CAMM JUNIOR FELLOWS
CALL FOR APPLICATIONS 2017

MISSION
The USC Center for Applied Molecular Medicine (CAMM) and the USC Westside Cancer Center (WCC) are accepting applications for the 7th annual CAMM Junior Fellows Program. This is a unique program designed to foster scientific achievement for rising high school seniors interested in clinical or research oncology. We believe that passion, coupled with outstanding aptitude, are the hallmarks for success. This program fosters scientific education by incorporating hands-on experimentation in a collaborative environment. As part of our mission to inspire and cultivate the scientists of tomorrow, this free 3-week course is made possible through the generous support of our donors.

APPLICATION PROCESS
The application consists of an essay and a copy of the student’s transcript. The essay should be used as a forum to convey the student’s passion for science/medicine. We will be accepting applications from February 1 through April 7, 2017. The program beings on June 14th and requires the students to commit 6 hours a day until June 30th at the Health Science Campus of USC. Please contact Dr. Kian Kani (kani@usc.edu) for more information.

ONLINE APPLICATIONS CAN BE COMPLETED HERE:
www.BeARebel.org/junior-fellows-application

PROGRAM
The CAMM Junior Fellows are presented with one challenge – how to determine which drug is bested suited (most effective) for their mock patient. During this process, the Fellows will become familiar with one
PROGRAM (CONT’D)

of the most important aspects of medicine which currently confronts clinical and research oncologists. Resolution of this challenge will require integration of science, mathematics and technology. The program culminates with a discussion of their findings with Dr. David Agus at the Westside Cancer Center. The unique aspects of this program are listed below:

- Hands-on learning with state-of-the-art laboratory equipment on a University Campus
- Integrates students from various socio-economic groups within Southern California
- Mentored by USC faculty and staff
- Team-based problem solving
- Access to medical clinic
- Required writing component
- Guidance with college applications
- Guidance during college/transition to graduate school

COURSE OUTLINE:

PREP HOMEWORK (to be completed prior to June 14th)

WEEK 1:

- Discuss Hallmarks of cancer paper
- Einstein’s challenge
- Lab safety (what to touch and what not to)
- Lab equipment (learn the tools of research)
- USC biological safety class
- Seminar with Dr. Agus
- Pipetting challenge (accuracy vs. precision)

WEEK 1 HOMEWORK
Describe personalized therapy options in colon, breast, lung or leukemia patients. Why is this important? How is it different from systemic chemotherapy?
WEEK 2:

Work individually and in groups to solve the following case study. CAMM has obtained samples from six colon cancer patients. The goal is to determine which patient would be treated with targeted therapeutics.

- How to identify which assay to use
- Pick a technique to determine the concentration of the six unknowns
  - Bradford assay
  - Lowery’s assay
- Implement that assay
- Determine controls
- Data analysis (error, confidence, plot results in Excel)
- Troubleshoot
- Kian’s challenge

WEEK 2 HOMEWORK:
Writing a scientific manuscript. Begin working on Introduction, Methods and Data.

WEEK 3:

The students will integrate their results from week 2 and learn two new analytical methods in order to determine which patient should be given targeted vs. systemic therapies. Once they identified the correct sample (protein) they will have to recommend a therapeutic and convey their results in a scientific report.

- Gel electrophoresis (SDS-PAGE)
- Immunoblot/Western blot
- Proteomics (theory)
- Clinic day – Dr. David Agus, Dr. Mitchell Gross, physician assistant and nurses
- Submit results in a formal scientific report
- Feedback and career discussion
ALUMNI OF THE CAMM JR. FELLOWS PROGRAM

2016
BRANDON S.
LOYOLA/ACCEPTED TO YALE
EZRA L.
CROSSROADS
GWEN G.
NORTH HOLLYWOOD HIGH
JACOB R.
WILDWOOD
MADISON S.
SANTA MONICA HIGH
MEGAN B.
WINDWARD

TAE B.
WINDWARD HIGH
STANFORD
YU-SHIEN N.
MARLBOROUGH
UNIVERSITY OF CALIFORNIA BERKELEY

2015
ANNA L.
SMIDT TECH. HIGH
UNIVERSITY OF CALIFORNIA BERKELEY
AVERY S.
NEW TRIER TOWNSHIP (IL)
TULANE UNIVERSITY
DANIEL S.
HARVARD-WESTLAKE
CARNEGIE MELLON UNIVERSITY
KALLI D.
MONROVIA HIGH
SANTA CLARA UNIVERSITY
KIMBERLY H.
WINDWARD
UNIVERSITY OF PENNSYLVANIA
VICTORIA Y.
ACRADIA HIGH
UNIVERSITY OF SOUTHERN CALIFORNIA

SEAN H.
WINDWARD HIGH
TUFTS UNIVERSITY
SHARON S.
MASS MAGNET
UNIVERSITY OF SANTA CRUZ
SOPHIE M.
MARLBOROUGH
UNIVERSITY OF SOUTHERN CALIFORNIA
ZITA B.
HARVARD-WESTLAKE
UNIVERSITY OF NOTRE DAME

2014
GEORDAN N.
NEW COMMUNITY JEWISH HIGH
WASHINGTON UNIVERSITY (ST. LOUIS)
MICHAEL K.
HARVARD-WESTLAKE
DARTMOUTH COLLEGE
SAMANTHA M.
WILDWOOD

KIMBERLY P.
GARFIELD HIGH
UNIVERSITY OF CALIFORNIA MERCED
NATALIE C.
ST. MONICA HIGH
LOYOLA MARYMOUNT UNIVERSITY

CAMM JUNIOR FELLOWS APPLICATION

NAME: _____________________________________________________________ DATE: ____________________

ADDRESS: _____________________________________________________________________________________

CITY, STATE, ZIP_____________________________________________________________________________

PHONE: ________________________ or ____________________________ EMAIL: _________________________

SCHOOL ATTENDING: ___________________________________________ LAST GRADE COMPLETED: ___

ADDRESS: _____________________________________________________________________________________

CITY, STATE, ZIP: __________________

OVERALL un-weighted GPA: ____ CIRCLE COURSES COMPLETED: BIO. CHEM. PHYS.

APPLICATION CHECKLIST:

☐ Personal Statement:
  a. Describe your educational goals, favorite activities, personal interests and any other information you
     would like to share (1 to 3 pages).

☐ Copy of high school transcript(s):
  a. Please email or send to the address provided below.

☐ Letter of recommendation:
  a. A support letter from a teacher, school administrator, or mentor that describes your qualifications
     and capacity to participate in the CAMM Jr. Fellows program.

☐ This form
☐ Skype Interview (optional; discretion of CAMM)

COURSE DATES
June 14 - 30, 2017

APPLICATION DATES*
February 1-April 7, 2017

FEES
This course is offered free through the generous support of our donors.

LOCATIONS

 USC HEALTH SCIENCES CAMPUS
 USC Center for Applied Molecular Medicine
 2250 Alcazar Street, CSC 240
 Los Angeles, CA 90033

 CLINIC DAY
 USC Westside Cancer Center
 9033 Wilshire Blvd, Suite 300
 Beverly Hills, CA 90211

SUBMISSION INSTRUCTIONS*

1. MAIL:
   ATTN: Kian Kani, PhD
   Junior Fellows Program
   USC Center for Applied Molecular Medicine
   2250 Alcazar Street, CSC 240
   Los Angeles, CA 90033

2. EMAIL:
   kani@usc.edu

3. ONLINE:
   www.BeARelbel.org/junior-fellows-application

*All application items, including letters of reference, must be submitted by April 7th for consideration.