

## Data Analytics Task Force

Enormous amounts of data (e.g., related to manufacturing processes) are collected in the chemical and materials industries today, but exponentially more will be collected in those industries in the future. Accelerating progress in the context of this massively data-driven future will necessitate the elevation of data science to a main-stream topic in the chemistry, chemical engineering, and materials science disciplines along with investments in the training of employees at all levels. In anticipation of this trend, CACHE recently formed an ad hoc task force (committee) being led by Jonathan Moore (The Dow Chemical Co.) and Richard Braatz (MIT) in the general area of data analytics and machine learning. We believe that there is a clear opportunity for CACHE to foster the development of educational resources in this area in the context of the chemical engineering discipline.

As a significant first step, our task force is organizing the first instance of the Foundations Of Process Analytics and Machine learning (FOPAM) conference scheduled for August 6-9, 2019 in Raleigh, NC (<http://fopam.org/>). The conference aims to be the premier forum for researchers from industry and academia to discuss the current status and future directions of data analytics and machine learning in process industries. Topics will span a wide range from health monitoring, process control, supply chain, and materials analytics and molecular design...but importantly the final session at FOPAM 2019 will focus on data analytics education for chemical engineers.

Additionally, CACHE is known for its Teaching Resources website (<https://cache.org/teaching-resources-center>) and education module development. One of the first things this ad hoc committee is doing is seeking to augment the current "Statistics" teaching resources page with materials on data analytics. Of course, generic educational materials on data science and machine learning are plentiful on the web, but little is available specifically in the context of chemicals and materials...an issue that we would like to address. We have also had some preliminary discussions with AIChE with regard to how we might partner to serve the chemical engineering community in this area.

We welcome any ideas or suggestions that other individuals in the community may have with regard to how CACHE might make an impact in this area, and we encourage anyone who is interested to contact us with your ideas and consider participating with us on the CACHE task force.

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