

**June 3, 2011: Mission Bay Conference Center (Rutter Center, UCSF)**

9 am – 10 am: **Introduction to evolution and cancer I**

1. Carlo Maley - Introduction to the Center for Evolution and Cancer, overview of the conference and the basics of evolution and cancer
2. Robert Austin - Bacteria, Evolution and Cancer
3. Craig McClain – Opportunities from NESCent

10 am – 11 am: BREAK

11am-12pm: **Introduction to evolution and cancer II**

4. Robert Gatenby – Somatic evolution of cancer: location, location
5. David Haussler - Cancer genomics and the TCGA project
6. Robert Getzenberg - Micro-environmental stress and the development of drug resistance

12pm - 1pm LUNCH provided

1pm-2pm: **Intragenomic conflict tutorial and brainstorming session**

David Haig - Are cancer rates higher in mammals than other vertebrates?

2pm-2:30pm BREAK

2:30pm-3:50pm: **Cancer as a disease of the evolution of multicellularity**

1. Nicole King - The unicellular ancestry of animal multicellularity
2. Aurora Nedelcu – Evolutionary vulnerabilities in cancer: Insights from unicellular lineages
3. Andrei Seluanov - Evolution of anticancer mechanisms in rodents
4. Kathleen Sprouffske - An evolutionary explanation for the presence of cancer non-stem cells in neoplasms

3:50-4:40pm: BREAK

4:40pm-6:00pm: **Measuring evolution in neoplastic progression**

1. Doug Brash - Clonal expansion of p53-mutant stochastic stem cells in the skin
2. Henry Heng - Punctuated cancer evolution: Tracing genome replacement and dynamics
3. Harry Rubin - Quantifying field cancerization in cell culture
4. Daniel Fisher - What can one learn about their evolutionary dynamics from age incidence of cancers?

6pm DINNER on your own with potential collaborators

8pm **Keynote Public Lecture:** Robert Gatenby - Evolutionary strategies for cancer therapy

**June 4, 2011: Byers Hall, Mission Bay, UCSF**

**9am-10am: The evolutionary theory of cancer I**

1. Frank McCormick – The Center for Evolution and Cancer, and the Evolution of the Cancer Center
2. Alexander Anderson - How do interactions modulate heterogeneity in cancer progression and drug resistance?
3. David Basanta - Tumor cells are not alone: How the cancer ecology influences the evolutionary dynamics in cancer

10am-11am: BREAK

**11am-12pm: The evolutionary theory of cancer II**

4. Len Nunney - The evolution of cancer genes: when do we expect to see positive selection?
5. Jasmine Foo - Stochastic dynamics of cancer initiation
6. Ricard Sole - Evolution towards unstable thresholds in model cancer populations

12pm-1pm LUNCH provided

**1pm-3pm: Somatic evolution in the clinic**

1. Darryl Shibata - Reconstructing human tumor histories by comparing genomes from different parts of the same cancer
2. Brian Reid - Multilevel evolution and neoplastic progression in Barrett's esophagus
3. Rumen Kostadinov - Clonal expansion during neoplastic progression in Barrett's esophagus
4. Stephen Quake - Genome sequencing and the evolution of cancer
5. James DeGregori - Tumor suppression by modulating stem cell fitness

3pm-4pm BREAK

**4pm-6pm: Cooperation, conflict and co-evolution**

1. John Pepper - Cooperation among cancer cells as a target for intervention
2. John Tooby - Cancer as the product of two host-parasite coevolutionary races
3. AJ Figueredo - Cancer and life history theory
4. Steve Neuberg - Barbarian horde, competing gangs, or...? Alternative social group metaphors and their implications
5. Paul Ewald - Toward an evolutionary synthesis of oncogenesis—integration of infectious causation

6:45pm **Speed team building** – Steve Neuberg

8:00pm Speaker and sponsor DINNER

**June 5, 2011: Byers Hall, Mission Bay, UCSF**

9am-9:40am: Robert Hiatt - Lifecourse epidemiology of breast cancer

9:40am-10:20am: **Reproductive cancers and human evolution I**

1. Beverly Strassman - The biology of menstruation in the absence of contraception: implications for breast cancer
2. Boyd Eaton - Breast cancer and human evolution

10:20am-11am: BREAK

11am-12pm: **Reproductive cancers and human evolution II**

3. Athena Aktipis - Breast cancer from a life history perspective
4. Martie Haselton - Ovulation and human social behavior
5. Karen Weihs - Social relationship predictors of wellbeing in breast cancer patients. Is oxytocin involved?

12pm-1:30pm: LUNCH provided

1:30pm-2:30pm: **Cancer in evolutionary medicine**

1. Randolph Nesse - How evolution inspires good questions about cancer
2. Virginia Kwan - Psychological barriers to evolutionary thinking in cancer
3. Ed Hagen - Drugs are bad...for pathogens: testing an alternative to the reward model of tobacco use and its implications for smoking cessation

2:30pm-3:30pm: BREAK

3:30pm- 4:30pm: Panel on grant writing and team building for cancer research

4:30-5:30: Break out groups for grant development

5:30 Conference ends