Part A. PERSONAL INFORMATION

CV date	12/12/2025

First and Family name	JOAQUIN GADEA MATEOS		
ID number	27.480.907R	Age	57
Researcher numbers	Researcher ID	C-9731-2009	
	Scopus Author ID	6701613274	
	ORCID code	0000-0002-3474-7626	
Web page	https://portalinvestigacion.um.es/investigadores/332408/detalle https://www.um.es/fisiorep/		

A.1. Current position

Name of University/Institution	Universidad de Murcia/ Instituto Murciano de Investigación Biosanitaria (IMIB-Arrixaca)		
Department	Physiology		
Address and Country	Facultad de Veterinaria. Campus de Espinardo. Murcia 30100. Spain		
Phone number	868884655	E-mail	jgadea@um.es
Current position	Full Professor (Catedrático de Universidad)	From	24/05/2016
UNESCO code	3104/08/11, 3109/09		
Key words	Reproductive Biology, Fertility, Gametes, Embryo, Gene editing		

A.2. Education

Degree/PhD	University	Year
Veterinary Medicine (DVM)	Universidad de Murcia	1/09/1990
PhD	Universidad de Murcia	1/04/1997
European Diplomate in Animal Reproduction	European College of Animal Reproduction (ECAR)	2001

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

Academic and professional training

I have a degree in Veterinary Medicine (1990) and a Doctorate in Animal Reproduction (1997) from the University of Murcia. In 2001 I obtained a Diploma in Animal Reproduction from the European College of Animal Reproduction. My academic training has been enriched by various postgraduate and specialized courses; several short research stays in international institutions and a year as an Academic Visitor at the prestigious University of Oxford.

Professionally, I have been a veterinary inspector for the Generalitat Valenciana since 1993, although I have been on leave from the University of Murcia since 1998. My work in different professional settings has given me a broad understanding of the livestock sector and highlighted the need for improved knowledge transfer to the industry. I have been teaching at the University of Murcia since 1995, progressing through the roles of part-time assistant professor, full-time assistant professor, associate professor and, since 2016, full professor of physiology.

My teaching responsibilities include Veterinary Physiology at the undergraduate level and Reproductive Biology in the MSc in Biology and Technology of Reproduction, as well as in the Ph.D. program in Biology and Technology of Reproductive Health.

Research activity.

Since my first research fellowship during my fourth year of veterinary school, my work has focused on reproductive biology. Initially, my research focused on evaluating the parameters that define sperm function and their relationship to fertility. Over time, I have broadened my focus to include the generation of transgenic animal models using sperm-mediated gene transfer (SMGT), the use of lentiviruses, and more recently, the use of CRISPR-Cas9 nucleases for gene editing. This work has included the generation of knockout pigs as models for human disease, xenotransplantation, and livestock production.

I have been involved in numerous national and regional research projects, COST actions, collaborations with international research groups, Erasmus+ programs, and industry contracts. I have been the principal investigator for several of these initiatives. An important aspect of my research has been collaborating with companies and institutions to develop research projects and facilitate technology transfer in the fields of animal production and human reproductive medicine.

I am an active reviewer for over 50 scientific journals, more than 40 of which are indexed in the Journal Citation Reports (JCR), with 113 verified peer reviews in Web of Science. In addition, I have evaluated research proposals for various national and international funding agencies and institutions.

Part C. RELEVANT MERITS

General indicators of the quality of scientific production (JCR articles, h Index, thesis supervised…)

- Five positive research performance evaluations (sexenios de investigación), with the most recent period covering 2017-2022, and one evaluation for research transfer activity.
- Supervised 8 doctoral theses, including 4 with European or international mentions, and 36 MSc theses.
- Recognized as one of the world's top 2% of scientists (Stanford Ranking) in scientific fields including Dairy & Animal Science, Obstetrics & Reproductive Medicine, and Agriculture, Fisheries & Forestry for the years 2020-2025 .https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw.7

Publications, citations, and h-index according to different data bases (updated 12/12/2025**):**

Data base	Author ID	Documents	Citations	H-index
Web of Science	C-9731-2009	183	3335	36
Scopus	6701613274	101	3254	34
Google Scholar	K2gAnw4AAAAJ	380	6262	45

C.1. Publications (2020-2025). During this period, 26 manuscripts were published and journals recorded in Web of Science and 5 book chapters

1. Heras S, Soriano-Ubeda C, Quintero-Moreno A, Romero-Aguirregomezcorta J, Paris-Oller E, **Gadea J**, Romar R, Canovas S, Coy P (2025) Growth performance in pigs derived from in vitro produced embryos is enhanced compared to their artificial insemination-derived counterparts from birth to adulthood. Theriogenology 239:117372. doi:10.1016/j.theriogenology.2025.117372
2. Piñeiro-Silva C, **Gadea J**. Optimizing Gene Editing in Pigs: The Role of Electroporation and Lipofection. Animal Reproduction Science. 2025, 278, 107874, https://doi.org/10.1016/j.anireprosci.2025.107874
3. Serrano-Albal M, Romero-Aguirregomezcorta J, Canovas S, Heras S, **Gadea J**, Coy P, Romar R. Long-Term Study of Physical, Haematological, and Biochemical Parameters in Cattle with Different Embryo Origins. Animals 2025, 15, 1763. https://doi.org/10.3390/ani15121763
4. Crespo S, **Gadea J**. Use of a Vaginally Administered Gel Containing the GnRH Agonist Triptorelin and a Single, Fixed-Time Artificial Insemination in Pigs under Commercial Conditions: Productive and Economic Impacts. Animals 2024. 14 (18):2673
5. Cánovas S, Heras S, Romero-Aguirregomezcorta J, Quintero-Moreno A, **Gadea J**, Coy P, Romar R. Metabolic profile and glycemic response in fully-grown sows born using assisted reproductive technologies. Theriogenology. 2024. 230:314-321.
6. Navarro-Serna S, Piñeiro-Silva C, Fernandez-Martin I, Dehesa-Etxebeste M, Lopez De Munain A, **Gadea, J**. Oocyte electroporation prior to in vitro fertilization is an efficient method to generate single, double, and multiple knockout porcine embryos of interest in biomedicine and animal production. Theriogenology 2024, 218:111-118 https://doi.org/10.1016/j.theriogenology.2024.01.040
7. Park I, Navarro-Serna S, Pinho R, Berger T, Maga EA, **Gadea J**, Kim SK, Ross PJ. Electroporation of CRISPR/Cas9 Targeting Neurogenin 3 (NGN3) in Porcine Embryos and Its Effects on Mosaicism and Off-target Effects by Next Generation Sequencing (NGS). Re:GEN Open. 2024;4(1):9-20.
8. Piñeiro-Silva C, **Gadea J**. Optimizing oocyte electroporation for genetic modification of porcine embryos: evaluation of the parthenogenetic activation. Theriogenology 2024 Vol. 218 Pages 126-136. https://doi.org/10.1016/j.theriogenology.2024.01.041

9. Holt Wv, **Gadea J**. Information flow between parents and offspring is essential for successful development. Editorial. Biomolecules. 2023; 13:1299. https://doi.org/10.3390/biom13091299.
10. Piñeiro-Silva C, Navarro-Serna S, Belda-Pérez R, **Gadea J**. Production of genetically modified porcine embryos by lipofection of zona pellucida-intact oocytes using the CRISPR/Cas9 system Animals 2023, 13(3), 342; https://doi.org/10.3390/ani13030342
11. Ataman-Millhouse LM, Monahan P, Willingham R, Vigone G, Soulakis M, **Gadea J,** Jiménez-Movilla M, Romar R, Canocas S, Woodruff Tk, Duncan FE. Broadening the educational pipeline: the global landscape of Master of Science programs in reproductive science and medicine. Biology of Reproduction, 2022;107:664-75. doi:10.1093/biolre/ioac113.
12. Crespo S, **Gadea J.** La administración a cerdas de cloprostenol 24 horas después del parto reduce el intervalo destete-cubrición y mejora la tasa de partos. ITEA-Información Técnica Económica Agraria. 118, 427-440. 2022. https://doi.org10.12706/itea.2021.033.
13. Navarro-Serna S, Dehesa-Etxebeste M. Piñeiro-Silva C, Romar R, Lopes Js, Lopez De Munain A, **Gadea, J**. Generation of Calpain-3 knock-out porcine embryos by CRISPR-Cas9 electroporation and intracytoplasmic microinjection of oocytes before insemination. Theriogenology. 2022; 186:175-184. https://doi.org10.1016/j.theriogenology.2022.04.012.
14. Navarro-Serna S, Piñeiro-Silva C, Luongo C, Parrington J, Romar R, **Gadea, J.** Effect of aphidicolin, a reversible inhibitor of eukaryotic nuclear DNA replication, on the production of genetically modified porcine embryos by CRISPR/Cas9. Int. J. Mol. Sci. 2022, 23, 2135. https://doi.org/10.3390/ijms23042135.
15. Paris-Oller E, Lopes Js, Soriano-Ubeda C, Belda-Pérez R, Sarrías-Gil L, Vieira La, Canha-Gouveia A, **Gadea J**, García-Vázquez Fa, Romar R, Cánovas S, Coy P. Reproductive fluids, added to the culture media, contribute to minimizing phenotypical differences between in vitro-derived and artificial insemination-derived piglets. Journal of Developmental Origins of Health and Disease. 13, 593-605. 2022. https://doi.org/10.1017/S2040174421000702.
16. Paris-Oller E, Matás C, Romar R, Lopes Js, **Gadea J,** Cánovas S, Coy P. Growth analysis and blood profile in piglets born by Embryo transfer. Research in Veterinary Science. 2022. 142: 43-53. https://doi.org/https://doi.org/10.1016/j.rvsc.2021.11.010.
17. Picazo Cm, Castaño C, Bóveda P, Toledano-Díaz A, Velázquez R, Pequeño B, Esteso Mc, **Gadea J**, Villaverde-Morcillo S, Cerdeira J, Santiago-Moreno J. Cryopreservation of testis tissue from dog (Canis familiaris) and wild boar (Sus scrofa) by slow freezing and vitrification methods: Differences in cryoresistance according to the cellular type. Theriogenology 2022.190, 65-72. https://doi.orghttps://doi.org/10.1016/j.theriogenology.2022.07.020.
18. Crespo S, **Gadea J.** Relación entre el peso al nacimiento de los lechones de cerdas hiperprolíficas y los parámetros productivos y económicos en los cerdos de engorde. ITEA-Información Técnica Económica Agraria. 117(2): 173-190. 2021. https://doi.org/10.12706/itea.2020.022.
19. Crespo S, Martinez M, **Gadea J.** Photo Stimulation of Seminal Doses with Red LED Light from Duroc Boars and Resultant Fertility in Iberian Sows. Animals. 2021, 11(6), 1656; https://doi.org/10.3390/ani11061656.
20. Navarro-Serna S, Hachem A, Canha-Gouveia A, Hanbashi A, Garrappa G, Lopes Js, París-Oller E, Sarrías-Gill, Flores-Flores C, Bassett A, Sánchez R, Bermejo-Álvarez P, Matás C, Romar R, Parrington J, **Gadea J**. Generation of non-mosaic, two-pore channel 2 (TPC2) biallelic knockout pigs in one generation by CRISPR/Cas9 microinjection before oocyte insemination. CRISPR J (2021) 4 (1):132-146. doi:10.1089/crispr.2020.0078
21. Navarro-Serna S, París-Oller E, Simonik O, Romar R, **Gadea J.** Replacement of Albumin by Preovulatory Oviductal Fluid in Swim-Up Sperm Preparation Method Modifies Boar Sperm Parameters and Improves In Vitro Penetration of Oocytes. Animals 2021, 11, doi:10.3390/ani11051202.
22. Vieira La, Matas C, Torrecillas A, Saez F, **Gadea J.** Seminal plasma components from fertile stallions involved in the epididymal sperm freezability. Andrology (2021) 9: 728-743. https://doi.org/10.1111/andr.12944
23. García-Galán A, Gómez-Martín A, Bataller E, Gomis J, Sánchez A, **Gadea J,** Vieira La, García-Roselló E, De La Fe C. The addition of Lactobacillus spp., enrofloxacin or doxycycline negatively affects the viability of *Mycoplasma bovis* in bovine diluted semen. Animals. 10, 837. 2020. DOI: 10.3390/ani10050837.
24. Garcia-Martinez S, **Gadea J**, Coy P, Romar R. Addition of exogenous proteins detected in oviductal secretions to in vitro culture medium does not improve the efficiency of in vitro fertilization in pigs. Theriogenology. 157: 490-497. 2020. https://doi.org/10.1016/j.theriogenology.2020.08.017.
25. Küçük N, Lopes Js, Soriano-Ubeda C, Hidalgo Co, Romar R, **Gadea J**. Effect of oviductal fluid on bull sperm functionality and fertility under non-capacitating and capacitating incubation conditions. Theriogenology. 2020, 158: 406-415. https://doi.org/10.1016/j.theriogenology.2020.09.035.

26. Navarro-Serna S, Vilarino N, Park I, **Gadea J**, Ross Pj. Livestock gene editing by one-step embryo manipulation. Journal of Equine Veterinary Science. 89, 103025. 2020. https://doi.org/10.1016/j.jevs.2020.103025

Book chapters

1. **Gadea J**. Assessment of boar semen morphology and morphometry. In Spermatology: Methods and Protocols, Álvarez-Rodríguez, M., Ed.; Springer US: New York, NY, 2025; pp. 43-61. https://doi.org/10.1007/978-1-0716-4406-5_3
2. Romero-Aguirregomezcorta J, Abril Parreño L, Quintero Montero A, **Gadea J**. Assessment of Boar Sperm Quality: New Diagnostic Techniques. In: "Assisted Reproductive Technologies in Animals Volume 1: Current Trends for Reproductive Management". J. C. Gardón and K. Satué Ambrojo. Cham, Springer Nature Switzerland 2024: 265-305. https://doi.org/10.1007/978-3-031-73079-5_9
3. Navarro-Serna S, Piñeiro-Silva C, Romar R, Parrington J, **Gadea J.** Generation of Gene Edited Pigs, in: Yata, V.K., Mohanty, A.K., Lichtfouse, E. (Eds.), Sustainable Agriculture Reviews 57: Animal Biotechnology for Livestock Production 2. Springer International Publishing, Cham, pp. 71-130. 2022. ISBN: 978-3-031-07495-0. https://link.springer.com/book/9783031074950
4. **Gadea J.** Fisiología reproductiva de la especie porcina. (Capítulo 43, pag. 227-231). En: Reproducción en los animales domésticos. Rodolfo Ungerfeld (Eds). Ed. EDRA. ISBN: 9788418339264. 2020.
5. **Gadea J,** Coy P, Matas C, Romar R, Cánovas S. Reproductive Technologies in Swine. (Chapter 5). In: Reproductive Technologies in Animals. Giorgio Antonio Presicce (Eds.) Academic Press. ISBN: 9780128171073. 2020. DOI: 10.1016/B978-0-12-817107-3.00005-9

C.2. Research projects (2020-2025)

1. **Generation and evaluation of genetically edited pigs resistant to swine viral diseases (PRRS and swine influenza).** Seneca Foundation- Reference 22545/PDC/24. PI: Joaquín Gadea. Grant: 29920 €. Start: 01/01/2025 End 31/12/2025**.**
2. **Validation and scaling up of gene editing techniques with applications in the biomedical and livestock fields.** Seneca Foundation. Ref. 22065/PI/22. PI: Joaquin Gadea. Direct costs: 103,400 €. Start: 01/01/2023 End: 31/12/2025.
3. **Extracellular vesicles from reproductive fluids as therapy in assisted reproduction**. Proof of Concept 2022 R+D+i Projects. Ministry of Science and Innovation. Reference PDC2022-133589-I00. PI: Carmen Matás Parra. Grant: 149,615 €. Start: 1/12/2022. End: 30/11/2024.
4. **Validation of the application of genetically edited swine models.** Seneca Foundation. Reference 21666/PDC/21. PI: Joaquín Gadea. 30.000 €. Start: 01/01/2022 End: 31/12/2022.
5. **Phenotypic and genetic characterization of farm animals born by assisted reproduction techniques.** Ministry of Science and Innovation... Ref PID2020-113366RB-I00. PI: Raquel Romar and Pilar Coy. Grant: 223,850 €. Start: 01/01/2021 End: 31/12/2024.
6. **Gilt selection parameters: Birth weight and hormonal pattern.** CEFUSA Company & University of Murcia. Call for Research Transfer RETOS 2019. PI: Joaquín Gadea. 7000 € Start; 01/01/2020 End: 31/12/2021.
7. **Porcine models of muscle diseases using CRISPR/Cas9. Optimization of in vitro editing and fertilization to obtain a model of LGMD2A dystrophy.** Technological Development Projects (DTS). Ministry of Health AES 2019. Reference DTS19/00061. PI: Dr. Adolfo López de Munain Arregui. 112.200 €. Start: 01/01/2020. End: 31/12/2022.
8. **Validation and commercialization study of genetically modified pigs as models of human disease.** Seneca Foundation 2019. Reference 21105/PDC/19. PI: Joaquín Gadea. 24.500 €. Start 01/01/2020 End 30/12/2021.
9. **From assisted reproductive technologies onwards: their impact on preimplantation epigenetic reprogramming and their use in the generation of CRISPR-Cas9 transgenic animals.** Reference: 20040/GERM/16. Seneca Foundation Aid to Groups and Units of Scientific Excellence of the Region of Murcia. PI: Pilar Coy and Joaquín Gadea Grant: 250,000 €. Start: 01/01/2016 End: 31/12/2021.
10. **Obtaining healthy animals through assisted reproduction techniques based on physiological conditions,** Reference: AGL2015-66341-R, National Research, Development and Innovation Program oriented to the challenges of society. Duration: 2016-2020. Principal Investigators: Pilar Coy and Joaquín Gadea. Grant: 272,250 €.

More details at https://portalinvestigacion.um.es/investigadores/332408/detalle