JAVIER DE LUCAS ROMERO, PH.D.

Curriculum vitae

Washington University in St. Louis Email: delucas@wustl.edu

Education

- 2018 – 2022: PhD in Cellular Signaling: "**Characterization and functional study of spontaneously active neurons in the dorsal horn of the spinal cord**". University of Alcalá. "Cum Laude" distinction and candidate to Extraordinary award.

- 2016 - 2018: MSc in Neuroscience. Autonomous University of Madrid.

- 2012 - 2016: Bachelor's Degree in Health Biology. University of Alcalá.

- 2023 – in progress: Bachelor's Degree in Computer Engineering. Open University of Catalonia.

Grants and research work

- 03/05/2018 – 06/11/2018: **Predoctoral contract of research staff in formation**. University of Alcalá.

- 11/01/2017 - 12/15/2017: **Project associate research scholarship**: "Analysis of spontaneous activity in sensorial and motor areas and its modulation by somatostatin". Neurobiology of pain lab. University of Alcalá.

- 11/01/2016 - 10/31/2017: **Scholarship for the promotion of research in Master studies**, Autonomous University of Madrid.

- 01/01/2016 - 07/29/2016: **Collaboration grant in departments**, Ministerio de Educación. "Analysis of spontaneous firing patterns in superficial dorsal horn neurons. Extracellular multielectrode reocrdings." University of Alcalá.

- 01/01/2015 - 07/24/2015: **Research introduction scholarship** University of Alcalá. Neurobiology of pain lab. Participation on the project "Effects of Cav2.2 blockers on spinal nociceptive transmission".

Involvement in research projects

- Title: Synchronous activity in spinal neurons and presynaptic inhibition: implications for chronic pain.
    - Reference: PID2021-126330OB-I00
    - Funding entity: MINISTERIO DE CIENCIA E INNOVACION
    - Duration: 09/01/2022 – 08/31/2025
    - Institution: University of Alcalá
    - Quantity: 117370 €
    - Role: Member of the working team

- Title: Functional connectivity analysis tools in spinal cord neurons: Application to the study of anesthesia-induced neurodegeneration.
    - Reference: PIUAH21/CCS-039
    - Funding entity: University of Alcalá
    - Duration: 12/01/2021 – 11/30/2022
    - Institution: University of Alcalá
    - Quantity: 10500 €
    - Role: Member of the working team

- Title: Testing of SAN711/NS16111.0004 in studies of effect on spinal cord neural transmission with relevance for pain transmission.
    - Reference: 64/2021
    - Funding entity: SANIONA A/S
    - Duration: 05/11/2021 – 06/30/2021
    - Institution: University of Alcalá
    - Quantity: 10350 €
    - Role: Member of the working team

- Title: Resonance in nociceptive neurons located in the superficial laminae of the spinal cord.
    - Reference: CCG2018/BIO-028
    - Funding entity: University of Alcalá
    - Duration: 12/20/2018 – 12/19/2019
    - Institution: University of Alcalá
    - Quantity: 3000 €
    - Role: Member of the working team

- Title: Central and peripheral mechanisms of chronic pain.
    - Reference: SAF2016-77585-R
    - Funding entity: MINECO
    - Duration: 12/30/2016 – 12/29/2019
    - Institution: University of Alcalá
    - Quantity: 108900 €
    - Role: Member of the working team

- Title: Effects of Cav2.2 blockers on spinal nociceptive transmission.
    - Reference: 120/2014

- Funding entity: LUNDBECK
- Duration: 12/01/2014 – 03/31/2015
- Institution: University of Alcalá
- Quantity: 52000 €
- Role: Member of the working team

Publications

- Javier Lucas-Romero; Iván Rivera-Arconada; Carolina Roza; José Antonio López-García. Origin and classification of spontaneous discharges in mouse superficial dorsal horn neurons. **Scientific Reports**. 2018;8:9735. doi:10.1038/s41598-018-27993-y.

- Pedro Pozo-Jimenez; Javier Lucas-Romero; José Antonio López-García. Discovering Effective Connectivity in Neural Circuits: Analysis Based on Machine Learning Methodology. **Frontiers in Neuroinformatics**. 2021;15:561012. doi:10.3389/fninf.2021.561012.

- Javier Lucas-Romero; Iván Rivera-Arconada; José Antonio López-García. Synchronous firing of dorsal horn neurons at the origin of dorsal root reflexes in naïve and paw-inflamed mice. **Frontiers in Cellular Neuroscience**. 2022;23;16:1004956. doi:10.3389/fncel.2022.1004956

Symposiums and meetings

- Javier Lucas-Romero; Iván Rivera-Arconada; Jose Antonio Lopez-Garcia. Analysis of effective connectivity between dorsal horn neurons and primary afferents from adult mice. **FENS Forum 2022**. 2022. Paris, France.

- Iván Rivera-Arconada; Javier Lucas-Romero; Marcos Marvá; Jose Antonio Lopez-Garcia. Role of hyperpolarization activated currents in the resonance behavior of superficial dorsal horn neurons. **FENS Forum 2022**. 2022. Paris, France.

- Javier Lucas-Romero; José Antonio López-García. Spinal cord circuits modulating primary afferent depolarization and backfiring. **International Workshop on Chronic Pain & Itch: Mechanisms and Circuits**. 2021. San Juan de Alicante, Spain.

- Javier Lucas-Romero; Ivan Rivera-Arconada; José Antonio López-García. Primary afferent depolarization and backfiring in putative nociceptive afferents. **18th National Meeting of the Spanish Society of Neuroscience**. 2019. Santiago de Compostela, Spain.

- Attendee at **13th Annual Canadian Neuroscience Meeting**. Canadian Association of Neuroscience. 2019. Toronto, Canada.

- Jorge Vicente-Baz; José Antonio López-García; Javier Lucas-Romero; Iván Rivera-Arconada. NSAIDs diclofenac and celecoxib depress spinal nociceptive transmission in

vitro acting on Kv7 channels. **11th FENS Forum of Neuroscience**. 2018. Berlin, Germany.

- Iván Rivera-Arconada; Javier Lucas-Romero; José Antonio López-García. Role of intrinsic currents in the generation of spontaneous activity in the superficial dorsal horn. **11th FENS Forum of Neuroscience**. 2018. Berlin, Germany.

- Javier Lucas-Romero, José Antonio López-García. Actividad espontánea en el asta dorsal de la médula espinal y sus mecanismos subyacentes. Actas del III **Congreso de Señalización Celular, SECUAH 2018**. 2018-03-21. University of Alcalá. Alcalá de Henares, Madrid. Spain. Dianas 7 (1): e201803b31. ISSN 1886-8746 journal.dianas.e201803b31. URL http://hdl.handle.net/10017/15181

- 21/10/2016: Attendee at **Simposio Cajal 2016** "Neurogénesis Postnatal en Humanos". Real Academia Nacional de Medicina. Madrid, Spain.

Research stays

- Research stay at the University of Glasgow under the supervision of **Dr. David I. Hughes**. Learning of patch clamp recording technique in spinal cord slices. 2 months. 2021. Glasgow, Scotland.

- Research stay at the Hospital for Sick Children under the supervision of **Dr. Steven A. Prescott**. Learning of spike sorting, optogenetics and patch clamp in cultured cells techniques. 2 months. 2019. Toronto, Canada.

Courses and other activities

- **Course for the handling of laboratory animals**. 80 hours. Autonomous University of Madrid.
- **Matlab and octave for engineers and scientists**. 56 hours. Technical University of Madrid.
- **Introduction to Arduino Programming**. 12 hours. Institut Mines-Télécom.
- **Introductory course of Computational Neuroscience**. 8 hours. Bernstein Center for Computational Neuroscience, Berlin.
- **Professional skills for research leaders**. 15 hours. University of Alcalá.
- **Participant of the Teaching innovation group at University of Alcalá**. 2018-2022

Teaching and mentoring

- In Health Biology Bachelor's Degree (University of Alcalá):
    - Physiology: 48 hours
    - Methods in Physiology: 56 hours
    - Neurobiology: 36 hours

- In Medicine Bachelor's Degree (University of Alcalá):
    - Physiology: 32 hours

- In Neuroscience Master's Degree (Autonomous University of Madrid):
    - Neurobiology of pain: 6 hours

- Co-supervision of the final Bachelor's degree project presented by Alejandro Hernández Seco. "Influence of dopaminergic system upon dorsal horn neurons presenting spontaneous activity". 2022. University of Alcalá

Languages

- English
- Spanish