



**THE EMRSSS AREA SEMINAR  
(EE 500 GRADUATE COLLOQUIUM)  
Fall 2009**

*You are cordially invited to*

*The EMRSSS Area Seminar*

*Entitled*

**“An Overview of Electric Propulsion Research at  
Penn State”**

*By*

**Prof. Sven G. Bilén**

**Department of Electrical Engineering  
Penn State University Park Campus**

*The talk will take place on*

**September 8, 2009  
4:00 pm**

*At*

**225 EE West Building**

**Talk Abstract:**

This talk will provide an overview of the electric propulsion (EP) research at Penn State. Our research includes work on high power and low power microwave electrothermal thrusters (METs), miniature rf ion thrusters, low power rf thrusters, and electron cyclotron neutralizers. For each class of thruster, we will discuss the principle of operation behind the thruster and current status of the research, as well as future directions and applications.

**Speaker's Bio:**

**Dr. Sven Bilén** received the B.S. degree from The Pennsylvania State University in 1991 and the M.S.E. and Ph.D. degrees from the University of Michigan in 1993 and 1998, respectively. In January 2000, he joined Penn State where he is currently an Associate Professor. He serves as Interim Head of SEDTAPP and as the Chief Technologist for the Center for Space Research Programs at Penn State. Dr. Bilén's research interests include electrodynamic tethers, plasma diagnostics, spacecraft-plasma interactions, spacecraft systems, software-defined radio, wireless sensor networks, innovation in engineering design, and systems engineering. Dr. Bilén is the Director of the Space Systems Engineering Certificate and directs the Student Space Programs Lab. He has contributed hardware to several NASA missions and has considerable experience working with NASA and space programs. Dr. Bilén has developed and taught or co-taught several courses on innovation in design, engineering design, and systems design. Dr. Bilén is member of IEEE, AIAA, AGU, ASEE, INCOSE, and Sigma Xi.