DATE: April 9, 2019

TO: City Clerk

FROM: Peter Svarzbein Representative of District 1

ADDRESS: 8001 N. Mesa E-118 TELEPHONE 915-212-0001

Please place the following item on the (Check one): CONSENT XXX REGULAR

Agenda for the Council Meeting of April 16, 2019

Item should read as follows: Appointment of Ernesto Villanueva Jr. to the Citizen's Advisory Committee for the Board of the Mass Transit Department By Representative Peter Svarzbein District 1

BOARD COMMITTEE/COMMISSION APPOINTMENT/REAPPOINTMENT FORM

NAME OF BOARD/COMMITTEE/COMMISSION: Citizen's Advisory Committee for the Board of the Mass Transit Department

NOMINATED BY: Peter Svarzbein DISTRICT: 1

NAME OF APPOINTEE Ernesto Villanueva Jr.
(Please verify correct spelling of name)

E-MAIL ADDRESS:

BUSINESS ADDRESS:

CITY: El Paso ST: TX ZIP: 79930 PHONE:

HOME ADDRESS:

CITY: ST: ZIP: PHONE:

DOES THE PROPOSED APPOINTEE HAVE A RELATIVE WORKING FOR THE CITY? **YES:** **NO** X
IF SO, PLEASE PROVIDE HIS OR HER NAME, CITY POSITION AND RELATIONSHIP TO THE PROPOSED APPOINTEE:
HAS APPOINTEE BEEN A MEMBER OF OTHER CITY BOARDS/COMMISSIONS/COMMITTES? IF SO, PLEASE PROVIDE NAMES AND DATES:
LIST ALL REAL ESTATE OWNED BY APPOINTEE IN EL PASO COUNTY (BY ADDRESS):
N/A

WHO WAS THE LAST PERSON TO HAVE HELD THIS POSITION BEFORE IT BECAME VACANT?
NAME OF INCUMBENT: Lee Willmott

EXPIRATION DATE OF INCUMBENT: 11-01-2019

REASON PERSON IS NO LONGER IN OFFICE (CHECK ONE): TERM EXPIRED:
RESIGNED
REMOVED

DATE OF APPOINTMENT: 04-16-2019

TERM BEGINS ON : 04-16-2019

EXPIRATION DATE OF NEW APPOINTEE: 11-01-2019

PLEASE CHECK ONE OF THE FOLLOWING: 1st TERM:

2nd TERM:

UNEXPIRED TERM: X

Ernesto Villanueva Jr.

El Paso, TX 79930

Objective:

My objective is to use my extensive lab experience and B.S. in Chemistry to become a first class educator or researcher for an organization that would allow me to grow and better myself, not only to benefit my employer, but for my students as well. Furthermore, I wish to use my training and experience to nurture a growing interest in STEM amongst young people today, particularly in the fields of Chemistry and Biology.

Education:

2002-2009: University of Texas at El Paso
Bachelor of Science in Chemistry
Minor in Biology
Graduated May 16, 2009

1997-2001: Roy J. Wasson High School Colorado Springs, CO
Attained High School Diploma
Graduated May 16, 2001

Experience:

11/05/2013-Present: Science Teacher at Canutillo High School: My role as a high school teacher entails the preparation of lessons and presenting curricula to 140 students in subjects ranging from Chemistry to Physics to Advanced Academic courses such as Pre-AP Chemistry. It is my role to design and present several interactive labs and projects to ensure the academic and life successes of all of my students; past, present and future. By disseminating data from formal and performance assessments; I have the task of adjusting and fine tuning day to day lessons to assure my students that my position is that of a teacher there to help them thrive. I perform daily calibrations and work ways to achieve best possible outcomes reassuring myself and my students that science is being learned and applied.

08/1/2011-11/04/2013: **Lab Manager/Technician III in The Center of Excellence in Neuroscience** at the **Paul L. Foster School of Medicine at Texas Tech University Health Science Center:** My work focuses on the activity, regulatory role and intra-cellular interactions with the protein α-Synuclein and Protein Phosphatase 2A in the pathologies of Parkinson's disease and associated neurological disorders. My work includes but not limited to *in vivo* and *in vitro* neurochemical assays, protein analysis, mammalian tissue collection and analysis, cell culture, animal work, protein analysis and microscopy to try and elucidate the normal role of α-syncuclein in dopaminergic cells. In addition my role as Lab Manger is to organize the lab, maintain inventory of all reagents and order necessary: reagents, instruments and software to keep the lab running as smoothly as possible. In addition, the responsibility of the Lab Manager is to keep all protocols up to date and perform any administrative needs or paper work to make sure our lab is compliant with university guidelines.

03/2010-11/20/2011: **Time Warner Cable Company: Technical Support**
My position was Technical Support representative for Time Warner Cable subscribers. Using my extensive experience with verbal communication skills and the ability to troubleshoot, I find the answer and deliver the solution to my customers. Scheduling appointments, navigating/multi-tasking difficult situations and scenarios, deescalating irate people and using intricate technical systems to resolve cable and internet related issues. I also worked with IT, assisting with the creation and troubleshooting of wireless networks and in home networking.

Professional and Academic Laboratory Experience:

08/2011-Present Lab Manager/Technician III in The Center of Excellence in Neuroscience at the **Paul L. Foster School of Medicine at Texas Tech University Health Science Center.** Our work consists of creating a successful mouse model of Parkinson's disease to better understand the pathologies of neurodegenerative diseases that afflict millions of people around the world. The specific goal is to better understand the role of α-Synuclein and Protein Phosphatase 2A and their regulatory responsibility in dopaminergic cell function. By working to create a successful mouse model we are working to develop treatments to help combat this debilitating disease.

Skills Utilized:

- Neurochemical colorimetric assays
- Western Blot and protein separation
- Immunoprecipation
- Animal/Mouse handling and injection administration
- Mouse Breeding and timed pregnancies
- Mouse examination and analysis of menstrual cycles
- Animal surgeries and tissue collection
- Cryosectioning of mammalian tissues
- Immunohistochemistry and Fluorescent Microscopy
- DNA Extraction and Genotyping via real time PCR
- Cell/Tissue Culture
- Ultra Violet Spectrophotometry
- Tissue homogenates and desalting

Instruments Utilized:

- LiCor Infrared Imager
- Evos Fluorescent Microscope
- Simon Protein Simple Automated Western Blot
- Shimatzu Ultra Violet Spectrophotometer
- Thermo Multi-Skan Spectrum plate reader
- Eppendorf Real Plex Realtim qPCR

06/2002-05/2009 University of Texas at El Paso, I have extensive lab experience working in **Organic Synthesis**, Chemical and **Environmental Analysis**, Soil Analysis, Bio-chemical labs and **Biotechnology** and **Genetic** Laboratories. I also have hundreds of hours in a **research** in a **data-gathering** and analytical environment.

Research and Experiment Design:

01/03-03/04 Organic Synthesis- I did research in collaboration with the Biology department at the University of Texas at El Paso Chemistry Department in Organic Synthesis specifically 2-substituted 1,4-naphthoquinone from 2-bromonaphthalene using the Heck coupling reaction to measure biological activities particularly the affects on cancer and tuberculosis cells.

Skills Utilized:

- Extensive use of Thin Layer Chromatography (TLC) and Column Chromatography
- The use of the Infrared Spectrophotometer
- Analysis with Proton Nuclear Magnetic Resonance (H+ NMR)

05/04-03/05 Soil Analysis Research and Experiment Design- The experiment was designed by my colleagues and I to execute and analytically determine the concentration of lead in the ground soil present in the greater El Paso area by means of the Flame Atomic Absorption Spectrophotometer (FAA). By digesting local soil samples with concentrated Nitric Acid, and oxidizing with Hydrogen Peroxide, samples were refluxed with Hydrochloric Acid and taken to the FAA to be tested for concentration of lead and possible environmental hazard to the community of El Paso. By discovering the amount of lead present and the locations with the highest concentration, it can be determined whether the lead that is present is due to population and human development or to industrial contamination.

Skills Utilized:

- The use of conversions, calculations and measurements
- Organic Chemistry's role in preparation such as sample digestion and refluxing
- Accurate gathering of samples, and precise sampling techniques such as quality control, quality assurance, and sample preparation when collecting samples
- The use of Microsoft Office, specifically Excel and Word
- The use of the Flame Atomic Absorption Spectrophotometer
- Preparation of analytical samples of different concentrations (molarities) for the calibration of the FAA

07/08-01/09 Research in Bioluminescent Bacteria and Heavy Metal Sensitivity in Biological Organisms: This research's key focus was to determine whether the presence of heavy metals such as mercury and lead can be detected in much smaller amounts in biological organism versus scientific instrumentation, specifically testing the ranges of the Fame Atomic Absorption Spectrophotometer (FAA) and determine if bacteria could yield more accurate testing for the presence of such toxins. By preparing samples with extremely small concentrations in 10^-7 to 10^-9 M and preparing standard concentrated solutions for the F.A.A. we can see which medium is more practical and more sensitive to the presence of mercury and lead

Skills Utilized:.

- Plating and culture of Bioluminescent bacteria
- Thin Layer Chromatography
- Sample preparation and calibration
- Measurements, conversions, calculations and concentrations

08/08-05/09 DNA replication and Gene Sequencing of *Trypanosoma cruzi* : By performing a genomic study on the parasite *Trypanosoma cruzi*, insight would be provided into the life cycle of the *T. cruzi* which in turn would provide the opportunity to closely analyze the protein sequence and enzyme presence in *T. infestus* and perhaps lead to a better system to combat this fatal disease. By learning and sequencing the DNA, we could provide valuable scientific data that can be aimed at creating better treatment and offering better diagnosis for Chaga's Disease, an asymptomatic disease that has begun to make it way to the United States of America.

Skills Utilized:

- Creating a library of DNA
- Plating and growing culture of bacteria to extract plasmid
- DNA Sequencing via a BLAST analysis
- Design Forward Primer
- Purification of PCR product
- Gel and Sample preparation
- DNA Replication and amplification
- Gel Electrophoresis
- Grant Writing

* *Lab Report and Grant available upon request*

Summary and Additional Knowledge

1. Organic synthesis and naphthoquinones in immunity response
2. Chemical analysis in ground soil of lead contamination
3. Bio-Chemical interactions and sensitivity of bio-luminescent bacteria and heavy metal contaminants.

I also have additional experience with the following laboratory equipment and procedures:

1. Flame Atomic Absorption Spectrophotometer
2. Mass Spectrometer
3. Infrared Spectroscopy
4. Nuclear Magnetic Resonance Spectroscopy
5. Biotechnology and electrophoresis
6. DNA Replication and amplification

I have knowledge of all Windows operating systems including: Office 2002-2007, XP, Vista, Windows 7-10 and Professional in Word, Excel, PowerPoint, Publisher, Access, and FrontPage. I am also literate in Apple Macs and Tiger OS and in TI-83 and TI-89 and have extensive experience with communication, presenting and public speaking.

Publications:

Farrell, K. et al. (2014) Non-motor parkinsonian pathology in aging A53T α-Synuclein mice is associated with progressive synucleinopathy and altered enzymatic function. Journal of Neurochemistry, 128(4), 536-546

Medrano, J.V. et al (2014) Novel FTY720-Based Compounds Stimulate Neurotrophin Expression and Phosphatase Activity in Dopaminergic Cells. ACS Med 5(7) 782-786

Enoru, J. O. et al. Preclinical Metabolism, Pharmacokinetics and *In Vivo* Analysis of New Blood-Brain-Barrier Penetrant Fingolimod Analogues: FTY720-C2 and FTY720-Mitoxy. PLOS One 11(9) e162-162

Honors, Activities and Additional Experience:

- Fully Certified by the Texas Alternative Certification Program and the state of Texas to teach Science Composite grades 7-12
- Certified by College Board to teach Advanced Placement Chemistry
- From January 14 through May 14, 2011 I managed my own campaign to represent District # 8 on the City Council of El Paso. In a field of seven, I came in second.
  - Responsible for my campaign staff and dozens of volunteers
  - Organizing and preparing functions and opportunities to actively campaign
  - Separating and organizing voter data to prepare walking lists for myself
  - Designing and preparation of campaign signs and literature
  - Publicly speaking at dozens of large events and participating in political debates
- Served in **City of El Paso Streetcar Task Force** and advisory board
  - Serve on the Board of Directors with other city officials and City Council representatives
  - Working toward the implementation of streetcar system in the City of El Paso
  - Reviewing countless studies and collaborating on new designs
  - Presenting to elected officials proposals on streetcar plans
- Served on the **Historic Landmark Commission** for the City of El Paso
  - Review and vote on city projects in keeping with historical preservation in the City of El Paso
  - Study and evaluate Historical properties in and around the City of El Paso
  - Make recommendations to City officials on Historical designation of a given property
  - Review and vote on residential improvements in Historical Neighborhoods
  - Review and vote on zoning recommendation in area with a Historic overlay
- Served on the **Board of Directors** in the **Paso del Norte Streetcar Preservation Society**
  - Worked as an active lobbyist on behalf of the organization to elected officials in the City of El Paso
  - Worked as a liaison for the organization and for city government
  - Primary function was to preserve and reinstate the fleet of streetcars in the care of the City of El Paso

- Lab Safety Certification 08/2011 Texas Tech University Health Science Center
- Lab Animal Certification LARC 08/2011 Texas Tech University Health Science Center
- Award of Excellence from Time Warner Cable for consistently finishing in the top 5 performers in the El Paso Center 4th Quarter of FY 2010
- Award of Excellence from Time Warner Cable for consistently finishing in the top 5 performers in the El Paso Center 1st Quarter of FY 2011
- Completed 90 Pre-Service hours in the Texas Alternative Certification Program
- Community Outreach serving as "Paydirt Pete," the official mascot of my Alma mater The University of Texas at El Paso, 2006-2009.
- Community Service of Educational Outreach: Chemistry Circus from the Department of Chemistry at the University of Texas at El Paso
- Top Teacher Honor in 8/2005 at Insights Science Museum

References: Available upon Request