



## **“Physics In and Through Cosmology 2010” Professional Teacher Development and Student Scholar Summer Workshop**

The **Physics Division of Lawrence Berkeley National Laboratory, Berkeley Center for Cosmological Physics Global Teachers Academy, QuarkNet and The Wells Fargo Foundation** have a commitment to educational programs that promote teacher professional development and academic achievement in the areas of Math and Science. To sustain world class research that addresses the deepest questions in particle physics and cosmology not only requires cutting edge science, it also demands exceptional educational programs to produce a strong and diverse pipeline of students who are the next generation of scientists, engineers, and computational/software experts. Only through engaging teachers will we succeed. To address this challenge, the BCCP has developed and launched a 21st century model for international cosmology education: The Global Teachers’ Academy (GTA). Drawing upon new media, leading teaching/learning specialists, and brilliant researchers on the frontier of knowledge, the GTA seeks to develop a network of educators and scientists around the country who use cosmology to teach science, technology, engineering and mathematics.

Supported by a grant from the **Wells Fargo Foundation, BCCP, LBNL** and **Quarknet** have collaborated on this summer’s **“Physics In and Through Cosmology Workshop 2010.”** Held at Lawrence Berkeley National Lab, the academy is taking place between July 19<sup>th</sup> and July 30<sup>th</sup> with closing ceremonies and a cosmic concept mapping contest taking place on July 30, 2010, 10:00 am to 1:00 pm at LBL’s, Advance Light Source Center patio. BCCP GTA launched in 2008.. This year, through the generous support of The Wells Fargo Foundation, BCCP GTA together with **Univision 14 and TeleFutura 66** recruited 8 local, bay area high school teachers and 43 diverse, high achieving, bay area high school students including the communities of San Francisco, San Mateo and San Jose, California to join in the summer academy. Students were recruited from **Univision’s Exito Escolar** scholarship program as well as referrals from participant teachers. Students are identified as the BCCP/Wells Fargo Student Scholars.

### **About BCCP GTA:**

The **BCCP** has established a **Global Teacher’s Academy (GTA)** to provide future teacher leaders and students with teaching and learning experiences that have the key attributes of 21st century science, technology, engineering and mathematics (**STEM**) education. The key strategy is to provide unparalleled access to frontier science, people and resources – resources that are not easily attainable in classrooms today, especially because many districts from our Bay Area community face economic challenges and lack of resources.

The **BCCP GTA** is a **STEM** professional development program that involves local, high school students in a cutting-edge science, and hands-on-learning environment alongside top, Bay Area, high school teacher leaders. With proven strategies that benefit our local, Bay Area effort, **BCCP**, at an unprecedented level, has invested its world-class team of frontier scientists, educators and global partners under the vision and direction of Noble Laureate in Physics, George Smoot for global STEM education. Professor Smoot has a vision for 21<sup>st</sup> Century education and frontier science involvement in K-12 education – growing the

next generation of scientist that have the potential to advance science and create new knowledge.

This project is a cornerstone for **STEM** preparation and participation among thousands of Bay Area students for years to come. While the Bay Area is a host to some of the largest tech firms in the industry, they struggle to fill their positions with underrepresented employees. Pre college **STEM** education is the foundation of that leadership

Founded in 2007, the Berkeley Center for Cosmological Physics (BCCP) is an integrated research and education physics think tank nested within the University of California, Berkeley (UCB) and Lawrence Berkeley National Laboratory (LBNL). BCCP has three primary areas of focus — research, education, and global partnerships — and seeks the full integration of research and education within its global cosmology research network. Professor George Smoot founded the *BCCP* in after winning the Nobel Prize in physics. The prize recognized his 1992 discovery of tiny temperature fluctuations in the cosmic microwave background—the radiation left over from the Big Bang. Determined to build an advanced research center to study the origins, evolution, and future of the universe, Professor Smoot donated a significant portion of his Nobel Prize funds to launch this start-up. His vision and contribution have motivated others to give of their time, effort, talent, and expertise.

***BCCP Address and Contact Information:***

Berkeley Center for Cosmological Physics  
Department of Physics  
341 Le Conte  
Berkeley, CA  
Founder and Director – George F. Smoot

Executive Director – Lucia O. Villasana  
[Lovillasana@berkeley.edu](mailto:Lovillasana@berkeley.edu)  
510.326.0239

Education Director – Dr. Rollie Otto  
[RJotto@lbl.gov](mailto:RJotto@lbl.gov)  
925.451.5530