

CURRICULUM VITAE (CVA)
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Part A. PERSONAL INFORMATION

CV date 09/10/2023

Full name	Barany Ruiz		
Gender	Male	Birth date	05/05/1992 (31 years old)
DNI/NIF	47299401Q		
e-mail	abarany@ucm.es	URL Web:	https://www.linkedin.com/in/andr%C3%A9-barany-193528260/
ORCID	0000-0001-7493-8200		

A.1. Current position

Position	Assistant Professor		
Initial date	01/09/20223		
Institution	Universidad Complutense de Madrid (UCM)		
Department/Center	Biology	Facultad de Ciencias Biológicas	
Country	Spain	Cell Phone	+34691200147
Keywords	Endocrinology, osmoregulation, metabolism, comparative physiology, Ussing, intestine, aquaculture, fishes		

A.2. Previous positions (research activity interruptions, see call)

Period	Position/Institution/Country
01/01/2022 – 31/08/2023	Margarita Salas (through Universidad de Cádiz, UCA) Postdoctoral Scientific Researcher in the Biology Department at the University of Massachusetts (Amherst, USA) and as an associate at S.O Conte Anadromous Fish Research Laboratory (USGS Eastern Ecological Center, USA)
13/09/2021 – 31/12/2021	Research Assistant (Cap. VI Investigador Licenciado)/UCA/Spain
01/07/2017 – 11/05/2021	Predoctoral Fellow (PIF)/UCA/Spain
Summer job -1 month each (in 2010, 2011, 2012, and 2013)	Building Concierge/AGISA S.A./Madrid, Spain

A.3. Education

Ph.D., Licensed, Graduate	University/Country	Year
Ph.D.	Universidad de Cádiz (UCA), Spain	2021
Master's degree	Universidad de Cádiz (UCA), Spain	2015
Bachelor's degree (Graduado)	Universidad de Cádiz (UCA), Spain	2014

Part B. CV SUMMARY

I am a comparative fish physiologist focusing on elucidating the underlying mechanism that can help to understand and optimize biological processes associated with aquaculture production. My research interests in fish, built on existing research and novel concepts, have allowed me to develop extensive analytical and zootechnical experience in rearing many fish species and address aspects from basic and applied perspectives to aquaculture. I obtained my BSc in Marine Sciences (2014), MSc in Aquaculture and Fisheries (2015) and PhD in Marine Resources (2021) from the University of Cádiz (UCA).

During my training as a doctoral candidate (2016-2021), I spent a total of 3 years in research centers outside Spain, precisely at the Centre of Marine Sciences, University of Algarve (Portugal, 18 months) and at S.O. Conte Anadromous Fish Research Laboratory (USA, 18 months). I was also granted to participate in the 2019 Summer School "Fish Physiology and Sustainable Aquaculture Research" at the University of Bergen (Norway), a course part of ExcelAQUA and North America Aquaculture Biology (NORAQUA) and funded by the Research Council of Norway. My Postdoctoral period included 1 year and 8 months (2022-2023) in the United States in the Biology Department at the University of Massachusetts (Amherst) and as an associate at S.O. Conte Anadromous Fish



Research Laboratory (USGS Eastern Ecological Center). Overall, this experience abroad has allowed me to create and foster an international and multicultural network of collaborators. Starting September 1st, 2023, I have been an Assistant Professor in Animal Physiology and a member of the "Fish Neuroendocrinology" Research Group UCM. I am currently a member of the American Fisheries Society (AFS), the Iberian Association for Comparative Endocrinology (AIEC), and the Spanish Aquaculture Society (SEA).

Since 2017, my scientific production has resulted in 17 peer-reviewed research papers (52% as first author) published in Science Citation Index (SCI) journals, 3 book chapters, 3 dissemination publications, and 28 communications presented at 21 international and national congresses. I also received 2 international grants as a principal investigator through the ASSEMBLE Plus consortium (European Union) and the Company of Biologists (sponsored by the Journal of Experimental Biology, UK). I have been involved with companies in the aquaculture sector in 8 knowledge transfer contracts between them and UCA. I also have participated in 10 research projects funded at the regional, national, and international levels. Currently, I am implicated in a national research project entitled "Feeding and energy expenditure in teleost fish: new concepts and environmental challenges" within the "Fish Neuroendocrinology" Research Group at UCM.

At the educational level, at UCA (2017-2021), I have co-supervised 2 BSc Theses and 4 MSc Theses and taught BSc in: Environmental and Marine Sciences, Viticulture and Oenology, and Biotechnology. I also participated as a scientific coach to teams competing in Ocean Hackathon® 2021 – San Fernando (Spain), mentoring on the "Marine Sciences-Aquaculture" discipline. Currently, I teach BSc in Biology and MSc in: Zoology, Sanitary Biology, and Neuroscience at UCM.

Part C. RELEVANT MERITS

C.1. Publications (CA: corresponding author; n/n: position occupied by the applicant)

- Barany (CA), A.**, Fuentes, J., Valderrama, V., Broz-Ruiz, A., Martínez-Rodríguez, G., Mancera, J. M. (2023). 1/6. Oral cortisol and dexamethasone intake: Differential physiology and transcriptional responses in the marine juvenile *Sparus aurata*. *General and Comparative Endocrinology*, 344. <https://doi.org/10.1016/j.ygcen.2023.114371> Q1.
- Molina-Roque, L., **Barany, A.**, Sáez, M. I., et al., & Martos-Sitcha (CA), J. A. (2022). 2/9. Biotechnological treatment of microalgae enhances growth performance, hepatic carbohydrate metabolism and intestinal physiology in gilthead seabream (*Sparus aurata*) juveniles close to commercial size. *Aquaculture Reports*, 25. <https://doi.org/10.1016/j.aqrep.2022.101248> Q1
- Barany, A.**, Oliva, M., Gregório, S. F., Martínez-Rodríguez, G., Mancera, J. M., & Fuentes (CA), J. (2021). Dysregulation of Intestinal Physiology by Aflatoxicosis in the Gilthead Seabream (*Sparus aurata*). *Frontiers in Physiology*, 12. <https://doi.org/10.3389/fphys.2021.741192> Q1
- Barany (CA), A.**, Shaughnessy, C. A., Pelis, R. M., Fuentes, J., Mancera, J. M., & McCormick, S. D. (2021). Tissue and salinity specific Na^+/Cl^- cotransporter (NCC) orthologues involved in the adaptive osmoregulation of sea lamprey (*Petromyzon marinus*). *Scientific Reports*, 11(1). <https://doi.org/10.1038/s41598-021-02125-1> Q1
- Barany (CA), A.**, Gilannejad, N., Alameda-López, M., et al., & Mancera, J. M. 1/9. (2021). Osmoregulatory plasticity of juvenile Greater amberjack (*Seriola dumerili*) to environmental salinity. *Animals*, 11(9). <https://doi.org/10.3390/ani11092607> Q1
- Barany (CA)¹, A.**, Shaughnessy¹, C. A., & McCormick, S. D. (2021). Corticosteroid control of Na^+/K^+ -ATPase in the intestine of the sea lamprey (*Petromyzon marinus*). *General and Comparative Endocrinology*, 307. <https://doi.org/10.1016/j.ygcen.2021.113756> ¹Equal contribution. Q1
- Barany (CA), A.**, Fuentes, J., Martínez-Rodríguez, G., & Mancera, J. M. (2021). Aflatoxicosis dysregulates the physiological responses to crowding densities in the marine teleost gilthead seabream (*Sparus aurata*). *Animals*, 11(3). <https://doi.org/10.3390/ani11030753> Q1
- Barany (CA), A.**, Guilloto, M., Cosano, et al., & Mancera, J. M. (2021). 1/9. Dietary aflatoxin B1 (AFB1) reduces growth performance, impacting growth axis, metabolism, and tissue integrity in juvenile gilthead sea bream (*Sparus aurata*). *Aquaculture*, 533. <https://doi.org/10.1016/j.aquaculture.2020.736189> Q1
- Shaughnessy (CA), C. A., **Barany, A.**, & McCormick, S. D. (2020). 11-Deoxycortisol controls hydromineral balance in the most basal osmoregulating vertebrate, sea lamprey (*Petromyzon marinus*). *Scientific Reports*, 10(1). <https://doi.org/10.1038/s41598-020-69061-4> Q1
- Barany (CA), A.**, Shaughnessy, C. A., Fuentes, J., Mancera, J. M., & McCormick, S. D. (2020). Osmoregulatory role of the intestine in the sea lamprey (*Petromyzon marinus*). *American Journal of*

Ruiz-Jarabo¹, I., **Barany**¹, A., Jerez-Cepa, I., Mancera, J. M., & Fuentes (CA), J. (2017). Intestinal response to salinity challenge in the Senegalese sole (*Solea senegalensis*). *Comparative Biochemistry and Physiology -Part A: Molecular and Integrative Physiology*, 204. <https://doi.org/10.1016/j.cbpa.2016.11.009> ¹Equal contribution. Q1

C.2. Congress (Oral presentations)

- A. **Barany**, A. Regish, J. Lonthair, C.A. Shaughnessy, J.M. Mancera, S.D. McCormick. “Influence of Temperature and Salinity on Sea Lamprey Metabolism” at the 153 American Fisheries Society (AFS) Annual Meeting. Grand Rapids, MI, USA, 2023.
- A. **Barany**, C.A. Shaughnessy, A. Regish, J.M. Mancera, S.D. McCormick, R.M. Does. “*In vitro* and *in vivo* studies on the function and osmoregulatory action of neurohypophysial [Arg8]vasotocin hormone and receptors in the juvenile sea lamprey (*Petromyzon marinus*)” at 7th Biennial Meeting of the North America Society for Comparative Endocrinology (NASCE). Santiago de Querétaro, México, 2023.
- A. **Barany**, G. Martínez-Rodríguez, J.M. Mancera. “Osmoregulatory response induced by hypersaline challenge is differentially modulated by corticosteroids, cortisol and dexamethasone, in the Gilthead seabream (*Sparus aurata*)” at 30th Conference of the European Society for Comparative Endocrinology (CECE) and 9th International Society for Fish Endocrinology (ISFE)-Joint Conference. Faro, Portugal, 2022.
- A. **Barany**. “Acuicultura experimental. Con la industria a la vista” at Dia de la acuicultura 2021: Avances presentes para la acuicultura del futuro. Puerto Real, Cádiz, 2021. *Invited lecture*.
- A. **Barany**, V. Valderrama, A. Broz, G. Martínez-Rodríguez, J.M. Mancera. “Caracterización de la respuesta del eje de estrés de dorada (*Sparus aurata*) a dos corticosteroides: cortisol y dexametasona” at III Congreso de Jóvenes Investigadores del Mar (III Jis del Mar). Motril, Spain, 2021. *Awarded as the best oral presentation by Sociedad Española de Acuicultura (SEA)*.
- A. **Barany**. “Osmoregulatory role of the intestine in fish: Evolutionary implications” at Seminar: Stimulating Scientific Thinking. Centro de Ciencias do Mar, Faro, Portugal, 2020. *Invited lecture*.
- A. **Barany**, M. Guilloto, J. Cosano, M. de Boevre, M. Oliva, S. de Saeger, J. Fuentes, G. Martinez-Rodriguez, J.M. Mancera. “Chronic dietary aflatoxin B1 (AFB1) exposition alters growth and stress axes in juveniles sea bream (*Sparus aurata*)” at XII Congress of Iberian Association for Comparative Endocrinology (AIEC). Faro, Portugal, 2019.
- A. **Barany**, M. Guilloto, J. Cosano, M. de Boevre, M. Oliva, S. de Saeger, J. Fuentes, G. Martinez-Rodriguez, J.M. Mancera. “La aflatoxina B1 (AFB1) afecta negativamente al crecimiento, metabolismo y procesos de absorción intestinal en la dorada (*Sparus aurata* L.)” at XVII Aquaculture National Congress (CNA). Cartagena, Spain, 2019.
- A. **Barany**, C.A. Shaughnessy, J. Fuentes, J.M. Mancera, S.D. McCormick. “Osmoregulatory effects of 11-Deoxycortisol in the intestinal tract of the sea lamprey (*Petromyzon marinus*)” at XI congress of Iberian Association for Comparative Endocrinology (AIEC). Vigo, Spain, 2017.
- A. **Barany**, C.A. Shaughnessy, J. Fuentes, J.M. Mancera, S.D. McCormick. “Osmoregulatory role of the gut in the sea lamprey (*Petromyzon marinus*)” at the Society for Experimental Biology (SEB) Annual Meeting. Gothenburg, Sweden, 2017.

C.3. Research projects

- “Investigating the functional and physiological roles of [Arg8]vasotocin receptors in the basal vertebrate sea lamprey (*Petromyzon marinus*)” Grant ID JEBTF2302901 from the The Company of Biologist Limited (01/04/2023-30/06/2023). PI (Denver University, USA): **Andre Barany**. £3000. Role: Principal Investigator.
- “Desarrollo de alimentos funcionales para una acuicultura sostenible mediante su suplementación con nuevos productos procedentes de las microalgas (SUPLALGAE)”. Proyectos de I+D+i en el Marco del Programa Operativo FEDER Andalucía 2014-2020 - Convocatoria 2018 (UCA-FEDER), Junta de Andalucía (10/01/2020-10/01/2022). PIs (UCA, Spain): J.A. Martos Sitcha and J.M. Mancera. 39.990€. Role: UCA Researcher.
- “Collaborative Research: The Evolution of Endocrine Function; Discovering the Hormonal Control of Osmoregulation in Basal Vertebrates.” Program reference codes: 9178, 9179, 9251; Program element: 7658. National Science Foundation (01/06/2016-31/12/2021). PIs (UMass, USA): Drs. S.D. McCormick and Rolf Karlstrom. \$912,000.00. Role: Research Assistant (Graduate Student).

- “Desarrollo y optimización de nuevos piensos funcionales, basados en el uso de harinas de algas y probióticos, para el engorde de rodaballo (ALGADIET II)”. Convocatoria PLEAMAR 2019, Fundación Biodiversidad, Ministerio de Transición Ecológica (09/12/2019-08/12/2021). PI: Alma Hernández Rojas (IEO, Gijón, Spain). PI at UCA: J.M. Mancera. 71.032,64€. Role: Research Assistant (Cap. VI Investigador Licenciado)
- “Evaluación de piensos de valor nutritivo mejorado sobre el rendimiento productivo, metabolismo y bienestar animal de ejemplares de dorada (*Sparus autara*) próximos a la talla comercial ("FisioBream")”. CEIJ19-C05.2, Fundación CEIMAR Jóvenes Investigadores (22/11/2019-30/11/2021). PI: J.A. Martos-Sitcha (UCA). 4.000€. Role: UCA Researcher.
- “Incorporación de innovación en relación al bienestar animal en peces de acuicultura de Spain (INNOACUI). Convocatoria PLEAMAR 2019, Fundación Biodiversidad, Ministerio de Transición Ecológica (09/12/2019-09/12/2020). PI: Javier Ojeda (APROMAR, Spain). PI at UCA: J.M. Mancera. 14.140,5€. Role: UCA Researcher.
- “Fortalecimiento del trabajo en red, la profesionalización y la formación en el ámbito de la acuicultura, a través de la innovación y la transferencia de conocimiento (REDAQUA)” Convocatoria PLEAMAR 2019, Fundación Biodiversidad (18/11/2019-18/12/2020). PI: Yolanda Morales (ACUIPLUS). PI at UCA: J.M. Mancera. 24.000€. Role: UCA Researcher.
- “Evaluation of nutraceutical compounds from microalgae in the intestine permeability, architecture and immune system of marine-cultured fish (NutrInFish)” PID: 11917. Assemble Plus Project Grant No. 730984 from the European Union's Horizon 2020 research and innovation program (01/11/2020-31/11/2020). PIs at UCA: **Andre Barany** and J.A. Martos-Sitcha. 6.517,72€. Role: Principal Investigator.
- “Validación de indicadores centrales versus periféricos de la respuesta al estrés en peces” AGL2016-76069-C2-1-R, Ministerio de Economía y Competitividad (1/1/2017-31/12/2019). PI: J.M. Mancera (UCA). 139.150€. Role: UCA Researcher.
- “Adición de aceite esencial de orégano (*Lippia origanoides*) en la dieta: efecto sobre el crecimiento, metabolismo y procesos de estrés en la dorada (*Sparus aurata*) (OrEO-Bream)”. PR2018 -042, Programa Investigador Novel (IN) de la Universidad de Cádiz (01/11/2018-31/10/2019). PI: J.A. Martos-Sitcha (UCA). 3.500€. Role: UCA Researcher.

C.4. Contracts, technological or transfer merits (OTRI Contracts)

- “Evaluación de piensos de valor nutritivo mejorado sobre el rendimiento productivo, metabolismo y bienestar animal de ejemplares de dorada (*Sparus autara*) próximos a la talla comercial (FISIOBREAM)”. Ref.: OT2020/040, LifeBIOENCAPSULATION, S.L. (B04800975) (01/06/2020-31/12/2021). PI (UCA, Spain): J.A. Martos Sitcha. 1.200€.
- “Valorización de los arribazones del alga invasora *Rugulopterix okamurae* como ingrediente para la alimentación de especies de acuicultura: aplicación en el cultivo de dorada (VALINVA-BREAM)”. Ref.: OT2019/135, LifeBIOENCAPSULATION, S.L. (B04800975) (01/12/2019-31/07/2021). PI (UCA, Spain): J.A. Martos Sitcha. 6.750€.
- “Evaluación de nuevos aditivos funcionales basados en microalgas para alimentación en acuicultura”. Ref.: OT2019/004, LifeBIOENCAPSULATION, S.L. (B04800975) (01/02/2019-31/07/2020). PI (UCA, Spain): J.A. Martos Sitcha. 7.500€.
- “Cuantificación de la expresión génica de marcadores moleculares en corvina (*Argyrosomus regius*)”. Ref.: OT2018/140, Instituto Andaluz de Investigación y Formación Agroalimentaria y Pesquera (Q4100689A) (25/10/2018-25/04/2020). PI (UCA, Spain): J.M. Mancera. 14.540€.
- “Análisis genético de marcadores específicos de estrés en seriola (*Seriola dumerili*) durante el proceso de engorde: efecto de dietas”. Ref.: OT2017/140, Universidad de las Palmas de Gran Canaria (Q3518001G) (27/11/2017-31/12/2019). PI (UCA, Spain): J.M. Mancera. 30.198,80€.
- “Apoyo de laboratorio especializado”. Ref.: OT2017/129, Instituto Andaluz de Investigación y Formación Agroalimentaria y Pesquera (Q4100689A) (26/10/2017-30/09/2018). PI (UCA, Spain): J.M. Mancera. 17.998€.
- “Secuenciación de genes relacionados con el estrés en la corvina (*Argyrosomus regius*)”. Ref.: OT2017/128, Instituto Andaluz de Investigación y Formación Agroalimentaria y Pesquera (Q4100689A) (01/11/2017-01/12/2017). PI (UCA, Spain): J.M. Mancera. 17.758,44€.
- “Neuroendocrine immune and metabolic aspect of acute inflammation in European sea bass”. Ref.: OT2017/085, Instituto de ciencias biomédicas Abel Salazar - ICBAS (PT501413197) (01/10/2017-30/06/2018). PI (UCA, Spain): J.M. Mancera. 5.000€.