



2013

Biohackathon Los Angeles

Lybba

WONDROS

California
Biotechnology
Foundation

The
California
Endowment

L.A.'s Promise +
Manual Arts High School
@ The California Endowment

Biohackathon L.A. 2013 is a Do-It-Yourself (DIY) bio-design, genotyping, and careers workshop that challenges you to discover meaningful opportunities for yourself, your community, and your world. It's hosted by Lybba, Wondros, the California Biotechnology Foundation, and The California Endowment.

California is the birthplace of biotechnology, and we're leading the world in solving some of the most challenging healthcare issues. By being a part of Biohackathon L.A. and learning to genotype yourself for a mystery trait, you're already shaping the future of biotechnology—it's yours (plus it's fun, and you can make stuff, too!)

For dozens of ways you can continue to experiment and explore STEM education and biotechnology and life science workforce development programs statewide, see the back of this poster. For a full outline of innovative and helpful programs, please also visit: www.cabitech.org/cms-assets/documents/35019-522922.biotech-workforce-guide-2010-web.pdf.

health
happens
here

Northern California & Bay Area biotechnology-sponsored programs

BayBio Institute

Bio-Community: Building the Next Generation of Life Science Professionals –Developing future scientists requires engaging, hands-on learning. Bio-Community brings industry expertise and resources together to positively impact science, technology, engineering and math (STEM) education in the region’s K-14 classrooms. Our members are BayBio companies and Northern California educators committed to improving STEM education. The Bio-Community portal provides a central site where life science employees and companies can identify and volunteer for STEM education activities, and educators can connect to industry and bio-community resources, including volunteers. Bio-Community is supported by Abbott, Amgen, Bayer, Bio-Link, Morrison Foerster and OncoMed. www.bio-community.org

Bay Area BioGENIUS Challenge – The annual Bay Area BioGENIUS Challenge recognizes high school students conducting outstanding life science research in a dynamic competition hosted at industry sites. In addition to cash awards, Bay Area BioGENIUS finalists move on to compete in the National and International BioGENIUS Challenges held at the Biotechnology Industry Organization’s Annual International Convention. <http://www.baybioinstitute.org/stem-education/biogeneius/>

Bayer HealthCare

Making Science Make Sense – Bayer begins investing where the STEM (Science, Technology, Engineering and Math) pipeline truly begins—at elementary school—and then continues refining the pipeline with middle and high school programs that provide experiential STEM education in both formal and informal learning settings as well as internship opportunities. High School Programs – Bayer supports many programs that target underserved students: Project SEED, Project SEED is a national non-profit organization that works in partnership with school districts, universities and corporations. Founded in 1963 with the goal of using mathematics to increase the educational options of urban youth, the program is still on the cutting edge. www.projectseed.org/ California State University East Bay – Mathematics, Engineering, Science Achievement (MESA) Center. MESA, founded at U.C. Berkeley in 1970, is a widely respected program providing a rigorous hands-on-curriculum in the sciences to underserved K-12 schools. Student and family support, college and career preparation, are integral parts of the program. www.bayer.com/en/Education-and-Research.aspx

Bio-Link Depot: Tax-Deductible Equipment, Supply & Consumable Donations

Northern California companies can make tax deductible donations of equipment, supplies and consumables –giving them a second-life in cash-starved classrooms – through the Bio-Link equipment Depot, located near SFO at the City College of San Francisco Airport Campus. The Depot accepts high caliber equipment and supplies from donating entities and makes them available to over 200 teachers and 85,000 students in Northern California high schools, community colleges, and universities. The Bio-Link Equipment Depot is supported by Genentech, VWR, and a host of industry partners. www.ccsf.edu/Resources/Bio-Link_Depot/index.html

Bio-Rad

Fostering Science Education in the Community – Bio-Rad takes great pride in serving as an outstanding corporate citizen in local communities. Initiated in 2003, the Community Outreach Program philosophy is focused on promoting science education and literacy for students and teachers in their communities through financial support as well as hands-on support of Bio-Rad employees.

Community Outreach Program – Bio-Rad follows the educational continuum, supporting all aspects of science education from elementary school to the university level. The program includes elementary school science nights, science fairs, the Science Buddies program, science camps, Contra Costa Biotechnology Collaborative, a college scholarship program, career days, tours, and teacher training and equipment support. Not only does the company support these events, Bio-Rad employees play an active role in these programs. www.biorad.com

CIRM: California Institute for Regenerative Medicine

Learn about the basics of stem cells on the California Institute for Regenerative Medicine (CIRM) website and browse the education portal to explore opportunities for teaching students about stem cell science. Quickly find resources for student projects, locate a scientist who can discuss stem cell science with your class, get involved in the growing areas of stem cell research and biotechnology education. <http://www.cirm.ca.gov/for-the-public>

MedImmune

MedImmune is committed to supporting science education and attracting youth and minorities into the field. The company supports Science Buddies, a unique online organization that assists students with science fair ideas, expanding the possibilities in the area of biotechnology. In 2005 and 2006, MedImmune began sponsoring regional science associations for four communities: Montgomery County, Maryland; Frederick County, Maryland; Philadelphia, Pennsylvania; and Santa Clara Valley, California. The regional fairs run by these organizations recruit winners who go on to the county’s largest and most prestigious science fair each year. www.medimmune.com/about/our-community.asp

biotechnology-affiliated resources

Bay Area Biotechnology Education Consortium (BABEC)

The Bay Area Biotechnology Education Consortium (BABEC) is a regional network of local science education organizations based in the Northern California Bay Area. BABEC is dedicated to increasing student understanding of key concepts in molecular biology and genetics through the application of applications and careers in biotechnology and conducting research and evaluation studies. Industry supporters include the Amgen Foundation. www.babec.org/

BioCurious

A complete working laboratory and technical library for entrepreneurs to cheaply access equipment, materials, and co-working space, a training center for biotechniques, with an emphasis on safety, a meeting place for citizen scientists, hobbyists, activists, and students. www.biocurious.org

Biological Sciences Curriculum Study

Biological Sciences Curriculum Study endeavors to improve all students’ understanding of science and technology by developing exemplary curricular materials, supporting their widespread and effective use, providing professional development, and conducting research and evaluation studies. Industry supporters include the Amgen Foundation. www.bsccs.org/

Biotech Partners

Biotech Partners – Established in 1993, Biotech Partners is a non-profit organization that coordinates hands-on science-based curriculum that includes classroom study and lab practice, combined with in-the-field experience at regional biotech, healthcare and laboratory settings. Paid Summer internships for high school participants, yearlong jobs for community college students, and support services to ensure student success are integral parts of the program. This comprehensive approach prepares students for well-paid skilled positions in the life sciences industry and provides students with valuable work and life skills. Biotech Partners is a collaboration between multiple school districts and over 35 biotechnology, healthcare, and science-based organizations in the Bay Area including Bayer HealthCare, Novartis AG, Genentech, Inc. and Amgen, Inc. www.biotechpartners.org/

Bridge to Biosciences Program: Lab Assistant Certificate Program

A unique program intended for students with little or no background in biology and chemistry, the Bridge to Biosciences Program at City College of San Francisco program uses a blend of innovative teaching methods, including contextualized teaching, learning communities, problem based-learning, individual support and hands-on training in industry laboratories to train the biotech workforce of tomorrow and today. The program provides training in basic laboratory skills as well as the math and language needed to work in the biotechnology field and prepares students for an internship at a company or academic institution. Students also receive training in job search skills so that they can advance their career goals. The program has been chosen by Bio-Link through the NSF-funded Synergy project to be scaled-up at a national level. The Bridge to Biosciences program receives support from Amgen. <https://sites.google.com/site/ccsf/labassistant/home>

Chabot Space and Science Center

Techbridge: Inspiring Girls in Technology, Science and Engineering Techbridge offers girls in underserved communities a network of support and high expectations that helps them succeed in school and aspire to rewarding careers in science and technology. Industry supporters include the Amgen Foundation. www.chabotspace.org

Citizen Schools

Deepening and Expanding Citizen Schools California After-School Programs The after-school program provides intensive, hands-on learning to engage low-income middle school students throughout the school year and inspire a zest for learning and exploration. The program also taps into the expertise of dozens of caring adults from local businesses, universities and civic institutions to serve as Citizen Teachers, leading apprenticeship courses in which students explore new fields and develop the relevant skills students will need to succeed in the 21st Century. Industry supporters include the Amgen Foundation. www.citizenschools.org

Community Resources for Science

Community Resources for Science connects and engages educators, scientists, and students in a vibrant and innovative web of science learning. CRS weaves connections between the needs of individual teachers and the existing resources in our community, providing information and individualized support to classroom teachers, and recruiting, preparing and placing scientist volunteers in K-8 classrooms to present standards-based, hands-on science experiences for students. <http://www.crscience.org/>

EnCorps Teacher Program

The EnCorps Teachers Program is an innovative public-private partnership dedicated to increasing the number of critically-needed math and science teachers in California’s public middle and high schools. The program helps talented second career professionals and retirees in science, healthcare, technology, engineering, finance, and math-related professions explore careers in math and science education and successfully transition into teaching and tutoring jobs in low-income, public school classrooms. <http://www.encorpsteachers.org/>

Girls Incorporated

Operation SMART (Science, Math and Relevant Technology) is a program designed to engage girls and young women in inquiry-based science, technology, engineering and math through hands-on, minds on experiences. The program’s publications and training help the staff of after-school programs install girls with the interest and confidence to pursue science, math and technology careers. The program was developed by Girls Incorporated®, a national non-profit youth organization, with funding from many organizations, including the National Science Foundation and the Amgen Foundation. www.educity.org/gsg/curriculum/girls-inc

Golden Gate National Conservancy

Urban Environmental School Programs – The Urban Environmental School Programs at the Crissy Field Center offer unique, park-based environmental education programs teach students about the natural and cultural history of the Bay Area, and support and complement their school work. These programs also challenge educators to use the parks as an extension of their classrooms. In creating these partnerships with teachers and schools, the experience of learning in the national park continues in the classroom environment with follow up projects and discussions that take place long after their park visit is over. Industry supporters include the Amgen Foundation. parkscience.org

Headlands Institutes c/o Yosemite National Institute

Science in the Outdoors – Environmental Education for Youth and Training The residential Field Science Education and teacher professional development programs provide tuition assistance to engage approximately 9,800 students in grades K-12 and 500 of their classroom teachers in hands-on field science experiences in studying the coastal ecosystem of the Marin Headlands during their residential program. Industry supporters include the Amgen Foundation. www.yni.org

Mid-Peninsula Boys & Girls Clubs

The NeoSci: Life, Earth & Physical Science Program – The NeoSci: Life, Earth & Physical Science Program takes an interdisciplinary approach to science education, exposing members to the wonders of scientific inquiry through technology, art, music and sports to help members recognize that science can and does happen everywhere-that science, like art, is a matter of perception, of recognizing in everyday-life the mechanics of that amazing world called “science”. NeoSci serves not only as educational enrichment—to strengthen critical thinking skills and science knowledge-but also as a program philosophy is focused on promoting science education and literacy for students and teachers in their communities through financial support as well as hands-on support of Bio-Rad employees.

MK Level Playing Field Institute

Summer Math & Science Honors Academy – LPFI’s Summer Math and Science Honors (SMASH) Academy works with high-achieving, low-income high school students of color from the Bay Area who are passionate about math and science. Rigorous courses are provided that will prepare the students to excel in science, technology, engineering, or mathematics (STEM) fields. Their goal is to help these students be admitted to top-tier colleges to focus on these fields. Scholars helped to achieve success in high school now and prepare them for future achievement in higher education. Industry supporters include the Amgen Foundation. www.lpfi.org/education/

The National Society of Black Engineers (NSBE)

Saturday Science, Technology, Engineering, Math, and Robotics Program – NSBE created the Try-Math-A-Lon (TMAL) program and competition for pre-college students to increase low-performing, at-risk minority students’ capabilities when preparing for standardized tests that will allow them to excel academically and succeed in college. In addition, they sponsor a robotics engineering design competition that introduces students to, and allows them to participate in, roles as engineers in a team-building effort to design and build an actual working model of a robot. Industry supporters include the Amgen Foundation. www.EastBayNSBEJ.org

NexGENEgirls

NexGENEgirls was founded as a grassroots organization by founder Marlena Jackson and co-founder Erica Williams, as a vehicle for introducing girls from under-represented communities to the wonders of science and technology through a fun hands-on science curriculum. Too often students of color may not have adequate access or educational resources to pursue STEM fields because of numerous roadblocks to achievement they may have faced. By developing girls’ self-confidence and encouraging girls to embrace challenges, NexGENEgirls will lead young girls to the path of success in a diverse range of science professions. www.nexgenegirls.org

San Francisco Education Fund

Peer Resources Program – The Peer Resources program focuses on increasing youth engagement in their school community. Middle and high school students are recruited into a semester or year-long class to become trained as tutors, mentors, mediators and teachers to their peers. After first identifying a need or problem, these students work together as they develop as leaders to change the school and community so that an increasing number of youth succeed in education. Industry supporters include the Amgen Foundation. www.sfedfund.org

San Mateo Biotechnology Career Pathway

San Mateo Biotechnology Career Pathway – Offers training for students of all academic levels for rewarding careers in the science and business of biotechnology. Industry Partners include: GenCo Connectors; Eran, Cell Genesys; Applied Biosystems, Inc.; Genencor International; Fluro Gen; Gen4 Sciences; NEKTAR; Mendel Biotechnology; Nuvelo; Schering-Plough Corporation; Y! Therapeutics; Exelixis; Life Scan/J&J; Nalgene; Corning Life Sciences. www.smbiotech.com

A Schmah! Science Workshop

Reduced Fee Workshops and Advanced Student Research Opportunities For Underserved Students – The purpose of “Providing Reduced Fee Workshops to Underserved Students” is to double SSW’s capacity in bringing high-quality, hands-on science workshops to low-income schools and to identify and encourage young women and students of color, with an aptitude for, and interest in, science, to participate in the SSW Advanced Student Research Program. Industry supporters include the Amgen Foundation. www.schmahscience.org

Stanford University

Engaging Under-Represented Minority High School Students in Science & Medical Research This project targets under-represented minority high school students who are academically motivated and who intend to be the first in their families to attend college. The eight-week course comprises daily hands-on, lab-based experiences. Students work side-by-side with scientists at all levels of training, from undergraduates and graduate students to medical students and post-doctoral fellows to help ignite the students’ interest in science and medicine, boost their science knowledge base, and inspire confidence in their ability to pursue a career in science and medicine. Industry supporters include the Amgen Foundation. <http://oso.stanford.edu>

The Tech Museum of Innovation

The Tech Museum’s learning programs and galleries support California Content Standards and are inspired by the innovative science and technology of Silicon Valley, and designed to captivate you through STEM (Science, Technology, Engineering, Art, and Math) education. As students engage in hands-on learning throughout their time at the museum, they reinforce concepts they’re learning in school and develop 21st century skills and habits of mind innovators. <http://www.thetech.org/learning>

Southern California biotechnology-sponsored programs

Allergan Foundation

The Allergan Foundation has awarded the Discovery Science Center with a grant to assist in their Making the Grade Program, an educational program for California’s underserved students from kindergarten through 12th grade. www.allergan.com

Amgen Foundation

Amgen Fellows – The Amgen Foundation’s \$5 million, five-year partnership with Teach For America is specifically designed to help identify, recruit, improve math and science education, especially in low-income communities. The Amgen Foundation will support 50 new Amgen Fellows each year. The grant will support their recruitment, training and development and will provide each Fellow with a signing bonus. www.amgen.com/media/teach_america_annual_summit.html

Amgen-Bruce Wallace Biotechnology Lab Program – The Amgen-Bruce Wallace Biotechnology Lab Program is an educational outreach program funded by the Amgen Foundation that provides equipment, curriculum assistance and supplies to high schools and colleges. The program integrates a hands-on inquiry-based molecular biology curriculum designed to introduce, with extensive teacher support, the excitement of scientific discovery to thousands of students. www.amgen.com/citizenship/foundation.html

Medtronic

Medtronic Foundation, Science Matters – A free 24-page booklet sponsored by the Medtronic Foundation was designed as a tool for parents and educators to help K-6 students unlock the world of science and discovery at home and school. www.medtronic.com/foundation/

Pfizer-Summer Internships & Co-Op Programs

Interns at Pfizer can put their education and talent to work immediately. Across their operating groups, Pfizer offers value-added, high-impact internship opportunities in research and development, marketing, finance, human resources, production, sales and legal. Pfizer recruits from a diverse pool of top-ranked candidates whose current employment includes undergraduate programs in the U.S. and Puerto Rico.

High School Curriculum – Pfizer continues to lead in the science of green chemistry, and in its partnership with Beyond Benign, has developed the high school program, Solutions in Green Chemistry: An Introduction to Green Chemistry in the High School. The curriculum is designed for high school students and teachers, and is intended to introduce teachers and their students to the topic of green chemistry, explore green chemistry technologies and to provide a hands-on inquiry-based unit in which high school students can explore this emerging approach to chemical manufacturing. To learn more about the curriculum unit available from Beyond Benign, please visit www.beyondbenign.org.

Bringing Science to Life in Our Schools – Pfizer offers much more to schools than financial assistance. Pfizer employees—who have a wealth of expertise, talent, commitment and passion for science and learning—volunteer their time at local schools. Pfizer also provides partner schools with lab equipment and supplies and the use of facilities.

The Pfizer Education Initiative (PEI) – To work with schools in communities where Pfizer people live and work, helping to revitalize science and math programs, and reach the learning experience of all students. More than 1,700 Pfizer employees—from scientists and engineers to manufacturing workers and support staff—serve as volunteers in the program. In its first decade of operation, the PEI created school partnerships in 20 Pfizer communities, resulting in the training of thousands of teachers and the creation of 18 new or renovated science labs. www.pfizer.com/responsibility/education/school_partnerships.jsp

biotechnology-affiliated resources

Los Angeles Biohackers

Los Angeles Biohackers is a diverse and eclectic group of amateur scientists with a lab based in Downtown L.A. The group provides space and equipment for people to work on their own biology projects and experiments. www.biohackers.la

California Academy of Math & Science (CAMS)

The California Academy of Mathematics and Science is a comprehensive public, four-year high school that seeks to increase the nation’s pool of graduates in mathematics and science. Located on the campus of California State University, Dominguez Hills in the city of Carson, the Academy is a regional magnet school that seek out and admits students with a passion for math and science and then develops the talents of motivated students to become thoughtful and productive members of an increasingly global and technological society. The Academy offers a rigorous and innovative college-preparatory curriculum that is available to school districts throughout the region and nation. www.californiaacademy.org

LA’s BEST

The LA’s BEST Celebrate Science Program provides opportunities for LA’s BEST children to have fun, engaging and interactive science experiences under a “learn inquiry” model— developed under the guidance of NASA/Jet Propulsion Laboratory—which closely mirrors the real world in which scientists work, and provides children with a true collaborative experience. This program culminates with the Citywide Celebrate Science Fair, in which winning teams are awarded all-expense-paid trips to a parent-child weekend at the U.S. Space Camp in Huntsville, Alabama. Industry supporters include RD Systems Inc., and Amgen. www.lasbest.org/program/activities.php

Mentor LA

Mentor LA and the Amgen Foundation launched a three-year partnership to improve education in South Los Angeles. The Amgen Foundation grant of \$4 million over three years will assist Mentor LA in advancing a new model of high performance public schooling, one where the public and private sector work together through a shared leadership structure to create successful high schools. Contact: Florence Grace, (310) 553-4477

San Diego

biotechnology-sponsored programs

Bristol-Myers Squibb Foundation

BLAST Pre-K Kits – The six BLAST Pre-K kits address phenomena that are familiar to young children and are everyday things that children marvel. All of the kits include many hands-on science explorations, children’s trade books to connect the themes to literature, suggestions for related art, music and free-choice activities, and a notebook to guide the teacher, parent or childcare provider. The kits also include a take-home Family Connection activity to provide a bridge between home and school or childcare. www.bms.com/sr/foundation/communities/science_education/content/data/science_current_grants.html

Invitrogen Corporation

Invitrogen Foundation – The foundation is dedicating its first grants to increasing scientific literacy. The Foundation’s aim is to strengthen the pipeline of future life scientists. Funding and partnership opportunities that address the following areas of interest will be considered: life science education for students beginning at the high school level and professional development for high school and community college instructors. Special consideration is also given to programs that target groups traditionally underrepresented in the life sciences including, but not limited to, women and diverse populations. www.invitrogen.com/site/us/en/home/corporate/Corporate-Citizenship/invitrogen_foundation.html

Johnson & Johnson

RxSEARCH: An Educational Journey (in partnership with PHRMA, the Museum of Contemporary Science, and other pharmaceutical companies) – The RxSEARCH curriculum teaches students about the process of discovering a new medicine, and how to move through the development stages and regulatory review processes. It is an integrated learning model encompassing science, mathematics, communications and societal and government issues. By providing students a glimpse of how the business of science is applied in science-based industries, the program gives students a head start on their careers. www.jnjpharmad.com/jnjpharmad/rx-search.html

Novocell

Novocell donates laboratory equipment to the Science Lab at Toussaint Academy of the Arts and Sciences (TAAS) located in downtown San Diego, California. TAAS is a not-for-profit program of Father Joe’s Villages, providing education with emphasis on arts and sciences for homeless youth. www.novocell.com/careers/community.html

biotechnology-affiliated resources

BIOCOM Institute

The Science Education Speakers Bureau – an innovative program that matches industry professionals with middle school classroom teaching opportunities. The program leverages the involvement of a community rich in scientific professionals to provide positive science role models to students. The ultimate goal of this resource alignment between educators and industry is to increase student proficiency in science. Key partners include BIOCOM, Pfizer Foundation, San Diego County Office of Education, The San Diego Foundation, and the San Diego Science Alliance. http://www.biocom.org/42/science_education_speakers_bureau/

San Diego Festival of Science and Engineering – An eight-day festival and year-round activities bring together science, health, engineering and technology professionals and educators with a shared goal of inspiring the next generation of innovators and researchers. This is accomplished by providing opportunities for students from all backgrounds and income levels to participate in hands-on activities, meet real scientists and engineers, interact with college-level advisors, and learn how recent discoveries and research affect our daily lives. Events take place in San Diego, Orange County and Los Angeles and over 150 life science and healthcare organizations participate. <http://www.sciencefestival.com/>

The BioCollaborative – a non-profit organization, affiliated with the Southern California Industry Association and BIOCOM, offers an online certification program that use industry driven curriculum to give individuals the business acumen to successfully transition into industrial careers. Out of the 400 individuals who have earned a certificate, 75% have secured life science employment, received a promotion, or remained employed in a downsizing environment. <http://www.biocollaborative.com/>

Elementary Institute of Science

The Elementary Institute of Science is a premiere science enrichment program that nurtures the intellectual curiosity of San Diego’s young people by providing “hands-on” experiences to stimulate an on-going appreciation and understanding of science and technology. Industry supporters include Johnson & Johnson Pharmaceuticals Foundation; Amgen Foundation; and Gene-Probe, Inc. www.eiscsa.org/aboutus_vision.html

High Tech High

High Tech High began in 2000 as a single charter high school launched by a coalition of San Diego business leaders and educators. It has evolved into a school development organization with a growing portfolio of innovative charter schools spanning grades K-12. High Tech High combats the twin problems of student disengagement and low academic achievement by creating a personalized, project-based learning environment in which students are known well and challenged to meet high expectations. High Tech High Schools show how education can be redesigned to ensure that all students graduate well prepared for college, work and citizenship. www.hightechhigh.org/about/

Human BioMolecular Research Institute

Scientific Summer Internship (HBRI)

HBRI offers Summer internships in biology (molecular and cell) and chemistry. Open to motivated high school students interested in developing their scientific expertise. Industry support comes from Pfizer, Inc. www.hbri.org/NewsandEvents_files/next_scientific_summer_internship_flyer.pdf

Life Sciences Summer Institute (LSSI)

Student Internship Program

Developed by the San Diego Workforce Partnership, and BIOCOM, the LSSI program exposes students and teachers to the life sciences industry through student internships. The LSSI Program helps increase awareness of the life sciences industry and related fields of research to students in the San Diego region. Students gain exposure to career options, hands-on laboratory experience, work readiness skills and mentoring by a company or research scientists. Industry support comes from Invitrogen. www.sandiegowork.com/generate/html/YouthLife_sciences_summer.html

Project Lead The Way

Project Lead The Way (PLTW) is a not-for-profit organization partnering with public schools, organizations in the private sectors, and higher education institutions to increase the number and quality of engineers graduating from our educational system. PLTW provides a four-year, flexible, pre-engineering sequence of course work for high school students and a challenging, 50-week “activity-oriented” program for middle school students. Students are introduced to the scope, rigor and discipline of engineering and engineering technology to really get a feeling of the rewards and benefits of being a part of such a powerful career. PLTW courses utilize project and problem-based learning that teaches students how to apply what they are learning to real-life situations. These courses provide opportunities for students to understand the scientific process, engineering problem-solving and the application of technology; understand how technological systems work with other systems; use mathematics knowledge and skills in solving problems; communicate effectively through reading, writing, listening and speaking; and work effectively with others. www.pltwcalifornia.org

Salk Institute

High School Summer Enrichment Program – Students from throughout the San Diego area gather at the Salk Institute every summer to participate in hands-on laboratory experiences under the mentorship of a Salk scientist. Students and teachers work side-by-side with the scientists, and teachers have the opportunity to bring back research projects to their classrooms. www.salk.edu/support/summer_program.html

High School Science Day – Each Spring, about 150 high school science students gather at the Salk Institute with their teachers to visit the institute’s labs and explore the possibilities of a scientific career. Students take part in ongoing experiments and have the opportunity of informal exchanges of ideas and questions with Salk researchers. The program offers students one of their first opportunities to witness the life of a scientist and get expert advice on pursuing a scientific career. www.salk.edu/support/science_day.html

Salk Mobile Science Laboratory – The Salk Institute’s Mobile Science Laboratory teaches students in grades 6 through 8 about DNA and genetics. The laboratory travels to more than a dozen schools each year and also participates in community science fairs. www.salk.edu/support/mobile_lab.html

San Diego Science Alliance

San Diego Science Alliance is the catalyst for improving K-12 science education in San Diego County. They deliver quality experiential programs, build bridges between the region’s diverse business, education and scientific research communities, and foster public/private partnerships to increase science literacy. <http://sdssa.org/>

BEWISE – The program offers young women in science, technology, engineering and math (STEM) learning experiences in collaboration with the region’s research, industry and academic institutions. BEWISE invites girls in grades 7 and 8 to Science Overnights to explore their interest in science, hosts events for BE WISE alumnae in high school to encourage their selection of more courses in science and math, and exposes these girls to adult women scientists who share their knowledge and passion and experiences with science and engineering career. It operates in partnership with the San Diego County Office of Education’s Science Unit to assure outreach to every middle school in San Diego County. <http://sdssa.org/programs/be-wise/programs/be-wise/about.htm>

The Scripps Research Institute –

High School Student Research Education Program

The Scripps Research Institute’s High School Student Research Education Program exposes students to contemporary issues in biomedical research and provides hands-on laboratory experience and mentorship. It is committed to increasing the number of talented students who choose a career in the biological and chemical sciences, particularly first-generation, college-bound students and students from groups that are underrepresented in science.

Biotechnology Boot Camp – Students who have attended all Spring tutorial sessions and are placed in a lab for the Summer will attend a one-week, non-paid pre-internship training course. The “boot camp” will be held at the Southern California Biotech Center at Miramar College.

Summer Research Internship Program – Students who have attended all Spring tutorial sessions will be assigned (through an interview process with principal investigators) to work in a research laboratory, Monday through Friday, 8:00 a.m.-5:00 p.m., from early July until mid-August.

Mentorship Program – Over the course of the summer, each high school student will be paired with a graduate student mentor who will meet with them regularly to help guide the student through their experience in the lab, the college application/selection process, the application essay, etc.

MySci@Scripps – A half-day celebration of science held at The Scripps Research Institute for San Diego high school students in chemistry, biology or any class interested in expanding student’s science literacy. www.scripps.edu/community/student.html