



FOR IMMEDIATE RELEASE

Allotrope Foundation Further Expands Access to Interoperable Laboratory Data Standards with Public JSON-based Analytical Data Models

The Allotrope Simple Models (ASMs) enable the collection and conversion of scientific information from a broad range of laboratory instruments into a unified human-readable FAIR data format.

Washington, DC

Allotrope Foundation, an international consortium of chemical & life sciences organizations, is excited to announce the public release of its extensive set of standardized data models that cover over forty different techniques and domains essential to research and development in the analytical laboratory. The data models leverage the modern JavaScript object notation (JSON) format, which is widely used as the backbone of communications for today's internet and immediately familiar to any software engineer or data scientist. The Allotrope Simple Models (ASMs) are designed by thought leaders in Allotrope's diverse community of industry, governmental, and academic institutions to represent a true pan-industry data standard to streamline analytical data processing and accelerate digital transformation in the lab. Designed to be implemented quickly and easily, ASM models capture critical results and parameters essential to accurately capture, preserve, and transfer laboratory data. These models are specifically tailored to meet the exponential growth in the use of bedrock analytical data to fuel artificial intelligence and machine learning techniques and cover diverse techniques such as NMR spectroscopy, chromatography, and mass spectrometry.

The models leverage Allotrope's standardized, open formal vocabulary of terms and definitions commonly used in scientific data and experiments, the Allotrope Foundation Ontologies (AFO). By employing these standardized terms and the widely adopted text-based JSON format, the ASM family of models represents an easy entry point in the journey towards digital laboratory and data standardization, serving as a steppingstone towards a future implementation which fully leverages Allotrope Foundation's more information-rich semantic-based standardization technology. Through the application of reusable modeling patterns, the Allotrope data models make laboratory data interoperable and reusable anywhere ASM is used.

As with the Allotrope Foundation Ontologies, the Allotrope Simple Models will be available for immediate usage by any for- or non-profit institution under a variety of Creative Commons licenses.

The licensing is designed to provide flexibility for use tailored to specific needs while maintaining a singular, common standard developed by the Allotrope community.

“We’re incredibly excited to make the work of our community broadly available to all. A standard needs to both represent diverse viewpoints and be widely adopted to see long-lasting value” said Corey Bakalarski, Chairman of Allotrope Foundation. *“Through Allotrope’s wide community of data producers and consumers, we’ve been able to create standards that will work for all, and we hope that today’s announcement that Allotrope Simple Models are free to use will make it easy for everyone to adopt ready-made data standards into their work – and free up their time to focus on more complex and critical tasks.”*

Allotrope Foundation’s suite of standardization tools for the digital laboratory reduces instrument integration costs, eliminates manual data transcription, and drives democratization of data for AI/ML modeling of product & process development, which revolutionizes the way that laboratory professionals and scientists work. By building upon a semantically-enabled framework, Allotrope’s systems work together to allow easy adoption of standards using common file formats that are quick to integrate but provide a powerful way to consistently represent data in a diverse array of domains. To keep pace with the rapidly changing world of research and development, Allotrope data models are readily extensible to additional content via the Allotrope community in the future.

“ASM allows IFPEN to retrieve and centralize its lab data across a wide range of analytical techniques, allowing our public institution to comply with its open-data requirements, and researchers both internally and externally to advance scientific progress, leveraging the power of big data” said Maxime Visconte, Industrial and lab IT manager at IFP Energies Nouvelles, the French public research and innovation organization in the field of energy.

By making ASM available to the public, Allotrope Foundation seeks to enable wide-spread data standardization throughout the scientific community through adoption of this technology. For more information on how to access the ASM and licensing terms, please visit the Allotrope Foundation website at <https://www.allotrope.org/asm>.

About Allotrope Foundation:

Allotrope Foundation is a consortium of chemical & life sciences companies formed in 2013 to revolutionize the way we acquire, share and gain insights from scientific data through the application of community-derived data standards consistently delivered via an extensible technology framework. For more information, please visit www.allotrope.org.

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