

Press Release:

Piner High STEM teachers explore Stem Cell Research at the Buck Institute for Research on Aging

Even wonder what teachers do in the summer? While some may be soaking up the rays and enjoying some well deserved downtime...most choose to take on the role of student . Teachers at Piner High have ambitious integrated projects already in the works for next year. Pictured here is Heather Benson, a World History teacher showing off the biotech skill of micro pipetting as part of a 3 day externship formed by Buck Institute supporters and both the Marin Sonoma County Offices of Education. Heather worked with Career Tech teachers, Judy Barcelon and Dante DePaola, both from the Health Science & Biotechnology (HSB) pathway to gain insight into amazing research being done by Buck scientists and then to weave those concepts, activities and skills into lesson plans to be implemented next year. “ I became inspired to challenge my students with higher level science concepts so they can understand how aging



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disease happens on a cellular level” stated Judy Barcelon.

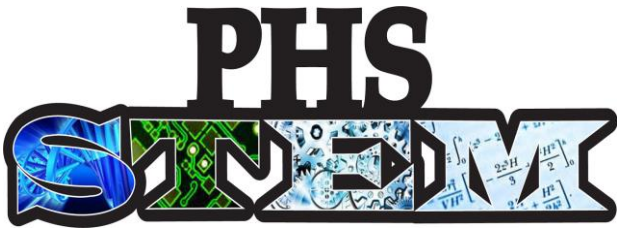


Dr. Peters-Libeu (a protein chemistry scientist and previous student teacher at Piner) help to organize the STEAM workshop that also included middle school teachers from Marin County. Dr. Julie Mangada, pictured below on the right, invited teachers into the Discovery Lab she manages onsite at the Buck and shared her research on stem cells as well as led the teachers through a very thorough sheep brain dissection. Other amazing scientists shared their work on

- C. elegans- a model organism with 35% of its genes closely related to humans and easy to keep in the lab (Dr. Bhaumik)
- Fruit flies with their 4 chromosomes and the wide array of mutant characteristics that can be created to understand how genes operate (Dr. Kim)
- Autism and the genetic mutations that occur over an assortment of chromosomes that cause this disorder to have such a wide spectrum - and that vaccines do NOT cause autism! (Dr. Bailus)

At the end of the workshops teachers presented their integrated lesson plans on what they had learned and to carry on the inspiration of the dedicated scientists back to the classroom. Piner High teachers will be working with the essential question, “**How have past discoveries built the foundation for Stem Cell research to cure disorders in the present?**” Activities include creating a timeline of technological advances while learning the function of such tools, as well as exploring the economics of scientific research and then creating research proposals for what their group has deemed the most important disorder to support. The culminating event will be Stem Cell Awareness day- October 15th on the Piner Campus where campus wide activities will help to educate our student body. Dr. Julie Mangada will be present as the keynote speaker and representative of The California Institute of Regenerative Medicine (CIRM) which is the agency responsible for creating National Stem Cell Awareness Day.

“This was an amazing experience “ states Ms. Benson “I was enthralled with how technology was used - especially the Photon microscopes that can image the tissue of live animals to witness the migration of



stem cells to repair spinal cord injuries.” The teachers left inspired, yet exhausted as their minds had been filled with cutting edge research, concepts that may not have existed during their college days and an appreciation for the dedication and perseverance a scientist takes to the bench every day.

Prior to the Externship, the Buck Institute supporters called the XX group hosted the niece of Rosalind Franklin, the woman behind the x-ray crystalline picture (Photo 51 on the right below) that solidified the fact that DNA was indeed a double helix - and outrageously was published without permission or recognition of her work. Pictured below are PHS teacher Judy Barcelon, Rosalind Franklin (same namesake as her Aunt) and Dr. Julie Mangada from the Buck Institute.

