



# ROSKAMP INSTITUTE SEMINAR

**Friday, January 27, 2017**

12:00 pm

Roskamp Institute Auditorium

**Stephen Harlin, M.D. FACS**

Recipient, National Committee for Quality Assurance Award

Alpha Omega Alpha Honor Society

The Harlin Center for Precision Medicine

will present

## **A Precision Medicine Approach to Alzheimer's Disease (AD)**

Its clinical application involves three key steps: 1) genetic risk screening for the presence of specific mutations identified in gene-wide association (GWA) studies as playing a pathogenic role, 2) detection of disease-associated abnormalities as early as possible (even preceding symptoms), and 3) prescription of explicit health-promoting interventions aimed at an individual's molecular drivers of disease.

I will discuss advances in our understanding of Alzheimer's disease enabled by gene-wide association studies, the use of new clinical decision support tools to gain meaningful clinical insights from big data, and the public's perceptions surrounding genetic screening for AD.

I will present a case study that exemplifies a precision medicine approach to AD. I will show results from an initial screening genotyping of AD susceptibility variants, along with genetic risk scoring for related diseases (e.g. hippocampal atrophy, cardiovascular disease, neuroinflammation and immune dysregulation). I will focus on the patient's vulnerabilities in AD risk genes related to amyloid  $\beta$  production and clearance, along with an eye on related genetic variants in antioxidant defenses, immune regulation, and genomic stability.

Finally, using a systematic approach to genetic risk analysis, a holistic clinical program will be constructed with the aim of slowing the progression and extending the healthspan of an individual at risk for Alzheimer's disease.

**Everyone is invited to attend. Lunch will be provided**

**Please RSVP 941-256-8019**