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SAYBROOK COLLEGE
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Mr. Angelo Steve Leondis
Ms. Lynn Leondis
16 The Terrace
Manhasset, NY 11030

Dear Steve and Lynn:

It gives me great pleasure to inform you of this year's recipients of the Stacey Leondis '08 Memorial Fellowship. Five outstanding Saybrook students will be funded from your generous Fellowship to pursue summer projects in medical and biomedical research. Below I summarize their research plans.

Muneeb Mohideen SY'15 will examine ways to treat cystic fibrosis. Currently there are several treatments available, but no cures. Gene therapy has been experimented with in the past, which replaces defective or missing genes to restore function and reverse genetic diseases. There are several complications with gene therapy, and the plasmid DNAs (the therapeutic DNA) rarely fuse with the targeted cell surfaces that need treatment. The challenge is producing a vector to safely and efficiently deliver plasmid DNA to target cells, and Muneeb's proposal to treat cystic fibrosis details a potential vector for gene delivery.

Raymond Chang SY'14 will spend the summer working with Dr. Bonnie Elyssa Gould Rothberg in Yale's Cancer Center to improve the ability to predict long-term survival rates in melanoma cases. Melanoma is the fifth most prevalent cancer in the United States, and has the fastest increasing incidence rate among all malignancies. Use of molecular markers is a promising approach in improving prognostic prediction, and its power has already been studied in primary melanoma, among other cancers. Categorizing metastatic tumors into subcategories with very different survival rates can result in different avenues of treatment, identification of ineffective therapies, and an increased quality of life for patients with better prognoses. By participating in Dr. Gould-Rothberg's project, Raymond hopes to obtain new research skills that he can use in future projects as a medical student or even independent researcher. Moreover, he says the experience will give him a valuable background in deciding whether to pursue an MD/PhD degree after entering medical school.

Megan Jenkins SY'14 will be working in Professor Michael Koelle's lab at the Yale School of Medicine, where she will conduct research using *C. elegans*, a round worm that grows about 1 mm long as an adult. The multi-cellular organism is often used as a model system to investigate the molecular mechanisms that regulate neurotransmitter signaling. The project will involve her using a variety of experimental methods, and involve several independent parallel approaches, so she will learn a multitude of laboratory techniques and critical thinking

skills. Megan will meet weekly with Professor Koelle, but will also have a level of autonomy over the projects, which enhance her scientific training.


Jacqueline Levere SY'15 will study movement and athletic performance at the Neuromuscular Biomechanics Lab at Stanford University. She will focus on methods to accurately reproduce core muscle activation sequencing in golfers, specifically involving the golf club swing, and a comparison of the more recently developed Turning Point core trainer method versus the standard therapeutic exercises. The lab will focus on providing core strengthening in golf, a key factor in injury prevention, in the hopes that if proven effective the core training method can be applied to other sports. As a student fulfilling pre-medicine requirements with the hopes of eventually entering a career in sports medicine, Jacqueline is particularly excited to perform lab work relevant to her future career.

Prateek Baghel SY'14 will work in Professor Paul Lombroso's lab at the Yale University School of Medicine's Child Study Center, where they consider the molecular mechanisms of learning and memory: and exploring how we learn and how we don't when things go wrong. Prateek will focus on a brain-specific protein called STRiatal Enriched protein tyrosine Phosphatase (STEP) that plays a critical role in the development of synaptic plasticity. Previous studies have demonstrated that STEP overexpression leads to Alzheimer's disease and schizophrenia. The association of STEP with Parkinson's disease is novel, and has yet to be fully explored. In summer 2011, Prateek focused on the role of STEP in Parkinson's disease with the talented Associate Research Scientist Pradeep Kurup, who will continue to be his day-to-day supervisor. Prateek will continue his work this summer, which could lead to a better understanding of what causes neurons to die in Parkinson's disease cases, and thus help identify substances to inhibit the progression of Parkinson's disease.

I hope that you agree that these are all fascinating projects with a potential to positively impact the health and longevity of our population. Their work is made possible by your generous fellowship, and inspired by Stacey's brave journey, love of life, and dedication to a better world. Saybrook College and Yale University are thankful and honored to facilitate this effort.

Thanks again for your generosity, and I wish the best for you and your family.

Sincerely yours,



Paul Hudak
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