**Joint Technical Seminar of Tallahassee IEEE PES Chapter,**
**FAMU-FSU College of Engineering, and**
**The Center for Advanced Power Systems**

**Title: RF Energy transfer and cryogenic thermal management technology developments at Sencera Energy**
**Presenter:** Rusty Jewett, Ph.D. is the founder of Sencera Energy
**Time:** *15:00 - 16:00, Monday, July 8, 2024*
**Location: Room** *120, Center for Advanced Power Systems*

***Refreshments will be served.***

## Abstract

Plasma excitation systems for semiconductor processing were initially adapted from the radio broadcasting industry, and even today the power architecture retains many vestigial features that are no longer required. A review of the physical mechanisms for transferring RF energy into a plasma gives insight into more efficient approaches for power delivery, which also expand process range and improve process repeatability. Power density in the latest generation of process tools also demands better solutions for removing heat. Some alternate thermal management approaches using cryogenic hardware will be discussed.

## Dr. Rusty Jewett

Rusty Jewett, Ph.D. is the founder of Sencera Energy, a company that develops power and heat transfer hardware for the semiconductor and other industries. Prior to Sencera, he was the Managing Director of Power Systems for Lam Research, a leading manufacturer of semiconductor manufacturing equipment, the CEO of Sunpower, and the former CTO for Advanced Energy Industries, a manufacturer of precision power supplies and plasma sources. He has over 35 years of experience in commercial hardware development with patents spanning a wide range of physical disciplines including novel RF power delivery architectures, high-density plasma processing systems, and heat transfer mechanisms.

Rusty Jewett, Ph.D.
Sencera Energy