

## **CMH-17 STATISTICS TUTORIAL**

The Composite Materials Handbook (CMH-17) provides world-class engineering information, including databases, standards and guidelines for structural applications of advanced materials including composites and additively manufactured (AM) materials. Its primary purpose is the standardization of engineering information for current and emerging materials. The Handbook therefore constitutes an overview of the field of advanced materials engineering and technology in an area which is advancing and changing rapidly.

In support of this objective, the handbook includes methodology for performing a number of engineering processes associated with the design, manufacture and continued operational safety of composite and AM materials. These processes use rigorous statistical data requirements to confirm acceptability. These statistical procedures are sometimes intricate and confusing to individuals that are not familiar with them.

In order to provide clarity to these procedures and how they apply to additively manufactured (AM) materials data, a six (6) hour tutorial session will be presented as part of the next CMH-17 AM meeting on April 28, 2020 in Eden Prairie, MN.

This tutorial is a comprehensive treatment of the CMH-17 methods for statistical analysis and their importance to proper development of design information. Students will participate in an interactive session on the CMH-17 statistical methods, including practical example problems utilizing additive manufacturing materials data.

Students need to bring a laptop computer with EXCEL to participate in the interactive sessions as they will be focused on using the specialized software available: CMH17 STATS and HYTEQ.