# ALBA V. LEDESMA

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**Position:** Postdoctoral researcher at the University of California Davis. Department of Animal Science. Faculty sponsor: Alison Van Eenennaam.

# Education

* PhD in Agronomy Sciences, National University of Mar del Plata, Argentina, 2018
* MS in Animal Production, National University of Mar del Plata, Argentina, 2012
* Veterinarian, National University of Central Buenos Aires, Argentina, 2008

# Main scholarships

* Postdoctoral scholarship. National Scientific and Technical Research Council (CONICET), Argentina. 2018-2020.
* Postgraduate scholarship. National Scientific and Technical Research Council (CONICET), Argentina. Research topic: Qualitative improvement of ram cryopreserved sperm with seminal plasma proteins obtained by artificial vagina and electroejaculation. 2013-2017.
* Postgraduate scholarship: National University of Mar del Plata, Argentina. Research topic: Effect of seminal plasma on post-thaw quality and functionality of ram sperm obtained by electroejaculation and artificial vagina. 2011-2013.
* Postgraduate scholarship: Research Commission. Research topic: Proteomic study of seminal plasma. 2010-2011.

# Awards

* Next Gen Leadership Award, Advances in Genome Biology and Technology (AGBT).
* Argentinian-Brazilian Center of Biotechnology (CABBIO) travel award for capacitation course “Biotechnology applied to cattle reproduction”, Londrina, Brazil.
* Travel award for capacitation course “Frontiers in Reproduction”, Marine Biological Laboratory, Woods Hole, Massachusetts, United States.
* Awarded with a research scholarship from BECAR-Universidad.ES Program. Argentina-Spain.
* Travel award Student Mobility Program AUGM, Argentina-Uruguay.
* Travel awarded Pablo Neruda program for international seminar at the Institute of Animal Science, Cuba.

# Grants

* Grant Principal Investigator PICT 2018-3910 “Recombinant TrxAFNIIx4his6 to improve fertilization potential of cryopreserved ram sperm” MinCyT, FONCyT, Agencia Nacional de Promoción Científica y Tecnológica, Argentina. 2018-2020.

# International Internships

* Veterinary and Animal Sciences, Amherst, University of Massachusetts, EEUU (2019)
* Institute of Animal Health and Livestock Development, University of León, Spain (2015).
* Laboratory of Biochemistry and Molecular and Cell Biology, School of Veterinary Medicine, University of Zaragoza, Spain (2015).
* Laboratory of Animal Reproduction, Faculty of veterinarian medicine, Paysandú, Uruguay (2014).

**Leadership and service experience**

* Volunteer in the conference organizing committee of the 43º Reunion de la Asociacion Argentina de Produccion Animal (A.A.P.A). October 16-19, 2018. Mar del Plata, Argentina.
* Speaker and organizer of the event “Week of Science Bienal DCA 21 Century”. September, 21st, 2016. Mar del Plata, Argentina.
* Training and mentoring of newer laboratory members in the Reproduction Lab at Instituto Nacional de Tecnología Agropecuaria (INTA), Balcarce, Argentina.
* Organizer and speaker of motivation talks to alumni of different stages of education (primary schools, university), Argentina.
* Design of a study guide for the undergraduate course “Animal Anatomy and Physiology”. Faculty of Agronomy Sciences, National University of Mar del Plata, Argentina.

**Conferences**

2016. **Ledesma A**, Fernandez-Alegre E, Cesari A, Hozbor F, Martinez-Pastor F. “Interacting Seminal Plasma Proteins Revert Capacitation in Ram Sperm”. Proceedings of the 20th Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR) and the 13th Conference of the Spanish Association for Animal Reproduction (AERA), Lisbon, Portugal 27–29 October 2016. 51: 111.

2014. **Ledesma A,** Cesari A, Gil J, Hozbor F. “Efecto del método de colecta seminal sobre la composición proteica del plasma seminal ovino”. Proceedings of 4º Jornadas Internacionales del Instituto de Investigación y Tecnología en Reproducción Animal-INITRA, Buenos Aires, Argentina, 2014. 16: 163.

2012. **Ledesma A,** Manes J, Ríos G, Hozbor F, Cesari A, Alberio R. “El método de colecta de semen afecta la composición del plasma seminal en carneros”. Proceedings of 3º Jornadas Internacionales del Instituto de Investigación y Tecnología en Reproducción Animal-INITRA, Buenos Aires, Argentina, 2012. 14: 285.

2012. **Ledesma A**, Manes J, Hozbor, Ríos G, Aller J, Alberio R. “Capacitation status and fertilization ability of thawed ram sperm obtained with artificial vagina (AV) and electroejaculation (EE)”. Proceedings of 17th Congress on Animal Reproduction, Vancouver, Canada 29 July ‐ 2 August 2012. 47: 441.

2010. **Ledesma A,** Manes J, Ríos G, Hozbor F, Alberio R. “Efecto del método de colecta de semen y de la adición de plasma seminal sobre la calidad de espermatozoides ovinos”. Proceedings of the 2º Jornadas Internacionales del Instituto de Investigación y Tecnología en Reproducción Animal-INITRA Buenos Aires, Argentina, 2010. 12: 277.

# Publications

* Clustering and classification software for sperm subpopulation analysis. Buchelly Imbachí F, Zalazar L, Pastore J, Nicolli A, **Ledesma A,** Hozbor F, Cesari A, Ballarin V. 2021. *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization* (TCIV. doi 10.1080/21681163.2021.2012831.
* Recombinant TrxAFNIIx4His6 improves post‑thaw motility of ram sperm measured by a sperm motility tracker software. **Ledesma A**. et al., 2021. Tropical Animal Health and Production 53:499. https://doi.org/10.1007/s11250-021-02954-2
* Recombinant peptide reverses cryocapacitation in ram sperm and improves in vitro fertilization. **Ledesma A**, et al., 2019. doi.org/10.1016/j.anireprosci.2019.05.016
* Seminal plasma proteins modify the distribution of sperm subpopulations in cryopreserved semen of rams with lesser fertility. **Ledesma A,** et al., 2017. <https://doi.org/10.1016/j.anireprosci.2017.06.015>
* Seminal plasma proteins interacting with sperm surface revert capacitation indicators in frozen-thawed ram sperm. **Ledesma A**, et al., 2016. <http://dx.doi.org/10.1016/j.anireprosci.2016.08.007>
* Heterologous recombinant protein with decapacitating activity prevents and reverts cryodamage in ram sperm: An emerging biotechnological tool for cryobiology. Zalazar L, **Ledesma A,** Hozbor F, Cesari A., 2015. https://doi.org/10.1016/j.anireprosci.2015.11.007
* Improve intra-uterine insemination in rabbits using ultra-high temperature skim milk as extender to keep semen at room temperature. Hozbor F, **Ledesma A**, Manes J, Ríos G, Kaiser G, Cano A, Luciano A, Alberio R. 2015. doi: 10.1111/and.12445.
* Melatonin modifies scrotal circumference but not plasma testosterone concentrations and semen quality of rams during the seasonal anestrus at 43°S. Buffoni A, Vozzi A, González D, Viegas H, LaTorraca A, Hozbor F, **Ledesma A,** Abecia, 2015. doi:10.1080/09291016.2015.1052649
* Effect of seminal plasma on post-thaw quality and functionality of Corriedale ram sperm obtained by electroejaculation and artificial vagina. **Ledesma A,** et al. 2015. doi: 10.1111/rda.12500.
* Electroejaculation increases low molecular weight proteins in seminal plasma modifying sperm quality in Corriedale rams. **Ledesma A,** et al. 2014. doi: 10.1111/rda.12279.

**Book chapter**

2014. Avances en la utilización de plasma seminal para mejorar la calidad del semen congelado en especies de interés pecuario. In: Biología de la gameta masculina, desde lo básico a nuevos enfoques para preguntas conocidas. Ed. EUDEM Chap. 5.2.5. pp 79-92. Hozbor F, **Ledesma A**.

# Teaching experience

* Teaching assistant “Cryopreservation of ram semen” and “Laparoscopic insemination” courses. Instituto Nacional de Tecnología Agropecuaria (INTA), Balcarce, Argentina. 2012-2020.
* Teaching assistant in the degree course “Animal Anatomy and Physiology”. Faculty of Agronomy Sciences, National University of Mar del Plata, Argentina. 2011-2020. From 2011 to 2013 as a volunteer.
* Responsible of the “Insemination in small ruminants” course. Rural Society, Córdoba, Argentina. 2012.
* Teaching assistant (Volunteer). Postgraduate course “Physiology of Reproduction”. Faculty of Agronomy Sciences, National University of Mar del Plata, Argentina. 2011-2013.
* Teaching assistant (Volunteer). Graduate course “Domestic animal anatomy”. Faculty of Veterinary Medicine, National University of Central Buenos Aires, Argentina. 2001-2003.