I. State of the Science

What areas of biology critically need investigation?

- Treg, Treg, Treg; long term control; lessons from autoimmunity with long-term, low dose Cy
- Characterizing differences among individuals with respect to host immune response, tumor/tumor microenvironment, and response: importance of minimizing variables in patient population/tumor type/therapy with intent to define predictive parameters to guide therapy
- Chemotherapy effects on APC
- Investigate the role of B cells in chemotherapy responses
- Use placental biology as a model system to study drug effects on regulation of immune regulation/suppression

I. State of the Science (continued)

What areas of biology critically need investigation?

- Use circulating tumor cells (CTC) to investigate tumor biology/profiles
- Correlate pharmacogenomics and immunologic endpoints
- Explore the biology of tumor responsiveness to chemotherapy following immunotherapy (vaccines)
- Investigate effect of chemotherapy on myeloid derived suppressor cells

II. Translational Efforts: What are the best choices for prioritization?

- Do immunology correlates in chemotherapy trials, and use resulting information to rationally develop complementing chemotherapy regimens for use in the setting of immunotherapy
- Follow leads provided by the model of vaccines, T cell harvest, chemotherapy, HSCT, infusion of T cells expanded ex vivo, and repeat vaccination
- Develop a focus on neoadjuvant trials with tissue acquisition for assessment of chemotherapy effects on tumor and cells of the immune system
- Emphasize translation from animal models to clinical therapy with endpoints taken from preclinical data which predict they will be informative
- Use traditional vaccines in context of chemotherapy to model T cell responses to recall and novel antigens

II. Translational Efforts

B. What are the obstacles?

- Challenge of moving from proof-of-concept to definitive trial
- If everyone is using drugs differently, how can we find anything
- The cost of serial tumor biopsies
- Insufficient linkage of the chemotherapy and immunotherapy communities
- Investors are interested in products, not science-driven trials: funding

III. What are the most important goals for 2015?

- Five or more approved tumor vaccines
- Validated surrogate markers for immune responses
- Defined mechanisms of resistance
- Parameters which allow individualization of immunotherapy
- Imaging that allows visualization and monitoring of immune/tumor/suppressor cells in the context of the tumor microenvirionment