CURRICULUM VITAE

Jenifer Alejandra Parra Reyes

PERSONAL PROFILE

Age: 23

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Nationality: Mexican Gender: Female

EDUCATION

BSc: Biomedical Physics

Faculty of Science, Universidad Nacional Autónoma de México.

GPA: 8.94/10

Title of the project for my professional practice: “Research on the electrical properties of different cell types in the hippocampus.”

Advisor: Dr. Erin C. Mckiernan

Relevant courses: Physics of the Human Body, Biological Physics, Biomedical instrumentation, Dynamical systems of physiology, Electrophisiology, Biomathematics, Pathophysiology of Neural Hyperexcitability.

Currently, MSc: Neurobiology

Institute of neurobiology, Universidad Nacional Autónoma de México.

Expected graduation: 2022

Thesis title: “*Participation of the striatonigral pathway in walking and movement.”*

Advisor: Dr. Luis A. Tellez

Relevant courses: Neurobiology, Introduction to the Somatosensory System, Basic Principles of Electrophysiology.

PROFESSIONAL CAPABILITIES

- Knowledge of physics, mathematics and biology.
- interdisciplinary training.
- Good level of programming and data analysis.

- Quick learning.
- Self-taught.
- Elaboration and development of projects.
- Construction of medical equipment and instruments for medical and experimental applications.
- Ability for teamwork and problem solving.
- Capacity for observation, analysis, synthesis and critical reflection.

ADDITIONAL SKILLS

Languages: Native Spanish and English: B2.
Computational languages: Python and basic knowledge of Julia, Matlab and C language.
Software & Tools: GNU/Linux, LibreOffice, Microsoft Office, LaTeX, GIMP, Krita, Jupyter Notebook and basic R.

PROFESSIONAL EXPERIENCE (TEACHING)

Teaching Assistant, Faculty of Science, Universidad Nacional Autónoma de México (UNAM), semester 2018-2, “Physics of the human body”

- Graded exam papers, homework and essays for class
- Tutor students and assisted with assignments and concepts
- Organized and distributed learning resources
- Monitored students during exams
- Performed academic tutoring
- Supported the main teacher preparing and giving classes: “Physics of the senses”, “Biomaterials” and “Biological fluids”

Teaching Assistant, Faculty of Science, Universidad Nacional Autónoma de México (UNAM), semester 2019-2, in the biology degree, subject "Physics".

- Organized and distributed learning resources
- Monitored students during exams
- Performed academic tutoring
- Supported the main teacher preparing and giving a class about the nervous system

Professor of subject A, laboratory professor, Faculty of Sciences, Universidad Nacional Autónoma de México (UNAM), semester 2019-1, in the biomedical physics degree, subject "Methodology of experimental physics".

- Prepare and develop an experimental project.
- Prepare and teach theoretical classes on the phenomenon to be studied.

- Prepare practices.
- Coordinate, supervise and answer questions to students during the development of the
  projects.

Professor of subject A, Faculty of Sciences, National Autonomous University of Mexico (UNAM), semester 2019-1, in the biomedical physics degree, optional subject "Pathophysiology of Neural Hyperexcitability".

Professor of subject A, Faculty of Sciences, National Autonomous University of Mexico (UNAM), semester 2019-2, in the biomedical physics degree, subject "Physics of the Human Body".

PUBLICATIONS

- Publication of Abstract and presentation of the project “Development and validation of a biophysical mathematical model for studying aging in three types of hippocampal neuron” in the Gulf Coast Undergraduate Research Symposium, 2018.
- Publication as second author of the laboratory protocol with the title of “Protocol for obtaining rodent brain slices for electrophysiological recordings or neuroanatomical studies.”, On the electronic platform protocols.io, 2019.

PARTICIPATION IN ACADEMIC EVENTS

- Oral presentation during the 1st Congress of Biomedical Physics under the title of "Behavior of water as a function of pressure.", December 2014.
- Oral Presentation during the 2nd Congress of Biomedical Physics under the title of "Acoustic propagation in fluids and solids.", June 2015.
- Poster presentation during the 3rd Congress of Biomedical Physics under the title of "Construction and calibration of breathalyzer.", December 2015.
- Presentation of posters during the 4th Congress of Biomedical Physics under the titles "Development and construction of an answer box for Functional Magnetic Resonance." and “Cellular automata: Macrophage vs virus simulation.”, June 2016.
- Poster and project presentation during the 7th Congress of Biomedical Physics under the title of "Pulse Oximeter." January 2018.
- Attended the Pre-meeting workshop on Computational neuroscience at the III Neurobiology Meeting of the Mexican Society for Biochemestry. September 2019.
- Poster presentation during the III Neurobiology Meeting of the Mexican Society for Biochemestry, under the title of “Development and validation of a biophysical mathematical model for studying aging in three types of hippocampal neuron”. September 2019.

PROJECTS

- “Development and construction of an answer box for Functional Magnetic Resonance.”, Carried out during the fourth semester (2016) in the subject of Preparation and Development of Experimental Projects, under the advice of Dr. Oscar René Marrufo Meléndez and Dr. Sergio Enrique Solís Nájera.
- “Construction and calibration of the breathalyzer.”, Carried out during the third semester (2015) in the Instrumentation and calibration course, under the guidance of Villarreal López Alejandro.
- “Design, manufacture and calibration of an innovative pulse oximeter prototype”, carried out during the seventh semester (2018) in the subject of Biomedical Instrumentation.
- Social Service and supervised professional practice in the area of research, “Research on the electrical properties of different types of cells in the hippocampus” (2018), under the advice of Dr. Erin Mckiernan.

INTERESTS

In research study and understand the participation of areas of the brain in the development of different behaviors, mainly the role of the circuits of the basal ganglia in tasks related to reward and motivated behaviors. Another of my interests is the modeling of dynamic systems making use of their biophysical properties. As well as the activity of excitable cells and ion channels. And finally, physics and mathematics for the study of neurobiological systems.

And two of my greatest interests and passions is the teaching and divulgation of science. I believe that sharing knowledge and science with everyone is essential for the development of a society.

ADDITIONAL ACTIVITIES

- Speaker at the University Conference on Vocational Guidance, March 2015, March 2016.
- Exhibitor in “Al encuentro de mañana”,, October 2014, October 2015, October 2018
- Synodal in presentation of professional practice, supported by Carol Molina Martínez under the title of "Investigation of neuronal excitability using hyperpolarizing pulses" at the Faculty of Sciences, UNAM to obtain the title of Biomedical Physics.