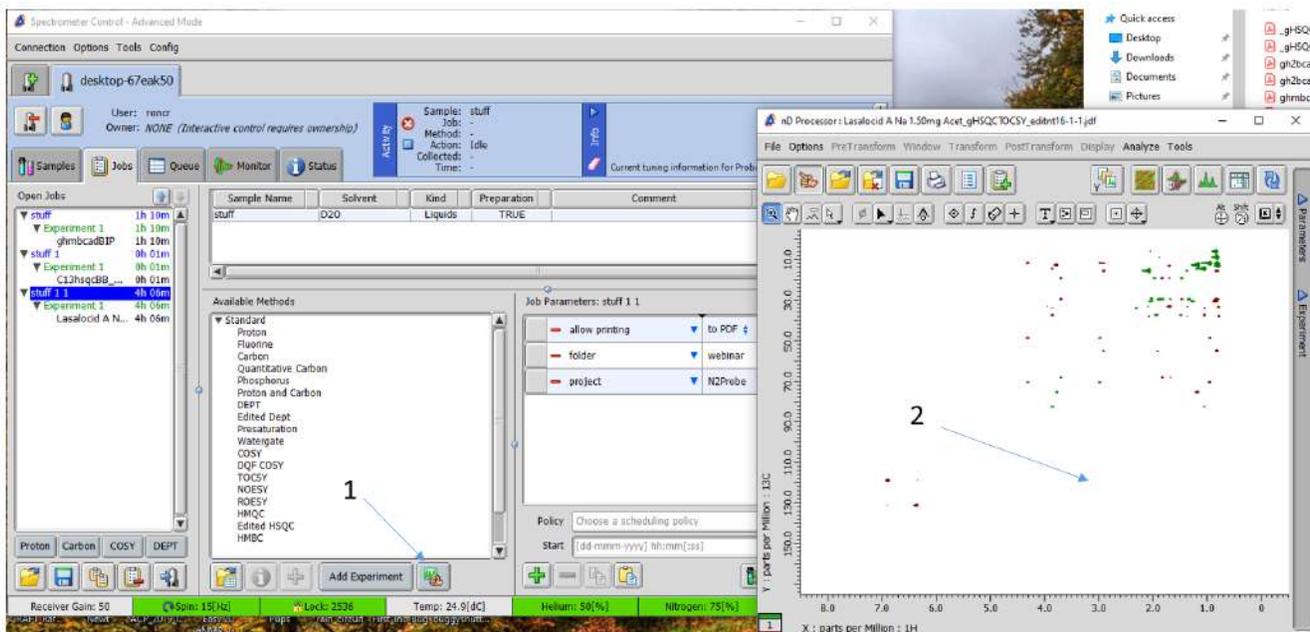
SuperCool and UltraCool probes significantly improve sensitivity, reduce thermal noise, and allow NMR experiments in a fraction of the time. [Learn how](#) these cryogenic probes were developed, and the differences between the two.

New for JEOL NMR - for Polymers, Materials Science, and Biosolids

The 2mm Magic Angle Spinning (MAS) NMR Probe for Solids and Pre-Heat Auto-Sample Changer (ASC) expand JEOL's extensive offering of advanced NMR solutions for polymer research, materials science and biosolids. [Read More>>>](#)



Delta Tip - Delta NMR Software



*Did you know that an experiment can be added to repeat exactly something done before?
Simply click first on the icon beside Add Experiment and next in the processed data you wish to repeat.
Because Delta in ppm-based an experiment run on a 400 can be repeated exactly on a 600.
All the parameters such as powers and pulse widths are automatically corrected at the same time!*

For more DELTA Tips and information on DELTA NMR software, [visit our webpage](#).



JEOL NMR in the news and recently published papers.



In High Resolution: JEOL Celebrates Platinum Anniversary

The manufacturer of electron microscopes and other scientific instruments has been in the business for 70 years. Bob Pohorenc, the company's new president, reflects on the market and the challenges ahead. [Read the full article in Manufacturing Chemist >>>](#)



JEOL History in NMR

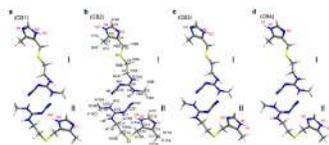
JEOL, "NMR and ESR: A 65 year evolution" has been published in the Journal of Magnetic Resonance 50th Anniversary Jubilee issue. [Download the full article here](#). Visit our [history page](#) to see the 1st JEOL NMR (1956).



2019 Nobel Prize in Chemistry

JEOL congratulates the Nobel Prize in Chemistry winners for development of the lithium ion battery and expresses our respects to Dr. Akira Yoshino, Asahi Kasei Honorary Fellow for his great research

endeavors for many years. In 2011 he contributed a paper to [JEOL News magazine](#). "Information Derived from PGSE-NMR ~ Ion Diffusion Behavior, Molecular Association, Molecular Weight / Composition Correlation of Synthetic Polymers." [Download the magazine](#) (go to page 23) and [read more here >>>](#)



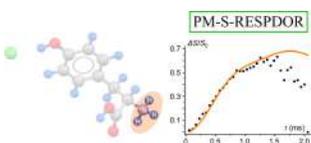
Elucidating Novel Crystalline Structures with Electron and NMR Crystallography

Analytical techniques such as NMR crystallography could be leveraged to discover other unknown crystal forms that traditional diffraction techniques have so far failed to illuminate. [Read here>>>](#)



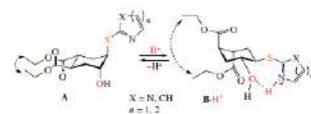
Solving Challenges of Automated 1D and 2D Quantitative Nuclear Magnetic Resonance (qNMR) Spectroscopy Using CRAFT

The introduction of "two-dimensional" (2D) nuclear magnetic resonance (NMR) spectroscopy in the mid-1970s is generally accepted to be a defining advance in modern NMR analysis. Fast forward to more recent times, when the desire for automated quantitative NMR (qNMR) analysis has become the challenge to solve. [Read here>>>](#)



Accurate ^1H - ^{14}N distance measurements by phase-modulated RESPDOR at ultra-fast MAS

The RIKEN-JEOL Collaboration Center has addressed the research and development of utilization technologies and applications in the field of NMR and multi-modal imaging in a [new paper>>>](#).



trans-2-(Azaarylsulfanyl)cyclohexanol derivatives as potential pH-triggered conformational switches

^1H NMR spectroscopy was used to elucidate the conformational equilibrium in various solvents and its acid induced change due to stabilization of the conformer with the azaarylsulfanyl and hydroxy groups in equatorial position by an intramolecular hydrogen bond and electrostatic interactions. [>>>](#)

New iPhone App - NMR Periodic Table

Always keep the periodic table with you! 2019 is the [International Year of the Periodic Table](#), and we've developed a new App, available through the App Store. [More information>>>](#)

Also see what JEOL offers for [NMR posters](#) for your lab!



Upcoming Events, Conferences, and Meetings

November 13-16, 2019

[SWRM/RMRM](#)

Southwest and Rocky Mountain Regional Meeting (ACS)

El Paso, TX

November 18-20, 2019

[EAS Eastern Analytical Symposium and Exhibition](#)

Plainsboro, NJ

March 3-5, 2020

[Pittcon](#)

Chicago, IL

March 8-13, 2020

[ENC - 61st Experimental Nuclear Magnetic Resonance Conference](#)

Baltimore, MD

March 22-24, 2020

[ACS Spring](#)

Philadelphia, PA

April 14-16, 2020

[Drug Discovery Chemistry](#)

San Diego, CA

April 26-30, 2020

[PANIC NMR](#)

LaJolla, CA

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