Abstract: This talk will begin with an overview of the Air Force Research Laboratory (AFRL), and specifically the Space Vehicles Directorate (RV), summarizing the purpose and mission of the laboratory as well as the areas of research currently of interest. It will then present an overview of some of the current research projects ongoing at AFRL/RV in the area of Guidance, Navigation, and Control in particular, including advanced estimation techniques for space object tracking, novel trajectory guidance methods for relative spacecraft motion control, and nonlinear analysis of relative spacecraft motion dynamics. The talk will conclude with a brief summary of AFRL’s current opportunities for collaboration with Professors and students.

Speaker Bio: R. Scott Erwin received a B. S. in Aeronautical Engineering from Rensselaer Polytechnic Institute in 1991, and the M. S. and Ph.D. degrees in Aerospace Engineering from the University of Michigan in 1993 and 1997, respectively. He has been an employee of the Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland AFB, NM, from 1997 to the present. He is currently the Program Manager for the Guidance, Navigation, and Control (GN&C) Program within Space Vehicles Directorate. His responsibilities include managing the GN&C technical staff and projects, as well as performing basic and applied research in space communications systems, spacecraft control and, and satellite autonomy.

Dr. Erwin is an Associate Fellow of AIAA and a Senior Member of IEEE. He serves on the IEEE Control Systems Society Aerospace Controls Technical Committee and the AIAA Guidance, Navigation, and Control Technical Committee. Dr. Erwin was selected as the recipient of the 2001 United States Air Force Science and Engineering Award for Exploratory and Advanced Technology Development, the 2004 Young Engineer of the Year and 2008 Outstanding Engineer of the Year Awards from the Albuquerque Section of the IEEE, and the 2006 Air Force Material Command General Lester L. Lyles Award for mentoring, professional development and educational outreach. He is the author or co-author of over sixty technical publications in the areas of spacecraft dynamics & controls. His current research interests are autonomous spacecraft, satellite communications, and the interplay between communications, estimation, and control in networked space systems.