Dr. Rodger Dyson has worked at NASA Glenn Research Center for over 30 years in Power, Propulsion, and Thermal Technologies supporting both aeronautics and space missions. He currently serves as the hybrid gas electric propulsion technical lead, NASA electric aircraft testbed principal investigator, NATO hybrid electric aircraft technology domain lead, founded the Power and Propulsion Systems Alliance hybrid electric technical area team, and leading a new thermal energy conversion initiative to recycle heat on aircraft. He is also a prolific inventor with 8 licensed patents, founder of two technology startup companies, and recently served as Chief Technology Officer at Nirvana Energy Systems.

**ABSTRACT:**

Aircraft Transportation Electrification Eco-System and Technologies

Recent advances in ground transportation electrification technology have enabled the acceptance of electric vehicles in the marketplace. And air transportation electrification is expected to experience similar success as the unique technology challenges associated with altitude and mass constraints are addressed. This short three-hour course will provide an overview of the air transportation electrification eco-system; define key technology parameters; review the key required technologies in power, propulsion, thermal, and energy storage; address the technology maturation process that is unique to high voltage Megawatt-scale powertrains; and to recommend future areas of interest for further development and market acceptance.

**AGENDA:**

1. Background & Motivation
2. Markets
3. Government and Industry Eco-System
4. Key Performance Parameters
5. Propulsion Technologies
6. Power Technologies
7. Thermal Technologies
8. Energy Source/Storage Technologies
9. Flight Demonstration Vehicles
10. Summary and Future Prospects