Carlos Alejandro Peña Varas

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RESEARCH ASSISTANT

Computational Biophysics, Bioinformatics and Drug Design Lab
Facultad de Ciencias de la Salud - Instituto de Ciencias Biomédicas
Universidad Autónoma de Chile,
Llano Subercaseaux 2801 – piso 6, San Miguel, Santiago - Chile.

FORMATION:

2017: B. Bioinformatics engineer. Universidad de Talca, Chile. Advisor: Dr, Wendy González.

SKILLS AND ABILITIES:

- **ENGLISH:** Advanced
- **OPERATING SYSTEMS:** Windows, Linux.
- **PROGRAMMING:** C, Java, Tcl, Python, Perl, Bioperl, HTML, KNIME.
- **BIOINFORMATION TOOLS:** VMD, AMBER, NAMD, Schrodinger-Maestro, Gaussian, Autodock Vina.
- **MOLECULAR BIOLOGY:** Genomic DNA extraction, PCR, electrophoresis.
- **DATABASES:** MySQ

EXPERIENCE:

PRACTICING| INSTITUTO DE CIENCIAS BIOLÓGICAS, UNIVERSIDAD DE TALCA | ENERO - MARZO 2014. Analysis of genetic diversity through experimental biotechnological techniques such as extraction of genomic DNA, use of molecular markers, electrophoresis and PCR.

RESEARCH ASSISTANT | CENTRO DE BIOINFORMÁTICA Y SIMULACIÓN MOLECULAR (CBSM), UNIVERSIDAD DE TALCA | MAYO 2018 – NOVEMBER 2018. Construction and analysis of molecular models of potassium channels and their interactions with new drugs.

RESEARCH ASSISTANT | COMPUTATIONAL BIOPHYSICS, BIOINFORMATICS AND DRUG DESIGN LAB, FACULTAD DE CIENCIAS DE LA SALUD, INSTITUTO DE CIENCIAS BIOMÉDICAS, UNIVERSIDAD AUTÓNOMA DE CHILE, SANTIAGO | MARCH 2019 – TO DATE

CONGRESSES:

IDENTIFICATION SOFTWARE OF POCKETS OF PROTEIN STRUCTURES IMPLEMENTED IN VMD | CARLOS PEÑA, JOSÉ GAETE, FELIPE VALENZUELA, JOSÉ GÓMEZ. | POSTER, WORKSHOP DE BIOINFORMÁTICA, JORNADAS CHILENAS DE LA COMPUTACIÓN, 2011, CURICÓ, CHILE.

Π-SULFUR INTERACTIONS GUIDE A1899 TO THE BINDING SITE IN TASK-1 POTASSIUM CHANNELS | CARLOS PEÑA, DAVID RAMÍREZ, WENDY GONZÁLEZ. | PRESENTADOR, THIRD PROTEIN BIOPHYSICS AT THE END OF THE WORLD. ABRIL 2018, SANTIAGO, CHILE. | POSTER, XLI REUNIÓN ANUAL SOCIEDAD DE BIOQUÍMICA Y BIOLOGÍA MOLECULAR DE CHILE. SEPTIEMBRE 2018, IQUIQUE, CHILE.

ANTIMICROBIAL MECHANISM OF IONIC LIQUIDS DERIVED FROM IMIDAZOLIUM CATION WITH PHENOLIC FUNCTIONALIZATION | LUIS GUZMÁAN, CRISTÓBAL PARRA-CID, ETIENNETTE GUERRERO-MUÑOZ, CARLOS PEÑA-VARAS, EFRAÍN POLO-CUADRADO, YORLEY DUARTE, RICARDO I. CASTRO, LUZ STELLA NERIO, RAMIRO ARAYA-MATURANA, TEWODROS ASSEFA, JAVIER ECHEVERRÍA, DAVID RAMÍREZ, OSCAR FORERO-DORIA | POSTER, iCBSM2019, TALCA, 2019 | POSTER, LATINXCHEM, 2020 | POSTER, VINCULATE, UNIVERSIDAD AUTÓNOMA DE CHILE 2020

MOLECULAR SIMULATION OF CHEMOKINE (IL-8) DERIVED ANTIMICROBIAL MEMBRANE FORMING PEPTIDES | CARLOS PEÑA, DAVID, RAMÍREZ, PAULA SANTANA | POSTER, LATINXCHEM, 2020 | POSTER, VINCULATE, UNIVERSIDAD AUTÓNOMA DE CHILE 2020

HUNTING MOLECULAR TARGETS NEW CHALLENGES IN MULTITARGET DRUG DESIGN | TABATA BARBOSA, JONATHAN HURTADO, CARLOS PEÑA-VARAS, MELISSA ALEGRÍA, GERMÁN COMBARIZA, JANNETH GONZÁLEZ, DAVID RAMÍREZ | EUROPIN SUMMER SCHOOL ON DRUG DESIGN – VIENNA 2021

IDENTIFYING KEY RESIDUES FOR SUBSTRATE SPECIFY AND TRANSPORT MECHANISM ON GTRS THOUGHT FAST DYNAMIC DOCKING GUIDED BY ADAPTIVE ELECTROSTATIC BIAS | CARLOS PEÑA-VARAS, CHRISTA KANSTRUP, OSMAN MIRZA, INGO DREYER, HUSSAM NOUR-ELDIN, DAVID RAMÍREZ | EUROPIN SUMMER SCHOOL ON DRUG DESIGN – VIENNA 2021

REFERRED JOURNAL ARTICLES

1. Gallego-Yerga, L., Ochoa, R., Lans, I., Peña-Varas, C., Alegría-Arcos, M., Cossio, P., Ramírez, D., & Peláez, R. (2021). Application of ensemble pharmacophore-based virtual screening to the discovery of novel antimitotic tubulin inhibitors. *Computational and Structural Biotechnology Journal*, *19*, 4360–4372. https://doi.org/10.1016/j.csbj.2021.07.039
2. Guzmán, L., Parra-Cid, C., Guerrero-Muñoz, E., Peña-Varas, C., Polo-Cuadrado, E., Duarte, Y., Castro, R. I., Nerio, L. S., Araya-Maturana, R., Assefa, T., Echeverría, J., Ramírez, D., & Forero-Doria, O. (2021). Antimicrobial properties of novel ionic liquids derived from imidazolium cation with phenolic functional groups. *Bioorganic Chemistry*, *115*(August). https://doi.org/10.1016/j.bioorg.2021.105289
3. Pérez-Reytor, D., Pavón, A., Lopez-Joven, C., Ramírez-Araya, S., Peña-Varas, C., Plaza, N., Alegría-Arcos, M., Corsini, G., Jaña, V., Pavez, L., del Pozo, T., Bastías, R., Blondel, C. J., Ramírez, D., & García, K. (2020). Analysis of the Zonula occludens Toxin Found in the Genome of the Chilean Non-toxigenic Vibrio parahaemolyticus Strain PMC53.7. *Frontiers in Cellular and Infection Microbiology*, *10*(September), 1–13. https://doi.org/10.3389/fcimb.2020.00482
4. Valdés-Jiménez, A., Peña-Varas, C., Borrego-Muñoz, P., Arrue, L., Alegría-Arcos, M., Nour-Eldin, H., Dreyer, I., Nuñez-Vivanco, G., & Ramírez, D. (2021). Psc-db: A structured and searchable 3d-database for plant secondary compounds. *Molecules*, *26*(4), 1–10. https://doi.org/10.3390/molecules26041124 (Gallego-Yerga et al., 2021; Guzmán et al., 2021; Pérez-Reytor et al., 2020; Valdés-Jiménez et al., 2021)