



PREPARING FOR THE BIOTECH DECADE

October 1, 2016 | East Los Angeles Community College

A large, faint, light gray molecular structure graphic is overlaid on the bottom half of the page. It consists of numerous circles of varying sizes connected by thin lines, representing a network or a complex molecule.

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“ At its core, biotech harnesses the components of life to create new compounds, products, and processes to enhance life.

By harnessing the potential of the biotech industry, we can also infuse new life into our neighborhoods, our city, and our county. In doing so, we can forever change the lives of every man, woman, and child.”

C. L. Max Nikias

President, University of Southern California



SCHEDULE

8:30 a.m.	Check-in
9:00 a.m.	Outdoor Resource Fair opens
9:00 a.m.	Welcome <i>Speakers: USC Senior Vice President Thomas S. Sayles, The Honorable Ed Hernandez</i>
9:30 a.m.	Plenary Discussion Science and Engineering as Pathways to Individual Success and Building A Culture of Exploration <i>Speakers: Carlos I. Noriega, Diana Ramos</i> <i>Moderator: Gabriela Teissier</i>
10:30-11:45 a.m.	Workshop Sessions TRACK A: FOR PARENTS AND EDUCATORS Full STEM Ahead Rewarding careers related to biotech, medical discovery and technology all begin with a strong foundation in math and science education. Learn how planning academic coursework can set the stage for a smooth transition into college-level work, what enrichment programs can offer, and how parents can get involved to support strong study skills and academic success. <i>Speakers: Raul Mata, Armando M. Rivera, Felipe Hernandez</i> <i>Moderator: Fernando Vasquez</i> TRACK B: FOR CAREER SEEKERS Biotech Jobs Did you know that for every high-tech job created in biotech, four more jobs are added in related support roles? Learn what preparations job seekers can make to get on track for job opportunities at all levels of a biotech company. <i>Speakers: Jan Perry, Willie Zuniga, Andrew Chavez, Theda Douglas</i> <i>Moderator: Rafael Carbajal</i> TRACK C: FOR CURRENT COLLEGE AND HIGH SCHOOL STUDENTS Research and Clinical Practice: Graduate Track Careers <i>Speakers: Maria de Fatima Reyes, Ivan Alberto Trujillo Priego, Juan Enrique Arguelles Morales</i> <i>Moderator: Ite A. Laird-Offringa</i>
12 noon	Closing Remarks <i>Speakers: The Honorable Martha Escutia, The Honorable Kevin de León</i> <i>Speaker information confirmed as of press time. Simultaneous translation is available in Spanish for the Plenary Session and Workshop A.</i>

EVENT LEADERSHIP

Chairs

Thomas S. Sayles, Senior Vice President for University Relations, University of Southern California
Guillermo “Willie” Zuniga, President, Grifols Biologicals Inc.

Honorary Co-Chairs

Kevin de León, President Pro Tempore, California State Senate, SD 24
Ed Hernandez, California State Senate, SD 22
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David I. Meyer, President and CEO, LA BioMed

For more information, or to become involved in the Los Angeles Biotech Park please contact



DID YOU KNOW?

Employment in Los Angeles County's **bioscience industry** sectors **rose** from 37,759 jobs in 2001 to 42,211 jobs in 2010, an **increase of 4,452 jobs**, or 11.8 percent.

WHAT IS BIOTECH?

The 21st Century is often referred to as the "Bio Century." The biosciences are at the forefront of both creativity and innovation, and represent a convergence point for engineering, information technology, nanosciences, and communications/media. In 2012 the Obama Administration released its National Bioeconomy Blueprint noting that the bioscience industry is "a large and rapidly growing segment of the world economy that provides substantial public benefit."

From a regional economic development perspective, the biosciences are a particularly attractive economic driver because they represent a large, fast-growing, diverse, and crosscutting industry cluster, involving a wide range of manufacturing, service, and research activities that not only promote economic vitality and offer high quality jobs, but also advance public health.

October 1, 2016

On behalf of the University of Southern California and our educational and media partners, I'd like to welcome you to **PREPARING FOR THE BIOTECH DECADE**.

It is our hope that you will be leave inspired and equipped with resources made available to study, work, and explore the enriching world of Science, Technology, Engineering and Math—STEM!

Los Angeles is a world city, and benefits from the contributions of so many different communities from across the globe. In past decades, the region grew in part because it was home to industries like aerospace, entertainment, automotive, etc., which provided many types of well-paying jobs. Although these industries continue to play an important role in the economy of Los Angeles, the advances in biotechnology present the next big opportunity for the future.

That is why we are presenting **PREPARING FOR THE BIOTECH DECADE**, an event to explore how all of us—business, government, education, parents, teachers—can work together to create a hub for this important industry.

Together, we can prepare for and create a brighter future.

1 de octubre de, el año 2016

En nombre de la Universidad del Sur de California y nuestros socios educativos y los medios de comunicación, nos gustaría darles la bienvenida a **PREPARARSE PARA LA DÉCADA BIOTECH**.

Es nuestra esperanza que sea un día de inspiración, equipada con los recursos puestos a su disposición para estudiar, trabajar y explorar el mundo enriquecedora de STEM.

Los Ángeles es una ciudad que beneficia de muchas comunidades que contribuyen a la región. Entre las pasadas décadas, la región creció en parte porque era el centro de las industrias como de aeroespacial, ocio, automoción, etc., que proporcionan puestos de trabajo bien remunerados en todo el espectro de contratación.

Aunque estas industrias siguen desempeñando un papel importante en la economía de Los Ángeles, los avances en biotecnología también presentan una oportunidad fenomenal para nuestro futuro.

Es por eso que estamos presentando **PREPARARSE PARA LA DÉCADA BIOTECH**, un evento para explorar cómo todas nuestras comunidades—negocios, gobierno, departamento de educación, padres, y maestros—para desarrollar un centro de esta industria.

Juntos, podemos preparar para un futuro más brillante.

Thomas S. Sayles

Senior Vice President for University Relations

Vicepresidente de Relaciones con la Universidad



THOMAS S. SAYLES

Senior Vice President, University Relations, University of Southern California

Thomas S. Sayles was appointed senior vice president for university relations effective July 1, 2011. In this capacity, he provides strategic direction and leadership of USC's efforts to continuously improve its relationships with external and internal stakeholders. His responsibilities include government relations, communications, media relations, public relations, marketing, community outreach, and USC's eleven public radio stations.

Previously, Sayles practiced law in the private and public sectors. He left the practice of law to serve as California's commissioner of corporations and later as secretary of business, transportation and housing. He then returned to the private sector to work for Sempra Energy as vice president of government and community affairs and as senior vice president of consumer marketing. Immediately prior to joining USC, Sayles was senior vice president for government affairs and corporate communications at Rentech, Inc., an alternative fuels company headquartered in Los Angeles.

In July 2009, he was appointed by Los Angeles Mayor Antonio Villaraigosa to the governing board of the Los Angeles Department of Water and Power, and served as Board President until August of 2013.

In 2013, Sayles was appointed to the Los Angeles 2020 Commission, a private and independent commission that was asked to study and report on fiscal stability and job growth in Los Angeles. The Commission issued two reports. The first set for the challenges and opportunities Los Angeles faced and the second put forth concrete measures that, if adopted, would put Los Angeles on a path toward fiscal stability and renewed job creation.

Sayles also has been appointed by three different California governors to serve on boards and commissions, including the University of California Board of Regents and the California Community Colleges Board of Trustees.

Sayles is currently the Chairman of the Los Angeles Chamber of Commerce Board of Directors and a member of the board of directors of Unified Grocers, the largest buying cooperative for independent grocers in the western United States. He previously served on the boards of directors of Golden State Bancorp (California Federal Bank) and Glendale Federal Bank.

Born and raised in South Los Angeles, not far from USC's University Park campus, Sayles earned a law degree from Harvard Law School and a bachelor's degree "with distinction" from Stanford University, where he was elected to Phi Beta Kappa.



CARLOS I. NORIEGA

Lieutenant Colonel, USMC, Ret., former NASA astronaut

Carlos I. Noriega was born in Lima, Peru and grew up in Santa Clara, California, earning an undergraduate degree in computer science from the University of Southern California, and two master's of science degrees (in computer science and space systems operations) from the Naval Postgraduate School.

Noriega was a member of the Navy ROTC unit and received his commission in the United States Marine Corps at the University of Southern California in 1981. Following graduation from flight school, he flew CH-46 Sea Knight helicopters with HMM-165 from 1983 to 1985 at Marine Corps Air Station (MCAS) Kaneohe Bay, Hawaii. Noriega made two 6-month shipboard deployments in the West Pacific/Indian Ocean, including operations in support of the Multi-National Peacekeeping Force in Beirut, Lebanon. In 1986, he was transferred to MCAS Tustin, California, where he served as the aviation safety officer and instructor pilot with HMT-301. In 1988, Noriega was selected to attend the Naval Postgraduate School in Monterey, California. Upon graduation in September 1990, he was assigned to United States Space Command in Colorado Springs, Colorado. In addition to serving as a Space Surveillance Center Commander, he was responsible for several software development projects and was ultimately the command representative for the development and integration of the major space and missile warning computer system upgrades for Cheyenne Mountain Air Force Base. At the time of his selection, he was serving on the staff of the First Marine Aircraft Wing in Okinawa, Japan. Noriega retired from the Marine Corps in January 2003. He has logged approximately 3,000 flight hours in various fixed-wing and rotary-wing aircraft.

Selected by NASA in December 1994, Noriega reported to the Johnson Space Center in March 1995. He completed a year of training and evaluation and was qualified for assignment as a mission specialist in May 1996. He held technical assignments in the Astronaut Office EVA/Robotics and Operations Planning Branches. Noriega flew on STS-84 in 1997 and STS-97 in 2000.

He has logged more than 481 hours in space, including over 19 EVA hours in three spacewalks. Following STS 97, Noriega trained as the backup commander for the Sixth Expedition to the International Space Station and later as a member of the crew of STS-121. In July 2004, Noriega was replaced on the crew of STS-121 due to a temporary medical condition. While awaiting future flight assignment, Noriega served as Chief of the Exploration Systems Engineering Division at Johnson Space Center. In January 2005, Noriega retired from the Astronaut Corps. He left NASA in August 2011. Noriega's final assignment was as the Director of Safety, Reliability and Quality Assurance for the Constellation Program at Johnson Space Center.

Noriega's spaceflight experience includes NASA's sixth space shuttle mission to rendezvous and dock with the Russian Space Station, Mir, STS-84 (May 15 to May 24, 1997). During this 9-day mission, the crew aboard Space Shuttle Atlantis conducted a number of secondary experiments and transferred nearly 4 tons of supplies and experiment equipment between Atlantis and the Mir station. During STS-84, Noriega logged a total of 221 hours and 20 minutes in space, traveling 3.6 million miles in 144 orbits of the Earth.

He also was a member of the STS-97 Endeavour (November 30 to December 11, 2000) spaceflight, the fifth space shuttle mission dedicated to the assembly of the International Space Station. While docked to the station, the crew installed the first set of U.S. solar arrays and performed three spacewalks totaling 19 hours and 20 minutes in addition to delivering supplies and equipment to the station's first resident crew. The mission duration was 259 hours and 58 minutes, traveling 4.47 million miles.

Among the honors that Noriega holds are the Defense Superior Service Medal, two Defense Meritorious Service Medals, Air Medal with Combat Distinguishing Device, Air Medal (Strike Flight Award), Navy and Marine Corps Achievement Medal, two NASA Space Flight Medals and the NASA Exceptional Service Medal.



DIANA RAMOS, MD, MPH

Medical Director for Reproductive Medicine, LA County Department of Public Health

Dr. Ramos is board certified in obstetrics and gynecology and a Fellow of the American College of Obstetrics and Gynecology. She is the Chair of the American Medical Association's Minority Affairs Consortium; serves on the steering committees for the National Hispanic Leadership Fellowship and National Commission on Healthcare Disparities, and is a March of Dimes board member. She is also a spokesperson for cervical cancer awareness and emergency contraception for the Los Angeles County office of Women's Health and was appointed to the California Women's Health Council Commission in 2006. She joined the CMA Foundation Board of Directors in 2008.

She earned the American Medical Association Young Physician Leadership Award in 2006; the Los Angeles County Board of Supervisors Recognition for Outstanding Service—Los Angeles Public Health Commission, 2005; the American Medical Association Community Service Award, 2004; and Pfizer National Award for Community Outreach, 2003.

Dr. Ramos received her bachelor's degree from the University of Southern California; a Masters in Public Health, emphasis in management from University of California Los Angeles; and a Doctor of Medicine from the University of Southern California Keck School of Medicine. She completed her internship and residency in obstetrics and gynecology at the Los Angeles County-USC Women's and Children's Hospital.



GABRIELA TEISSIER, Moderator
***A Primera Hora* (“At First Hour”)** Host,
Univision Communications Inc.

Gabriela Teissier serves as host of Univision Los Angeles’ morning show *A Primera Hora* (At First Hour) that airs Monday through Friday, 5 a.m. to 7 a.m.

She received “Best News Anchor” recognition by the prestigious LA Press Club as well as Emmy and Telly awards for her reporting, producing, anchoring and writing skills. In 2015, she won an Emmy for Regularly Scheduled Daily Morning Newscast of which she hosts. Most recently, in 2016 she won an Emmy for Light News Story Multi-Part Report for Junipero, a timely story that put in perspective the human and social impact of the missions in California.

She has interviewed important personalities including President Barack Obama, the President and Nobel laureate Shimon Peres, President of Mexico Vicente Fox, journalist and former first lady of California Maria Shriver, just to name a few.

She was honored her with the Excellence in Broadcast Journalism Impact Award by the National Hispanic Media Coalition and has been recognized numerous times by the California Senate and the City of Los Angeles for her contributions to the betterment of the community and people she serves.

She is passionate about environmental, social and education topics. Teissier serves on the board of American Heart Association as well as the board of directors of Act-Today, a not for profit organization that provides therapy and services for families with people with Autism.

She has been recognized as “Ambassador” by the City of Hope and has helped host Mexico’s “Teleton” year-after-year.

Born and raised in Mexico City, Gabriela grew up speaking Spanish, German and English, becoming fully trilingual before she moved to the United States.

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NOTICIAS 34



**GRIFOLS IS PROUD
TO SUPPORT STEM
AND EMPOWER
STUDENTS AND
FAMILIES IN THE EAST
LOS ANGELES AREA**

GRIFOLS
pioneering spirit



GUILLERMO “WILLIE” ZUNIGA **President, Grifols Biologicals Inc.**

Willie Zuniga is the President of Grifols Biologicals Inc. located in Los Angeles, California. Within this role, Willie is responsible for overseeing the Los Angeles site, including all Manufacturing, Quality, Research and Development, Environmental Health and Safety, Finance and Compliance Training operations.

Prior to his current role, Willie was the Vice President of Manufacturing for Alpha Therapeutic Corporation. In addition, his professional career included Director and Manager level positions in the Manufacturing, Production Planning and Materials Management areas.

Raised in the community of El Sereno, Willie graduated from Wilson High School. He received his Bachelor's of Science, Business Administration degree at California State University, Los Angeles. He has served on the City of Los Angeles Workforce Investment Board working with the Mayor and City Council to develop strategic initiatives, encourage regional training investments and coordinate development efforts in the area. He continues to be a champion for Education and Workforce Development in the County of Los Angeles, including supporting the GO East LA, a cradle to career program; an advocate for

youth empowerment efforts that promote STEM and secondary education; participation in four industry alliance boards; and a leader in the creation of certificate programs to promote greater employment in the area.

Willie's career has spanned over 35 years in Los Angeles. Today, he remains focused and committed to saving lives with the products manufactured by the dedicated employees of Grifols.

TRACK A PANELISTS: “FULL STEM AHEAD”

Raul Mata

Guidance Counselor, Roosevelt High School

Raul Mata grew up in Huntington Park, a southeast neighborhood in the city of Los Angeles. He never thought much about pursuing a college education until midway through high school. Luckily, Mr. Mata receive guidance in the right direction and was accepted into USC. He graduated with a degree in English and realized that he wanted to pursue a career that helped other aspiring scholars from his community.

For the past 14 years, Mr. Mata has taught a variety of subjects at Roosevelt High School including English, Leadership, Journalism, Yearbook, and Peer Counseling. He hopes to build systems and structures to make sure every student has the information and support to create a path toward a successful college education.

Armando M. Rivera

Dean of Science, Technology, Engineering, Mathematics; Associate Professor of Chemistry, ELAC

Dr. Rivera-Figueroa was born and raised in San Juan, Puerto Rico, earning his B.S in Chemistry at UPR, Rio Piedras. His Ph.D. at UC, Irvine focused on the kinetics and thermodynamics of atmospheric pollutants. Thereafter, he joined the Chemistry Department at East Los Angeles College, became the MESA/STEM Director, and currently serves as Dean of STEM overseeing academic, career technical and workforce programs. He successfully developed and implemented initiatives aiming to increase the number of diverse, underserved and socioeconomically disadvantaged students pursuing a STEM degree. In 2012 Excelencia in Education recognized his programs; in 2015 he earned the Educator of the Year award by Great Minds in STEM and HENAAC. He serves on the American Chemical Society (ACS) governance, participating in the Committee on Minority Affairs and as Chair-elect of the Southern California Section. He is a member of the LA Chamber of Commerce STEM Hub Advisory Board.

Felipe Hernandez

USC Viterbi School of Engineering Undergraduate Student

Felipe Hernandez is a junior at studying civil engineering with an emphasis in building science. The son of two immigrants from Mexico, he was born and raised in South Los Angeles. He attended Venice High School and transferred to USC from Los Angeles Trade Technical College. He aspires to contribute to society not only through his chosen profession, but also through service in and around his community. His interests range from serving the homeless community on Skid Row, to the working with those who are eager to better themselves through education. Felipe is dedicated to outreach efforts to bring awareness of access to university education to community college students, and to parents of aspiring USC students.

Fernando Vasquez (Moderator)

Mayor, City of Downey, CA

Fernando Vasquez was first elected to the Downey City Council in November 2010, to serve the citizens of the Fourth District. He was elected Mayor by a unanimous vote in November 2013, becoming one of the youngest councilmembers to hold that position. Mayor Pro Tem Vasquez has championed the causes he promised to address when campaigning in 2010. He has led the charge to bring the City into the 21st century by bringing forth new technology and open government initiatives to make government more transparent and accountable. He supported public safety services, a healthier and active City through the Stay Healthy Downey initiative, enhanced streets, parks and sidewalks, helped create thousands of jobs, and revived downtown by initiating numerous events, public art and new businesses.

In 2011, Mayor Pro Tem Vasquez founded and launched Primawaste, a medical waste management company. In 2015, he Co-Founded Cielo Dining and Lounge, an upscale fine dining restaurant in Downey. Mayor Pro Tem Vasquez holds a Master's Degree in City Planning from San Diego State University and a Bachelor's Degree from UC Riverside. He is married to

Donna B. Vasquez, who is a partner with the Law Offices of Musick Peeler & Garrett. Mayor Pro Tem Vasquez was raised in the City of Downey and is fluent in English and Spanish. He is the son of immigrant parents who came from a small town near Tepatlán, Jalisco, Mexico.

TRACK B PANELISTS: “BIOTECH JOBS”

Theda Douglas

**Associate Vice President, USC
Government Partnerships and Programs**

Theda Douglas began her career as a high school teacher, and eventually joined the Los Angeles Community College District as an instructor, Associate Dean, Dean of Students and Interim Vice President of Student Services at Los Angeles Trade Technical College. She has always had a passion for helping low-income, first-generation, disadvantaged youth and her career has reflected this strong philosophy in the manage of a wide portfolio of programs including financial aid, disabled student programs (DSPS), extended opportunities programs and services (EOP&S), child development centers, student health centers, enrollment and admissions, CalWorks and TANF. She holds a doctorate in educational psychology and musical arts and an M.A. in musical arts, both from USC; a master’s in ESL from CSU-LA, and a B.A. from Pepperdine.

Willie Zuniga

President, Grifols Biologicals Inc.
(see page 9 for full biography)

Andrew Chavez

Supervisor, Grifols Biologicals Inc.

Andrew Chavez remembers the struggles of growing-up in Long Beach, California while being raised by a single mother. “My mother was my anchor. She was strict and continuously emphasized — school, school, school.” While attending Mayfair High School, Andrew took a career aptitude test, which identified possible fields of interests. His best-suited fields included electrical, waste water and the sciences. When exploring the sciences, he found a specific interest in Chemistry. After a high school field trip to Los Angeles Trade Technical College (LATTC), Andrew found a post-secondary institution to call home. He graduated from LATTC’s Chemical Technology program in 2011.

Immediately after his graduation, Andrew began working at Grifols, a biopharmaceutical company located in the community of El Sereno, California. He was hired as an entry-level technician in the Albumin department. Within two years

of his employment, Andrew was promoted to a Tech 2, Group Lead and his current position, Supervisor.

When reflecting on the benefits of the LATTC program, Andrew recognizes learning the basics of processing and what to expect in the industry. He also attributes his post-secondary experience to enhancing his skill set, including the ability to deal with his growing staff and difficult situations. In the future, Andrew wants to continue his development and involvement in the company. His biggest influencers continue to be his mother and daughter. With his supportive background, individual motivation and personal initiative, Andrew continues to reach and meet his goals, daily.

Jan Perry

**General Manager of the Los Angeles
Economic and Workforce Development
Department (EWDD)**

EWDD provides a broad range of programs offering assistance to business, job seekers and disconnected youth. All of EWDD’s programs are designed to help build local business and strengthen the workforce. In addition to running 17 WorkSource Centers and 16 YouthSource Centers in areas of high unemployment, EWDD also administers nine Business Source Centers offering entrepreneurs informational workshops, access to capital and help with loan packages.

As the former 9th District City Councilmember representing Downtown, Little Tokyo, and South Los Angeles, Ms. Perry led catalytic projects such as LA Live, Our Lady of Angels Cathedral and the new Police Administrative Building. Ms. Perry’s leadership over a decade brought in \$15 million in investment, \$40 million in new tax revenue for the City of Los Angeles, and 90,000 full-time jobs. Her years in office also saw the development of more than 1,000 units of supportive housing to shelter the homeless and people suffering from mental illness and substance abuse. Ms. Perry earned a bachelor’s degree in journalism and a master’s degree in public administration from the University of Southern California.

Rafael Carbajal (Moderator)

**Director of Business & Professional
Services, L.A. County Community and
Senior Services (CSS) Workforce
Development Branch**

Rafael Carbajal oversees L.A. County’s business and professional services unit, that provides comprehensive workforce planning services, customized business solutions and access to human capital for business throughout Los Angeles County. In his previous roles Rafael served as the assistant to the department head where he worked on strategic planning and was responsible for the intergovernmental Relations and also served as the public information officer. As a human resources manager, Rafael oversaw CSS’s employee relations, risk management and safety programs, workers compensation programs, payroll, and performance management. Mr. Carbajal has a bachelor’s degree from Cal State University, Dominguez Hills in public Administration and is a graduate of L.A. County’s Executive Leadership Program.

TRACK C PANELISTS: “RESEARCH AND CLINICAL PRACTICE: GRADUATE TRACK CAREERS”

Juan Enrique Argüelles Morales

**USC Viterbi School of Engineering
doctoral student, biomechanical
engineering**

Enrique Argüelles received his B.S. in Mechatronics Engineering from the National Autonomous University of México (UNAM). He is currently working towards his PhD in Biomedical Engineering at USC. Mr. Argüelles is interested in designing and developing medical devices for neuromotor recovery and rehabilitation. His current work includes developing data-driven models to describe the physiological mechanisms underlying deep brain stimulation on the treatment of movement disorders in children, and the study of spinal and transcortical responses to external perturbations for rapid corrective movements.

Ite A. Laird-Offringa (Moderator)

**Associate Dean for Graduate Affairs
Director, Programs in Biomedical and
Biological Sciences, USC**

Dr. Ite Laird-Offringa is an Associate Professor of Surgery and of Biochemistry and Molecular Biology at USC. She obtained her BS, MS and PhD in Medical Biochemistry at the University of Leiden, in the Netherlands. After a postdoctoral fellowship at Harvard Medical School in Boston, she joined the USC faculty in 1996, starting her lung cancer research at the Norris Comprehensive Cancer Center.

Her laboratory's research is focused on methods for early detection of all lung cancer types and genetic lung cancer risk, as well as the molecular basis for lung cancer development and the body's immune response to lung cancer.

Besides being a passionate lung cancer researcher, Dr. Laird-Offringa is highly committed to the education of young scientists. She mentors USC undergraduates, Master's students, PhD students, postdoctoral and clinical fellows and a variety of summer students in her own lab.

She is the director of USC's Programs in Biomedical and Biological Sciences (PIBBS) and teaches epigenetics, molecular biology/genetics, and a semester-long grant writing class called Writing in the Biomedical and Biological Sciences.

María de Fátima Reyes, MSIV

**Keck School of Medicine of University of
Southern California**

María de Fátima Reyes, is a fourth year medical student at Keck School of Medicine at the University of Southern California. Fátima values mentoring high school and undergraduate students and serves as Chair of Mentorship for Latino Medical Student Association (LMSA-West) and is a member of the National Mentorship Committee for LMSA-National. In both roles, she desires to connect student and mentors to empower and motivate students interested in careers in medicine. As a first year medical student, she launched a bilingual randomized control trial assessing the use of mindfulness practices and language adequate patient education and its effects on patient physiologic and psychological stress. Ms. Reyes is completing her clinical education at USC+LAC Medical Center and looks forward to helping provide healthcare for underserved areas in Los Angeles.

Ivan Alberto Trujillo Priego

**USC Viterbi School of Engineering
doctoral student, biomechanical
engineering**

Ivan Alberto Trujillo Priego is a PhD student in Biokinesiology at the University of Southern California. His research focuses on motor control and motor learning, specifically in the early identification of motor disorders. To accomplish this, he makes use of diverse technologies such as wearable sensors, electroencephalography and electromyography which facilitate the acquisition of physiological measurements. He received his Bachelor degree in Mechatronic Engineering from the Autonomous University of Mexico (UNAM) and his Master's degree in Biomedical Engineering from Viterbi School of Engineering at USC. Mr. Trujillo Priego is a recipient of the Consejo Nacional de Ciencia y Tecnología, CONACYT scholarship.

May 10, 2016

By C. L. Max Nikias

Los Ángeles, listo para despuntar como centro líder en biotecnología

El dinámico crecimiento de la industria de la biotecnología, que abarca un amplio campo de acción en disciplinas como la ingeniería, la medicina, la biología y otras ciencias naturales, impulsará la mayoría de los grandes avances del siglo 21

Los estudiantes mexicanos Socrates Munoz y Marcela son parte de los investigadores de ese país que han llegado para avanzar estudios en USC.



Los Angeles: ready to emerge as a leader in biotechnology

The rapid growth of the biotechnology industry, which encompasses a broad field of disciplines, including engineering, medicine, biology, and the natural sciences, will drive most of the great advances of the 21st century

Students Socrates Munoz and Marcela, both of Mexican descent, are researchers advancing their studies at USC.

En diversas ocasiones he tenido la oportunidad de compartir mi opinión acerca del potencial que tiene la ciudad de Los Ángeles para ser líder de la industria de biotecnología en el estado de California y en el resto del país, ya que cuenta con todos los elementos necesarios para lograrlo.

En primer lugar, cuenta con importantes instituciones educativas y egresados especializados en ciencias biológicas (más de cinco mil); y en segundo, porque ya se ha echado a andar un plan de trabajo conjunto entre las autoridades gubernamentales, las instituciones académicas y la industria locales.

El dinámico crecimiento de la industria de la biotecnología, que abarca un amplio campo de acción en disciplinas como la ingeniería, la medicina, la biología y otras ciencias naturales, impulsará la mayoría de los grandes avances del siglo 21, particularmente aquellos enfocados a mejorar la salud mediante la investigación y el desarrollo de nuevos tratamientos médicos, que ayudarán tanto a elevar la calidad de vida de las personas, como a salvar más vidas. Estoy convencido de que Los

In recent years, I have spoken more and more about the potential for Los Angeles to become a biotechnology leader—both in California and nationally. In fact, most of the elements to bring this vision to fruition are already in place.

The rapid growth of the biotechnology industry, which encompasses a broad field of disciplines, including engineering, medicine, biology, and the natural sciences, will drive most of the great advances of the 21st century, particularly those focused on enhancing life and increasing life expectancy. I am convinced that Los Angeles can become an undisputed leader in this promising future.

Los Angeles boasts several leading research universities that graduate approximately 5,000 biotechnology specialists every year. But we lose the majority of them to San Francisco or San Diego, which already have well-established biotechnology ecosystems. To reverse this trend, we have worked with Los Angeles County officials to draw up an action plan to engage academia, private industry, and the public sector.

Ángeles puede ser no sólo un actor importante, sino el líder indiscutible de este futuro tan prometedor.

Por eso, es fundamental seguir impulsando la formación e investigación de especialistas de primer nivel en biotecnología y ofrecerles oportunidades de desarrollo y condiciones laborales suficientemente atractivas para que se queden a trabajar dentro de nuestra comunidad, en lugar de que se vayan a trabajar a San Francisco o San Diego, por ejemplo.

Para frenar esta migración de talento, será indispensable implementar un plan para atraer inversionistas dispuestos a inyectar capital y así fomentar el desarrollo de un sólido ecosistema en biotecnología en nuestra ciudad.

Respaldada por una importante trayectoria e inversión en el área de ciencias biológicas, la Universidad del Sur de California ha trabajado ya en el diseño de un plan de trabajo que permita el establecimiento de una pujante industria de la biotecnología en Los Ángeles.

Las contribuciones de la USC han empezado a dar sus primeros frutos al poner en marcha la etapa inicial de planificación para la construcción de un parque de biotecnología junto al campus de Ciencias de la Salud de USC en Boyle Heights.

Estas instalaciones atraerán a la comunidad médica y científica, a emprendedores en biotecnología y a compañías farmacéuticas ya establecidas. Asimismo, su cercanía estimulará la colaboración conjunta en investigación y desarrollo, ya que el parque se constituirá en la fuente generadora de infraestructura requerida en biotecnología.

Además, con las inversiones que la Universidad del Sur de California ha realizado en ciencias biológicas, la institución educativa tiene ahora los recursos necesarios para consolidar el proyecto y cuenta con el respaldo de una red establecida de compañías farmacéuticas que desean trabajar de manera más estrecha con la universidad.

Las proyecciones que ha hecho la USC muestran el enorme potencial económico que el parque biotecnológico tendría para la comunidad del condado de Los Ángeles y del distrito de Boyle Heights: se podrán crear hasta 3,000 nuevos empleos en la rama de la construcción y cerca de 4,000 nuevos puestos de trabajo permanentes, desde niveles básicos hasta posiciones para empleados con doctorado.

Esto hará posible que existan oportunidades de empleo mejor pagadas para los residentes del condado, no sólo para aquellos especializados en biotecnología, sino también para quienes trabajen en importantes áreas de servicio como ventas, mercadotecnia, administración y logística, entre otros.

Dentro del proyecto se contempla además la formación continua tanto de los empleados del parque como de egresados universitarios y de high-school de la comunidad, estimulando su integración a la industria de la biotecnología.

Actualmente, la USC se encuentra en negociaciones con las autoridades correspondientes, quienes sin duda ven con beneplácito el enorme potencial del proyecto, para asegurar en intercambio el terreno que le permitirá construirlo junto a las instalaciones ya existentes en Boyle Heights, sin necesidad de utilizar fondos públicos.

Una vez resuelto este paso, se podrá avanzar a la siguiente etapa que permitirá alcanzar el resultado final esperado: establecer un parque biotecnológico competitivo en Los Ángeles para despuntar como líder en la industria.

Leveraging our strengths in this emerging scientific field, USC can play a leadership role. Moving forward, we plan to kick-start the development of Los Angeles' biotechnology ecosystem with the construction of a biotechnology park adjacent to our Health Sciences Campus in Boyle Heights.

This facility will appeal to the medical and scientific community, as well as to the business community, including biotechnology start-ups and established pharmaceutical companies. The park's proximity to USC's first class medical science facilities will create a fully resourced ecosystem, which can stimulate joint collaboration in research and development.

Furthermore, with the investments that USC has made in the biological and medical sciences, we not only have the necessary resources, but also the trust of an established network of partners who are ready to work with us to see this plan through to fruition.

Our projections show the enormous economic potential that the biotechnology park holds for Los Angeles and for Boyle Heights in particular: up to 3,000 jobs during construction and nearly 4,000 new permanent jobs once the facility opens—encompassing entry-level personnel to PhDs. Training will be provided to high school and community college graduates to help them gain the necessary skills to build their careers.

Currently, USC is in negotiations with the relevant authorities to swap comparable plots of land in order to build the park immediately adjacent to our Health Sciences Campus. All of the leaders with whom I have discussed this welcome the enormous potential of the project, particularly given the opportunity to create thousands of jobs without any investment of public funds.

Once the land swap is secured, it will be possible to proceed to the next phase: building the facility and establishing a competitive biotechnology ecosystem in Los Angeles that will allow our city to stake its claim as a new leader in this growth industry.

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