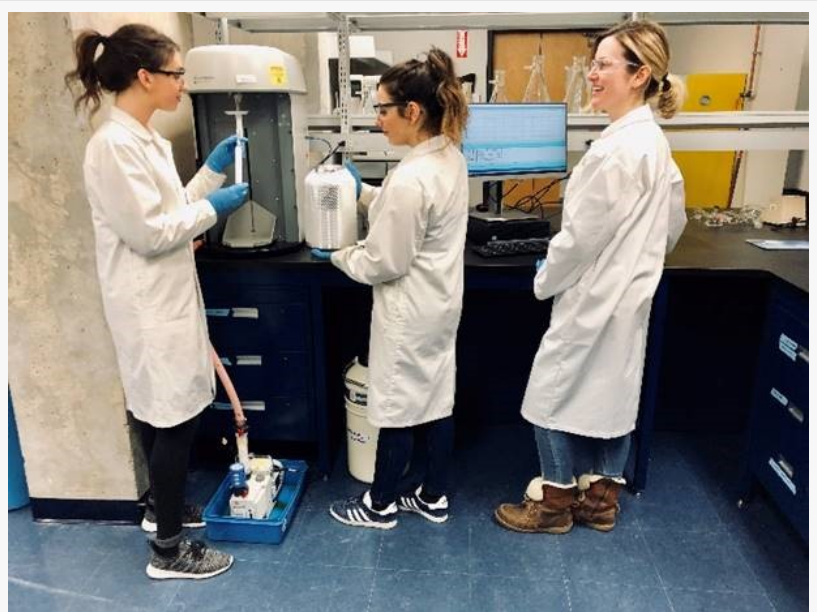


Researchers at Concordia University Pick Micromeritics for High Throughput Metal-Organic Framework Characterization

University Chooses Micromeritics TriStar II Plus Automated, Three-Station Gas Absorption System

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Researchers designing and synthesizing new metal-organic frameworks (MOFs) at [Concordia University](#) (Montreal, Canada) are benefiting from high throughput surface area and porosity characterization with a [Micromeritics TriStar II Plus](#) automated, three-station gas adsorption system. A key focus for the group is rare earth MOFs with potential for wastewater clean-up and luminescence-based hazardous chemical detection. The TriStar characterizes new MOFs with exemplary efficiency, even for novice users, enhancing the productivity of the lab and accelerating progress.



The TriStar II Plus (Micromeritics, Georgia U.S.) provides high productivity MOF characterization for researchers at Concordia University (Montreal, Canada) (from left to right Paola Marino, Zvart Ajoyan and Dr. Ashlee Horwarth)

“Surface area and porosity are defining characteristics of a MOF,” said Dr. Ashlee Horwarth, Assistant Professor at Concordia University. “So, we need to be able to measure them as quickly and efficiently as possible. The TriStar runs 3 samples at a time, generating full data sets in 7 to 8 hours. This is extremely fast and means a same day result for my students; with some systems it would take 24 hours to run just a single sample. The ability to run three samples at once is really useful for confirming the reproducibility of a preparation method.”

“

It only takes around an hour for me to train my students to use the Tristar and it is exceedingly reliable,”

Dr. Ashlee Horwarth, Assistant Professor at Concordia University.

MOFs are an exciting class of chemical compounds with tunable porosity at the nanoscale and associated potential to address a wide range of societal concerns. The Concordia team are preparing MOFs to remove and/or catalytically breakdown waterborne contaminants not amenable to existing treatments, such as antibiotics and

personal care products. The ability for rare earth MOFs to exhibit luminescence in response to the presence of hazardous analytes is also an area of interest. Surface area and porosity are performance-defining characteristics for all MOFs with pore size distribution providing insight into likely application.

"It only takes around an hour for me to train my students to use the TriStar and it is exceedingly reliable," said Dr. Howarth. "I'm not aware of another system that matches it in terms of that crucial combination of robustness, throughput and price. I will soon boost analytical capabilities further with the addition of a Smart VacPrep accessory which will speed up all stages of sample prep - both degassing and activation."

Prior to gas adsorption analyses samples are degassed; catalytic materials may also be activated. The Smart VacPrep is an advanced six-port, programmable system that streamlines sample preparation by heating and evacuation. Each port can be operated independently, with samples easily and seamlessly transferred to the TriStar once preparation is complete. Using the Smart VacPrep in combination with the TriStar therefore further enhances the speed and ease of gas adsorption analysis.

Find out more about the TriStar II Plus at <https://www.micromeritics.com/Product-Showcase/TriStar-II-Series.aspx> or about Micromeritics broader offering for MOF characterization at <https://www.micromeritics.com/Product-Showcase/Characterizing-MOFs.aspx>

Micromeritics Corporate Profile

Micromeritics Instrument Corporation is a global provider of solutions for material characterization with best-in-class instrumentation and application expertise in five core areas: density; surface area and porosity; particle size and shape; powder characterization; and catalyst characterization and process development. Founded in 1962, the company has its headquarters in Norcross, Georgia, USA and more than 300 employees worldwide. With a fully integrated operation that extends from a world class scientific knowledge base through to in-house manufacture, Micromeritics delivers an extensive range of high-performance products for academic research and industrial problem-solving. Micromeritics' customer-centric approach is



Micromeritics TriStar II Plus is an automated, three-station, surface area and porosity analyzer that delivers excellent performance and speed of analysis



Micromeritics

evident from tactical partnerships that incubate and deliver valuable new technologies and strategic acquisitions to develop integrated solutions in the industrially vital areas of powders and catalysis. These acquisitions include Freeman Technology Ltd, a company with market-leading powder testing technology, and Process Integral Development S.L. (PID Eng & Tech), a highly-experienced provider of automated, modular microreactor systems. A cost-efficient contract testing laboratory – the Particle Testing Authority (PTA) - supplies material characterization services using Micromeritics' instrumentation alongside complementary solutions from other vendors. A network of offices across the Americas, Asia, and Europe, along with dedicated distributors in additional geographies, ensures that every customer has local, knowledgeable support. Micromeritics works across a diverse range of industries from oil processing, petrochemicals and catalysts, to food and pharmaceuticals, and at the forefront of characterization technology for next generation materials such as graphene, metal-organic-frameworks, nanocatalysts, and zeolites. Engineering solutions that work optimally for every user is a defining characteristic of the company. For additional information go to www.micromeritics.com

About Concordia University

Concordia University is one of North America's highest ranked universities founded in the last 50 years. Highly innovative, nimble and forward-thinking, Concordia defines and delivers next-generation teaching and research. Our community is a dynamic mix of faculty and students who research, create, teach, and engage across and beyond disciplines, making Concordia an international destination for leading thinkers. Deeply connected to Montreal and the world at large, we are a popular choice for more than 50,000 students across all major disciplines. Find out more at www.concordia.ca

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